



MEMORANDUM

To: Houghton Community Council

From: Stacy Clauson, Contract Planner
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Date: June 12, 2009

Subject: Kirkland's Shoreline Master Program Update (SMP)
File No. ZON06-00017

TABLE OF CONTENTS

Section	Topic	Page #
I.	Recommendation	1-2
II	Introduction	2
III.	Houghton Community Council Recommended Changes	2-4
IV.	Planning Commission Recommended Changes	4-5
V.	Staff Recommended Changes	5-7
VI.	Cumulative Impact Analysis	7-8
VII.	Next Steps	8
IX.	Public Comments	8
X.	Attachments	8

I. RECOMMENDATION

- Overview staff response to key recommendations from the May 20, 2009 Houghton Community Council meeting (see Section III starting on page 2).
- Overview recommendations from the May 28, 2009 Planning Commission meeting (see Section IV starting on page 4).
- Review and provide feedback on staff recommended changes to the draft SMP regulations and zoning regulations (see Section V on page 5).

Shoreline Master Program Update
Houghton Community Council Study Session
June 22, 2009

- Review and provide feedback on the completed draft of the Cumulative Impact Analysis (see Section VI on page 7).
- Overview next steps (see Section VII on page 8).

II. INTRODUCTION

At this time, the Houghton Community Council has completed preliminary review of all of the sections of the draft Shoreline Master Program. This is a significant accomplishment and staff would like to recognize and thank the Houghton Community Council for its hard work and dedication to this project.

As we continue, the focus on the Shoreline Master Program will be on revisions that are needed to address on-going input and evaluation by the Planning Commission, Houghton Community Council, and staff as well as to address feedback we have received from the general public and shoreline property owners. In addition, as we continue to evaluate the preliminary Cumulative Impact Analysis, we can determine whether any adjustments can be made in order to respond to potential outcomes of this analysis.

As part of materials for the June 22nd meeting, staff has provided responses to recommendations from the Houghton Community Council's May 20th meeting.

Further, review is needed on recommendations from the Planning Commission's May 28th meeting. Staff has also proposed a number of changes to both the SMP regulations and zoning regulations. Finally, a more thorough draft of the Cumulative Impact Analysis has been included to serve as an overview of the proposed regulations as well as an analysis of the regulations under the principles of no net loss.

For the June 22nd meeting, staff would recommend reviewing the following:

1. Overview staff response to key recommendations from the May 20, 2009 Houghton Community Council meeting (see Section III starting on page 2).
2. Overview recommendations from the May 28, 2009 Planning Commission meeting (see Section IV starting on page 4).
3. Review and provide feedback on staff recommended changes to the draft SMP regulations and zoning regulations (see Section V on page 5).
4. Review and provide feedback on the completed draft of the Cumulative Impact Analysis (see Section VI on page 7).
5. Overview next steps (see Section VII on page 8).

III. RESPONSE TO HOUGHTON COMMUNITY COUNCIL RECOMMENDED CHANGES

At the May 20th meeting, the Houghton Community Council provided comments on a number of provisions. A summary of the staff proposed response is as follows:

1. SMP Recommendations:
 - a. **Tree Planting** (see Section 83.400 of Attachment 1). The Houghton Community Council recommended that the tree replanting provisions be amended to require 1:1 replacement or allow thinning over time. The Planning Commission discussed tree replacement, and is recommending the provisions contained in Section 83.400 that allow for the submittal of a riparian restoration plan consisting of shrubs, perennials, groundcovers selected from the Kirkland Native Plant List which shall equal at minimum 80 square feet for each tree to be replanted.
 - b. **Pier Standards** (see Sections 83.270 and 280 of Attachment 1).
 - i. The Houghton Community Council reiterated their recommendation that the **pier width standards be increased** and that the **provisions not go beyond minimum State requirements**. The Planning Commission discussed this issue and recommended the following provisions, as contained in previous drafts, be proposed:
 1. For new single family residential piers, restrict pier width to 4 feet, unless otherwise approved through a variance.
 2. For replacement single family residential piers, either:
 - a. Limit pier width to 4 feet, OR
 - b. Allow pier width of 6 feet, if approved by federal and state agencies with jurisdiction.
 3. For pier additions, require new pier sections to be 4 feet in width.
 4. For piers serving multifamily properties, restrict pier width to 6 feet.
 - ii. The Houghton Community Council reiterated their recommendation that the **5-year cumulative analysis of repairs be eliminated**. The revised drafts have eliminated this provision, and distinguish minor and major pier repairs based upon the amount of repair proposed at the time of the application.
 - iii. The Houghton Community Council requested information from other cities to determine **how many canopies** they allow for piers that serve multiple residential units. In response to this request, staff attempted to contact other cities as well as Dave Douglas of Waterfront Construction and received the following information:
 1. Bellevue. Bellevue plans to examine this issue with the SMP update, but has no proposed changes at this time. The current standards allow covered moorage in Meydenbauer Bay. For single family and joint use piers, Bellevue allows one translucent canopy per moorage. Additional canopies may be requested using a critical areas report and mitigation. Where permitted, the canopy should be located waterward of the nine foot depth. The lowest edge must be 8 feet above the

plane of OHW and oriented north-to-south to the maximum extent practicable.

2. Waterfront Construction has not received requests for installation of canopies on multifamily projects.

c. **Boat launches.** The Houghton Community Council requested information on whether the City currently dredges the area around the existing boat launch, in order to determine whether or not the provisions addressing boat launches should be revised. The Parks Department has indicated that it has not previously dredged this area and has no plans to do so in the future.

2. Zoning Code Changes.

A. The **north property line requirement in the WD I and WD III zones** (see Attachment 2 and 3, respectively) which requires a structure to be setback from the north property line by 1-1/2 times the height of the primary structure above average building elevation minus 10 feet has been **deleted and replaced with a setback of 5 feet, with a combination of 15' required for the north and south property lines.**

b. A **provision has been added to the WD I and WD III zones (see Attachment 2 and 3, respectively) that permits the front yard to be reduced one foot for each one foot** of this yard that the shoreline setback for the primary structure that is increased in dimension if the structure is located within 25 feet of the ordinary high water mark.

Staff would recommend that the Houghton Community Council review and discuss the proposed revisions contained in Attachment 1 and provide comments to the Planning Commission.

IV. PLANNING COMMISSION RECOMMENDED CHANGES

The Planning Commission met on May 28th and provided direction for changes on a number of provisions. A summary of the changes is as follows:

1. SMP Regulations
 - a. Clarified **definition of tree** (see Section 83.80 in Attachment 1) and discussed shoreline vegetation standards, as discussed above.
 - b. Reviewed and provided direction on **Shoreline Reduction Mechanisms** (see Section 83.380 in Attachment 1).
 - c. Reviewed and provided direction on pier regulations, as discussed above.
 - d. Discussed and determined that fee in lieu option should not be included as part of the proposed SMP Plan.
2. **Restoration Plan.** The Planning Commission recommended that the Restoration Plan be revised to add **specific goals/benchmarks for completion of projects on City-**

owned properties. Staff has included a section in the Restoration Plan responding to this requirement (see Attachment 4).

Staff would recommend that the Houghton Community Council review and discuss the proposed revisions and provide comments to the Planning Commission.

V. STAFF RECOMMENDED CHANGES

Staff continues to review and evaluate the proposed regulations for potential changes that might better respond to input it has received or provide more clarity. Attachment 1 contains many minor format changes, as well as more significant changes. Based on this on-going review, the following are several key proposed revisions that staff would recommend that the Houghton Community Council consider:

1. **General**

- a. **Tables** have been added to a number of sections (e.g. piers and shoreline stabilization) in order to make the requirements easier to access.
- b. Staff has proposed some **word choice and format changes** throughout the regulations.
- c. Some general **provisions have been re-grouped together** to minimize the repetition, where possible.
- d. Some provisions have been relocated to more appropriate sections (e.g. nonconformance standards for lighting now appear in the nonconformance section rather than in the lighting provisions).

2. **Definitions** (see Section 83.80 of Attachment 1). The following definitions have been added:

- a. Rain garden.
- b. Riparian area.
- c. Transportation facilities.

3. **Shoreline Use Chart** (see Section 83.170 of Attachment 1).

- a. Staff is recommending that **industrial uses not be allowed**, since those are not otherwise permitted under the Zoning Ordinance and since there is not anticipated to be a need for these uses along Kirkland's shoreline. In previous drafts, industrial uses were shown as potential conditional uses in the Urban Mixed environments in order to provide flexibility should the City want to accommodate these uses at a future time.
- b. A new use listing has been added for **water-dependent shoreline recreational uses**, such as beach areas. This appears to be an oversight in the previous use zone chart.

- c. A new use listing has been added for **Scientific research and Native American fishing**.
4. **Development Standards** (see Section 83.180 of Attachment 1).
- a. Staff is proposing to **revise the allowed encroachment into the shoreline setback for decks**. The change would expand the horizontal dimension of the deck from 25 to 50 percent of the length of the facade of the structure. When evaluated by staff, the 25 percent provision appeared to be too restrictive. Under that provision, a 45 foot wide house would be allowed a deck that was less than 12 feet in width. Since the depth of the deck encroachment is the key concern, staff is recommending greater allowance for the width of the deck.
 - b. Staff is proposing to **allow limited outdoor seating areas** within the shoreline setback.
5. **Shoreline Vegetation Management** (see Section 83.370 of Attachment 1).
- a. Provisions have been added allowing for **use of native plants that may not be included within the Native Plant List**, upon approval of the City.
 - b. Provisions have been added regarding **vegetation for water dependent uses**, such as beaches or other areas where vegetation would conflict with the water-dependent use.
6. **Shoreline Use Standards**. The standards for **ferry terminals** have been revised in response to discussions with staff on parking requirements (see Section 83.230 in Attachment 1).
7. **Shoreline Modifications**.
- a. **Piers/Marinas**.
 - i. The standards for **piers for attached, stacked dwelling units have been separated into their own section** for clarity (see Section 83.280 in Attachment 1).
 - ii. Provisions have been added for **additions and repairs to marinas** (see Section 83.290 in Attachment 1).
 - iii. Based on initial discussions with Dave Douglas of Waterfront Construction about provisions of the RGP-3 that are commonly revised through federal and state permitting, staff is recommending that the **size of allowed pilings and pile span** provisions be revised (see Sections 83.270 in Attachment 1).
 - b. **Shoreline stabilization**. Requirements for a security agreement are proposed to be eliminated for soft shoreline stabilization in order to limit potential barriers to change in the type of shoreline stabilization (see Section 83.300).
 - c. **Dredging** (see Section 83.320 of Attachment 1). Provisions have been streamlined, eliminating some standards for dredging.
8. **Miscellaneous Zoning Code Changes**. Staff is proposing the following miscellaneous changes to other sections of the Zoning Code in order to ensure **consistency between the shoreline regulations and other zoning code provisions and**

reduce redundancy, where possible (Note: Hard copies of these changes will appear in a future packet).

- a. Update the Use Zone Charts to reflect that properties may be subject to provisions contained in the SMP. This would apply to numerous Use Zone Charts, including:
PR, RM, P, JBD 2, 3, 4 and 5, WD I, II, and III, CBD 1 and 2, PLA 6A, I, and H, RS, BN, PLA 3A and B, PLA 2, and PLA 15A
- b. Delete references to the high water line required yard.
- c. Replace high waterline with ordinary high water mark.
- d. Delete specific requirements for public access and view corridors and instead refer to provisions contained in Chapter 83.
- e. Delete requirement for ADUs in WD I and III zones to provide a public pedestrian walkway.
- f. Change use listings be to consistent with the SMP (e.g. general moorage facility to either Piers, docks, boat lifts and canopies serving Detached Dwelling Unit (if renting is not permitted) or Marina (if renting is permitted)). Eliminate standards for provisions that are otherwise addressed through the SMP and instead refer to Chapter 83 so there is no overlap.
- g. Delete bulkhead and land surface modification provisions contained in KZC Section 30.17, 30.27, 30.37, 52.35, 60.18, 52.20, 60.173, and 60.28.
- h. Add new uses which have been planned as part of the SMP Update (e.g. water taxi, passenger ferry terminal, etc.).

Staff would recommend that the Houghton Community Council review and discuss the proposed revisions and provide comments to the Planning Commission.

VII. CUMULATIVE IMPACT ANALYSIS

The Houghton Community Council reviewed a very preliminary draft of the Cumulative Impact Analysis at the May 20th meeting. Since then, the analysis has been more fully developed.

Attachment 5 contains the draft cumulative impact analysis. The analysis includes an examination of the current conditions of the shoreline, based on the results of the Shoreline Inventory. In addition, the analysis includes an estimate of future development along the shoreline over the next 20 years, considering upland development (development of vacant properties and redevelopment), as well as shoreline modifications (both piers and shoreline stabilization). The analysis also includes an examination of the potential effects to shoreline processes that could reasonably be anticipated from this forecasted future development, as well as an examination of how different shoreline regulations (such as shoreline riparian vegetation, lighting, and other standards) would mitigate for adverse affects.

Shoreline Master Program Update
Houghton Community Council Study Session
June 22, 2009

The overall preliminary conclusions from the Cumulative Impact Analysis indicate the following:

- While development is anticipated to be closer to the shoreline, the condition of the remaining space is anticipated to improve overall by installations of native vegetation and compliance with lighting standards;
- The effective overwater coverage is anticipated to decrease; and
- The overall shoreline hardening condition is anticipated to remain the same or improve over time.

Overall, preliminary results indicate that the City is able to achieve no net loss of shoreline ecological functions.

The concepts within the Cumulative Impact Analysis will continue to be further refined and amended as needed, but the draft begins to outline the basic approach that is proposed to be used for evaluating potential impacts to ecological functions caused by different anticipated development activities, as well as mechanisms to minimize or mitigate for these potential impacts. Staff would recommend that the Houghton Community Council review the general format of the draft and identify specific areas where you may have questions or would recommend additional analysis or evaluation.

Staff would recommend that the Houghton Community Council review the draft Cumulative Impact Analysis and provide comments to staff on needed changes.

VIII. NEXT STEPS

An **open house is scheduled for July 9th** and the **public hearing before the Houghton Community Council is scheduled for July 27th**. The project schedule targets recommendations from the Houghton Community Council after the close of the public hearing on July 27th. The Planning Commission will be holding their public hearing on July 23rd. The City Council is scheduled to review the proposed SMP at their study session on September 15, 2009.

IX. PUBLIC COMMENTS

A. Public Comments. This memo includes 3 written comment letters (see Attachments 6-8).

X. ATTACHMENTS

1. Draft SMP Regulations
2. WD I Use Zone Chart
3. WD III Use Zone Chart
4. Revisions to Restoration Plan
5. Draft Cumulative Impact Analysis
6. Letter from Dave Douglas dated May 28, 2009
7. Letter from Dave Douglas dated May 29, 2009
8. Letter from Bob Style dated June 2, 2009

cc: File No. ZON06-00017, Sub-file #1

Chapter 83 – SHORELINE MANAGEMENT

Sections:

Authority and Purpose

- 83.10 Authority
- 83.20 Applicability
- 83.30 Purpose and Intent
- 83.40 Relationship to Other Codes and Ordinances
- 83.50 Interpretation
- 83.60 Liberal Construction
- 83.70 Severability

Definitions

- 83.80 Definitions

Shoreline Environment Designations and Shorelines of Statewide Significance

- 83.90 Shoreline Jurisdiction and Official Shoreline Map
- 83.100 Natural
- 83.110 Urban Conservancy
- 83.120 Residential - L
- 83.130 Residential – M/H
- 83.140 Urban Mixed
- 83.150 Aquatic

Uses and Activities in Shoreline Environment

- 83.160 User Guide
- 83.170 Shoreline Environments, Permitted Uses and Activities Chart

Use Specific Regulations

- 83.180 Development Standards Chart
- 83.190 Additional Standards for Lot Size or Density, Setback, Lot Coverage and Height
- 83.200 Residential Uses
- 83.210 Commercial Uses
- 83.220 Recreational Uses
- 83.230 Transportation Facilities
- 83.240 Utilities
- 83.250 Land Division

Shoreline Modification Regulations

- 83.260 General
- 83.270 Piers, Docks, Moorage Buoys, Boatlifts and Canopies serving Detached Dwelling Units
- 83.280 Piers, Docks, Moorage Buoys, Boatlifts and Canopies serving Attached, Stacked and Detached Dwelling Units
- 83.290 Marinas and Moorage Facilities Associated with Commercial Uses

- 83.300 Shoreline Stabilization for Soft and Hard Measures
- 83.310 Breakwaters, Jetties, Rock Weirs, Groins
- 83.320 Dredging and Dredge material disposal
- 83.330 Land Surface Modification
- 83.340 Landfill
- 83.350 Shoreline Habitat and Natural Systems Enhancement Projects

General Regulations

- 83.360 No Net Loss Standard and Mitigation Sequencing
- 83.370 Federal and State Approval
- 83.380 Shoreline Setbacks Reduction
- 83.390 Site and Building Design
- 83.400 Tree Management and Vegetation in Shoreline Setback
- 83.410 View Corridors
- 83.420 Public Access
- 83.430 In-Water Construction
- 83.440 Parking
- 83.450 Screening of Storage and Service Areas, Mechanical Equipment and Garbage Receptacles
- 83.460 Signage
- 83.470 Lighting
- 83.480 Water Quality, Stormwater and Nonpoint Pollution
- 83.490 Critical Areas – General Standards
- 83.500 Wetlands
- 83.510 Streams
- 83.520 Geologically Hazardous Areas
- 83.530 Flood Hazard Reduction
- 83.540 Archaeological and Historic Resources
- 83.550 Nonconformances

Authority and Purpose

83.10 Authority

1. This Chapter is adopted as part of the shoreline master program for the city. It is adopted under the authority of RCW Chapter 90.58 and WAC Chapter 173-26.

83.20 Applicability

1. Shoreline Jurisdiction
 - a. The provisions of this Chapter shall apply to all shoreline of the state, all shorelines of statewide significance, and shorelands.
 - b. Lake Washington, its underlying land, associated wetlands, together with those lands extending landward 200 feet from the ordinary high water mark shall be within shoreline jurisdiction.
 - c. Shoreline jurisdiction does not include buffer areas for wetlands or streams that occur within shoreline jurisdiction, except those buffers contained within lands extending landward 200 feet from the ordinary high water mark of Lake Washington.
2. Designation – The waters of Lake Washington and shorelands associated with Lake Washington are designated as shorelines of statewide significance.

83.30 Purpose and Intent - The Kirkland Shoreline Master Program, consisting of this Chapter, the Shoreline Element Chapter of the Comprehensive Plan and the Restoration Plan, has the following purposes:

1. Enable current and future generations to enjoy an attractive, healthy and safe waterfront.
2. Protect the quality of water and shoreline natural resources to preserve fish and wildlife and their habitats.
3. Protect the City's investments as well as those of property owners along and near the shoreline.
4. Efficiently achieve the SMP mandates of the State.
5. In interpreting the provisions of this Chapter, preference shall be given in the following order to uses that:
 - a. Recognize and protect the statewide interest over local interest;
 - b. Preserve the natural character of the shoreline;
 - c. Result in long term over short term benefit;
 - d. Protect the resources and ecology of the shoreline;
 - e. Increase public access to publicly owned areas of the shorelines;
 - f. Increase recreational opportunities for the public in the shoreline;
 - g. Provide for any other element as defined in RCW [90.58.100](#) deemed appropriate or necessary.

83.40 Relationship to other codes and ordinances

1. The shoreline regulations contained in this chapter shall apply as an overlay and in addition to zoning, land use regulations, development regulations, and other regulations established by the City.
2. In the event of any conflict between these regulations and any other regulations of the City, the regulations that provide greater protection of the shoreline natural environment and aquatic habitat shall prevail.

3. Shoreline Master Program policies establish intent for the shoreline regulations.

83.50 Interpretation

1. General – The Planning Director may issue interpretations of any provisions of this Chapter as necessary to administer the shoreline master program policies and regulations. The Director shall base his/her interpretations on:
 - a. The defined or common meaning of the words of the provision; and
 - b. The general purpose of the provision as expressed in the provision; and
 - c. The logical or likely meaning of the provision viewed in relation to the Washington State Shoreline Management Act (SMA), including the purpose and intent as expressed in chapter 90.58 RCW and the applicable guidelines as contained in WAC 173-26, as well as the Shoreline Element Chapter of the Comprehensive Plan.

Any formal written interpretations of shoreline policies or regulations shall be submitted to the Department of Ecology for review.

2. Effect – An interpretation of this code will be enforced as if it is part of this code.
3. Availability – All interpretations of this code, filed sequentially, are available for public inspection and copying in the Planning Department during regular business hours. The Planning Official shall also make appropriate references in this code to these interpretations.

83.60 Liberal Construction

1. As provided for in RCW 90.58.900, the Act is exempted from the rule of strict construction; the Act and this Program shall therefore 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.

83.70 Severability

1. The standards, procedures, and requirements of the code are the minimum necessary to promote the health, safety, and welfare of the residents of Kirkland. The City is free to adopt more rigorous or different standards, procedures, and requirements whenever this becomes necessary. If the provisions of this code conflict one with another, or if a provision of this code conflicts with the provision of another ordinance of the City, the most restrictive provision or the provision imposing the highest standard prevails.
2. The Act and this Program adopted pursuant thereto comprise the basic state and City law regulating use of shorelines. In the event provisions of this Program conflict with other applicable county policies or regulations, the more restrictive shall prevail. Should any section or provision of this Program be declared invalid, such decision shall not affect the validity of this Program as a whole.

Definitions

83.80 Definitions

Refer to the definitions in this Chapter for terms that are specific to the Shoreline Master Program as well as the definitions contained in Chapter 5 KZC.

- 1. Act:** The Washington State Shoreline Management Act, chapter [90.58](#) RCW.
- 2. Agriculture:** Agricultural uses and practices including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation
- 3. Aquaculture:** The cultivation of fish, shellfish, and/or other aquatic animals or plants, including the incidental preparation of these products for human use.
- 4. Aquatic:** Those areas waterward of the ordinary high water mark.
- 5. Appurtenance:** For the purpose of an exemption of a single family residence, also referred to as a detached dwelling unit on one lot, and its associated appurtenances from a substantial development permit, an appurtenance includes those listed under WAC 173-14-040 as well as tool sheds, greenhouses, swimming pools, spas, accessory dwelling units and other accessory structures common to a single family residence located landward of the ordinary high water mark and the perimeter of a wetland.
- 6. Average Parcel Depth:** The average of the distance from the high waterline to the street providing direct access to the subject property as measured along the side property lines or the extension of those lines where the water frontage of the subject property ends, the center of the high waterline of the subject property and the quarter points of the high waterline of the subject property. At the northern terminus of the 5th Ave West private access easement, the average parcel depth shall be measured from the high waterline to the public pedestrian access easement providing access to Waverly Beach Park.
- 7. Average Parcel Width:** The average of the distance from the north to the south property lines as measured along the ordinary high water mark and the front property line, or along the east and west property lines if the parcel does not abut Lake Washington.
- 8. Bioengineering:** Project designs or construction methods which use live woody vegetation or a combination of live woody vegetation and specially developed natural or synthetic materials to establish a complex root grid within the existing bank which is resistant to erosion, provides bank stability, and maintains a healthy riparian environment with habitat features important to fish life. Use of wood structures or limited use of clean angular rock may be allowable to provide stability for establishment of the vegetation.
- 9. Boat:** Any contrivance used or capable of being used as a means of transportation on water, except for cribs or piles, shinglebolts, booms or logs, rafts of logs, and rafts of lumber.
- 10. Boat house:** An overwater structure designed for the storage of boats, but not including boat lift canopies.
- 11. Boat Launch:** Graded slopes, slabs, pads, planks, or rails used for launching boats by means of a trailer, hand, or mechanical device.
- 12. Boat Lift:** Lifts for motorized boats, kayaks, canoes and jet skis. Includes floating lifts, which are designed to not contact the substrate of the Lake; ground-based lifts, which are designed to be in contact

with or supported by the substrate of the Lake; and suspended lifts, which are designed to be affixed to the existing overwater structure with no parts contacting the substrate.

13. Breakwater: Protective structures which are normally built offshore to provide protection from wave action.

14. Buffer: The area immediately adjacent to wetlands and streams that protects these sensitive areas and provides essential habitat elements for fish and/or wildlife.

15. Buffer Setback: A setback distance of 10 feet from a designated or modified wetland or stream buffer within which no buildings or other structures may be constructed, except as provided in KZC 83.90.3(b) and 83.95.3(b). The buffer setback serves to protect the wetland or stream buffer during development activities, use, and routine maintenance occurring adjacent to these resources.

16. Bulkhead: A vertical or nearly vertical erosion protection structure placed parallel to the shoreline consisting of concrete, timber, steel, rock, or other permanent material not readily subject to erosion.

17. Canopy: A cover installed as a component of a boatlift.

18. Class A Streams: Streams that are used by salmonids. Class A streams generally correlate with Type F streams as defined in WAC 222-16-030.

19. Class B Streams: Perennial streams (during years of normal precipitation) that are not used by salmonids. Class B streams generally correlate with Type F streams (if used by non-salmonids or they contain fish habitat) or Type Np streams (if they are perennial and do not contain fish habitat) as defined in WAC 222-16-030.

20. Class C Streams: Seasonal or ephemeral streams (during years of normal precipitation) not used by salmonids. Class C streams generally correlate with Type F streams (if used by non-salmonid fish or they contain fish habitat) or Type Ns streams (if they are seasonal and do not contain fish habitat) as defined in WAC 222-16-030.

21. Concession Stand: A permanent or semi-permanent structure for the sale and consumption of food and beverages and water-related products such as sunscreen, sunglasses, and other similar products. A concession stand may include outdoor seating areas. Indoor seating and associated circulation areas shall not exceed more than 10 percent of the gross floor area of the use, and it must be demonstrated to the City that the floor plan is designed to preclude the seating area from being expanded.

22. Conditional Uses: A use, development, or substantial development which is classified as a conditional use in section 83.165 or which is not classified within the SMP. Those activities identified as conditional uses or not classified in this Master Program must be treated according to the review criteria established in WAC 173-27-160.

23. Critical Areas: Critical areas include the following areas and ecosystems: (a) wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas (streams); (d) frequently flooded areas; and (e) geologically hazardous areas. Kirkland does not contain any critical aquifer recharge areas. Critical areas may also be referred to as sensitive areas.

24. Development: A use consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, or minerals; 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 of the waters overlying lands subject to RCW 90.58 at any state of water level.

25. Dock: A structure that floats on the surface of the water, without piling supports, but which is attached to land. Typically used for boat moorage, swimming, public access, and other activities that require access to deep water.

26. Drainage Basin: A specific area of land drained by a particular Kirkland watercourse and its tributaries.

27. Dredging: The removal, displacement, or disposal of unconsolidated earth material such as sand, silt, gravel, or other submerged materials, from the bottom of water bodies, ditches, or natural wetlands; maintenance dredging and/or support activities are included in this definition.

28. Dry Land Boat Storage: A commercial service providing storage of boats and other boat on the upland portion of a property.

29. 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.

30. Ecological Restoration: See Restore.

31. Ecologically Intact Shoreline: 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.

32. Ecosystem-wide Processes: The suite of naturally occurring physical and geologic processes of erosion, transport, and deposition, and specific chemical processes that shape landforms within a specific shoreline ecosystem and determine both the types of habitat that are present and the associated ecological functions.

33. Feasible: An action, such as a development project, mitigation, or preservation requirement, which 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.

d. Cases where these guidelines require certain actions unless they are infeasible, the burden of proving infeasibility is on the applicant.

In determining an action's infeasibility, the City may weigh the action's relative public costs and public benefits, considered in the short- and long-term time frames.

34. Ferry Terminal, Passenger-only: A docking facility used in the transport of passengers across a body of water. A ferry terminal may include accessory parking facilities, ticketing booth, and other accessory uses or structures necessary for its operation. A passenger-only ferry terminal does not include provisions for the ferrying of vehicles.

35. Fill: The addition of soil, sand, rock, gravel, sediment, earth-retaining structure, or other material to an area waterward of the ordinary high water mark, in wetland, or on shorelands in a manner that raises the elevation or creates dry land.

36. Float: A structure that floats on the surface of the water, which is not attached to the shore but that may be anchored to submerged land. Floats are typically used for swimming, diving and similar recreational activities.

37. Float Plane Landing and Moorage Facility: A place where commercially operated water-based passenger aircraft arrive and depart. May include accessory facilities such as waiting rooms, ticketing booths and similar facilities.

38. Floodplain: Synonymous with the one hundred year floodplain and means the land susceptible to inundation with a one percent chance of being equaled or exceeded in any given year. The limit of this

area shall be based upon flood ordinance regulations maps or a reasonable method that meets the objectives of the Shoreline Management Act.

39. Frequently Flooded Areas: All areas shown on the Kirkland Sensitive Areas Maps as being within a 100-year floodplain, as well as all areas regulated by Chapter 21.56 KMC.

40. Gabions: Structures composed of masses of rocks or rubble held tightly together by wire mesh (typically) so as to form upright blocks or walls. Often constructed as a series of overlapping blocks or walls. Used primarily in retaining earth, steep slopes or embankments, to retard erosion or wave action, or as foundations for breakwaters or jetties.

41. Geotechnical Analysis: See Geotechnical Report.

42. Geotechnical Report: A scientific study or evaluation conducted by a qualified expert that includes a description of the ground and surface hydrology and geology, the affected land form and its susceptibility to mass wasting, erosion, and other geologic hazards or processes, conclusions and recommendations regarding the effect of the proposed development on geologic conditions, the adequacy of the site to be developed, the impacts of the proposed development, alternative approaches to the proposed development, and measures to mitigate potential site-specific and cumulative geological and hydrological impacts on the proposed development, including the potential adverse impacts to adjacent and down-current properties. Geotechnical reports shall conform to accepted technical standards and must be prepared by qualified professional engineers (or geologists) who have professional expertise about the regional and local shoreline geology and processes.

43. Grading: The movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land.

44. Hard Structural Shoreline Stabilization: Shore erosion control practices using hardened structures that armor and stabilize the shoreline from further erosion. Hard structural shoreline stabilization typically uses concrete, boulders, dimensional lumber or other materials to construct linear, vertical or near-vertical faces. These include bulkheads, rip-rap, groins, and similar structures.

45. Helipad: A takeoff and landing area for helicopters.

46. Houseboat: A structure designed and operated substantially as a permanently based overwater residence. Houseboats are not vessels and lack adequate self-propulsion and steering equipment to operate as a vessel. They are typically served by permanent utilities and semipermanent anchorage/moorage facilities.

47. Impervious Surface: A hard surface water which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development; and/or a hard 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, driveway, 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 surface and storm water runoff. Open, uncovered flow control or water quality treatment facilities shall not be considered impervious surfaces

48. Joint-use: Piers and floats that are constructed by more than one contiguous waterfront property owner or by a homeowner's association or similar group.

49. Land Division: The division or redivision of land into lots, tracts, parcels, sites or divisions for the purpose of sale, lease, or transfer of ownership.

50. Land Surface Modification: The clearing or removal of trees, shrubs, groundcover and other vegetation, excluding trees, and all grading, excavation and filling of materials.

51. Large Woody Debris: Trunks or branches of trees that have fallen in or been placed in a waterbody and serve the purposes of stabilization or habitat for fish and aquatic insects.

52. Low Impact Development: Low Impact Development (LID) is a set of techniques that mimic natural watershed hydrology by slowing, evaporating/transpiring, and filtering water that allows water to soak into the ground closer to its source. The development shall meet one or more of the following objectives:

- Preservation of natural hydrology.
- Reduction of impervious surfaces.
- Treatment of stormwater in numerous small, decentralized structures.
- Use of natural topography for drainageways and storage areas.
- Preservation of portions of the site in undisturbed, natural conditions.
- Reduction of the use of piped systems. Whenever possible, site design should use multifunctional open drainage systems such as vegetated swales or filter strips which also help to fulfill landscaping and open space requirements.
- Use of environmentally sensitive site design and green building construction that reduces runoff from structures, such as green roofs.

53. Marina: A private or public facility providing the purchase and or lease of a slip for storing, berthing and securing motorized boats or watercraft, including both long-term and transient moorage. Marinas may include accessory facilities for providing incidental services to users of the marina, such as waste collection, boat sales or rental activities, and retail establishments providing fuel service, repair or service of boats.

54. May: Means the action is acceptable, provided it conforms to the provisions of the Shoreline Management Act, with the decision-maker having or using the ability to act or decide according to their own discretion or judgment.

55. Minor Improvements: Walkways, pedestrian bridges, benches, and similar features, as determined by the Planning Official, pursuant to KZC 83.90.3(e) and 83.95.3(e).

56. Moorage buoy: A floating object, sometimes carrying a signal or signals, anchored to provide a mooring place away from the shore.

57. Must: means a mandate; the action is required.

58. Neighborhood-oriented retail establishment: Small scale retail and service uses that provide primarily convenience retail sales and service to the surrounding residential neighborhood. The following is a nonexclusive list of neighborhood-oriented retail uses: small grocery store, drug store, hair salon, coffee shop, dry cleaner or similar retail or service uses.

59. Nonconforming use or development: A shoreline use or development which was lawfully constructed or established prior to the effective date of the act or the applicable master program, or amendments thereto, but which does not conform to present regulations or standards of the program.

60. Non-Water-Oriented Use: Uses that are not water-dependent, water-related, or water-enjoyment.

61. Ordinary High Water Mark (OHWM): The mark that will be found on all lakes and streams 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 exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the department; provided, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining fresh water shall be the line of mean high water, or as amended by the State. For Lake Washington, the ordinary high water mark corresponds with a lake elevation of 21.8 feet.

62. Outfall: A structure used for the discharge of a stormwater or sewer system into a receiving water.

- 63. Pervious:** As opposed to impervious surfaces, these are surfaces that allow water to pass through at rates similar to pre-developed conditions. There are various types of pervious surfaces, including pervious asphalt, pervious concrete and grass or pervious pavers.
- 64. Permitted Uses:** Uses which are allowed within the applicable shoreline environment, provided that they must meet the policies, use requirements, and regulations of this Chapter 83 KZC and any other applicable regulations of the City or state.
- 65. Pier:** A structure supported by pilings that projects over, and is raised above the water but is attached to land, and that is used for boat moorage, swimming, fishing, public access, float plane moorage, or similar activities requiring access to deep water.
- 66. Piling:** The structural supports for piers, usually below the pier decking and anchored in the water.
- 67. Preserve:** The protection of existing ecological shoreline processes or functions.
- 68. Primary Basins:** The primary basins shown on the Kirkland Sensitive Areas Map.
- 69. Public Access:** The ability of the general public 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.
- 70. Public Access Facility:** A water-oriented structure, such as a trail, pier, pedestrian bridge, boat launch, viewing platform, or fishing pier that provides access for the public to or along the shoreline.
- 71. Public Access Pier or Boardwalk:** An elevated structure that is constructed waterward of the ordinary high water mark and intended for public use.
- 72. Public Pedestrian Walkway:** A portion of private property subject to an easement giving the public the right to stand on or traverse this portion of the property.
- 73. Public Use Area:** A portion of private property that is dedicated to public use and which contains one or more of the following elements: benches, tables, lawns, gardens, piers, exercise or play equipment or similar improvements or features. These elements are to provide the public with recreational opportunities in addition to the right to traverse or stand in this area.
- 74. Qualified Professional:** An individual with relevant education and training, as determined by the Planning Official, and with at least three years' experience in biological fields such as botany, fisheries, wildlife, soils, ecology, and similar areas of specialization, and including a professional wetland scientist.
- 75. Rain Garden:** Rain gardens and bioretention areas are landscaping features adapted to provide on-site infiltration and treatment of stormwater runoff using soils and vegetation. They are commonly located within small pockets of residential land where surface runoff is directed into shallow, landscaped depressions; or in landscaped areas around buildings; or, in more urbanized settings, to parking lot islands and green street applications.
- 76. Restore:** 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.
- 77. Restoration:** See Restore.
- 78. Revetment:** A shoreline protective structure constructed on a slope, and used to prevent erosion.
- 79. Riparian area:** A transition area between the aquatic ecosystem and the adjacent upland area that supports a number of shoreline ecological functions and processes, including bank stability, the recruitment of woody debris, leaf litter fall, nutrients, sediment filtering, shade, and other riparian features that are important to both riparian forest and aquatic system conditions.
- 80. Salmonid:** A member of the fish family salmonidae, which include chinook, coho, chum, sockeye, and pink salmon; rainbow, steelhead, and cutthroat trout; brown trout; brook and dolly varden char, kokanee, and white fish.

- 81. Secondary Basins:** The secondary basins depicted on the Kirkland Sensitive Areas Map.
- 82. Shall:** Means a mandate; the action must be taken.
- 83. 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 the Shoreline Management Act; the same to be designated as to location by the Department of Ecology.
- 84. Shoreland Areas:** See Shorelands.
- 85. Shoreline Functions:** See Ecological Functions.
- 86. Shoreline Habitat and Natural Systems Enhancement Projects:** Activities conducted for the purpose of establishing, restoring, or enhancing habitat for priority species in shorelines. The following is a nonexclusive list of shoreline habitat and natural systems enhancement projects: modification of vegetation, removal of non-native or invasive plants, shoreline stabilization, dredging and filling - provided that the primary purpose of such actions is clearly restoration of the natural character and ecological functions of the shoreline.
- 87. Shoreline 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, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, or application of chemicals.
- 88. Shoreline Setback:** The distance measured in feet that a structure or improvement must be located from the ordinary high water mark.
- 89. Shoreline Stabilization:** Means for protecting shoreline upland areas and shoreline uses from the effects of shoreline wave action, flooding or erosion. Shoreline stabilization includes structural and non-structural methods, riprap, bulkheads, gabions, jetties, dikes and levees, flood control weirs, and bioengineered walls or embankments.
- 90. Shorelines:** 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.
- 91. Shorelines of Statewide Significance:** Those lakes, whether natural, artificial, or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high water mark and those natural rivers or segments thereof where the mean annual flow is measured at one thousand cubic feet per second or more. Definition is limited to freshwater areas in Western Washington.
- 92. Should:** Means that the particular action is required unless there is a demonstrated, compelling reason, based on policy of the Shoreline Management Act and the Shoreline Rules, against taking the action.
- 93. Sign, Interpretive:** A permanent sign without commercial message, located on a publicly-accessible site, that provides public educational and interpretive information related to the site on which the sign is located, such as information on natural processes, habitat restoration programs, or cultural history, or that is associated with an adopt-a-stream, adopt-a-park or similar agency-sponsored program.
- 94. Significant Vegetation Removal:** The removal or alteration of trees, shrubs, and/or ground cover by clearing, grading, cutting, burning, chemical means, or other activity that causes significant ecological impacts to functions provided by such vegetation. The removal of invasive or noxious weeds does not constitute significant vegetation removal. Tree pruning, not including tree topping, where it does not affect ecological functions, does not constitute significant vegetation removal.

95. Soft Shoreline Stabilization Measures: Shore erosion control and restoration practices that contribute to restoration, protection or enhancement of shoreline ecological functions. Soft shoreline stabilization typically includes a mix of gravels, cobbles, boulders, logs and native vegetation placed to provide shore stability in a non-linear, sloping arrangement.

96. Streams – Areas where surface waters produce a defined channel or bed that demonstrates clear evidence of the passage of water, including but 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. Streams do not include irrigation ditches, canals, storm or surface water runoff devices, or other entirely artificial watercourses, unless they are used by salmonids or convey a naturally occurring stream that has been diverted into the artificial channel.

97. Substantial Development: As defined in the Washington State Shoreline Management Act (SMA) found in 90.58 RCW, and WAC 173-27-030 and 173-27-040.

98. Transportation Facilities: Facilities that include road pavement, curb and cutter, sidewalk and landscape strip as regulated under KZC 110.

99. Tour Boat Facility: A moorage pier designed for commercial tour boat usage.

100. Tree: A woody plant with one main stem at a minimum height of 12' measured from the existing ground, having a distinct head in most cases. The Urban Forester shall have the authority to determine whether any specific woody plant shall be considered a tree or a shrub.

101. Upland: Generally described as the dry land area above and landward of the ordinary high water mark.

102. Utilities: Services, facilities and infrastructure that produce, transmit, carry, store, process or dispose of electric power, gas, water, sewage, communications, oil, storm water, and similar services and facilities.

103. Utility Production and Processing Facilities: Facilities for the making or treatment of a utility, such as power plants and sewage treatment plants or parts of those facilities.

104. Utility Transmission Facilities: Infrastructure and facilities for the conveyance of services, such as power lines, cables, and pipelines.

105. View Corridor: An open area of the subject property that provides views unobstructed by structures across the subject property from the adjacent right-of-way to Lake Washington.

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

107. 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 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-orientated space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

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

109. Water Quality: The physical characteristics of water within shoreline jurisdiction, including water quantity, hydrological, physical, chemical, aesthetic, recreation-related, and biological characteristics. Where used in this chapter, the term "water quantity" refers only to development and uses regulated under this chapter and affecting water quantity, such as impermeable surfaces and storm water handling practices. Water quantity, for purposes of this chapter, does not mean the withdrawal of ground water or diversion of surface water pursuant to RCW 90.03.250 through 90.03.340.

110. Water-Related Use: A use or portion of a use which 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 it services less expensive and/or more convenient.

111. Watershed: A region or area bounded on the periphery by a parting of water and draining to a particular watercourse or body of water.

112. Watershed Restoration Plan: A plan, developed or sponsored by the department of fish and wildlife, the department of ecology, the department of natural resources, the department of transportation, a federally recognized Indian tribe acting within and pursuant to its authority, a city, a county, or a conservation district that provides a general program and implementation measures or actions for the preservation, restoration, re-creation, or enhancement of the natural resources, character, and ecology of a stream, stream segment, drainage area, or watershed for which agency and public review has been conducted pursuant to chapter [43.21C](#) RCW, the State Environmental Policy Act;

113. Watershed Restoration Project: A public or private project authorized by the sponsor of a watershed restoration plan that implements the plan or a part of the plan and consists of one or more of the following activities:

- a. A project that involves less than ten miles of streamreach, in which less than twenty-five cubic yards of sand, gravel, or soil is removed, imported, disturbed or discharged, and in which no existing vegetation is removed except as minimally necessary to facilitate additional plantings;
- b. A project for the restoration of an eroded or unstable stream bank that employs the principles of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or
- c. A project primarily designed to improve fish and wildlife habitat, remove or reduce impediments to migration of fish, or enhance the fishery resource available for use by all of the citizens of the state, provided that any structure, other than a bridge or culvert or instream habitat enhancement structure associated with the project, is less than two hundred square feet in floor area and is located above the ordinary high water mark of the stream.

114. Water Taxi: A boat used to provide public transport for passengers, with service scheduled with multiple stops or on demand to many locations. A water taxi would not include accessory facilities such as ticketing booths and would not include the transport of vehicles.

115. Wetlands: Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soils 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, retention and/or 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. However, wetlands do include those artificial wetlands intentionally created from non-wetland sites as mitigation for the conversion of wetlands.

116. Wetland Rating: Wetlands shall be rated according to the *Washington State Wetland Rating System for Western Washington* (Department of Ecology 2004, or as revised). This document contains the definitions, methods and a rating form for determining the categorization of wetlands below:

- a. Category I wetlands are those that 1) represent a unique or rare wetland type; or 2) are more sensitive to disturbance than most wetlands; or 3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or 4) provide a high level of functions. Category I wetlands include Natural Heritage wetlands, bogs, mature and old-growth

forested wetlands, and wetlands that score at least 70 points on the rating form.

b. Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions. These wetlands occur more commonly than Category I wetlands, but still need a relatively high level of protection. Category II wetlands score between 51 and 69 points on the rating form.

c. Category III wetlands have a moderate level of function, scoring between 30 and 50 points on the rating form.

d. Category IV wetlands have the lowest levels of functions (scores less than 30 points on the rating form) and are often heavily disturbed. These are wetlands that can often be replaced, and in some cases improved. However, replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and also need to be protected.

Shoreline Environment Designations and Statewide Significance

83.90 Shoreline Jurisdiction and Official Shoreline Map

1. Shoreline Map -

- a. The adopted Shoreline Environment Designations Map is the graphic representation of the City's shorelines that are regulated by this program. The map, or set of maps, entitled City of Kirkland Shoreline Environment Designation Map and adopted by ordinance is hereby adopted as part of this code. See Chapter 141 KZC for information regarding amending this map.
- b. The adopted shoreline map identifies shoreline environment designations as well as the extent of shoreline jurisdiction.
 - 1) Extent of Shoreline Jurisdiction - The shoreline jurisdiction as depicted on the adopted Shoreline Environment Designations Map is intended to depict the *approximate* location and extent of known shorelands. In determining the exact location of shoreline jurisdiction, the criteria contained in RCW 90.58.030(2) shall be used. For Lake Washington, the ordinary high water mark corresponds with a lake elevation of 21.8 feet. The extent of shoreline jurisdiction on any individual lot, parcel or tract is to be determined by a field investigation and a survey and is the sole responsibility of the applicant. The location of the ordinary high water mark shall be included in shoreline permit application submittals to determine the extent of shoreline jurisdiction for review and approval by the Planning Official.
 - 2) Interpretation of Shoreline Environment Designations - The following shall be used to interpret the boundary of shoreline environment designations:
 - a) Following Property Lines – Where a shoreline environment designation boundary is indicated as approximately following a property line, the property line is the shoreline environment designation boundary.
 - b) Following Streets – Where a shoreline environment designation boundary is indicated as following a street, the midpoint of the street right-of-way is the shoreline environment designation boundary, except as follows:
 - i) The portion of the public right-of-way known as 98th Avenue NE located within 200 feet of the Ordinary High Water Mark is designated wholly as Urban Mixed.
 - ii) Waterfront street ends, where the public right-of-way is designated wholly under one shoreline environment.
 - c) Wetlands – Where an associated wetland boundary extends beyond the area depicted on the Shoreline Environment Designation Map, the additional wetland area shall be designated the same shoreline environment as the adjoining wetland area.
 - d) Lakes – The Aquatic environment designation boundary extends into Lake Washington to the full limit and territorial extent of the police power, jurisdiction and control of the City of Kirkland.
 - e) Other Cases – Where a shoreline environment designation boundary is not indicated to follow a property line or street, the boundary line is as follows:
 - i) The transition of the shoreline environment designation from Urban Conservancy to Urban Mixed at Juanita Beach Park occurs at a point measured 75 feet east of the ordinary high water mark of Juanita Creek.

- ii) The transition of the shoreline environment designation from Urban Conservancy to Urban Residential west of Juanita Beach Park occurs at a point measured 75 feet west of the ordinary high water mark of Juanita Creek.
- f) Classification of Vacated Rights-of-Way – Where a right-of-way is vacated, the area comprising the vacated right-of-way will acquire the classification of the property to which it reverts.
- g) Undesignated Properties - Any shoreline areas not mapped and/or designated shall be assigned an Urban Conservancy designation, except wetlands as noted in subsection 2)c) above.

2. Shoreline Environment Designations -

a. Sections 83.100 through 83.150 establish the six shoreline environment designations used in the City of Kirkland and their respective purposes, designation criteria, and management policies. Sections 83.180 through 83.520 then establish the different regulations that apply in these different environmental designations.

b. The management policies contained in the Shoreline Chapter of the Comprehensive Plan shall be used to assist in the interpretation of these regulations.

83.100 Natural

- 1. Purpose - To protect and restore those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions intolerant of human use. The natural environment also protects shoreline areas possessing natural characteristics with scientific and educational interest. These systems require restrictions on the intensities and types of land uses permitted in order to maintain the integrity of the ecological functions and ecosystem-wide processes of the shoreline environment.
- 2. Designation Criteria – A Natural environment designation should be assigned to shoreline areas if any of the following characteristics apply:
 - a. The shoreline is ecologically intact and therefore currently performing an important, irreplaceable function or ecosystem-wide process that would be damaged by human activity;
 - b. The shoreline is considered to represent ecosystems and geologic types that are of particular scientific and educational interest; or
 - c. The shoreline is unable to support new development or uses without significant adverse impacts to ecological functions or risk to human safety.

83.110 Urban Conservancy

- 1. Purpose - To protect and restore ecological functions of open space, flood plain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses.
- 2. Designation Criteria - An Urban Conservancy environment designation should be assigned to shoreline areas appropriate and planned for development that is compatible with maintaining or restoring of the ecological functions of the area, that are not generally suitable for water-dependent uses and that lie in incorporated municipalities or urban growth areas if any of the following characteristics apply:
 - a. They are suitable for water-related or water-enjoyment uses;
 - b. They are open space, flood plain or other sensitive areas that should not be more intensively developed;
 - c. They have potential for ecological restoration;
 - d. They retain important ecological functions, even though partially developed; or

e. They have the potential for development that is compatible with ecological restoration.

83.120 Residential - L

1. Purpose - To accommodate low-density residential development and appurtenant structures that are consistent with this chapter.
2. Designation Criteria - A Residential - L environment designation should be assigned to shoreline areas inside urban growth areas, as defined in RCW 36.70A.110, and incorporated municipalities if they are predominantly single-family residential development or are planned and platted for low-density residential development, unless these areas meet the designation criteria for the Natural shoreline environment designation.

83.130 Residential - M/H

1. Purpose - To accommodate medium and high-density residential development and appurtenant structures that are consistent with this chapter. An additional purpose is to provide appropriate public access and recreational uses, as well as limited water-oriented commercial uses which depend on or benefit from a shoreline location.
2. Designation Criteria - A Residential - M/H environment designation should be assigned to shoreline areas inside urban growth areas, as defined in RCW 36.70A.110, and incorporated municipalities if they are predominantly multifamily residential development or are planned and platted for medium or high-density residential development, unless these properties meet the designation criteria for the Natural or Urban Conservancy shoreline environment designation.

83.140 Urban Mixed

1. Purpose - To provide for high-intensity land uses, including residential, commercial, recreational, transportation and mixed-used developments. The purpose of this environment is to ensure active use of shoreline areas that are presently urbanized or planned for intense urbanization, while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded.
2. Designation Criteria - An Urban Mixed environment designation should be assigned to shoreline areas within incorporated municipalities and urban growth areas if they currently support high-intensity uses related to commerce, transportation or navigation; or are suitable and planned for high-intensity water-oriented uses.

83.150 Aquatic

1. Purpose - To protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high water mark.
2. Designation Criteria - An Aquatic environment designation should be assigned to lands waterward of the ordinary high-water mark.

Uses and Activities in the Shoreline Environment

83.160 User Guide

1. Explanation of Uses Table
 - a. The table contained in KZC 83.165 identifies uses and activities and defines whether those uses are prohibited, permitted by application for Exemption or Shoreline Substantial Development Permit, or permitted by a Shoreline Conditional Use Permit. If a use is not specifically listed, then it may be considered through a Shoreline Conditional Use Permit (see Chapter 141). The following symbols apply:
 - 1) "X" means that the use or activity is prohibited in the identified Shoreline Environment. Shoreline uses, activities, or conditions listed as prohibited shall not be authorized through a variance, conditional use permit, or any other permit or approval.
 - 2) "SD" means that the use or activity may be permitted by approval by the Planning Official through a Letter of Shoreline Exemption (see KZC Chapter 141) or through a Shoreline Substantial Development Permit (see KZC Chapter 141).
 - 3) "CU" means that the use or activity may be permitted by approval of the Planning Official and Department of Ecology through a Shoreline Conditional Use Permit (see KZC Chapter 141). Uses that are not specifically prohibited under KZC 83.165 may be authorized through a Shoreline Conditional Use Permit.
 - 4) Shoreline Variances (see Chapter 141) are intended only to grant relief from specific bulk, dimensional or performance standards in the Shoreline Master Program, NOT to authorize shoreline uses and activities. They are therefore not included in KZC 83.170.
2. See KZC 83.370 for federal and state approval.

83.170 Shoreline Environments, Permitted and Prohibited Uses and Activities Chart

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
SHORELINE USE						
Resource Land Uses						
Agriculture	X	X	X	X	X	X
Aquaculture	X	X	X	X	X	X
Forest practices	X	X	X	X	X	X
Mining	X	X	X	X	X	X
<u>Scientific research and Native American fishing</u>	<u>SD</u>	<u>SD</u>	<u>SD</u>	<u>SD</u>	<u>SD</u>	<u>SD</u>
Commercial Uses						
Water-dependent uses						
Float plane landing and mooring facilities ¹	X	X	X	X	CU	adjacent upland environment
Water-related, water-enjoyment commercial uses						

¹ Limited to water-based aircraft facilities for air charter operations.

<p>The chart is coded according to the following legend.</p> <p>SD = Substantial Development</p> <p>CU = Conditional Use</p> <p>X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit</p>	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
<p>Any water-oriented Retail Establishment other than those specifically listed in this chart, selling goods or providing services.</p>	X	SD ²	X	X	SD	X

² Permitted as an accessory use to a Public Park.

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
Retail Establishment providing new or used Boat Sales or Rental	X	SD ²	X	CU ^{3,5}	SD ⁴	adjacent upland environme
Retail establishment providing gas and oil sale for boats	X	X	X	CU ^{3,5}	CU ⁵	adjacent upland environme
Retail establishment providing boat and motor repair and service	X	X	X	CU ^{3,5}	CU ⁵	X
Restaurant or Tavern ⁶	X	X	X	CU ³	SD	X
Concession Stand	X	SD ²	X	X	SD ²	X
Entertainment or cultural facility	X	CU ⁷	X	X	SD	X
Hotel or Motel	X	X	X	CU ⁸ /X	SD	X

³ Permitted if located on the west side of Lake Washington Lake Blvd NE/Lake St S south of Lake Avenue West and north of NE 52nd Street.

⁴ Permitted in the Juanita Business District or as an accessory use to a marina.

⁵ Accessory to a marina only.

⁶ Drive-in or drive-through facilities are prohibited.

⁷ Use must be open to the general public.

⁸ Permitted in Planned Area 3B established in the Lakeview Neighborhood Plan only.

<p>The chart is coded according to the following legend.</p> <p>SD = Substantial Development</p> <p>CU = Conditional Use</p> <p>X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit</p>	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
Nonwater-oriented, nonwater-dependent uses						
Any Retail Establishment other than those specifically listed in this chart, selling goods, or providing services including banking and related services	X	X	X	X	SD ⁹	X
Office Uses	X	X	X	X	SD ⁹	X
Neighborhood-oriented Retail Establishment	X	X	X	CU ¹⁰	SD ⁹	X
Private Lodge or Club	X	X	X	X	SD ⁹	X
Vehicle Service Station	X	X	X	X	X	X
Automotive Service Center	X	X	X	X	X	X
Dry land boat storage	X	X	X	X	X	X

⁹ Permitted as part of mixed-use development containing water-oriented uses, where there is intervening development between the shoreline and the use, or if located on the east side of Lake Washington Blvd NE/Lake St S or the east side of 98th Avenue NE.

¹⁰ Permitted if located on the east side of Lake Washington Blvd NE between NE 60th Street and 7th Ave S.

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
Industrial Uses						
Water-dependent uses	X	X	X	X	X	adjacent upland environment
Water-related uses	X	X	X	X	X	X
Nonwater-oriented uses	X	X	X	X	X	X
Recreational Uses						
Water-dependent uses						
Marina ¹¹	X	CU	X	SD	SD	See adjacent upland environments
Piers, docks, boat lifts and canopies serving Detached Dwelling Unit ¹¹	X	X	SD	SD	SD ¹⁵	
Piers, docks, boat lifts and canopies serving Detached, Attached or Stacked Dwelling Units ¹¹	X	X	X	SD	SD	
Float	X	SD ²	X	X	SD ²	

¹¹ No boat moored in or off the shoreline of Kirkland shall be used as a place of habitation.

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
Tour Boat Facility	X	X	X	X	SD ¹²	
Moorage buoy ¹¹	X	SD	SD	SD	SD	
Public Access Pier or Boardwalk	CU	SD	SD	SD	SD	
Boat launch (for motorized boats)	X	X	X	X	CU	
Boat launch (for non-motorized boats)	SD	SD	SD	SD	SD	
Boat houses or other covered moorage not specifically listed	X	X	X	X	X	
Swimming beach and other public recreational use	CU	SD	SD	SD	SD	
Water-related, water-enjoyment uses						
Any water-oriented recreational development other than those specifically listed in this chart	X	CU	CU	CU	SD	X
Other Public Park Improvements ¹³	CU	SD	SD	SD	SD	X

¹² Permitted as an accessory use to a Marina or Public Park only.

¹³ This use does not include other public recreational uses or facilities specifically listed in this chart

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
Public Access Facility	SD ¹⁴	SD	SD	SD	SD	See adjacent
Nonwater-oriented uses						
Nonwater-oriented recreational development.	X	X	X	X	SD ⁹	X
Residential Uses						
Detached dwelling unit	CU	CU	SD	SD	SD ¹⁵	X
Accessory dwelling unit ¹⁶	X	X	SD	SD	SD ¹⁵	X
Detached, Attached or Stacked Dwelling Units	X	X	X	SD	SD	X
Houseboats	X	X	X	X	X	X
Assisted Living Facility ¹⁷	X	X	X	CU	SD	X

¹⁴ Limited to trails, viewpoints, interpretative signage and similar passive and low-impact facilities.

¹⁵ Permitted if located south of NE 60th Street only.

¹⁶ One accessory dwelling unit (ADU) is permitted as subordinate to a [detached dwelling unit single-family dwelling](#)

¹⁷ A nursing home use may be permitted as part of an assisted living facility use.

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
Convalescent Center or Nursing Home	X	X	X	CU ¹⁸	SD ¹⁹	X
Land division	SD ²⁰	SD ²⁰	SD	SD	SD	X
Institutional Uses						
Float plane landing and mooring facilities (public)	X	X	X	X	CU	adjacent upland environm
Government Facility	X	SD	SD	SD	SD	X
Community Facility	X	X	X	X	SD	X
Church	X	X	X	CU ¹⁸	SD ¹⁹	X
School or Day-Care Center	X	X	X	CU ¹⁸	SD ⁹	X
Mini-School or Mini-Day-Care Center	X	X	X	SD ¹⁸	SD ⁹	X
Transportation						
Water-dependent						

¹⁸ Permitted if located on the east side of Lake Washington Blvd NE/Lake St S, or the east side of 98th Avenue NE.

¹⁹ Not permitted in the Central Business District. Otherwise, permitted if located on the east side of Lake Washington Blvd NE/Lake St S, the east side of 98th Avenue NE or on the south side of NE Juanita Drive.

²⁰ May not create any new lot that would be wholly contained within shoreland area in this shoreline environment.

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
Bridges	CU	CU	SD	SD	SD	See adjacent upland environments
Passenger-only Ferry terminal	X	X	X	X	CU	
Water Taxi	X	SD ²¹	SD ²¹	SD ²¹	SD ²¹	
Nonwater-oriented						
Arterials, Collectors, and neighborhood access streets	CU	SD ²² /CU	SD	SD	SD	X
Helipad	X	X	X	X	X	X
Utilities						
Utility production and processing facilities	X	CU ²³	CU ²³	CU ²³	CU ²³	X
Utility transmission facilities	CU ²³	SD ²³	SD ²³	SD ²³	SD ²³	CU ²³
Personal Wireless Service Facilities ²⁴	X	SD	SD	SD	SD	X
Radio Towers	X	X	X	X	X	X
SHORELINE MODIFICATIONS						

²¹ Permitted as an accessory use to a marina or a public park.

²² Construction of pedestrian and bicycle facilities only.

²³ This use may be allowed provided there is no other feasible route or location.

²⁴ New towers are not permitted.

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
Breakwaters/jetties/rock weirs/groins	X	X	X	SD ²⁵ /CU	SD ²⁵ /CU	See adjacent upland environments
Dredging and dredge materials disposal	SD ²⁵ /CU					
Fill waterward of the ordinary high water mark	SD ²⁵ /CU					
Land surface modification	SD ²⁵ /CU	SD	SD	SD	SD	
Shoreline habitat and natural systems enhancement projects	SD	SD	SD	SD	SD	
Hard Structural Shoreline Stabilization	X	CU	SD	SD	SD	
Soft Shoreline Stabilization Measures	X	SD	SD	SD	SD	

²⁵ Permitted under a substantial development permit when associated with a restoration or enhancement project.

Use Specific Regulations

83.180 Shoreline Development Standards

1. General –

- a.) See KZC 83.40 for relationship to other code and ordinances.
- b.) Development standards specified in this Chapter shall not extend beyond the geographic limit of the shoreline jurisdiction, except as noted in the provisions contained below.

2. Development Standards Chart –

- a.) The following chart establishes the minimum required dimensional requirements for development. At the end of the chart are footnotes pertaining to certain uses and activities.
- b.) KZC Section 83.170 contains an overview of the activities permitted under each of the use classifications contained in the development standards chart.
- c.) KZC 83.190 through KZC 83.520 contains additional standards for the uses and activities, including provisions for No Net Loss and Mitigation Sequencing in KZC 83.360 and federal and state approval in KZCX 83.370.

SHORELINE DEVELOPMENT STANDARDS

83.180. 3

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
Residential Uses						
Detached Dwelling Units and Accessory Dwelling Units						
Minimum Lot Size	n/a	12,500 sq. ft.	12,500 sq. ft.	12,500 sq. ft. except for the following: <ul style="list-style-type: none"> • 5,000 sq. ft. if located on east side of Lake St S, at 7th Ave S; and • 7,200 sq. ft. if subject to the Historic Preservation provisions of KMC 22.28.048 	3,600 sq. ft.	3,600 sq. ft.
Shoreline Setback	n/a	Thirty (30) % of the average	Outside of shoreline jurisdictional area, if feasible,	30 % of the average parcel depth, except in no case is the	The greater of: a. 25' or b. 15% of the average	The greater of: a. 25' or b. 15% of the average parcel

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
		e parcel depth, except in no case is the shoreline setback permitted to be less than 30 feet or required to be greater than 60 feet, except as otherwise specifically allowed through	otherwise 50’.	shoreline setback permitted to be less than 30 feet or required to be greater than 60 feet, except as otherwise specifically allowed through this Chapter.. For those properties located along Lake Ave W south of the Lake Ave W street end park, the following standard shall apply: If dwelling units exist immediately adjacent to both the north and south property lines of the subject property, then the shoreline setback of the primary structure	parcel depth.	depth.

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
		this Chapter.		on the subject property is the average of the shoreline setback of these adjacent dwelling units, but at a minimum width of 15 feet. If a dwelling unit is not adjacent to the property, then the setback of the adjacent property without a dwelling unit for the purposes of determining an average setback shall be based upon 30% of the average parcel depth.		
Maximum Lot Coverage	n/a	50%	50%	50%	60%	80% except for the following: ☐ In the CBD zones, 100% for properties that do not abut Lake Washington; otherwise 90%

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
Maximum Height of Structure ²⁸	n/a	25' above ABE ²⁶	35' above ABE.	25' above ABE	35' above ABE.	35' above ABE
Other Residential Uses (Attached, Stacked, and Detached Dwelling Units; Assisted Living Facility; Convalescent Center or Nursing Home)						
Maximum Density ²⁷	n/a	N/a	n/a	n/a	3,600 sq. ft./unit, except if 1,800 sq. ft./unit for up to 2 dwelling units if the public access provisions of KZC 83.390 are met;	No minimum lot size in the CBD zones; otherwise 1,800 sq. ft./unit
Shoreline Setback	n/a	N/a	n/a	n/a	The greater of: a. 25' or b. 15% of the average parcel depth.	The greater of: a. 25' or b. 15% of the average parcel depth. In the PLA 15A zone located south of NE 52 nd Street, mixed-use developments approved under a Master Plan shall comply with the Master Plan provisions.
Maximum Lot Coverage	n/a	N/a	n/a	n/a	80%	80% except for the CBD zones, 100% on properties that do not abut Lake

²⁶ Structure height may be increased to 30' above ABE in the Natural shoreline environment. See KZC 83.180.6.c.1)a).

²⁷ For density purposes, two assisted living units shall constitute one dwelling unit.

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
						Washington; otherwise 90%
Maximum Height of Structure ²⁸	n/a	n/a	n/a	n/a	30' above ABE ²⁹	41' above ABE, except for the following: <ul style="list-style-type: none"> In the CBD zones, if located on the east side of Lake Street South 55' above the abutting right-of-way measured at the midpoint of the frontage of the subject property. In the PLA 15A zone located south of NE 52nd Street, mixed-use developments approved under a Master Plan shall comply with the Master Plan provisions.³⁰
Commercial Uses						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a	n/a	Water-dependent uses: 0', Water-	n/a	The greater of:	The greater of:

²⁸ The height limit is restricted to that portion of the building physically located within the shoreline jurisdiction and applies to landward structures only. Permitted increases in building height are addressed in KZC 83.180.6.c).

²⁹ Structure height may be increased to 35' above ABE. See KZC 83.180.56.c.1)b).

³⁰ See KZC 83.180.6.c.1)d).

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
			related use: 25', Water-enjoyment use: 30', Other uses: Outside of shoreline jurisdictional area, if feasible, otherwise 50'.		a. 25' or b. 15% of the average parcel depth.	a. 25' or b. 15% of the average parcel depth. In the PLA 15A zone located south of NE 52 nd Street, mixed-use developments approved under a Master Plan shall comply with the Master Plan provisions.
Maximum Lot Coverage	n/a	n/a	50%	n/a	80%	80% except for the CBD zones, 100% on properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ²⁸	n/a	n/a	If adjoining the Residential-L Shoreline Environment, then 25' above ABE. Otherwise, 30' above ABE. ²⁹	n/a	30' above ABE ²⁹	41' above ABE, except for the following: <ul style="list-style-type: none"> In the CBD zones, if located on the east side of Lake St S 55' above the abutting right-of-way measured at the midpoint of the frontage of the subject property. In the PLA 15A zone located south of NE 52nd Street, mixed-use developments approved under a Master

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
						Plan shall comply with the Master Plan provisions. ³¹ ³²
Recreational Uses						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a	Water-dependent uses: 0', Water-related uses: 0', Water-related use: 25', Water-enjoyment use: 30', Other uses: Outside of	Water-dependent uses: 0', Water-related use: 25', Water-enjoyment use: 30', Other uses: Outside of shoreline jurisdictional area, if feasible, otherwise 50'.	30% of the average parcel depth, except in no case is the shoreline setback permitted to be less than 30 feet or required to be greater than 60 feet, except as otherwise specifically allowed through this Chapter.	The greater of: a. 25' or b. 15% of the average parcel depth.	The greater of: a. 25' or b. 15% of the average parcel depth. In the PLA 15A zone located south of NE 52 nd Street, mixed-use developments approved under a Master Plan shall comply with the Master Plan provisions.

³¹ See KZC 83.180.6.c.1)d).

³² See KZC 83.180.6.c.1)d).

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
		shoreline area, if feasible, otherwise 50'.				
Maximum Lot Coverage	n/a	10%	30%	30%	80%	80% except for the following: <ul style="list-style-type: none"> In the CBD zones, 100% on properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ²⁸	n/a	25' above ABE	If adjoining the Residential-L Shoreline Environment, then 25' above ABE. Otherwise, 30' above ABE ²⁹	25' above ABE	30' above ABE ²⁹	41' above ABE, except for the following: <ul style="list-style-type: none"> In the CBD zones, if located on the east side of Lake St S 55' above the abutting right-of-way measured at the midpoint of the frontage of the subject property. In the PLA 15A zone located south of NE 52nd Street, mixed-use developments approved under a Master Plan shall

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
						comply with the Master Plan provisions.
Institutional Uses						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a	n/a	Outside of shoreline jurisdictional area, if feasible , otherwise 50’.	Outside of the shoreline jurisdictional area, if feasible, otherwise 30% of the average parcel depth, except in no case is the shoreline setback permitted to be less than 30 ft. or required to be greater than 60 ft., except as otherwise specifically allowed through this Chapter.	The greater of: a. 25’ or b. 15% of the average parcel depth.	The greater of: a. 25’ or b. 15% of the average parcel depth.
						☐
Maximum height of structure ²⁸	n/a	n/a	If adjoining the Residential-L Shoreline	25’ above ABE	30’ above ABE ²⁹	41’ above ABE, except ☐ in the CBD zones, if located on the east side of Lake St S

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
			Environment, then 25' above ABE. Otherwise, 30' above ABE ²⁹			55' above the abutting right-of-way measured at the midpoint of the frontage of the subject property.
Transportation Facilities						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	N/a
Shoreline Setback	n/a	n/a	Outside of shoreline area, if possible, otherwise 50'.	30% of the average parcel depth, except in no case is the shoreline setback permitted to be less than 30 feet or required to be greater than 60 feet, except as otherwise specifically allowed through this Chapter..	The greater of: a. 25' or b. 15% of the average parcel depth.	The greater of: a. 25' or b. 15% of the average parcel depth.
Maximum Lot Coverage	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Height of Structure ²⁸	n/a	n/a	n/a	n/a	n/a	n/a
Utilities						
Minimum Lot Size	n/a	<u>n/a</u>	n/a	n/a	n/a	n/a

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
Shoreline Setback	n/a	Outside of shoreline area, if possible, otherwise 50'.	Outside of shoreline area, if possible, otherwise 50'.	30% of the average parcel depth, except in no case is the shoreline setback permitted to be less than 30 feet or required to be greater than 60 feet, except as otherwise specifically allowed through this Chapter.	The greater of: a. 25' or b. 15% of the average parcel depth.	The greater of: a. 25' or b. 15% of the average parcel depth.
Maximum Lot Coverage	n/a	5%	30%	50%	80%	80% except in the CBD zones, 100% on properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ²⁸	n/a	25' above ABE	If adjoining the Residential-L Shoreline Environment, then 25' above ABE. Otherwise, 30' above ABE ²⁹	25' above ABE	30' above ABE ²⁹	41' above ABE, except for the following: <ul style="list-style-type: none"> In the CBD zones if located on the east side of Lake St South, 55' above the abutting right-of-way measured at the midpoint of the frontage of the subject property.

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential – L	Residential – M/H	Urban Mixed
						<ul style="list-style-type: none"> In the PLA 15A zone located south of NE 52nd Street, mixed-use developments approved under a Master Plan shall comply with the Master Plan provisions.

83.190 Lot Size or Density, Shoreline Setback, Lot Coverage and Height1. Calculation of Minimum Lot Size or Maximum Density –

- a. Development shall not use lands waterward of the ordinary high watermark to determine minimum lot size or to calculate allowable maximum density.
- b. For properties that are only partially located within the shoreline jurisdiction, the allowed density within the shoreline jurisdiction shall be based upon the land area located within the shoreline jurisdiction only. If dwelling units will be partially located within the shoreline jurisdiction, the City may approve an increase in the actual number of units in the shoreline jurisdiction, provided that the total square footage of the units within the shoreline jurisdiction does not exceed the allowed density multiplied by the average unit size in the proposed development on the subject proposed..
- c. If a maximum density standard is used, the number of permitted dwelling units shall be rounded up to the next whole number (unit) if the fraction of the whole number is at least 0.50.
- d. For detached dwelling units, the provisions addressing lot size, lot size averaging, and historic preservation contained in Chapter 22.28 KMC shall apply within the shoreline jurisdiction

2. Shoreline Setback –

- a. General – This section establishes what structures, improvements, and activities may be in or take place in the shoreline setback established for each use in each shoreline environment.
- b. Measurement of Shoreline Setback –
 - 1) The shoreline setback shall be measured landward from the ordinary high water mark on the horizontal plane and in the direction that results in the greatest dimension from the OHWM (see Plate XX).
 - 2) In those instances where the OHWM moved further upland in accordance with permits involving a shoreline habitat and natural systems enhancement project approved by the City, a state or federal agency, the shoreline setback shall be measured from the location of the ordinary high water mark that existed immediately prior to the enhancement project.
- c. Exceptions and Limitations in Some Zones – KZC Sections 83.190 through 83.250 contain specific regulations regarding what may be in or take place in the shoreline setback. Where applicable, those specific regulations supersede the provisions of this section.
- d. Structures and Improvements – The following improvements or structures may be located in the shoreline setback, provided that they are constructed and maintained in a manner that meets KZC 83.360 for avoiding or at least minimizing adverse impacts to shoreline ecological functions:
 - 1) For public pedestrian access required under KZC 83.390, walkways, benches, and similar features, as approved by the Planning Official.
 - 2) For private access to the shoreline, walkways within the shoreline setback are permitted, subject to the following standards:
 - a) The maximum width of the walkway corridor area may be no more than 25 percent of the property's lake frontage, except in no case is the corridor area required to be less than 15 feet in width (see Plate XX).
 - b) The walkway corridor area shall be located outside of areas of higher ecological and habitat value.

- c) The walkway in the corridor area shall be constructed of a permeable walking surface, such as unit pavers, grid systems, porous concrete, or equivalent material approved by the Planning Official.
 - d) The walkway corridor area may contain minor improvements, such as garden sculpture, light fixtures, trellises and similar decorative structures that are associated with the walkway, provided that these improvements comply with the dimensional limitations required for the walkway corridor area and any view corridor requirements under KZC Section 83.380. Light fixtures approved under this subsection shall comply with the provisions contained in KZC 83.440.
- 3) Those portions of water-dependent development that require improvements adjacent to the water's edge, such as fueling stations for retail establishments providing gas sales, haul-out areas for retail establishments providing boat and motor repair and service, boat ramps for boat launches or other similar activities.
 - 4) Public access facilities or other similar public water-enjoyment recreational uses, including swimming beaches.
 - 5) Underground utilities accessory to a shoreline use approved by the Planning Official, provided there is no other feasible route or location.
 - 6) Bioretention swales, rain gardens, or other similar bioretention systems that allow for filtration of water through planted grasses or other native vegetation.
 - 7) Infiltration systems provided that installation occurs as far as feasible from the ordinary high water mark.
 - 8) Bay windows, greenhouse windows, eaves, cornices, awnings, and canopies may extend up to 18 inches into the shoreline setback, subject to the limitations of this section. Eaves on bay windows may extend an additional 18 inches beyond the bay window. Chimneys that are designed to cantilever or otherwise overhang are permitted. The total horizontal dimension of the elements that extend into the shoreline setback, excluding eaves and cornices, may not exceed 25 percent of the length of the facade of the structure.
 - 9) Decks, patios and similar improvements may extend up to 10 feet into the shoreline setback but shall not be closer than 25 feet to the OHWM, subject to the following standards:
 - a) The improvement shall be constructed of a permeable surface, such as wood with gaps between boards and a pervious surface below, unit pavers, grid systems, porous concrete, or equivalent material approved by the Planning Official.
 - b) The total horizontal dimension of the improvement that extend into the shoreline setback may not exceed 50 percent of the length of the facade of the primary structure.
 - c) The improvement shall be located on the ground floor of the building and shall not be elevated more than necessary to allow for grade transition from the residence to the deck or to follow the existing topography.
 - 10) Outdoor seating areas for restaurants, hotels and other water enjoyment commercial uses may extend up to 10 feet into the shoreline setback, but shall be no closer than 16 feet to the OHWM, subject to the following standards:
 - a) The improvement shall be constructed of a permeable surface, such as wood with gaps between boards and a pervious surface below, unit pavers, grid systems, porous concrete, or equivalent material approved by the Planning Official.
 - b) The total horizontal dimension of the improvement that extend into the shoreline setback may not exceed 50 percent of the length of the facade of the primary structure.

- c) The improvement shall be located on the ground floor of the building and shall not be elevated more than necessary to allow for grade transition from the structure to the seating area or to follow the existing topography.
- d) All outdoor lighting is required to meet the lighting standards of KZC Section 83.470.
- e) The seating area is required to be fenced off from the shoreline by rope stanchions, portable planters, or similar device approved by the City, with openings through the fencing for customer entry. The floor plan of the seating area shall be designed to preclude the seating area from being expanded.
- f) The applicant is required to provide one (1) or more approved trash receptacles and one (1) or more ash trays.
- g) The area of the seating shall be considered new gross floor area for the purposes of determining whether landscaping is required under the provisions of KZC Section 83.400.

- 11. Retaining walls and similar structures that are no more than four feet in height above finished grade; provided the following standards are met:
 - a.) The structure shall be designed so that it does not interfere with the shoreline vegetation required to be installed under the provisions of KZC 83.370;
 - b.) The structure shall not be installed to provide the function of a shore erosion control structure unless approved under the provisions of KZC 83.300, and
 - c.) The structure shall meet the view corridor provisions of KZC 83.380.
- 12. In the Urban Mixed shoreline environment, balconies at least 15 feet above finished grade may extend up to 4 feet into the shoreline setback.
- 13. Public bridges and other essential public facilities that must cross the shoreline.
- 14. Parking as authorized by the Planning Official under the provisions of KZC 83.420.3.
- 15. Shoreline stabilization measures approved under the provisions of KZC 83.300.

3. Maximum Lot Coverage –

a. General –

- 1) KZC 83.180.3, Development Standards Chart, establishes the maximum lot coverage by use and shoreline environment.
- 2) In calculating lot coverage, lands waterward of the ordinary high watermark shall not be included in the calculation.
- 3) The area of all structures and pavement and any other impervious surface on the subject property will be calculated under either of the following, at the discretion of the applicant:
 - a) A percentage of the total lot area of the subject property, or
 - b) A percentage of the area of the subject property located within the shoreline jurisdiction.
- 4) If the subject property contains more than one use, the maximum lot coverage requirements for the predominant use will apply.
- 5) In those instances where the OHWM moved further upland in accordance with permits involving a shoreline habitat and natural systems enhancement project approved by the City, a state or federal agency, the lot area for purposes of calculating lot coverage shall be measured from the location of the ordinary high water mark that existed immediately prior to the enhancement project.

- b. Exceptions – The exceptions contained in Chapter 115 KZC shall apply within the shoreline jurisdiction.
4. Height Regulations –
- a. General –
- 1) KZC 83.180.3, Development Standards Chart, establishes the maximum allowed building height for all primary and accessory structures. In the event that the maximum allowable building height in KZC 83.190.3 is greater than the maximum allowable height in the Kirkland Zoning Code, the lower of the two height provisions shall apply.
 - 2) Maximum building height shall be measured from an average building elevation (ABE), calculated under the methods described in KZC 115.59 and depicted in Plates 17A and 17B. The calculation of ABE shall be based on all wall segments of the structure, whether or not the segments are located within the shoreline jurisdiction.
 - 3) In the CBD zones, maximum building height shall be measured from the midpoint of the abutting right-of-way, not including alleys.
 - 4) Pursuant to RCW 90.58.320, no permit may be issued for any new or expanded building or structure more than 35 feet above average grade level that will obstruct the view to the lake of a substantial number of residences on or adjoining the shoreline except where this Chapter does not prohibit a height of more than 35 feet and only when overriding considerations of the public interest will be served. The applicant shall be responsible for providing sufficient information to the City to determine whether such development will obstruct the view to the lake for a substantial number of residences on or adjoining such shorelines. For the purposes of this provision, average grade level is equivalent to and shall be calculated under the method for calculating average building elevation established in Option 2 as described in KZC 115 for calculating average building elevation and depicted in Plate 17B.
- b. Exceptions –
- 1) No element or feature of a structure, other than the appurtenances listed below, may exceed the applicable height limitation established for each use in each shoreline environment. The following appurtenances shall be located and designed so that views from adjacent properties to the lake will not be significantly blocked.
 - a) Antennas, chimneys, and similar appurtenances, but not including personal wireless service facilities, which are subject to the provisions of Chapter [117](#) KZC.
 - b) Rooftop appurtenances and their screens as regulated in KZC 115.
 - c) Decorative parapets or peaked roofs approved through design review pursuant to Chapter [142](#) KZC.
 - d) Rooftop solar panels or other similar energy devices provided that the equipment is mounted as flush to the roof as possible.
- c. Permitted Increases in Height – The following permitted increases in building height shall be reviewed by the City as part of the shoreline permit required for the proposed development activity.
- 1) The maximum structure height established in KZC 83.200.3, Development Standards Chart, may be increased in the following circumstances:
 - a) In the Natural shoreline environment, the structure height of a detached dwelling unit may exceed the standard height limit by a maximum of 5 feet above average building elevation if a reduction in the footprint of the building is sufficient to lessen the impact on a sensitive area and sensitive area buffer. The City shall include in the written decision any conditions and restrictions that it determines are necessary to eliminate or minimize any undesirable effects of approving the exception.

- b) In the Residential – M/H and Urban Conservancy shoreline environments located south of Market Street, the structure height of a commercial, recreational, institutional, utility or residential use, other than a detached dwelling unit, may be increased to 35 feet above average building elevation if:
 - i) Obstruction of views from existing development lying east of Lake St S or Lake Washington Boulevard is minimized. The applicant shall be responsible for providing sufficient information to the City to evaluate potential impacts to views; and either
 - ii) The increase is offset by a view corridor that is superior to that required by KZC Section 83.380; or
 - iii) The increase is offset by maintaining comparable portions of the structure lower than 30 feet above average building elevation.
- c) Properties in the PLA 15A zone in the UM Shoreline Environment that contain mix use development where building heights have been previously established under an approved Master Plan shall comply with the building height requirements as approved. Modifications to the approved building heights shall be considered under the standards established in the Master and in consideration of the compatibility with adjacent uses and the degree to which public access, use and views are provided.
- d) In all shoreline environments, the maximum height may be increased up to 35 feet if the City approves a Planned Unit Development under the provisions of KZC Chapter 125.

83.200 Residential Uses

1. General – No residential use may occur over water, including houseboats, live-aboards, or other single- or multi-family dwelling units.
2. Detached Dwelling Units in the Residential-L environment- Not more than one dwelling unit may be on each lot, regardless of the size of each lot, except an accessory dwelling unit.
3. Accessory Structures or Uses - Accessory uses and structures shall be located landward of the principal residence, unless the structure is or supports a water-dependent use.

83.210 Commercial Uses

1. Float Plane Landing and Mooring Facilities –
 - a. Use of piers or docks for commercial float plane service shall be allowed only in public or private marinas and shall be subject to a conditional use permit.
 - b. Any shoreline conditional use permit for float plane use shall specify:
 - 1) Taxiing patterns to be used by float planes that will minimize noise impacts on area residents and wildlife and minimize interference with navigation and moorage;
 - 2) Float plane facilities and services shall conform to all applicable City codes and Federal Aviation Administration standards and requirements for fuel, oil spills, safety and firefighting equipment, noise, and pedestrian and swimming area separation; and
 - 3) Hours of operation may be limited to minimize impacts on nearby residents.
2. Retail establishment providing new or used Boat Sales or Rental – Outdoor boat parking and storage areas must be buffered as required for a parking area under the provisions of KZC 83.420.
3. Retail Establishment Providing Gas and Oil Sale for Boats –
 - a. The location and design of fueling facilities must meet applicable state and federal regulations.

- b. Storage of petroleum products shall not be located over water.
 - c. Storage tanks shall be located underground and shall comply with state and federal standards for Underground Storage Tanks.
 - d. Fueling stations shall be located and designed to allow for ease of containment and spill cleanup.
 - e. New fueling facilities shall incorporate the use of automatic shutoffs on fuel lines and at hose nozzles to reduce fuel loss.
 - f. Facilities, equipment and established procedures for the containment, recovery and mitigation of spilled petroleum products shall be provided.
 - g. See KZC 83.360 for avoiding and minimizing impacts when locating, designing, constructing and operating the use.
4. Retail Establishment Providing Boat and Motor Repair and Service –
- a. Storage of parts shall be conducted entirely within an enclosed structure.
 - b. If hull scraping, boat painting, or boat cleaning services is provided, boats shall be removed from the water and debris shall be captured and disposed in a proper manner.
 - c. Repair and service activities shall be conducted on dry land and either totally within a building or totally sight screened from adjoining property and the right-of-way.
 - d. All dry land motor testing shall be conducted within a building.
 - e. An appropriate storage, transfer, containment, and disposal facility for liquid material, such as oil, harmful solvents, antifreeze, and paints shall be provided and maintained.
 - f. Facilities, equipment and established procedures for the containment, recovery and mitigation of spilled petroleum or hazardous products shall be provided.
5. Restaurant or Tavern –
- a. The design of the site must be compatible with the scenic nature of the waterfront.
 - b. Drive-in or drive-through facilities are prohibited.

83.220 Recreational Uses

- 1. Motorized Boats – See KMC Chapter 14.24, Operation of Watercraft, for prohibition of use within restricted shoreline areas and established speed limits.
- 2. Floats/swim platforms – Only public floats/swim platforms are permitted.
- 3. Marina, Piers, Moorage Buoy or Pilings, Boat Facility and Boat Canopies – See standards contained in KZC Section 83.290.
- 4. Tour Boat Facility – Tour Boat Facilities shall be designed to meet the following standards:
 - a. Size – The City will determine the maximum capacity of the tour boat facility based on the following factors:
 - 1) The suitability of the environmental conditions, such as, but not limited to, a consideration of the following conditions: the presence of submerged aquatic vegetation, proximity to shoreline associated wetlands, critical nesting and spawning areas, water depth, water circulation, sediment inputs and accumulation, and wave action
 - 2) The ability of the land landward of the high waterline to accommodate the necessary support facilities.
 - d. Moorage structures supporting a tour boat facility shall comply with the moorage structure location standards and design standards for Marinas in KZC Section 83.290.

- e. An on-site passenger loading area must be provided. The City shall determine the appropriate size of the loading area on a case-by-case basis, depending on the capacity of the tour boat and the extent of the abutting right-of-way improvements.
 - f. Associated buildings and structures, other than moorage structure for the tour boat facility, shall not be permitted over water.
 - g. Tour boat facilities shall comply with applicable state and/or federal laws, including but not limited to those for registration, licensing of crew and safety regulations.
 - h. Tour boat facilities operated accessory to public parks shall comply with the standards in Chapter 14.36 KMC.
 - i. See KZC 83.360 for avoiding and minimizing impacts when locating, designing, constructing and operating the use.
5. Public Access Pier, Dock or Boardwalk –
- a. See KZC 83.360 for avoiding and minimizing impacts when locating, designing and constructing the use minimizing impacts
 - b. No accessory uses, buildings, or activities are permitted as part of this use.
 - c. See KZC 83.370 for federal and state approvals prior to submittal of a building permit for this use.
 - d. Must provide at least one (1) covered and secured waste receptacle upland of the ordinary high water mark.
 - e. All utility and service lines located waterward of the ordinary high water mark must be below the pier deck. All utility and service lines located upland of the ordinary high water mark shall be underground, where feasible.
 - f. Piers or docks shall be marked with reflectors, or otherwise identified to prevent unnecessarily hazardous conditions for water surface users during the day or night.
 - g. Structures must display the street address of the subject property. The address must be oriented to the lake with letters and numbers at least four inches high and visible from the lake.
 - h. No moorage structure may be within 10 feet of a north or south property line, except that setbacks between moorage structures and north and south property lines may be decreased for over-water public use facilities that connect with waterfront public access on adjacent property.
 - i. Moorage structures shall be separated from the outlet of a stream, including piped streams, by the maximum extent possible, while meeting other required setback standards established under this section.
 - j. Pier structures shall comply with the moorage structure design standards for Marinas in KZC Section 83.290.3.b.2), except primary walkways and floats may be no wider than 8 feet.
6. Boat Launch (for non-motorized boats) –
- a. Location Standards – Boat launches for non-motorized boats shall be sited so that they do not significantly damage fish and wildlife habitats and shall not occur in areas with native emergent vegetation. Removal of native upland vegetation shall be minimized to the greatest extent feasible.
 - b. Size - The applicant shall demonstrate that the proposed size of the boat launch is the minimum necessary to safely launch the intended craft.
 - c. Design Standards – Boat launches for non-motorized boats shall be constructed of gravel or other similar natural material.

7. Boat Launch (for motorized boats) -
- a. Location Standards -
- 1) Boat launches shall not be approved in cases when it can be reasonably foreseen that the development or use would require maintenance dredging during the life of the development or use.
 - 2) Boat launches shall be designed and located according to the following criteria:
 - a) Separated from existing designated swimming areas by a minimum of 25 feet.
 - b) Meet KZC 83.360 for avoiding impacts to fish and and wildlife habitats.
 - c) Located only at sites with suitable transportation and access. The applicant must demonstrate that the streets serving the boat launch can safely handle traffic generated by such a facility.
 - d) Not be located within 25 feet of a moorage structure not on the subject property; or within 50' of the outlet of a stream, including piped streams.
- b. Size - The applicant shall demonstrate that the proposed length of the ramp is the minimum necessary to safely launch the intended craft. In no case shall the ramp extend beyond the point where the water depth is 6 feet below the OHWM, unless the City determines that a greater depth is needed for a public boat launch facility.
- c. Design Standards -
- 1) Preferred ramp designs, in order of priority, are:
 - a) Open grid designs with minimum coverage of lake substrate.
 - b) Seasonal ramps that can be removed and stored upland.
 - c) Structures with segmented pads and flexible connections that leave space for natural beach substrate and can adapt to changes in shoreline profile.
 - 2) The design shall comply with all regulations as stipulated by state and federal agencies, local tribes, or others that have jurisdiction.
- d. Boat launches shall provide trailer spaces, at least 10 feet by 40 feet, commensurate with projected demand.
8. Public Park - Recreation facilities that support non-water related, high-intensity activities, such as basketball and tennis courts, baseball and soccer fields and skate parks, shall be located outside of shoreline jurisdiction to the extent feasible.
9. Public Access Facility -
- a. Fragile and unique shoreline areas with valuable ecological functions, such as wetlands and wildlife habitats, shall be used only for non-intensive recreation activities, such as trails, viewpoints, interpretative signage and similar passive and low-impact facilities.
 - b. Physical public access shall be located, designed and constructing to meet KZC 83.360 for net loss of shoreline ecological functions.

83.230 Transportation Facilities

1. General -
- a. See KZC 83.360 for avoiding and minimizing impacts when locating, designing, constructing and operating the use.
 - b. Transportation facilities shall utilize existing transportation corridors whenever possible; provided, that facility additions and modifications that will not adversely impact shoreline resources and otherwise consistent with this program are allowed. If expansion of the existing

corridor will result in significant adverse impacts, then a less disruptive alternative shall be utilized.

- c. When permitted within shoreline areas, transportation facilities must be placed and designed to minimize negative aesthetic impacts upon shoreline areas and to avoid and minimize impacts to existing land uses, public shoreline views, public access, and the natural environment.
 - d. Transportation and utility facilities shall be required to make joint use of rights-of-way, and to consolidate crossings of water bodies to minimize adverse impacts to the shoreline.
 - e. Transportation facilities located in shoreline areas must be designed and maintained to prevent erosion and to permit the natural movement of surface water.
2. Construction and Maintenance –
- a. All debris and other waste materials from roadway construction and maintenance shall be disposed of in such a way as to prevent their entry into any water body.
 - b. All shoreline areas disturbed by facility construction and maintenance shall be replanted and stabilized with approved riparian vegetation by seeding, mulching, or other effective means immediately upon completion of the construction or maintenance activity. Such vegetation shall be maintained until established.
 - c. Clearing of vegetation within transportation corridors shall be the minimum necessary for infrastructure maintenance and public safety. The City shall give preference to mechanical means rather than the use of herbicides for roadside brush control on city roads in shoreline jurisdiction.
3. Passenger-only Ferry Terminal –
- a. See KZC 83.360 for minimizing impacts when locating, designing, constructing and operating the use..
 - b. Associated buildings and structures, other than moorage structure for the ferry terminal shall not be permitted over water.
 - c. Equipment storage shall be conducted entirely within an enclosed structure.
 - d. Facilities, equipment and established procedures for the containment, recovery and mitigation of spilled petroleum or hazardous products shall be provided.
 - e. The City will make the determination if any parking and/or a passenger loading area will be required.
4. Water Taxi –
- a. See KZC 83.360 for avoiding and minimizing impacts when locating, designing, constructing and operating the use.
 - b. Equipment storage shall be conducted entirely within an enclosed structure.
 - c. Facilities, equipment and established procedures for the containment, recovery and mitigation of spilled petroleum or hazardous products shall be provided.
5. Arterials, Collectors, and Neighborhood Access Streets and Bridges –
- a. New street and bridge construction in shoreline jurisdiction shall be minimized and allowed only when related to and necessary for the support of permitted shoreline activities.
 - b. Streets other than those providing access to approved shoreline uses shall be located away from the shoreline, except when no reasonable alternate location exists.
 - c. Any street expansion affecting streams and waterways shall be designed to allow fish passage and minimum impact to habitat.

- d. Drainage and surface runoff from streets and street construction or maintenance areas shall be controlled so that pollutants will not be carried into water bodies.
- e. Streets within shoreline jurisdiction shall be designed with the minimum pavement area feasible.
- f. Streets shall be designed to provide frequent safe crossings for pedestrians and bicycles seeking access to public portions of the shoreline.
- g. Low impact development techniques shall be used where feasible for roadway or pathway and related drainage system construction.
- h. Street alignments shall be designed to fit the topography so that alterations of the natural site conditions will be minimized.
- i. New and expanded streets or bridges shall be designed to include pedestrian amenities such as benches or view stations and public sign systems if an area is available for the improvement that identify significant features along the shoreline.
- j. Landscaping and street trees shall be selected and located so that they do not impair public views of the lake from public rights of way to the maximum extent possible.
- k. Shoreline street ends may be used for public access or recreational purposes.
- l. Shoreline street ends may not be vacated except in compliance with RCW 35.79.035 or its successor, as well as KMC 19.16.090.

83.240 Utilities

1. General –

- a. See KZC 83.360 for avoiding and minimizing impacts when locating, designing, constructing and operating the use
- b. Whenever feasible, utility facilities shall be located outside the shorelines area. Whenever these facilities must be placed in a shoreline area, the location shall be chosen so as not to adversely impact shoreline ecological functions or obstruct scenic views.
- c. Utilities shall be located in existing rights-of-way and utility corridors wherever feasible.
- d. New utilities may not be located waterward of the ordinary high water mark or in the Natural shoreline environment unless it is demonstrated that no feasible alternative exists.
- e. Utility lines, pipes, conduits, cables, meters, vaults, and similar infrastructure and appurtenances shall be placed underground consistent with the standards of the serving utility to the maximum extent feasible.
- f. Proposals for new utilities or new utility corridors in the shoreline jurisdiction must fully substantiate the infeasibility of existing routes or alternative locations outside of the shoreline jurisdiction.
- g. Utilities which are accessory and incidental to a shoreline use shall be reviewed under the provisions of the use to which they are accessory.
- h. Utilities shall provide screening of facilities from water bodies and adjacent properties in a manner that is compatible with the surrounding environment. The City will determine the type of screening on a case-by-case basis.
- i. Utility development shall, through coordination with local government agencies, provide for compatible, multiple use of sites and rights-of-way. Such uses include shoreline access points, trail systems and other forms of recreation and transportation, providing such uses will not unduly interfere with utility operations, or endanger public health and safety.

2. Construction and Maintenance –

- a. All shoreline areas disturbed by utility construction and maintenance shall be replanted and stabilized with approved vegetation by seeding, mulching, or other effective means immediately upon completion of the construction or maintenance activity. Such vegetation shall be maintained until established.
- b. Clearing of vegetation within utility corridors shall be the minimum necessary for installation, infrastructure maintenance and public safety.
- c. See KZC 83.180 for conducting maintenance activities that minimize impacts.
3. Utility production and processing facilities - Utility production and processing facilities not dependent on a shoreline location shall be located outside of the shoreline jurisdiction, unless it is demonstrated that no feasible alternative location exists.
4. Utility Transmission Facilities –
 - a. Transmission facilities shall be located outside the shoreline jurisdiction where feasible, and when necessarily located within shoreline areas, shall assure no net loss of shoreline ecological functions.
 - b. Pipelines transporting hazardous substances or other substances harmful to aquatic life or water quality are prohibited, unless it is demonstrated that no feasible alternative exists.
 - c. Sanitary sewers shall be separated from storm sewers.
5. Personal Wireless Service Facilities – Personal Wireless Service Facilities shall use concealment strategies to minimize the appearance of antennas and other equipment from the lake and public pedestrian pathways or public use areas.

83.250 Land Division

1. New lots created through land division in the shoreline shall only be permitted when the following standards are met:
 - a. The lots created will not require structural flood hazard reduction measures, such as dikes, levees, or stream channel realignment, during the life of the development or use.
 - b. The lots created will not require hard structural shoreline stabilization measures in order for reasonable development to occur, as documented in a geotechnical analysis of the site and shoreline characteristics.
 - c. In the Natural and Urban Conservancy Environments, the lots created shall contain buildable land area located outside of the shoreland area.
2. Land Division, except those for lot line adjustment and lot consolidation purposes, shall provide public access as provided for in KZC Section 83.390, unless otherwise excepted or modified under the provisions of KZC 83.390.
3. Land Divisions shall establish a prohibition on new private piers and docks on the face of the plat. An area for joint use moorage may be approved if it meets all requirements for shared moorage in KZC Section 83.280.
4. View corridors, established as part of a land division, shall be depicted on the face of the recorded document.

Shoreline Modification Regulations

83.270 General

- 1) See KZC 83.360 for No Let Loss Standard and mitigation sequencing.
- 2) KZC 83.370 for federal and state approval required prior to submittal of a building permit.
- 3) KZC 83.400 for In Water Construction.
- 4) Structures must be designed to preclude moorage in locations that would have insufficient water depth to avoid boats resting at any time of year to on the substrate.

83.280 Piers, Docks, Moorage and Piles, Boatlifts and Boat Canopies Serving a Detached Dwelling Unit Use

1. General –

- a. Piers, Docks, Moorage Buoy and Piles, Boatlifts and Canopies may only be developed and used accessory to existing dwelling units on waterfront lots or upland lots with waterfront access rights. Use of these structures is limited to the residents and guests of the waterfront lots to which the moorage is accessory. Moorage space may not be leased, rented, or sold unless otherwise approved as a Marina under the provisions of KZC 83.290.
- b. The applicant for any new private pier or dock associated with a detached dwelling unit must demonstrate that a shared or joint-use pier is not feasible.
 - 1) On lots abutting a lot or lots with no existing moorage facility, joint-use piers shall be required, unless the applicant provides written verification from the owner(s) of the adjacent lots that they will not consent to a shared use agreement.
 - 2) On lots subdivided to create additional lots with waterfront access rights, joint-use piers shall be required.
 - 3) New residential development of two or more dwelling units with waterfront access rights must provide a joint-use or community dock facility.
- c. Piers, docks, boatlifts and moorage piles shall be designed and located to meet KZC 83.360 No Net Loss standard and Mitigation Sequencing.
- d. See KZC 83.370 for structures proposed to be extended waterward of the Inner Harbor Line.

2. Setbacks

a.) All piers, docks, boatlifts and moorage piles for Detached Dwelling Unit Use shall comply with the following location standards:

New Pier, Dock, Boatlift and Moorage Pile for Detached Dwelling Unit	Minimum Setback Standards
North and south property lines	10 ft.
Another moorage structure not on the subject property, excluding adjacent moorage structure that does not comply with required north and south property line setback	25 ft
Outlet of a stream regulated under KZC 90, including piped streams	Maximum distance possible while meeting other required setback standards established under this section
Public park	25 ft., except that this standard shall not apply within the Urban Mixed shoreline environment.

- b.) Joint-use structures may abut property lines provided the property owners sharing the moorage facility have mutually agreed to the structure location. To insure that a pier is shared, each property owner must sign a statement in a form acceptable to the City Attorney, stating that the pier or dock is used by the other property. The applicant must file this statement with the King County Bureau of Elections and Records to run with the properties.

3. Design Standards –

- a. Proposed piers and docks that do not comply with the dimensional standards contained in this Chapter may only be approved if they obtain a shoreline variance under the provisions of KZC Chapter 43.
- b. All piers and docks and other developments regulated by this section shall be constructed and maintained in a safe and sound condition. Abandoned or unsafe structures shall be removed or repaired promptly by the owner.
- c. See KZC 83.440 Lighting Standards for required lighting.
- d. Temporary moorages shall be permitted for vessels used in the construction of shoreline facilities. The design and construction of temporary moorages shall be such that upon termination of the project, the aquatic habitat in the affected area can be returned to its original (pre-construction) condition.
- e. The following structures and improvements are not permitted:
 - a.) Covered moorage, boathouses, or other walled covered moorage, except boat canopies that comply with the standards in this subsection.
 - b.) Skirting on any structure
 - c.) Aircraft moorage
- f. If a pier or dock is provided with a safety railing, such railing shall not exceed 36 inches in height and shall be an open framework.
- g. Piers and docks must display the street address of the subject property. The address must be oriented to the lake with letters and numbers at least 4 inches high.
- h. Piers and docks shall be marked with reflectors, or otherwise identified to prevent unnecessarily hazardous conditions for water surface users during the day or night. Exterior finish of all structures and windows shall be generally non-reflective.
- i. Must provide at least one (1) covered and secured waste receptacle.
- j. All utility and service lines located waterward of the ordinary high water mark must be below the pier deck. All utility and service lines located upland of the ordinary high water mark shall be underground, where feasible.

4. New Pier or Dock Dimensional Standards –

- a) New piers or docks may be permitted, subject to the following regulations:

New Pier, Dock or Moorage Piles for Detached Dwelling Unit	Dimensional and Design Standards
Maximum Area: surface coverage, including all attached float decking, ramps, ells and fingers	480 sq. ft. for single property owner 700 sq. ft. for joint-use facility used by 2 residential property owners 1000 sq. ft. for joint-use facility used by 3 or more residential property owners

	Where a pier cannot reasonably be constructed under the area limitation above to obtain a moorage depth of 10 ft. measured above OHWM, an additional 4 sq. ft. of area may be added for each additional foot of pier length needed to reach 10 feet of water depth.
Maximum Length for piers, docks, ells, fingers and attached floats	150 ft, but piers or docks extending further waterward than adjacent piers or docks must demonstrate that they will not have an adverse impact on navigation. 26 ft. for ells 20 ft. for fingers and float decking attached to a pier
Maximum Width	4 ft. for pier or dock 6 ft. for ells 2 ft. for fingers 6 ft. for float decking attached to a pier, must contain a minimum of 2 f.t of grating down the center of the entire float.
Height of piers and diving boards	Minimum of 1.5 ft above OHWM, except the floating section of a dock and float decking attached to a pier Maximum of 3 feet above deck for diving boards or similar features above the deck surface
Minimum Water Depth for ells and float decking attached to a pier	9 ft. above OHWM for ells and fingers 10 ft above OHWM for float decking attached to a pier
Decking for piers, docks walkways, ells and fingers	Piers must be fully grated with 40% open area If float tubs for docks preclude use of fully grated decking material, then a minimum of 2 ft. of grating down the center of the entire float shall be provided
Location of ells, fingers and deck platforms	30 ft. waterward of the OHWM 0 ft. to 30 ft. of the OHWM only can contain access ramp portion of pier or dock
Moorage Piles	Piles shall not be treated with pentachlorophenol, creosote, chromated copper arsenate (CCA) or comparably toxic compounds. First set of piles located no closer than 18 ft from OHWM

- b. Mitigation. All proposals involving new private piers or docks are subject to the following mitigation requirements:
- 1) Any existing in-water and overwater structures associated with a moorage structure or other recreational use that is located within 30 feet of the OHWM shall be removed.
 - 2) Emergent vegetation shall be planted waterward of the ordinary high water mark, unless the City determines that it is not appropriate or feasible.
 - 3) Native riparian vegetation shall be planted in at least 75 percent of the nearshore riparian area located along the water's edge. The vegetated portion of the nearshore riparian area shall average ten (10) feet in depth from the ordinary high water mark, but may be a minimum of five (5) feet wide to allow for variation in landscape bed shape and plant placement. Joint-use piers will require a vegetative riparian zone along all properties sharing the pier.

- 4) Mitigation plantings shall be subject to the following requirements:
- a) Restoration of native vegetation shall consist of a mixture of trees, shrubs and groundcover and be designed to improve habitat functions. At least three (3) trees per 100 linear feet of shoreline must be included in the plan. Plant materials must be native and selected from the Kirkland Native Plant List, or other native species approved by the Planning Official or Urban Forester. Plant density and spacing shall be appropriate for the site and commensurate with spacing recommended for each individual species proposed. An alternative planting plan or mitigation measure in lieu of meeting these requirements may be allowed if approved by other state and federal agencies. In addition, the City may accept existing native trees, shrubs and groundcover as meeting the requirements of this section, including vegetation previously installed as part of a prior development activity, provided that the existing vegetation provides a landscape strip at least as effective in protecting shoreline ecological functions as the required landscaping.
 - b) Vegetation placement –
 - i. In shoreline environments that require a view corridor, vegetation shall be selected and positioned on the property so as not to obscure the public view within designated view corridors from the public right-of-way to the waters of Lake Washington and the shoreline on the opposite side of the Lake at the time of planting or upon future growth.
 - ii. Vegetation may be selected and positioned to maintain private views of the water by clustering vegetation in a selected area, provided that the minimum landscape standard is met.
- 5) In addition to a native planting plan, a 5 -year vegetation maintenance and monitoring plan shall be submitted to the City for approval. The monitoring plan shall include the following performance standards:
- a) Preparation of as-built drawings after installation of the mitigation plantings;
 - b) Annual monitoring reports for 5 years, that include written and photographic documentation on tree and shrub mortality, subject to the following success criteria:
 1. One-hundred (100) percent survival of all planted native trees and shrubs during the first two years after planting; and
 2. One-hundred (100) percent survival of trees and eighty (80) percent survival of remaining native plants in years three through five.

Copies of reports that are submitted to state or federal agencies in compliance with permit approvals may be submitted in lieu of a separate report to the City, provided that the reports address a 5 year maintenance and monitoring plan.
 - 6) Woody debris existing on-site or contributed to the site as part of the mitigation efforts shall not be removed.

5. Replacement of Existing Pier or Dock –

- a) Proposals involving total replacement of the entire existing private pier or dock, including piles, are considered a new moorage facility and must meet the dimensional and material standards for new piers as described in KZC 83.280.4, except as described in section b. below for administrative approval of alternative design.
- b) Proposal involving replacement of more than 50 percent of the pier-support piles and 50 percent of the decking or decking substructure (e.g. stringers) must meet the dimensional and materials standards for new piers as described in KZC 83.280.
- c) Administrative approval of alternative design.

The City may approve pier replacement proposals that deviate from the dimensional and

materials standards of KZC 83.280.4 if the following requirements are met:

Administrative Approval for Alternative Design of Replacement Pier or Dock for Detached Dwelling Unit	Requirements
State and Federal Agency Approval	U.S. Army Corps of Engineers, the Washington Department of Ecology, and the Washington Department of Fish and Wildlife have approved proposal.
Maximum Area	No larger than existing pier
Maximum Length	150 ft. for pier, dock and all ells, fingers and floating deck attached to a pier 26 ft. for ells, fingers and float decking attached to a pier
Maximum Width	4 ft. for pier or dock access ramp portion of the pier or dock from OHWM 6 feet ft .for pier or dock 8 ft. for ells and float decking attached to a pier 3 ft. for fingers

6. Additions to Pier or Dock –

Proposals involving the modification and/or enlargement of existing private piers or docks must comply with the following measures:

- b. The applicant must demonstrate that there is a need for the enlargement of an existing pier or dock. The need for enlargement must be based upon safety concerns or inadequate depth of water.
- c. Enlarged portions of piers or docks must comply with the pier length and width, height, water depth, decking, piling, and mitigation standards for new private piers or docks as described in KZC 83.280.4.
- d. In addition, all pier or dock enlargement projects must convert the nearshore decking to grated decking equivalent in size to the additional surface coverage.

7. Repair of Existing Pier or Dock–

Repair proposals which replace only decking or decking substructure and less than 50 percent of the existing pier-support piles must comply with the following:

- b. Replacement piles must use materials as described under KZC 83.280.5 and must minimize the size of piles and maximize the spacing between pilings to the extent allowed by site-specific engineering or design considerations.
- c. Repair proposals which replace 50 percent or more of the decking or 50 percent or more of decking substructure must replace any solid decking surface located within the nearshore 30 feet of the pier or dock with a grated surface material.
- d. Other repairs to existing legally established moorage facilities where the nature of the repair is not described in the above subsections shall be considered minor repairs and are permitted, consistent with all other applicable codes and regulations. If cumulative repairs of an existing pier or dock would make a proposed repair exceeds the threshold for a

replacement pier established in KZC 83.280.5, above, the repair proposal shall be reviewed under KZC 83.280.4 for a new pier or dock.

8. Boatlifts, Boatlift Canopies and Moorage Buoys –

Boatlifts and boatlift canopies may be permitted as an accessory to piers and docks, subject to the following regulations:

Boatlift, Boat Canopy and Moorages Buoy for Detached Dwelling Unit	Regulations
Location	<p>Boat lifts shall placed as far waterward of the OHWM as feasible and safe, within the limits of the dimensional standards for piers established in KZC 83.280.4</p> <p>Bottom of a boatlift canopy shall be elevated above the boatlift to the maximum extent feasible, the lowest edge of the canopy must be a least 4 ft. above the OHWM, and the top of the canopy must not extend more than 4 ft. above an associated pier.</p> <p>Moorage buoys shall not be closer than 30 ft. from OHWM or any farther waterward than the end of the pier or dock</p> <p>Moorage buoys shall be located no further than 12 ft. of a pier or dock</p>
Maximum Number	<p>1 free-standing or deck-mounted boatlift</p> <p>2 jet ski lifts or 1 fully grated platform lift per detached dwelling unit use</p> <p>1 boatlift canopy per detached dwelling unit, including joint use piers</p> <p>2 moorage buoys per detached dwelling unit, including existing piles</p> <p>4 moorage buoys for joint use piers or docks, including existing piles</p>
Canopy Materials	<p>Must be made of translucent fabric materials.</p> <p>Must not be constructed of permanent structural material.</p>
Fill for Boatlift	<p>Maximum of 2 cubic yards of fill are permitted to anchor a boatlift, subject to the following requirements:</p> <ul style="list-style-type: none"> • Only be used if the substrate prevents the use of anchoring devices which can be embedded into the substrate • Must be clean • Must consist of rock or pre-cast concrete blocks • Must only be used to anchor the boatlift

	<ul style="list-style-type: none"> • Minimum amount of fill utilized to anchor the boatlift
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83.285 Piers, Docks, Boat lifts and Canopies Serving Detached, Attached or Stacked Dwelling Units

1. General –

- a. Piers, Docks, Moorage Buoy and Piles, -Boatlifts and Canopies may only be developed and used accessory to existing dwelling units on waterfront lots or upland lots with waterfront access rights. Use of these structures is limited to the residents and guests of the waterfront lots to which the moorage is accessory. Moorage space may not be leased, rented, or sold unless otherwise approved as a Marina under the provisions of KZC 83.290.
- b. Piers, docks, boatlifts and moorage piles shall be designed and located to meet KZC 83.360 No Net Loss standard and Mitigation Sequencing.
- c. See KZC 83.370 for structures proposed to be extended waterward of the Inner Harbor Line.

2. Location Standards – Piers, docks, boat lifts and canopies serving Detached, Attached or Stacked Dwelling Units shall be designed and located according to the following criteria:

a. Setback Standards -

- 1) All piers, docks, boatlifts and moorage piles serving Detached, Attached or Stacked Dwelling Units shall comply with the following setback standards:

New Pier, Dock, Boatlift and Moorage Pile for Detached, Attached or Stacked Dwelling Units	Minimum Setback Standards
North and south property lines	10 ft.
Adjacent to detached dwelling unit lot	May not be closer to a lot containing a detached dwelling unit than a line that starts where the OHWM of the lot intersects the side property line of the lot closest to the moorage structure and runs waterward toward the moorage structure and extends at a 30° angle from that side property line. This setback applies whether or not the subject property abuts the lot, but does not extend beyond any intervening overwater structure. This standard shall not apply within the Urban Mixed shoreline environment.
Another moorage structure not on the subject property, excluding adjacent moorage structure that does not comply with required north and south property line setback	25 ft
Outlet of a stream regulated under KZC 90, including piped streams	Maximum distance possible while meeting other required setback standards established under this section
Public park	100 feet; or May not be closer to a public park than a

	<p>line that starts where the OHWM of the park intersects with the side property line of the park closest to the moorage structure and extends at a 45° angle from the side property line. This setback applies whether or not the subject property abuts the park, but does not extend beyond any intervening over water structure. This standard shall not apply within the Urban Mixed shoreline environment.</p>
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3. Number of Moorage Slips – The City will limit the total number of moorages to one per each dwelling unit on the subject property. In addition, each unit shall be permitted to moorage jetskis or kayaks or similar watercraft on the property. Use of these structures is limited to the residents and guests of the waterfront lots to which the moorage is accessory. Moorage space may not be leased, rented, or sold unless otherwise approved as a Marina under the provisions of KZC 83.290.
4. General Standards -
 - a. The design of the site must be compatible with the scenic nature of the waterfront.
 - b. Must provide at least 2 covered and secured waste receptacles upland of the ordinary high water mark.
 - c. All utility and service lines located waterward of the OHWM must be below the pier deck. All utility and service lines located upland of the OHWM shall be underground, where feasible.
 - d. Moorage facilities shall be marked with reflectors, or otherwise identified to prevent unnecessarily hazardous conditions for water surface users during the day or night.
 - e. Exterior finish shall be generally non-reflective.
 - f. Moorage structures must display the street address of the subject property. The address must be oriented to the lake with letters and numbers at least four inches high.
 - g. See KZC 83.440 Lighting Standards for required lighting.
 - h. Covered moorage, including boatlift canopies, is not permitted.
 - i. Aircraft moorage is not permitted.
5. Size and Design -
 - a) Moorage structures may not be larger than is necessary to provide safe and reasonable moorage for the boats to be moored. The City will specifically review the size and configuration of each proposed moorage structure to help ensure that:
 - i) The moorage structure does not extend waterward beyond the point necessary to provide reasonable draft for the boats to be moored, but not beyond the outer harbor line;
 - ii) The moorage structure is not larger than is necessary to moor the specified number of boats;
 - iii) The moorage structure will not interfere with the public use and enjoyment of the water or create a hazard to navigation; and
 - iv) The moorage structure will not have a significant long-term adverse effect on ecological functions.
 - b) Piers and docks shall be the minimum size necessary to meet the needs of the proposed water-dependent use and shall observe the following standards:

New Pier, Dock or Moorage Piles for Detached, Attached or Stacked Dwelling Units	Dimensional and Design Standards
Maximum Width	4 ft. within 30 ft of the OHWM for pier, dock or floating deck 6 ft. for pier or dock more than 30 ft. waterward of the OHWM 8 ft. for ells 4 ft. for fingers, and shall be reduced to 2 feet in those instances where the projection provides secure boat moorage but is not necessary for boat-user access. 6 ft. for float decking attached to a pier, must contain a minimum of 2 ft of grating down the center of the entire float. An alternative design in lieu of meeting these requirements may be allowed if approved by other state and federal agencies.
Height of piers and diving boards	Minimum of 1.5 ft above OHWM, except the floating section of a dock and float decking attached to a pier Maximum of 3 ft. above deck for diving boards or similar features above the deck surface
Minimum Water Depth for ells and float decking attached to a pier	9 ft. above OHWM for ells and fingers 10 ft above OHWM for float decking attached to a pier
Decking for piers, docks walkways, ells and fingers	Piers and docks must be fully grated with 40% open area If float tubs for docks preclude use of fully grated decking material, then a minimum of 2 ft. of grating down the center of the entire float shall be provided
Location of ells, fingers and deck platforms	No closer than 30 ft. waterward of the OHWM 0 ft. to 30 ft. of the OHWM shall only contain access ramp portion of pier or dock
Moorage Piles	First set of piles located no closer than 18 ft from OHWM Pilings shall be composed of steel, concrete, plastic or untreated wood. Piles shall not be treated with pentachlorophenol, creosote, chromated copper arsenate (CCA) or comparably toxic compounds.

6. Boatlifts and Boatlift Canopies for serving Detached, Attached or Stacked Dwelling Units –

Boatlifts and boatlift canopies may be permitted as an accessory to piers and docks, subject to the following regulations:

Boatlift, Boat Canopy and Moorages Buoy for Detached, Attached or Stacked Dwelling Units	Regulations

<p>Location</p>	<p>Boat lifts shall placed as far waterward of the OHWM as feasible and safe, within the limits of the dimensional standards for piers and docks established in KZC 83.280.5</p> <p>Bottom of a boatlift canopy shall be elevated above the boatlift to the maximum extent feasible, the lowest edge of the canopy must be a least 4 ft. above the OHWM, and the top of the canopy must not extend more than 4 ft. above an associated pier.</p> <p>Moorage buoys shall not be closer than 30 ft. from OHWM or any farther waterward than the end of the pier or dock</p> <p>Moorage buoys shall be located no further than 12 ft.of a pier or dock</p>
<p>Maximum Number</p>	<p>1 free-standing or deck-mounted boatlift is allowed per dwelling unit on the subject property.</p> <p>2 jet ski lifts or 1 fully grated platform lift is permitted per dwelling unit on the subject property.</p> <p>Minimum of 2 boatlift canopies or equal to 10 percent of the dwelling units on the subject property, whichever is greater.</p>
<p>Canopy Materials</p>	<p>Must be made of translucent fabric materials.</p> <p>Must not be constructed of permanent structural material.</p>
<p>Fill for Boatlift</p>	<p>Maximum of 2 cubic yards of fill are permitted to anchor a boatlift, subject to the following requirements:</p> <ul style="list-style-type: none"> • Only be used if the substrate prevents the use of anchoring devices which can be embedded into the substrate • Must be clean • Must consist of rock or pre-cast concrete blocks • Must only be used to anchor the boatlift • Minimum amount of fill utilized to anchor the boatlift

7. Mitigation. All proposals involving new piers or docks are subject to the following mitigation requirements:
- a. Any existing in-water and overwater structures associated with a moorage structure or other recreational use that is located within 30 feet of the OHWM shall be removed.
 - b. Emergent vegetation shall be planted waterward of the ordinary high water mark, unless the City determines that it is not appropriate or feasible. .
 - c. Native riparian vegetation shall be planted in at least 75 percent of the nearshore riparian area located along the water's edge. The vegetated portion of the nearshore riparian area shall average ten (10) feet in depth from the ordinary high water mark, but may be a minimum

of five (5) feet wide to allow for variation in landscape bed shape and plant placement. Joint-use piers will require a vegetative riparian zone along all properties sharing the pier.

d. Mitigation plantings shall be subject to the following requirements:

- 1) Restoration of native vegetation shall consist of a mixture of trees, shrubs and groundcover and be designed to improve habitat functions. At least three (3) trees per 100 linear feet of shoreline must be included in the plan. Plant materials must be native and selected from the Kirkland Native Plant List, or other native species approved by the Planning Official or Urban Forester. Plant density and spacing shall be appropriate for the site and commensurate with spacing recommended for each individual species proposed.
- 2) An alternative planting plan or mitigation measure in lieu of meeting these requirements may be allowed if approved by other state and federal agencies. In addition, the City may accept existing native trees, shrubs and groundcover as meeting the requirements of this section, including vegetation previously installed as part of a prior development activity, provided that the existing vegetation provides a landscape strip at least as effective in protecting shoreline ecological functions as the required landscaping.
- 3) Vegetation placement –
 - (a) In shoreline environments that require a view corridor, vegetation shall be selected and positioned on the property so as not to obscure the public view within designated view corridors from the public right-of-way to the waters of Lake Washington and the shoreline on the opposite side of the lake at the time of planting or upon future growth.
 - (b) Vegetation may be selected and positioned to maintain private views of the water by clustering vegetation in a selected area, provided that the minimum landscape standard is met.
- 4) In addition to a native planting plan, a 5 -year vegetation maintenance and monitoring plan shall be submitted to the City for approval. The monitoring plan shall include the following performance standards:
 - a) Preparation of as-built drawings after installation of the mitigation plantings;
 - b) Annual monitoring reports for 5 years, that include written and photographic documentation on tree and shrub mortality, subject to the following success criteria:
 - i) One hundred (100) percent survival of all planted native trees and shrubs during the first two years after planting; and
 - ii) One hundred (100) percent survival of trees and eighty (80) percent survival of remaining native plants in years three through five.

Copies of reports that are submitted to state or federal agencies in compliance with permit approvals may be submitted in lieu of a separate report to the City, provided that the reports address a 5 year maintenance and monitoring plan.
 - c) Woody debris existing on-site or contributed to the site as part of the mitigation efforts shall not be removed.

8. Replacement Additions and Repairs:

- a. Replacement - Replacement of Piers and Docks serving Detached, Attached or Stacked Dwelling Units shall be considered under the provisions for New Piers and Docks Serving Detached, Attached or Stacked Dwelling Units established in KZC 83.285.
- b. Additions – Proposals involving the modification and/or enlargement of existing piers or docks must comply with the following measures:
 - 1) The applicant must demonstrate that there is a need for the enlargement of an existing

pier or dock.

- 2) Enlarged portions of piers or docks must comply with the size and design standards for new piers or docks as described in KZC 83.285.4.
 - 3) In addition, all pier or dock enlargement projects must convert the nearshore decking to grated decking equivalent in size to the additional surface coverage.
- b. Repair– Repair proposals which replace only decking or decking substructure and less than 50 percent of the existing pier-support piles must comply with the following:
- 1) Replacement piles must use materials as described under KZC 83.285.5 and must minimize the size of the pilings and maximize the spacing between pilings to the extent allowed by site-specific engineering or design considerations.
 - 2) Repair proposals that replace 50 percent or more of the decking or decking substructure must replace any solid decking surface located within the nearshore 30 feet of the pier or dock with a grated surface material.
 - 3) Other repairs to existing legally established moorage facilities where the nature of the repair is not described in the above subsections shall be considered minor repairs and are permitted, consistent with all other applicable codes and regulations. If cumulative repairs of an existing pier or dock would make a proposed repair exceeds the threshold established in KZC 83.285.5.b, above, the repair proposal shall be reviewed under KZC 83.285 for a new pier or dock.
9. Submittal Requirements - In addition to submitting an application, the applicant shall submit an assessment of the impacts and measures taken to avoid, minimize, and mitigate impacts. See Section 83.360 KZC for information on mitigation sequencing.

83.290 Marinas and Moorage Facilities Associated with Commercial Uses

1. General–
 - a. Marinas shall be designed and located to meet KZC 83.360 No Net Loss standard and Mitigation Sequencing.
 - b. See KZC 83.370 for structures proposed to be extended waterward of the Inner Harbor Line.
2. Location Standards –
 - a. Marinas may not be approved in cases when it can be reasonably foreseeable that the development or use would require maintenance dredging and/or installation of a breakwater during the life of the development or use.
 - b. Marinas shall be designed and located according to the following criteria:
 - 1) Shall not interfere with the public use and enjoyment of the water or create a hazard to navigation;
 - 2) Shall meet KZC 83.360 for avoiding adverse impacts, minimizing impacts and mitigating unavoidable impacts; and
 - 3) Shall be located only at sites with sufficient water depth, adequate navigational and vehicular access, and not adjacent to an outlet of a stream.
 - c. Moorage structures within marinas shall comply with the following location standards:

Marinas and Moorage Structures Associated with Commercial Uses	Minimum Setback Standards
North and south property lines	10 ft.

Adjacent to detached dwelling unit	May not be closer to a lot containing a detached dwelling unit than a line that starts where the OHWM of the lot intersects the side property line of the lot closest to the moorage structure and runs waterward toward the moorage structure and extends at a 30° angle from that side property line. This setback applies whether or not the subject property abuts the lot, but does not extend beyond any intervening overwater structure. This standard shall not apply within the Urban Mixed shoreline environment.
Another moorage structure not on the subject property, excluding adjacent moorage structure that does not comply with required north and south property line setback	25 ft
Outlet of a stream regulated under KZC 90, including piped streams	Maximum distance possible while meeting other required setback standards established under this section
Public park	100 feet; or May not be closer to a public park than a line that starts where the OHWM of the park intersects with the side property line of the park closest to the moorage structure and extends at a 45° angle from the side property line. This setback applies whether or not the subject property abuts the park, but does not extend beyond any intervening over water structure. This standard shall not apply within the Urban Mixed shoreline environment.

3. Number of Moorage Slips –

- a. The City will determine the maximum allowable number of moorages based on the following factors:
 - 1) The suitability of the environmental conditions, such as, but not limited to, a consideration of the following conditions: the presence of submerged aquatic vegetation, proximity to shoreline associated wetlands, critical nesting and spawning areas, water depth, water circulation, sediment inputs and accumulation, and wave action.
 - 2) The ability of the land landward of the high waterline to accommodate the necessary support facilities.
 - 3) The demand analysis submitted by the applicant to demonstrate anticipated need for the requested number of moorages.
- b. Boats moored within marinas shall comply with the mooring restrictions contained in Chapter 14.16 KMC.

4. General Standards -

- a) See KZC 83.370 for required state and federal approval.

- b) No structures, other than each moorage structure or public access pier, may be waterward of the OHWM. For regulations regarding public access piers, see KZC 83.230.
- c) At least 2 covered and secured waste receptacles shall be provided upland of the OHWM.
- d) Utility and service lines located waterward of the OHWM must be below the pier deck. Utility and service lines located upland of the OHWM shall be underground, where feasible.
- e) Public restrooms shall be provided upland of the OHWM.
- f) The general public shall provide at least 1 pump-out facility for use. This facility must be easily accessible to the general public and clearly marked for public use.
- g) Transient moorage may be required as part of a marina if the site is in an area near commercial facilities generating commercial transient moorage demand.
- h) Moorage facilities shall be marked with reflectors, or otherwise identified to prevent unnecessarily hazardous conditions for water surface users during the day or night.
- i) Exterior finish shall be generally non-reflective.
- j) Moorage structures must display the street address of the subject property. The address must be oriented to the lake with letters and numbers at least four inches high.
- k) See KZC 83.440 Lighting Standards for required lighting.
- l) Covered moorage, including boatlift canopies, is not permitted.
- m) Aircraft moorage is not permitted, except as associated with an approved float plane landing and mooring facility.
- n) Marinas and other moorage facilities associated with commercial uses shall be designed and operated consistent with federal and state water quality laws and established Best Management Practices (BMPs) for Marina Operators, including BMPs for bilge water discharge, hazardous waste, waste oil and spills, sewer management, and spill prevention and response. Rules for spill prevention and response, including reporting requirements, shall be posted on site.

5. Dimensions and Design –

- a. Moorage structures may not be larger than is necessary to provide safe and reasonable moorage for the boats to be moored. The City will specifically review the size and configuration of each proposed moorage structure to help ensure that:
 - 1) The moorage structure does not extend waterward beyond the point necessary to provide reasonable draft for the boats to be moored, but not beyond the outer harbor line;
 - 2) The moorage structure is not larger than is necessary to moor the specified number of boats; and
 - 3) The moorage structure will not interfere with the public use and enjoyment of the water or create a hazard to navigation; and
 - 4) The moorage structure will not have a significant long-term adverse effect on ecological functions.
- b. For public access piers, docks or boardwalks associated with public parks and other public facilities see KZC 83.220.5 for allowed width of the structure.
- c. Piers and docks shall be the minimum size necessary to meet the needs of the proposed water-dependent use and shall meet the following dimensional and design standards:

Marinas and Moorage Facilities Associated with Commercial Uses	Dimensional and Design Standards
Maximum Width	<p>6 ft. for access ramp portion of pier or dock)</p> <p>8 ft. for ells</p> <p>4 ft. for fingers, and shall be reduced to 2 feet in those instances where the projection provides secure boat moorage but is not necessary for boat-user access.</p> <p>6 ft. for float decking attached to a pier, must contain a minimum of 2 ft of grating down the center of the entire float.</p> <p>An alternative design in lieu of meeting these requirements may be allowed if approved by other state and federal agencies.</p>
Height of piers, diving boards and railings	<p>Minimum of 1.5 ft above OHWM, except the floating section of a dock and float decking attached to a pier</p> <p>Maximum of 3 ft. above deck for diving boards or similar features above the deck surface</p> <p>Railing not to exceed 36 in. above the pier or dock and be an open framework</p>
Decking for piers, docks walkways, ells and fingers	<p>Fully grated with 40% open area</p> <p>If float tubs for docks preclude use of fully grated decking material, then a minimum of 2 ft. of grating down the center of the entire float shall be provided</p>
Location of ells, fingers and deck platforms	<p>No closer than 50 ft. waterward of the OHWM</p> <p>0 ft. to 50 ft. of the OHWM shall only contain access ramp portion of pier or dock</p>
Moorage Piles	<p>First set of piles located no closer than 18 ft from OHWM</p> <p>Pilings shall be composed of steel, concrete, plastic or untreated wood. Piles shall not be treated with pentachlorophenol, creosote, chromated copper arsenate (CCA) or comparably toxic compounds.</p>

- 1) All new piers and docks, including walkways, ells, and fingers, must be fully grated. All grating must have at least 40 percent open area. If float tubs for docks preclude the beneficial use of fully grated decking material, then a minimum of 2 feet of grating down the center of the entire float shall be provided.
- 2) Piers, docks and floats shall be located along a north/south orientation to the maximum extent feasible.
- 3) No structures other than walkways of pier or dock are permitted within 50 feet of the water's edge.
- 4) Structures must be designed to preclude moorage in locations that would have insufficient water depth to avoid boats resting at any time of year to on the substrate.
- 5) Limit the number of piles to the minimum practicable. The first set of in-water piling located nearest to shore shall be located at least 18 feet from the OHWM.
- 6) Limit the size of piles to the minimum feasible.

- 7) Pilings shall be composed of steel, concrete, plastic or untreated wood.
- 8) Limit structure widths as follows:
 - a) Ramps may be no wider than four (4) feet; and
 - b) Primary walkways may be no wider than six (6) feet; and
 - c) Ells may be no wider than eight (8) feet; and
 - d) Fingers and other similar projections off of the primary walkway may be no wider than 4 feet, and shall be reduced to 2 feet in those instances where the projection provides secure boat moorage but is not necessary for boat-user access; or
 - e) An alternative design in lieu of meeting these requirements may be allowed if approved by other state and federal agencies.
- 9) Except for floating portions of docks, the bottom of all structures must be at least 1.5 feet above the ordinary high water mark.
- 10) If a pier or railing is provided with railing, such railing shall not exceed 36 inches in height and shall be an open framework.

6. Replacement, Additions and Repairs –

- d. Replacement - Replacement of marinas or portions thereof shall be considered under the provisions for marinas established in KZC 83.290.
- e. Additions– Proposals involving the modification and/or enlargement of marinas must comply with the following measures:
 - 1) Enlarged portions of marinas must comply with the size and design standards as described in KZC 83.290.4.
 - 2) In addition, all marina enlargement projects must convert either the nearshore decking to grated decking equivalent in size to the additional surface coverage or remove or convert the roofing material on existing boat houses to translucent material.
- b. Repair– Repair proposals which replace only decking or decking substructure and less than 50 percent of the existing pier-support piles must comply with the following:
 - 1) Replacement piles must use materials as described under KZC 83.290.5 and must minimize the size of the pilings and maximize the spacing between pilings to the extent allowed by site-specific engineering or design considerations.
 - 2) Repair proposals that replace 10 percent or more of the decking or decking substructure must replace any solid decking surface located within the nearshore 30 feet of the pier or dock with a grated surface material.
 - 3) Repair proposals of the roof structure of existing boathouses or other similar covered moorage shall use translucent materials.
 - 4) Other repairs to existing legally established marinas where the nature of the repair is not described in the above subsections shall be considered minor repairs and are permitted, consistent with all other applicable codes and regulations. If cumulative repairs of an existing marina would make a proposed repair exceeds the threshold established in KZC 83.290.5.b, above, the repair proposal shall be reviewed under KZC 83.290 for a new marina.

7. Submittal Requirements - In addition to submitting an application, the applicant shall submit the following as part of a request to construct a new, enlarged, or replacement marina or its associated facilities:

- f. An assessment of the anticipated need for the requested number of moorages and ability of the site to accommodate the proposal, considering such factors as environmental conditions, shoreline configuration, access, and neighboring uses.
- g. An assessment of the impacts and measures taken to avoid, minimize, and mitigate impacts. See KZC 83.360 for mitigation sequencing.

83.300 Shoreline Stabilization

1. General -

- a. The standards in this section apply to all developments and uses in shoreline jurisdiction.
- b. New development or redevelopment shall be located and designed to avoid the need for new or future shoreline stabilization of either soft or hard shoreline stabilization to the maximum extent feasible.
- c. If structural stabilization is necessary to prevent protect the primary structure, then the feasibility of soft structural measures shall be evaluated prior to consideration of hard structural measures. Soft stabilization measures must be used unless the City determines that it is not to be feasible based on information required in this section provided by the applicant.
- d. During construction or repair work on a shoreline stabilization measure, areas of temporary disturbance within the shoreline setback shall be restored as quickly as possible to their pre-disturbance condition or better to avoid impacts to the ecological function of the shoreline.
- e. The following is a summary of the key requirements found in KZC 83.300.2 through KZC 83.300.5:

Shoreline Stabilization Measures	Requirements
Soft Shoreline versus Hard Shoreline	Natural shoreline is preferred, but if a stabilization measure is demonstrated to be needed to protect primary structure, then soft stabilization must be considered prior to hard stabilization.
New or Enlargement	<p>Requires geotechnical report, except when existing primary structure is 10 feet or less from OHWM.</p> <p>Requires evaluation of the feasibility of soft shoreline stabilization measures in lieu of hard structural shoreline stabilization measures, as well as design recommendations for minimizing structural shoreline measures.</p> <p>Enlargement includes additions to increases in size (such as height, width, length, or depth) to existing shoreline stabilization measures.</p>
Major Repair or Replacement	<p>Threshold Determination:</p> <ul style="list-style-type: none"> • Repair for a collapsed or eroded away stabilization structure or demonstrates a loss of structural integrity of stabilization of structure; or

	<ul style="list-style-type: none"> • Repair of toe rock or footings; and • Greater than 15 feet in continuous linear length; or • Repair to more than 75 percent of the linear length of the existing hard structural shoreline stabilization measure in which the repair work involves replacement of top or middle course rocks or other similar repair activities. <p>Shall be regulated as new stabilization measure.</p> <p>Requires a needs assessment, except not when existing primary structure is 10 feet or less from the OHWM or when replaced with soft stabilization measure. No geo-technical report required.</p>
<p>Minor Repair</p>	<p>Does not meet threshold of new, enlarged, major repair or replacement measurement.</p> <p>No geotechnical report or needs assessment required.</p>

2. New or Enlarged Structural Shoreline Stabilization –

- a. New hard or soft structural shoreline stabilization measures shall not be authorized, except when a geo-technical report confirms that that there is a significant possibility that an existing structure will be damaged generally within 3 years as a result of shoreline erosion in the absence of such structural shoreline stabilization measures, or where waiting until the need is immediate results in the loss of opportunity to use measures that would avoid impacts on ecological functions.
- b. Enlargement of an existing structural stabilization shall include additions to or increases in size (such as height, width, length, or depth).
- c. Structural stabilization measures shall not be allowed, except as follows:
 - 1). To protect an existing primary structure, including residences, when conclusive evidence, documented by a geotechnical analysis, is provided to the City that the structure is in danger from shoreline erosion caused by waves. The geotechnical analysis shall evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering hard or soft structural shoreline stabilization.

The geo-technical analysis requirement shall be waived when an existing primary structure, including residences, is located 10 feet or less from the OHWM.
 - 2). In support of non-water-dependent development, including a detached dwelling unit, when all of the conditions below apply:
 - a) Upland conditions are not cause the erosion, such as drainage problems and the loss of vegetation;
 - b) Nonstructural measures, planting vegetation, or installing on-site drainage improvements and for new development placing the development farther from the shoreline are not feasible or not sufficient; and

- c) The need to protect primary structures from potential damage due to erosion is demonstrated through a geotechnical report. Natural processes, such as waves, must cause the damage.
- 3). To protect the restoration of ecological functions or for 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 not sufficient.

3. Submittal Requirements for New or Enlarged Replacement Stabilization Measures -

The following submittals shall be provided to the City:

- a. A geo-technical report prepared by a qualified professional with an engineering degree. The report shall include the following:
 - 1). An assessment of the necessity for structural shoreline stabilization by estimating time frames and rates of erosion and reporting on the urgency associated with the specific situation.
 - 2.) An assessment of the cause of erosion, looking at processes occurring both waterward and landward of the OHWM.

Geo-technical report requirements for new or enlarged hard or soft structural shoreline stabilization measures shall be waived when a primary structure, including residences, is located 10 feet or less from the OHWM.
- b. An assessment prepared by a qualified professional (e.g., shoreline designer or other consultant familiar with lakeshore processes and shore stabilization), containing the following:
 - 1) An evaluation of the feasibility of using soft shoreline stabilization measures in lieu of hard structural shoreline stabilization measures. Soft shoreline stabilization may include the use of gravels, cobbles, boulders, and logs, as well as vegetation.
 - 2) Design recommendations for minimum sizing of hard structural or soft structural shoreline stabilization materials, including gravel and cobble beach substrates necessary to dissipate wave energy, eliminate scour, and provide long-term shoreline stability.
- c. See additional submittal requirements below in subsections 6, 7 and 8.

4. Replacement or Repair of Structural Shoreline Stabilization -

a. Minor Repair

- 1) The following improvements shall not be considered as “minor repair” of a hard or soft shoreline measure:
 - a) A repair needed to a portion of an existing stabilization structure that has collapsed, eroded away or otherwise demonstrated a loss of structural integrity, or in which the repair work involves modification of the toe rock or footings, and is greater than 15 feet in continuous linear length; or
 - b) A repair to more than 75 percent of the linear length of the existing hard structural shoreline stabilization measure in which the repair work involves replacement of top or middle course rocks or other similar repair activities.

Repair activities not meeting the threshold for a minor repair shall be considered major repair or replacement and the portion of the shoreline stabilization that is being repaired shall be subject to the provisions contained in subsection b below for major repair.

- 2) Minor repairs do not require a geo-technical report or needs assessment.

b. Major Repair or Replacement

- 1) Major repair or replacement shall be treated as a new shoreline stabilization measure subject to the restrictions of subsection 2 above and the requirements of this section, except for the requirement to prepare a geotechnical analysis.
- 2) A geotechnical analysis is not required for major repairs or replacements of existing hard or soft structural shoreline stabilization with a similar measure if the applicant demonstrates need through a report, drawings or photos to protect the primary structure from erosion caused by waves or other natural processes operating at or waterward of the OHWM.

In those circumstances where a primary structure, including residences, is located ten (10) feet or less from the OHWM demonstration of need is not required.
- 3) Replacement hard structural stabilization measures shall not encroach waterward of the OHWM or waterward of the existing shoreline stabilization measure unless the primary structure was constructed prior to January 1, 1992 (RCW 90.58.100.6 and WAC 173.26.241 and WAC 173.26.231.3. j) and there is overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure. All other replacement structures shall be located at or landward of the existing shoreline stabilization structure.
- 4) Hard and soft stabilization measures may allow a reasonable amount of gravel, logs and rocks waterward of the OHWM, as approved by the City and federal and state agencies, to provide enhancement of shoreline ecological functions through creation of nearshore shallow-water habitat.

5. Submittal Requirements for Major Repairs or Replacements of Stabilization Measures -

The following submittals shall be provided to the City:

- a. A written narrative that provides a demonstration of need shall be submitted. A qualified professional (e.g., shoreline designer or other consultant familiar with lakeshore processes and shore stabilization), but not necessarily a licensed geo-technical engineer shall prepare a written narrative. The demonstration of need shall consist of the following:
 - 1) An assessment of the necessity for continued structural stabilization, considering site-specific conditions such as water depth, orientation of the shoreline, wave fetch, and location of the nearest structure.
 - 2) An assessment of erosion potential resulting from the action of waves or other natural processes operating at or waterward of the OHWM in the absence of the hard structural shoreline stabilization.
 - 3) An assessment of the feasibility of using soft shoreline stabilization measures in lieu of hard structural shoreline stabilization measures. Soft shoreline stabilization may include the use of gravels, cobbles, boulders, and logs, as well as vegetation.
 - 4) Design recommendations for minimizing impacts of any necessary hard structural shoreline stabilization.
 - 5) A demonstration of need shall be waived when an existing hard structural shoreline stabilization measure is proposed to be repaired or replaced using soft structural shoreline stabilization measures, or when a primary structure, including residences, is located 10 feet or less from the OHWM.
- b. See additional submittal requirements below in subsections 6, 7 and 8.

6. General Submittal Requirements for New, Enlarged, Replacement and Major Repair Measures -

The following submittals shall be provided to the City:

- a. Detailed construction plans, including the following:

- 1) Plan and cross-section views of the existing and proposed shoreline configuration, showing accurate existing and proposed topography and OHWM.
- 2) Detailed construction sequence and specifications for all materials, including gravels, cobbles, boulders, logs, and vegetation. The sizing and placement of all materials shall be selected to accomplish the following objectives:
 - a) Protect the property and structures from erosion and other damage over the long term, and accommodate the normal amount of alteration from wind- and boat-driven waves;
 - b) Allow safe passage and migration of fish and wildlife; and
 - c) Minimize or eliminate juvenile salmon predator habitat.
- b. Detailed 5-year vegetation maintenance and monitoring program to include the following:
 - 1) Goals and objectives of the shoreline stabilization plan;
 - 2) Success criteria by which the implemented plan will be assessed;
 - 3) A 5-year maintenance and monitoring plan, consisting of two site visits per year by a qualified professional, with annual progress reports submitted to the Planning Official and all other agencies with jurisdiction;
 - 4) A contingency plan in case of failure; and
 - 5) Proof of a written contract with a qualified professional who will perform the monitoring.
- c. Fee for City staff or a consultant selected by the City to review the shoreline stabilization plan, the monitoring and maintenance program, the narrative justification of demonstrated need, and drawings. In addition, the Planning Official may require a fee for City staff or a consultant to review the geo-technical report and recommendations. In the case of use of a consultant, the applicant shall sign the City's standard 3-party contract.

7. Performance or Maintenance Bond or Security Requirement for Hard Stabilization Measures -

A performance or maintenance bond or security is required to be submitted for new, enlarged or major repair of hard shoreline stabilization measures to ensure compliance with any aspect of this chapter or any decision or determination made pursuant to this Chapter as follows:

- a. Amount of Performance Security - The amount of the performance or maintenance security shall be a percentage of the estimated cost based on the City's established percentage at the time of the security submittal. The estimated cost shall be approved by the Planning Official and include conformance to plans, specifications, and permit or approval requirements under this chapter, including corrective work and compensation, enhancement, mitigation, maintenance, and restoration of sensitive areas.

In addition, an administrative deposit shall be paid as required in KZC 175.25. All bond or performance security shall be submitted in their original form with original signatures of authorization using the City's standard security forms.

- b. Security Options - The surety bond shall be obtained from companies registered as surety in the state or certified as acceptable sureties on federal bonds. In lieu of a surety bond, the Planning Official may allow alternative performance security in the form of an assignment of funds or account, an escrow agreement, an irrevocable letter of credit, or other financial security device in an amount equal to that required for a surety bond.

The surety bond or other performance security shall be conditioned on the work being completed or maintained in accordance with requirements, approvals, or permits; on the site being left or maintained in a safe condition; and on the site and adjacent or surrounding areas being restored in the event of damages or other environmental degradation from development or maintenance activities conducted pursuant to the

permit or approval.

- c. Administration of Performance Security - If during the term of the performance or maintenance security, the Planning Official determines that conditions exist which do not conform with plans, specifications, approval or permit requirements, the Planning Official may issue a stop work order prohibiting any additional work or maintenance until the condition is corrected. The Planning Official may revoke the performance or maintenance security, or a portion thereof, in order to correct conditions that are not in conformance with plans, specifications and approval or permit requirements. The Planning Official, following final site inspection or completion, as appropriate, may release the performance or maintenance security upon written notification or when the Planning Official is satisfied that the work or activity complies with permits or approved requirements.
- d. Exemptions for Public Agencies - State agencies and local government bodies, including school districts, are not required to secure the performance or maintenance of permit or approval conditions with a surety bond or other financial security device. These public agencies are required to comply with all requirements, terms, and conditions of the permit or approval, and the Planning Official may enforce compliance by withholding occupancy approval, by administrative enforcement action, or by any other legal means.

8. Maintenance Agreement for Soft Shoreline Stabilization -

In lieu of submitting a maintenance security for a soft stabilization measure, the applicant shall complete and submit a 5-year period maintenance agreement, using the City's standard form, for recording to ensure maintenance of the soft shoreline stabilization measure.

- 9. General Design Standards - When a hard or soft structural shoreline stabilization measure is determined to be necessary, the following design standards shall be incorporated into the stabilization design:
 - a. Soft structural shoreline stabilization measures shall be used to the maximum extent feasible, limiting hard structural shoreline stabilization measures to the portion or portions of the site where necessary to protect or support existing shoreline structures or trees, or where necessary to connect to existing shoreline stabilization measures on adjacent properties. The length of hard structural shoreline stabilization connections to adjacent properties should be minimized to the maximum extent feasible, and extend into the subject property from adjacent properties no more than 10 feet.
 - b. For enlarged, major repair or replacement of structural shoreline stabilization measures, excavation and fill activities associated with the structural stabilization shall be landward of the existing OHWM, except when not feasible due to existing site constraints or to mitigate impacts of hard structural stabilization by increasing shallow water habitat with gravel, rocks and logs.
 - c. For short-term construction activities, all structural stabilization measures must minimize and mitigate any adverse impacts to ecological functions by compliance with appropriate timing restrictions, use of best management practices to prevent water quality impacts related to upland or in-water work, and stabilization of exposed soils following construction.
 - d. For long-term impacts, new, enlarged or major repair or replacement of structural shoreline stabilization shall incorporate the following measures into the design:
 - 1) Limiting the size of hard structural shoreline stabilization measures to the minimum necessary, including height, depth, and mass.
 - 2) Shifting hard stabilization measures landward and/or sloping the bulkhead landward to provide some dissipation of wave energy and increase the quality or quantity of nearshore shallow-water habitat.

- e. For new and enlarged shoreline stabilization, the following additional measures shall be incorporated into the design:
 - 1) To increase shallow-water habitat, install gravel/cobble beach fill waterward of the OHWM, grading slope to a maximum of 1 Vertical (V): 4 Horizontal (H). The material should be sized and placed to remain stable and accommodate alteration from wind- and boat-driven waves.
 - 2) Plant native riparian vegetation as follows:
 - a) At least 75 percent of the nearshore riparian area located along the edge of the OHWM shall be planted.
 - b) The vegetated portion of the nearshore riparian area shall average 10 feet in depth from the OHWM, but may be a minimum of five 5 feet wide to allow for variation in landscape bed shape and plant placement provided that the total square footage of the planted area equals 10 feet along the water's edge.
 - c) Restoration of native vegetation shall consist of a mixture of trees, shrubs and groundcover and be designed to improve habitat functions. At least 3 trees per 100 linear feet of shoreline must be included in the plan.
 - d) Plant materials must be native and selected from the Kirkland Native Plant List, or other native species approved by the Planning Official or Urban Forester.
 - e) An alternative planting plan or mitigation measure in lieu of meeting this section may be allowed if approved by other state and federal agencies. In addition, the City may accept existing native trees, shrubs and groundcover as meeting the requirements of this section, including vegetation previously installed as part of a prior development activity, provided that the existing vegetation provides a landscape strip at least as effective in protecting shoreline ecological functions as the required landscaping.
 - f) For public views, plant materials shall be selected and positioned on the property so as not to obscure view within designated public view corridors from the public right-of-way to the water and the shoreline on the opposite side of the Lake at the time of planting or upon future growth
 - g) For private views, plant materials may be selected and positioned to maintain private views to the water by clustering vegetation in a selected area, provided that the minimum landscape standard is met.
- f. The shoreline stabilization measure shall be designed to not significantly interfere with normal surface and/or subsurface drainage into Lake Washington, constitute a hazard to navigation or extend waterward more than the minimum amount necessary to achieve effective stabilization.
- g. Stairs or other water access measures may be incorporated into the shoreline stabilization, but shall not extend waterward of the shoreline stabilization measure.
- h. The shoreline stabilization measures shall be designed to ensure that the measures do not restrict public access or make access unsafe to the shoreline, except where such access is modified under the provisions of KZC Section 83.390 for public access. Access measures should not extend farther waterward than the face of the shoreline stabilization structure.
- i. When shoreline stabilization measures intended to improve ecological functions result in shifting the OHWM landward of the pre-modification location, structure setbacks from the OHWM or lot area for the purposes of calculating lot coverage shall be measured from the pre-modification location. The pre-modification OHWM shall be recorded in a form approved by the City Attorney and recorded in the King County Department of Elections and Records.

- j. See subsection 10 below concerning additional design standards for hard structural stabilization and subsection 11 for soft structural stabilization.
- k. If shoreline stabilization measures intended to improve ecological functions shift the OHWM landward of the pre-modification location and result in expansion of the shoreline jurisdiction on any property other than the subject property, the plan shall not be approved until the applicant submits to the Planning Official a copy of a statement signed by the property owners of all affected properties, in a form approved by the City Attorney and recorded in the King County Department of Elections and Records, consenting to the shoreline jurisdiction creation and/or increase on such property.”

10. Specific Design Standards for New or Enlarged Hard Structural Stabilization –

In addition to the general design standards in subsection 9, the following design standards shall be incorporated:

- a. Where hard stabilization measures are not located on adjacent properties, the construction of a hard stabilization measure on the site shall tie in with the existing contours of the adjoining properties, as feasible, such that the proposed stabilization will not cause erosion of the adjoining properties.
- b. Where hard stabilization measures are located on adjacent properties, the proposed hard stabilization measure may tie in flush with existing hard stabilization measures on adjoining properties, but by no more than 10 feet into the adjacent property. The new hard stabilization measure may not extend waterward of OHWM, except as necessary to make the connection to the adjoining hard stabilization measures. No net intrusion into the lake and no net creation of upland shall occur with the connection to adjacent stabilization measures.
- c. Fill behind hard shoreline stabilization measures shall be limited to an average of one (1) cubic yard per running foot of bulkhead. Any filling in excess of this amount shall be considered a regulated activity subject to the regulations in this Chapter pertaining to fill activities and the requirement for obtaining a Shoreline Substantial Development permit.

11. Specific Design Standards for Soft Structural Stabilization –

In addition to the general design standards in subsection 9, the following design standards shall be incorporated:

- a. Provide sufficient protection of adjacent properties by tying in with the existing contours of the adjoining properties to prevent erosion at the property line. Proposals that include necessary use of hard structural stabilization measures only at the property lines to tie in with adjacent properties shall be permitted as soft shoreline stabilization measures. The length of hard structural stabilization connections to adjacent properties shall be the minimum needed and extend into the subject property from adjacent properties no more than 10 feet.
- b. Provide a size and arrange of any gravels, cobbles, logs, and boulders so that the improvement remains stable in the long-term and dissipate wave energy, without presenting extended linear faces to oncoming waves.

83.310 Breakwaters, Jetties, Groins

- 1. Breakwaters, jetties, and groins are not permitted in the Natural, Urban Conservancy, or Residential – L shoreline environments. Breakwaters, jetties, and groins may only be permitted in other shoreline environments where necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose.
- 2. The City will permit the construction and use of a breakwater, jetty or groin only if:
 - a. The structure is essential to the safe operation of a moorage facility or the maintenance of other public water-dependent uses, such as swimming beaches;

- b. The City determines that the location, size, design, and accessory components of the moorage facility or other public water-dependent uses to be protected by the breakwater are distinctly desirable and within the public interest; and
 - c. The benefits to the public provided by the moorage facility or other public water-dependent uses protected by the breakwater outweigh any undesirable effects or adverse impacts on the environment or nearby waterfront properties.
3. Design Standards
- a. All breakwaters, jetties or groins must be designed and constructed under the supervision of a civil engineer or similarly qualified professional. As part of the application, the engineer or other professional designing the breakwater, jetty or groin must certify that it is the smallest possible structure to meet the requirements of this Chapter and accomplish its purpose and the design will result in the minimum possible adverse impacts upon the environment, nearby waterfront properties and navigation.
 - b. Breakwaters may only use floating or open-pile designs.

83.320 Dredging and Dredge Material Disposal

1. New development shall be sited and designed to avoid or, if that is not possible, to minimize the need for new and maintenance dredging.
2. Dredging and dredge material disposal waterward of the OHWM may be allowed for only the following purposes:
 - a. To establish, expand, relocate or reconfigure navigation channels and basins where necessary for assuring safe and efficient accommodation of existing navigational uses and then only when significant ecological impacts are minimized and when mitigation is provided. Maintenance dredging of established navigation channels and basins shall be restricted to maintaining previously dredged and/or existing authorized location, depth, and width.
 - b. To maintain the use of existing private or public boat moorage, water-dependent use, or other public access use. Maintenance dredging is restricted to maintaining previously dredged and/or existing authorized location, depth, and width.
 - c. To restore ecological functions, provided the applicant can demonstrate a clear connection between the proposed dredging and the expected environmental benefits to water quality and/or fish and wildlife habitat.
 - d. To obtain fill or construction material when necessary for the restoration of ecological functions. Dredging waterward of the ordinary high water mark for the primary purpose of obtaining fill or construction materials is not permitted under other circumstances. When allowed, the site where the fill is to be placed must be located waterward of the OHWM. The project must be associated with a significant habitat enhancement project.
3. Depositing dredge materials waterward of the OHWM shall only be allowed in approved sites, only when the material meets or exceeds state pollutant standards for fish or wildlife habitat improvement or permitted beach enhancement.
4. Dredging Design Standards –
 - a. All permitted dredging must be the minimum area and volume necessary to accommodate the existing or proposed use, and must be implemented using practices that do not exceed state water quality standards.
 - b. Dredging projects shall be designed and carried out to prevent direct and indirect impacts on adjacent properties.
5. Submittal Requirements -
The following information shall be required for all dredging applications:

- a. A description of the purpose of the proposed dredging.
- b. A detailed description of the existing physical character, shoreline geomorphology and biological resources provided by the area proposed to be dredged, including:
 - 1) A site plan map outlining the perimeter of the proposed dredge area. The map must also include the existing bathymetry depths based on the OHWM and have data points at a minimum of 2-foot depth increments.
 - 2) A habitat survey must be conducted to identify aquatic vegetation, potential native fish spawning areas, or other physical or biological habitat parameters.
 - 3) Information on stability of lakebed adjacent to proposed dredging area.
 - 4) Information on the composition of the material to be removed.
- c. A description of the method to remove materials, where the materials will be placed to allow for sediment to settle and by what means the materials will be transported away from the dredge site.
 - 1) Dredging procedure: length of time it will take to complete dredging, method of dredging, and amount of material removed.
 - 2) Frequency and quantity of maintenance dredging.
- d. Detailed plans for dredge spoil disposal, including, but not limited to:
 - 1) Specific approved land or open-water disposal site.
 - 2) Total spoils volume for the current project.
 - 3) Plan for anticipated future maintenance dredging and disposal for at least a 20-year period.
- e. Copies of state and federal approvals

83.330 Land Surface Modification

1. General – The following standards must be met for any approved land surface modification:
 - a. Land surface modification within required shoreline setback shall only be permitted upon approval of a land surface modification permit, under the provisions established in KMC Title 29.
 - b. The land surface modification shall be consistent with the provisions of this Chapter, including, but not limited to, the regulations regarding streams, wetlands and their buffers, geologically hazardous areas, shoreline vegetation, and trees.
 - c. The land surface modification is consistent with the provisions of the most current edition of the Public Works Department's Pre-Approved Plans and Policies.
 - d. All excess material resulting from land surface modification shall be disposed of in a manner that prevents the material entering into a waterbody through erosion or runoff. Where large quantities of plants are removed by vegetation control activities authorized under this section, plant debris shall be collected and disposed of in an appropriate location located outside of the shoreline setback.
 - e. Areas disturbed by permitted land surface modification in the shoreline setback shall be stabilized with approved vegetation.
 - f. All materials used as fill shall be non-dissolving and non-decomposing. Fill material shall not contain organic or inorganic material that would be detrimental to water quality or existing habitat, or create any other significant adverse impacts to the environment.
 - g. The land surface modification must be the minimum necessary to accomplish the underlying reason for the land surface modification.

- h. Except as is necessary during construction, dirt, rocks and similar materials may not be stockpiled on the subject property. If stockpiling is necessary during construction, it must be located as far as possible from the lake and strictly contained to prevent erosion and runoff.

2. Permitted Activities -

- a. Land surface modification is prohibited within the shoreline setback, except for the following:
 - 1) For the purpose of shoreline habitat and natural systems enhancement projects, setting back shoreline stabilization measures or portions of shoreline stabilization measures from the OHWM, or soft shoreline stabilization measures under a plan approved by the City.
 - 2) As authorized by a valid shoreline permit or approval issued by the City.
 - 3) Associated with the installation of improvements located within the shoreline setback or waterward of the OHWM, as permitted under KZC Section 83.190.2.
 - 4) Removal of prohibited vegetation.
 - 5) As performed in the normal course of maintaining existing landscaping on a lot associated with existing buildings, provided such work:
 - a) Does not modify any drainage course.
 - b) Does not involve the importation of fill material, except as needed for mulch or soil amendment.
 - c) Does not involve removal of native vegetation or vegetation installed as part of an approved restoration or enhancement plan, unless approved by the Planning Official.
 - d) Does not result in erosion of the shoreline or undermine stability of neighboring properties.
 - e) Does not result in the compaction of existing soils in a manner that significantly decreases the ability of the soil to absorb rainfall.
 - f) Is the minimum extent necessary to reasonably accomplish the maintenance activity.
 - 6) Correction of storm drainage improvements when supervised by the Department of Public Works.
 - 7) As necessary to maintain or upgrade the structural safety of an existing legally established or legally established structure.
 - 8) For exploratory excavations under the direction of a professional engineer licensed in the state of Washington, as long as the extent of the land surface modification does not exceed the minimum necessary to obtain the desired information.
- b. Land surface modification outside of the shoreline setback is regulated as land surface modifications throughout the City. See KMC Title 29 for those regulations.

83.340 Fill

- 1. Fill shall be permitted only where it is demonstrated that the proposed action will not:
 - a. Result in significant damage to water quality, fish, aquatic habitat, and/or wildlife habitat; or
 - b. Adversely alter natural drainage and circulation patterns, currents, or stream flows, or significantly reduce flood water holding capabilities.

2. Fills landward and waterward of the OHWM shall be designed, constructed, and maintained to prevent, minimize, and control all material movement, erosion, and sedimentation from the affected area.
3. Fills waterward of the OHWM shall be permitted only:
 - a. In conjunction with an approved water-dependent or public access use, including maintenance of beaches or
 - b. As part of an approved mitigation or restoration project.
4. Any placement of materials landward of the ordinary high water mark shall comply with the provisions in KZC 83.330 for land surface modification.
5. No refuse disposal sites, solid waste disposal sites, or sanitary fills shall be permitted.

83.350 Shoreline Habitat and Natural Systems Enhancement Projects

1. Purpose - Shoreline habitat and natural systems enhancement projects include those activities proposed and conducted specifically for the purpose of establishing, restoring, or enhancing habitat for priority species in shorelines.
2. Covered Activities – The following actions are allowed under this section, provided they first meet the purpose stated in subsection 1 above:
 - a. Establishment or enhancement of native vegetation.
 - b. Removal of non-native or invasive plants upland of the ordinary high water mark, including only those identified as noxious weeds on King County's published Noxious Weed List, unless otherwise authorized by the City.
 - c. Conversion of hard structural shoreline stabilization to soft shoreline stabilization, including associated clearing, dredging and filling necessary to implement the conversion, provided that the primary purpose of such actions is clearly restoration of the natural character and ecological functions of the shoreline.
 - d. Implementation of any project or activity identified in the City's Restoration Plan.
 - e. Implementation of any project or activity identified in the *Final WRIA 8 Chinook Salmon Conservation Plan* and related documents.

General Regulations

83.360 No Net Loss Standard and Mitigation Sequencing

1. Under WAC Chapter 173-26, uses and shoreline modifications along Kirkland's shoreline shall be designed, located, sized, constructed and/or maintained to achieve no net loss of shoreline ecological functions.
2. In order to assure that development activities contribute to meeting the no net loss provisions by avoiding, minimizing, and mitigating for adverse impacts to ecological functions or ecosystem-wide processes, an applicant shall utilize the following mitigation sequencing guidelines, which appear in order of preference, during the design, construction and operation of the proposal:
 - a. Avoiding the impact altogether by not taking a certain action or parts of an action;
 - b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;
 - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - d. Reducing or eliminating the impact over time by preservation and maintenance operations;
 - e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
 - f. Monitoring the impact and the compensation projects and taking appropriate corrective measures.
3. Failure to demonstrate that the mitigation sequencing standards have been met may result in permit denial. The City may request necessary studies by qualified professionals to determine compliance with this standard and mitigation sequencing.
4. In addition, uses shall be located, designed and configured to prevent significant adverse impacts on water quality, fish and wildlife habitat, and the environment and the need for new shoreline stabilization or flood hazard reduction measures.
5. Maintenance activities shall be conducted in a manner that minimizes impacts to fish, wildlife, and their associated habitat and utilizes best management practices.

83.370 Federal and State Approval

1. All work at or waterward of the OHWM requires permits or approvals from one or more of the following state and federal agencies: U.S. Army Corps of Engineers, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, or Washington Department of Ecology.
2. Documentation verifying necessary state and federal agency approvals must be submitted to the City prior to issuance of a shoreline permit, including shoreline exemption. All activities within shoreline jurisdiction must comply with all other regulations as stipulated by state and federal agencies, local tribes, or others that have jurisdiction.
3. If structures are proposed to extend waterward of the inner harbor line, the applicant must obtain an aquatic use authorization from the Washington State Department of Natural Resources and submit proof of authorization with submittal of a Building Permit.

83.380 Shoreline Setback Reduction

1. Improvements permitted within the Shoreline Setback - See standards contained in KZC Section 83.189.2.
2. Shoreline Setback Reductions –
 - a. In the Residential – L shoreline environment, the shoreline setback may be reduced by 2 feet if subject to the Historic Preservation provisions of KMC 22.28.048, but in no case

closer than 25 feet with the exception in the Residential L - shoreline environment south of the Lake Ave West street end where the minimum shoreline setback is 15 feet.

- b. The required shoreline setback may be reduced to a minimum of 25 feet when setback reduction impacts are mitigated using a combination of the mitigation options provided in the table below to achieve an equal or greater protection of lake ecological functions. The following standards shall apply to any reduced setback:

- 1)The minimum setback that may be approved through this reduction provision is 25 feet in width, including properties in the Residential L – shoreline environment south of the Lake Street Ave street end. Any further setback reduction below 25 feet in width shall require approval of a shoreline variance application.
- 2)The City may accept previous actions that meet the provisions established in the setback reduction method chart in subsection d. below as satisfying the requirements of this section, provided that ~~the improvements were completed after December 1, 2006 (City's Final Shoreline Analysis Report)~~ and all other provisions are completed, including but not limited to the agreement noted in subsection ~~v4~~) below are completed. The reduction allowance for previously completed reduction actions may only be applied once on the subject property.
- 3)Prior to issuance of a certificate of occupancy, the proponent shall provide a final as-built plan of any completed improvements authorized or required under this subsection.
- 4)All property owners who obtain approval for a reduction in the setback must record the final approved setback and corresponding conditions, including maintenance of the conditions throughout the life of the development, unless otherwise approved by the City, in a form acceptable to the City Attorney, and recorded with the King County Department of Records and Elections. Land survey information shall be provided by the applicant for this purpose in a format approved by the Planning Official.

- c. The reduction allowance shall be applied to the required shoreline setback. For instance, if a reduction is proposed in the Residential – L environment, where the shoreline setback requirement is 30% of the average parcel depth, the shoreline setback could be reduced to 20% of the average parcel depth, but in no case less than 25 feet, if Reduction Mechanism Item 1 in the table below is used.

- d. The chart below describes the setback reduction options:

Shoreline Setback Reduction Options		Reduction Allowance
Water Related Conditions or Actions		
1	Presence of natural shoreline conditions (e.g., no hard structural shoreline stabilization measure) located at, below, or within 5 feet landward of the lake's ordinary high water mark (OHWM) along at least 75 percent of the linear lake frontage of the subject property. This can include the removal of an existing hard structural shoreline stabilization measure and subsequent restoration of the shoreline to a natural or semi-natural state, including restoration of topography, and beach/substrate composition. This option cannot be used in conjunction with Method #2 below	Reduce required setback by 10 percentage points
2	Presence of natural shoreline conditions (e.g., no hard structural shoreline stabilization measure) located at, below, or within 5 feet landward of the lake's OHWM along at least 15 linear feet of the lake frontage of the subject property. This can include the	Reduce required setback by 5 percentage points

Shoreline Setback Reduction Options		Reduction Allowance
	removal of an existing hard structural shoreline stabilization measure and subsequent restoration of the shoreline to a natural or semi-natural state, including creation or enhancement of nearshore shallow-water habitat, beach/substrate composition. This option cannot be used in conjunction with Method #1 above;	
3	Opening of previously piped on-site watercourse to allow potential rearing opportunities for anadromous fish for a minimum of 25 feet in length. Opened watercourses must be provided with a native planted buffer at least 5 feet wide on both side of the stream, and must not encumber adjacent properties with a 5 foot wide buffer without express written permission of the adjacent property owner. A qualified professional must design opened watercourses. The opened watercourse shall be exempt from the buffer provisions of KZC 83.490. The opened watercourse is exempt from the buffer requirements and standards of KZC 83.510.	Reduce required setback by 5 percentage points
4	Hard structural shoreline stabilization measure is setback from the OHWM between 2 ft. to 4 ft based on feasibility and existing conditions and/are sloped at a maximum 3 Vertical (V):1 Horizontal (H) angle to provide dissipation of wave energy and increase the quality or quantity of nearshore shallow-water habitat.	Reduce required setback by 5 percentage points
5	Soft shoreline stabilization measures are installed waterward of the OHWM. Soft shoreline stabilization measures may include the use of gravels, cobbles, boulders, and logs, as well as vegetation. The material shall be of a size and placed to remain stable and accommodate alteration from wind- and boat-driven waves and shall be graded to a maximum slope of 1 Vertical (V): 4 Horizontal (H).	Reduce required setback by 2 percentage points
Upland Related Conditions or Actions		
6	Installation of biofiltration/infiltration mechanisms in lieu of piped discharge to the lake, such as mechanisms that infiltrate or disperse surface water on the surface of the subject property, These mechanisms shall be sized to store a minimum of 70% of the annual volume of runoff water from the subject property, for sites with poor soils, or 99% of the annual volume of runoff water from the subject property, for sites with well-draining soils. This mechanism shall apply to sites where the total new or replaced impervious surface is less than or equal to 5,000 square feet. The mechanisms shall be designed to meet the requirements in the City's current surface water design manual.	Reduce required setback by 2 percentage points
7	Increasing the width of the required landscape strip within the reduced shoreline setback at a minimum of 5 additional feet in width.	Reduce required setback by 2 percentage points
6	Installation of pervious material for all pollution generating surfaces such as driveways, parking or private roads that allows water to pass through at rates similar to pre-developed conditions. Excluded from this provision is the private easement road of 5 th Ave West in the Residential – L shoreline environment.	Reduce required setback by 2 percentage points

Shoreline Setback Reduction Options		Reduction Allowance
7	Limiting the lawn area within the shoreline setback to no more than 50 percent of the reduced setback area.	Reduce required setback by 2 percentage points
8	Preserving or restoring at least 20 percent of the total lot area outside of the reduced setback and any critical areas and their associated buffers as native vegetation.	Reduce required setback by 2 percentage points

83.390 Site and Building Design Standards

1. Water-enjoyment and non-water oriented commercial and recreational uses shall contain the following design features to provide for the ability to enjoy the physical and aesthetic qualities of the shoreline:
 - a. Buildings are designed with windows that orient toward the shoreline.
 - b. Buildings are designed to incorporate outdoor areas such as decks, patios, or viewing platforms that orient toward the shoreline.
 - c. Buildings are designed with entrances along the waterfront façade and with connections between the building and required public pedestrian walkways.
 - d. Service areas are located away from the shoreline.
 - e. Site planning includes public use areas along waterfront public pedestrian walkways, if required under the provisions established in KZC 83.420, that will encourage pedestrian activity, including but not limited to:
 - 1) Permanent seating areas;
 - 2) Landscaping, including trees to provide shade cover; and
 - 3) Trash receptacles.
2. Exemptions – The following are exempt from the requirements of subsection 1:
 - a. Non-water oriented commercial and recreational uses that are located on the east side of Lake Washington Blvd. NE/Lake Street or on the east side of 98th Avenue NE.
 - b. Non-water oriented commercial and recreational uses where there is an intervening development between the shoreline and the subject property are exempt from the requirements of subsection (3) and (5) above.
3. Buildings shall not incorporate materials that are reflective or mirrored.

83.400 Tree Management and Vegetation in Shoreline Setback

1. Tree Retention -

To maintain the ecological functions that trees provide to the shoreline environment, significant trees shall be retained or, if removed, the loss of shoreline ecological functions shall be mitigated for, subject to the following standards:

- a. Tree removal when no development activity is proposed or in progress.
 - 1) An owner of a developed a property may remove up to 2 significant trees from their property within a 12 month period subject to the standards contained in Chapter 95 KZC.
 - 2) Replacement Standards in the Shoreline Setback –
 - a) If a significant tree located within the shoreline setback area is to be removed, is damaged or has fallen, a 3-for-1 replacement is required as mitigation. The required minimum size of the replacement trees shall be 6 feet tall for a conifer and 2-inch caliper

for deciduous or broad-leaf evergreen tree. See alternative mitigation option in subsection 2.b.below that may be proposed.

b) For required replacement trees, a planting plan showing the location, size and species of the new trees is required to be submitted and approved to by the Planning Official. All replacement trees in the shoreline setback must be selected from the Kirkland Native Plant List, or other native species approved by the Planning Official or Urban Forester.

c) An alternative mitigation option may be proposed if an applicant can demonstrates that it is not feasible to plant all of the required mitigation trees on the subject property, given the existing tree canopy coverage and location of trees on the property, the location of structures on the property, and minimum spacing requirements for the trees to be planted.

The alternate mitigation must be equal or superior to the provisions of this section in accomplishing the purpose and intent of maintaining shoreline ecological functions and processes. This may include, but shall not be limited to, a riparian restoration plan consisting of shrubs, perennials, groundcovers selected from the Kirkland Native Plant List which shall equal at a minimum 80 square feet for each tree to be replanted. The applicant shall submit a planting plan to be reviewed by the Planning Official or Urban Forester, who may approve, approve with conditions, or deny the request.

b. Tree removal when development activity is proposed or in progress.

1) Submittal Requirements in the Shoreline Setback –

- a) A site plan showing the approximate location of significant trees, their size (DBH) and their species, along with the location of existing structures, driveways, access ways and easements and the proposed improvements.
- b) An arborist report stating the size (DBH), species, and assessment of health of all trees located within the shoreline setback. This requirement may be waived by the Planning Official if it is determined that proposed development activity will not potentially impacts significant trees within the shoreline setback.

2) Tree Retention Standards in the Shoreline Setback - Within the shoreline setback, existing significant trees shall be retained, provided that the trees are determined to be healthy and windfirm by a qualified professional, and provided the trees can be safely retained with proposed development activity. The Planning Official is authorized to require site plan alterations to retain significant trees in the shoreline setback. Such alterations include minor adjustments to the location of building footprints, adjustments to the location of driveways and access ways, or adjustment to the location of walkways, easements or utilities. The applicant shall be encouraged to retain viable trees in other areas on-site.

3) Replanting Requirements in the Shoreline Setback –

- a) If the Planning Official approves removal of a significant tree in the shoreline setback area, then a three (3) for one (1) replacement is required. The required minimum size of the replacement trees shall be 6 feet tall for a conifer and 2-inch caliper for deciduous or broad-leaf evergreen tree. See alternative mitigation option in subsection 3) c. below that may be proposed.
- b) For required replacement trees, a planting plan showing location, size and species of the new trees is required. All replacement trees in the shoreline setback must be selected from the Kirkland Native Plant List, or other native species approved by the Planning Official or Urban Forester.
- c) An alternative mitigation option may be proposed if an applicant can demonstrates that it is not feasible to plant all of the required mitigation trees on the subject property, given the existing tree canopy coverage and location of trees on the

property, the location of structures on the property, and minimum spacing requirements for the trees to be planted.

The alternate mitigation must be equal or superior to the provisions of this section in accomplishing the purpose and intent of maintaining shoreline ecological functions and processes. This may include, but shall not be limited to, a riparian restoration plan consisting of shrubs, perennials, groundcovers selected from the Kirkland Native Plant List which shall equal at minimum 80 square feet for each tree to be replanted. The applicants shall submit a planting plan to be reviewed by the Planning Official or Urban Forester, who may approve, approve with conditions, or deny the request.

2. Tree Pruning - Non-destructive thinning of lateral branches to enhance views or trimming, shaping, thinning or pruning of a tree necessary to its health and growth is allowed, consistent with the following standards:
 - a. In no circumstance shall removal of more than one-third (1/3) of the original crown be permitted;
 - b. Pruning shall not include topping, stripping of branches or creation of an imbalanced canopy;
 - c. Pruning shall retain branches that overhang the water to the maximum extent possible; and
 - d. Pruning shall not directly impact the nearshore functions and values including fish and wildlife habitat.

3. Required Vegetation in the Shoreline – Riparian vegetation contributes to shoreline ecological functions by a number of different ways, including maintaining temperature, removing excessive nutrients and toxic compounds, attenuating wave energy, removing and stabilizing sediment and providing woody debris and other organic matter. In order to minimizing potential impacts to shoreline ecological functions from development activities, the following shoreline landscaping standards are required:
 - a. Minimum Landscape Standard Compliance –
 - 1.) Location –
 - a) Water-dependent Uses or Activities - Those portions of water-dependent development that require improvements adjacent to the water's edge, such as fuel stations for retail establishments providing gas sales, haul-out areas for retail establishments providing boat and motor repair and service, boat ramps for boat launches, swimming beaches or other similar activities shall plant native vegetation on portions of the nearshore riparian area located along the water's edge that are not otherwise being used for the water-dependent activity.
 - b) All Other Uses - The applicant shall plant native vegetation, as necessary, in at least 75 percent of the nearshore riparian area located along the water's edge.
 - 2) Planting Requirements –
 - a) For uses other than those list below in subsection 2) b), the vegetated portion of the nearshore riparian area shall average 10 feet in depth from the OHWM, but may be a minimum of 5 feet wide to allow for variation in landscape bed shape and plant placement. Total square feet of landscaped area shall be equal to a continuous 10-foot wide area.
 - b) For Detached, Attached or Stacked Dwelling Units within the Residential – M/H shoreline environment, the vegetated portion of the nearshore riparian area shall average 15 feet in depth from the OHWM. Total square feet of landscaped area shall be equal to a continuous 15-foot wide area.
 - c) The public access pathway required under Section 83.420 may extend into the required landscape strip as necessary to meet the public access requirements, provided that the overall width of the landscape strip is maintained.

- d) Installation of native vegetation shall consist of a mixture of trees, shrubs and groundcover and be designed to improve habitat functions. At least 3 trees per 100 linear feet of shoreline must be included in the plan, with portions of a tree rounded up to the next required tree.
 - e) Plant materials must be native and selected from the Kirkland Native Plant List, or other native species approved by the Planning Official or Urban Forester.
- b. Use of Existing Vegetation - The City may accept existing native trees, shrubs and groundcover as meeting the requirements of this subsection, including vegetation previously installed as part of a prior development activity, provided that the existing vegetation provides a landscape strip at least as effective in protecting shoreline ecological functions as the required landscaping. The City may require the applicant to plant trees, shrubs, and groundcover according to the requirements of this subsection to supplement the existing vegetation in order to provide a buffer at least as effective as the required buffer.
- c. Landscape Plan Required - The applicant shall submit a landscape plan that depicts the quantity, location, species, and size of plant materials proposed to comply with the requirements of this subsection, and shall address the plant installation and maintenance requirements set forth in KZC Section 95.45. Plant materials shall be identified with both their scientific and common names. Any required irrigation system must also be shown.
- d. Vegetation Placement – Vegetation selection and placement shall comply with the following standards:
- 1) Vegetation shall be selected and positioned on the property so as not to obscure the public view within designated view corridors from the public right-of-way to the Lake and the shoreline on the opposite side of the Lake at the time of planting or upon future growth.
 - 2) Vegetation may be selected and positioned to maintain private views to the water by clustering vegetation in a selected area, provided that the minimum landscape standard is met.
- e. Alternative Compliance. Landscaping required by this subsection shall be installed unless the applicant demonstrates one of the following:
- 1) The vegetation will not provide shoreline ecological function due to existing conditions, such as the presence of extensive shoreline stabilization measures that extend landward from the OHWM; or
 - 2) It is not feasible to plant all of the required vegetation on the subject property, given the existing tree canopy coverage and location of trees on the property, the location of structures on the property, or minimum spacing requirements for the vegetation to be planted; or
 - 3) The vegetation will substantially interfere with the use and enjoyment of the portion of the property located between the residence and OWHM because the primary structure is located within 15 feet of the OHWM; and
 - 4) That alternate measures will be equal or superior to the provisions of this subsection in accomplishing the purpose and intent of maintaining and improving shoreline ecological functions and processes. Examples include, but are not limited to:
 - For a proposed alternative to the required vegetation of the in the shoreline setback area-
 - a) Softening or removal of existing hard shoreline stabilization measures or portions thereof.
 - b) Opening of previously piped on-site watercourse to allow potential rearing opportunities for anadromous fish.

For a proposed modification to the tree plantings required as part vegetation in the shoreline setback–

- c) Increasing the width of the required vegetation in the shoreline setback by a minimum of 5 additional feet.

Requests to use alternative measures shall be reviewed by the Planning Official who may approve, approve with conditions, or deny the request. Cost of producing and implementing the alternative plan, and the fee to review the plan by City staff or the City's consultant shall be borne by the applicant.

4. Responsibility for Regular Maintenance.

- 1) The applicant, landowner, or successors in interest shall be responsible for the regular maintenance of landscaping required under this section. Plants that die must be replaced in kind.
- 2) All required landscaping shall be maintained throughout the life of the development. Prior to issuance of a certificate of occupancy, the proponent shall provide a final as-built landscape plan and a recorded agreement to maintain and replace all landscaping that is required by the City.

83.410 View Corridors

- 1. General - The intent of the corridor is to provide an unobstructed view from the adjacent public right-of-way to the Lake and the shoreline on the opposite side of the Lake. Development within the shoreline areas located west of Lake Washington Boulevard and Lake Street South shall include public view corridors that provide the public with an unobstructed view of the water.
- 2. Standards -
 - a. For properties lying waterward of Lake Washington Boulevard and Lake Street South, a minimum view corridor of thirty percent of the average parcel width must be maintained. A view of the shoreline edge of the subject property should be provided if existing topography, vegetation, and other factors allow for this view to be retained.
 - b. The view corridors approved for properties located in the UM Shoreline Environment established under an approved Master Plan or zoning permit approved under the provisions of Chapter 152 KZC shall continue to comply with those requirements. Modifications to the proposed view corridor shall be considered under the standards established in the Master Plan or approved zoning permit.
- 3. Exceptions - The requirement for a view corridor does not apply to the following:
 - a. The following water-dependent uses:
 - 1) Piers and docks associated with a marina or moorage facility for a commercial use;
 - 2) Piers, docks, moorage buoy, boatlifts and canopies associated with Detached, Attached and Stacked Unit uses; and
 - 3) Tour boat facility, ferry terminal or water taxi, including permanent structures up to 200 square feet in size housing commercial uses ancillary to the facility.
 - 4) Public Access Pier or Boardwalk
 - 5) Boat launch
 - b. Public Parks
 - c. Properties located in the UM Shoreline Environment within the Central Business District zone.
- 4. View corridor location - The location of the view corridor shall be designed to meet the following location standards and must be approved by the Planning Official.

- a. If the subject property does not directly abut the shoreline, the view corridor shall be designed to coincide with the view corridor of the properties to the west.
 - b. The view corridor must be adjacent to either the north or south property line of the subject property, whichever will result in the widest view corridor, considering the following, in order of priority:
 - 1) Location of existing view corridors.
 - 2) Existing development or potential development on adjacent properties, given the topography, access and likely location of future improvements.
 - 3) The availability of actual views of the water and the potential of the lot for providing those views from the street.
 - 4) Location of existing sight-obscuring structures, parking areas or landscaping that is likely to remain in place in the foreseeable future.
 - c. The view corridor must be in one continuous piece.
 - d. For land divisions, the view corridor shall be established as part of the land division and shall be located to create the largest view corridor on the subject property.
5. Permitted encroachments -
- a. The following shall be permitted within a view corridor:
 - 1) Areas provided for public access, such as public pedestrian walkways, public use areas, or viewing platforms.
 - 2) Parking lots and subsurface parking structures, provided that the parking does not obstruct the view from the public right-of-way to the waters of the Lake and the shoreline on the opposite side of the Lake.
 - 3) Structures if the slope of the subject property permits full, unobstructed views of the Lake and the shoreline on the opposite side of the Lake over the structures from the public right-of-way.
 - 4) Shoreline restoration plantings and existing specimen trees and native shoreline vegetation.
 - 5) Landscaping, including required vegetation screening around parking and driving areas and land use buffers, provided it is designed and of a size that will not obscure the view from the public right-of-way to the water and the shoreline on the opposite side of the Lake at the time of planting or upon future growth. In the event of a conflict between required site screening and view preservation. View preservation shall take precedents over buffering requirements found in KZC 95.
 - 6) Open fencing that is designed not to obscure the view from the public right-of-way to the Lake and the shoreline on the opposite side of the Lake.
6. Dedication -The applicant shall grant an easement or similar legal agreement, in a form acceptable to the City Attorney, and recorded with the King County Department of Records and Elections, to protect the view corridor. Land survey information shall be provided by the applicant for this purpose in a format approved by the Planning Official.

83.420 Public Access

1. General – Promoting a waterfront pedestrian corridor is an important goal within the City. Providing pedestrian access along Lake Washington enables the public to view and enjoy the scenic beauty, natural resources, and recreational activities that are found along the shoreline. This pedestrian corridor provides opportunities for physical recreation and leisure and serves as a movement corridor. Connections between the shoreline public pedestrian walkway and the public right-of-way serve to link the walkway with the larger city-wide pedestrian network.

The applicant shall comply with the following pedestrian access requirements with new development for all uses and land divisions under KMC Chapter 22, pursuant to the standards of this section:

- a. Pedestrian Access Along the Water's Edge – Provide public pedestrian walkways along the water's edge.
 - b. Pedestrian Access From Water's Edge to Right-of-Way – Provide public pedestrian walkways designed to connect the shoreline public pedestrian walkway to the abutting right-of-way.
2. Public Pedestrian Walkway Location – The applicant shall locate public pedestrian walkways pursuant to the following standards:
- a. The walkways shall be designed and sited to minimize the amount of native vegetation removal, impact to existing significant trees, soil disturbance, and disruption to existing habitat corridor structures and functions.
 - b. The walkways shall be located along the water's edge between the development and the shoreline at an average of 10 feet but no closer than 5 feet landward of the OHWM so that the walkway may meander and not be a straight line. In cases where the walkway on the adjoining property has been installed closer to the shoreline than allowed under this provision, the walkway extend within 5 feet of the OHWM in order to connect to the existing walkway.
 - c. The public nature of the access shall be maximized by locating the walkways adjacent to other public areas including street-ends, waterways, parks, other public access and connecting trails.
 - d. The walkways shall be situated so as to minimize significant grade changes and the need for stairways.
 - e. The walkways shall minimize intrusions of privacy for occupants and residents of the site by avoiding locations directly adjacent to residential windows and outdoor private open spaces, or by screening or other separation techniques.
 - f. The walkways shall be located so as to avoid undue interference with the use of the site by water-dependent businesses.
 - g. The Planning Official shall determine the appropriate location of the walkway on the subject property when planning for the connection of a future waterfront walkway on an adjoining property.
3. Development Standards Required for Pedestrian Improvements - The applicant shall install pedestrian walkways pursuant to the following standards:
- a. The walkways shall be at least 6 feet wide, and contain a permeable paved walking surface, such as unit pavers, grid systems, porous concrete, or equivalent material approved by the Planning Official.
 - b. The walkways shall be distinguishable from traffic lanes by pavement material, texture, or change in elevation.
 - c. The walkways shall not be included with other impervious surfaces for lot coverage calculations.
 - d. Permanent barriers which limit future extension of pedestrian access between the subject property and adjacent properties are not permitted.
 - e. Regulated public access shall be indicated by signs installed at the entrance of the public pedestrian walkway on the abutting right-of-way and along the public pedestrian pathway. The signs shall be located for maximum public visibility. Design, materials and location of the signage shall meet City specifications.

- f. All public pedestrian walkways shall be provided through a minimum 6-foot wide easement or similar legal agreement, in a form acceptable to the City Attorney, and recorded with the King County Department of Records and Elections. Land survey information shall be provided by the applicant for this purpose in a format approved by the Planning Official.
4. Operation and Maintenance Requirements for Pedestrian Improvements – The following operation and maintenance requirements apply to all public pedestrian walkways required under this section:
- a. Hours of operation and limitations on accessibility – Unless otherwise required by the City, all required pedestrian walkways shall be open to the public between the hours of 10 am to dusk from March 21st to September 21st and the remainder of the year between the hours of 10 am to 5 pm.
 - b. The applicant is permitted to secure the subject property outside of the hours of operation noted in subsection 4.a above by a security gate, subject to the following provisions:
 - a. The gate shall remain in an open position during hours of permitted public access; and
 - b. Signage shall be included noting the hours of permitted public access.
 - c. The Planning Official is authorized to approve a temporary closure when hazardous conditions are present that would affect public safety.
 - d. Performance and maintenance.
 - a. No certificate of occupancy or final inspection shall be issued until all required public access improvements are completed, except under special circumstances approved by the Planning Official and after submittal of an approved performance security.
 - b. The owner, its successor or assigns, shall be responsible for the completion and maintenance of all required waterfront public access areas and signage on the subject property.
5. Exceptions
- a. The requirement for the dedication and improvement of public access does not apply to:
 - a) Development, other than public entities such as government facilities and public parks, located within the Residential - L shoreline environment.
 - b) Development located within the Natural shoreline environment.
 - c) Detached Dwelling unit on one lot and normal appurtenances associated with this use that is not part of a land division. For development involving land division, public pedestrian access is required.
6. Modifications
- a. The Planning Official may require or grant a modification to the nature or extent of any required improvement for any of the following reasons:
 - a) If the presence of critical areas, such as wetlands, streams, or geologically hazardous areas, preclude the construction of the improvements as required.
 - b) To avoid interference with the operations of water-dependant uses, such as marinas.
 - c) If the property contains unusual site constraints, such as size, configuration, topography, or location.
 - d) If the access would create unavoidable health or safety hazards to the public.
 - b. If a modification is granted, the Planning Official may require that an alternate method of providing public access, such as a public use area or viewing platform, be provided.

- c. Access from the right-of-way to the shoreline public access walkway may be waived by the Planning Official if all of following criteria are met:
 - a) If public access along the shoreline of the subject property can be reached from an adjacent property,
 - b) If the adjacent property providing access to the shoreline contains an existing public access walkway connecting with the public right-of-way and the maximum separation between public access entry points along the public right-of-way is 300 feet or less; and
 - c) If the subject property does not contain a public use area required as a condition of development by the Planning Official under the provisions of this Chapter.

83.430 In-Water Construction

1. Standards – The following standards shall apply to in-water work, including, but not limited to, installation of new structures, repair of existing structures, restoration projects, and aquatic vegetation removal:
 - a. In-water structures and activities shall be sited and designed to avoid the need for future shoreline stabilization activities and dredging, giving due consideration to watershed functions and processes, with special emphasis on protecting and restoring priority habitat and species.
 - b. In-water structures and activities are not subject to the shoreline setbacks established in KZC 83.180.
 - c. See KZC 83.370 for federal and state approval and timing restrictions.
 - d. Removal of existing structures shall be accomplished so the structure and associated material does not re-enter the lake.
 - e. Waste material and unauthorized fill, such as construction debris, silt or excess dirt resulting from in-water structure installation, concrete blocks or pieces, bricks, asphalt, metal, treated wood, glass, paper and any other similar material upland of or below the OHWM shall be removed.
 - f. Measurements shall be taken in advance and during construction to ensure that no petroleum products, hydraulic fluid, cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the lake during in-water activities. Appropriate spill clean-up materials must be on-site at all times, and any spills must be contained and cleaned immediately after discovery.
 - g. In-water work shall be conducted in a manner that causes little or no siltation to adjacent areas. A sediment control curtain shall be used in those instances where siltation is expected. The curtain shall be maintained in a functional manner that contains suspended sediments during project installation.
 - h. Any trenches, depressions, or holes created below the ordinary high water mark shall be backfilled prior to inundation by high water or wave action.
 - i. Fresh concrete or concrete by-products shall not be allowed to enter the lake at any time during in-water installation. All forms used for concrete shall be completely sealed to prevent the possibility of fresh concrete from entering the lake.
 - j. Alteration or disturbance of the bank and bank vegetation shall be limited to that necessary to perform the in-water work. All disturbed areas shall be protected from erosion using vegetation or other means.
 - k. If at any time, as a result of in-water work, water quality problems develop, immediate notification shall be made to the Washington Department of Ecology.

83.440 Parking

1. General -

- a. Only parking associated with a permitted or conditional shoreline use shall be allowed, except that within the UM shoreline environment, surface or structured parking facilities may accommodate parking for surrounding uses and commercial parking uses.
- b. Parking as a primary use on a subject property is prohibited.

2. Number of Parking Spaces -

Uses must provide sufficient off-street parking spaces. The required number of parking stalls established in KZC Chapter 105, KZC 50.60 and with the applicable parking standards for each use shall be met.

3. Parking Location -

- a. Intent – To reduce the negative impacts of parking and circulation facilities on public spaces within the shoreline, such as shoreline public pedestrian walkways, public use areas, and view corridors along public rights-of-way.
- b. Standards - The applicant shall locate parking areas on the subject property according to the following requirements:
 - 1) Parking is prohibited in the shoreline setback established in KZC 83.180, except as follows:
 - a) Subsurface parking is allowed, provided that:
 - i) The structure is designed to avoid the need for future shoreline stabilization as documented in a geotechnical report, prepared by a qualified geotechnical engineer or engineering geologist.
 - ii) The structure is designed to comply with shoreline vegetation standards established in KZC 83.400. As part of any proposal to install subsurface parking within the shoreline setback, the applicant shall submit site-specific documentation prepared by a qualified expert to establish that the design will adequately support the long-term viability of the required landscaping.
 - iii) The structure is designed to not impact public access and views to the Lake from the public right-of-way.
 - iv) Public access over subsurface parking structures shall be designed to minimize significant changes in grade.
 - b) The parking is designed as a short-term loading area to support a water-dependent use.
 - 2) Parking is prohibited on structures located over water.
 - 3) Parking, loading, and service areas for a permitted use activity shall not extend closer to the shoreline than a permitted structure unless:
 - a) The parking is incorporated within a structure, subject to the following standards:
 - i) The parking is subsurface, or
 - ii) The design of any above-grade structured parking incorporates landscaping and/or building surface treatment to provide an appearance comparable to the remainder of the building not used for parking.
 - b) The parking is accessory to a public park.
 - c) The parking is designed as a short-term loading area to support a water-dependent use.

4. Design of Parking Areas -

- a. Pedestrian Connections
 - 1) Parking areas shall be designed to contain pedestrian connections to public pedestrian walkways and building entrances. Pedestrian connections shall either be a raised sidewalk or composed of a different material than the parking lot material.
 - 2) Pedestrian connections must be at least 5 feet wide, excluding vehicular overhang.
- b. Design of Surface Parking Lots – In addition to the perimeter buffering and internal parking lot landscaping provisions established in KZC Chapter 95, the applicant shall buffer all parking areas and driveways visible from required public pedestrian pathways or public use areas with appropriate landscaping screening that is consistent with the landscaping and buffering standards for driving and parking areas contained in KZC Chapter 95.
- c. Design of Structured Parking Facilities - Each facade of a garage or a building containing above-grade structured parking visible from a required view corridor, or is facing a public pedestrian walkway, public use area, or public park must incorporate landscaping and/or building surface treatment to mitigate the visual impacts of the structured parking.

83.450 Screening of Storage and Service Areas, Mechanical Equipment and Garage Receptacles

- 1. Outdoor Use, Activity and Storage. Outdoor Use, Activity and Storage areas must comply with the following:
 - a. Comply with the shoreline setback established for the use with which they are associated.
 - b. Be located to minimize visibility from any street, Lake Washington, required public pedestrian walkway, public use area or public park.
 - c. Be screened from view from the street, adjacent properties, Lake Washington, required public pedestrian walkways, and other public use areas by a solid screening enclosure or within a building.
 - d. Outdoor dining areas and temporary storage for boats undergoing service or repair that are accessory to a marina are exempt from the placement and screening requirements of subsection (2) and (3) above.
- 2. Mechanical and similar equipment or appurtenances.
 - a. At-grade mechanical and similar equipment or appurtenances are not permitted within the shoreline setback.
 - b. Rooftop appurtenances and at or below grade appurtenances shall be screened with landscaping or a solid screening enclosure or located in such a manner as to not be visible from Lake Washington, required public pedestrian walkways, or public use areas.
- b. Garbage and trash receptacles. Garbage and recycling receptacles must comply with the following:
 - a. Comply with the shoreline setback established for the use with which they are associated.
 - b. Be located to minimize visibility from any street, Lake Washington, required public pedestrian walkway, public use area or public parks.
 - c. Be screened from view from Lake Washington, required public pedestrian walkways, and other public use areas by a solid screening enclosure, such as a wooden fence without gaps, or within a building.
 - d. Exemptions – Garbage receptacles for detached dwelling units, duplexes, moorage facilities, parks, and construction sites, but not including dumpsters or other containers larger than a typical individual trash receptacle, are exempt from the placement and screening requirements of this subsection.

83.460 Signage

1. Standards – The following standards shall apply to signs within the shoreline jurisdiction:
 - a. Signage shall not interfere or block designated view corridors within the shoreline jurisdiction.
 - b. Signs shall comply with the shoreline setback standards contained in KZC 83.180.
 - c. Signage shall not be permitted to be constructed over water, except as follows:
 - 1) For retail establishments providing gas and oil sales for boats, where the facility is accessible from the water:
 - a) One sign, not exceeding 20 square feet per sign face, is permitted. The sign area for the water-oriented sign shall be counted towards the maximum sign area permitted in KZC Chapter 100.
 - b) Internally-illuminated signs are not permitted. Low-wattage external light sources that are not directed towards neighboring properties or Lake Washington are permitted, subject to approval by the Planning Official.
 - c) Signs shall be affixed to a pier or wall-mounted. The maximum permitted height of a freestanding sign is 5 feet above the surface of the pier. A wall-mounted sign shall not project above the roofline of the building to which it is attached.
 - 2) Boat traffic signs, directional signs, and signs displaying a public service message.
 - 3) Interpretative signs in coordination with public access and recreation amenities.
 - 4) Building addresses mounted flush to the end of a pier, with letters and numbers at least 4 inches high.

83.470 Lighting

1. General - Exterior lighting shall be controlled using limits on height, light levels of fixtures, lights shields, time restrictions and other mechanisms in order to:
 - a. Prevent light pollution or other adverse effects that could infringe upon public enjoyment of the shoreline;
 - b. Protect residential uses from adverse impacts that can be associated with light trespass from higher-intensity uses; and
 - c. Prevent adverse effects on fish and wildlife species and their habitats.
2. Exceptions –
 - a. The following development activities are exempt from the submittal and lighting standards established in this section:
 - 1) Emergency lighting required for public safety;
 - 2) Lighting for public rights-of-way;
 - 3) Outdoor lighting for temporary or periodic events (e.g. community events at public parks);
 - 4) Seasonal decoration lighting; and
 - 5) Sign lighting, which is governed by KZC 83.460.
 - b. The following development activities are exempt from the submittal standards established in (3) below, but are still subject to the lighting standards contained in (4) below:
 - 1) Development of a detached dwelling unit or associated appurtenances;
 - 2) Piers and docks;
 - 3) Public Access Pier or Boardwalk; and

- 4) Moorage buoy.
3. Submittal Requirements - All development proposing exterior lighting within the shoreline jurisdiction, except as otherwise indicated in subsection 2) above, shall submit a lighting plan and photometric site plan for approval by the Planning Official. The plan shall contain the following:
- a. A brief written narrative, with accompanying plan or sketch, which demonstrates the objectives of the lighting.
 - b. The location, fixture type, mounting height, and wattage of all outdoor lighting and building security lighting, including exterior lighting mounted on piers or illuminating piers.
 - c. A detailed description of the fixtures, lamps, supports, reflectors, and other devices. The description shall include manufacturer's catalog specifications and drawings, including sections when requested.
 - d. If building elevations are proposed for illumination, drawings shall be provided for all relevant building elevations showing the fixtures, the portions of the elevations to be illuminated, and the illuminate levels of the elevations.
 - e. Photometric data, such as that furnished by manufacturers, showing the angle of light emissions.
 - f. Computer generated photometric grid showing footcandle readings every 20 feet within the property or site, and 15 feet beyond the property lines, including Lake Washington, if applicable. Iso-footcandle contour line style plans are also acceptable.
4. Standards –
- a. Direction and Shielding –
 - 1) All exterior building-mounted and ground-mounted light fixtures shall be directed downward and use “fully shielded cut off” fixtures as defined by the Illuminating Engineering Society of North America (IESNA), or other appropriate measure to conceal the light source from adjoining uses and direct the light toward the ground. For detached dwelling unit or associated appurtenances, this requirement shall apply to any light fixtures which are directed towards or face Lake Washington.
 - 2) Exterior lighting mounted on piers, docks or other water-dependent uses located at the shoreline edge shall be at ground or dock level, and be directed away from adjacent properties and the water.
 - 3) For properties located within the Natural shoreline environment, exterior lighting installations shall incorporate motion-sensitive lighting and lighting shall be limited to those areas where it is needed for safety, security, and operational purposes.
 - b. Lighting Levels –
 - 1) Exterior lighting installations shall be designed to avoid harsh contrasts in lighting levels.
 - 2) For properties located adjacent to a Natural shoreline environment, exterior lighting fixtures shall produce a maximum initial luminance value of 0.1 foot-candles (as measured at three feet above grade) at the site or environment boundary.
 - 3) For properties in the Urban Mixed shoreline environment located adjacent to residential uses in another shoreline environment or for commercial uses located adjacent to residential uses in the Urban Residential environment, exterior lighting fixtures shall produce a maximum initial luminance value of 0.6 horizontal and vertical foot-candles (as measured at three feet above grade) at the site boundary, and drop to 0.1 foot-candles onto the abutting property as measured within 15 feet of the property line.
 - 4) Exterior lighting shall not exceed a strength of 1 foot-candles at the water surface of Lake Washington, as measured waterward of the ordinary high water mark.

- c. Height of Light Fixtures - The maximum mounting height of ground-mounted light fixtures shall be 12 feet. Height of light fixtures shall be measured from the finished floor or the finished grade of the parking surface, to the bottom of the light bulb fixture.
- d. Other –
 - 1) Illumination of a building façade to enhance architectural features is not permitted.
 - 2) Where feasible, exterior lighting installations shall include timers, dimmers, sensors, or photocell controllers that turn the lights off during daylight hours or hours when lighting is not needed, to reduce overall energy consumption and eliminate unneeded lighting.

83.480 Water Quality, Stormwater, and Nonpoint Pollution

1. General - Shoreline development and use shall incorporate all known, available, and reasonable methods of prevention, control, and treatment to protect and maintain surface and/or ground water quantity and quality in accordance with KMC 15.52 and other applicable laws.
2. Submittal Requirements - All proposals for development activity or land surface modification located within the shoreline jurisdiction shall submit for approval a storm water plan with their application and/or request, unless exempted by the Public Works Official. The storm water plan shall include the following:
 - a. Provisions for temporary erosion control measures; and
 - b. Provisions for storm water detention, water quality treatment and storm water conveyance facilities, in accordance with the City's adopted surface water design manual in effect at the time of permit application.
3. Standards -
 - a. Shoreline development shall comply with the standards established in the City's adopted surface water design manual in effect at the time of permit application.
 - b. Shoreline uses and activities shall Best Management Practices (BMPs) to minimize any increase in surface runoff and to control, treat and release surface water runoff so that receiving properties, wetlands or streams, and Lake Washington are not adversely affected, consistent with the City's adopted surface water design manual. All types of BMPs require regular maintenance to continue to function as intended.

Low Impact Development techniques shall be considered and implemented to the greatest extent practicable, consistent with the City's adopted surface water design manual.
 - c. New outfalls or discharge pipes to Lake Washington shall be avoided, where possible. If a new outfall or discharge pipe is demonstrated to be necessary, it shall be designed so that the outfall and energy dissipation pad is installed above the ordinary high water mark.
 - d. In addition to providing storm water quality treatment facilities as required in this section and the City's Surface Water Master Plan, the developer and/or property owner shall provide source control BMPs designed to treat or prevent storm water pollution arising from specific activities expected to occur on the site. Examples of such specific activities include, but are not limited to, carwashing at multifamily residential sites and oil storage at marinas providing service and repair.
 - e. No release of oils, hydraulic fluids, fuels, paints, solvents or other hazardous materials shall be permitted into Lake Washington. If water quality problems occur, including equipment leaks or spills, work operations shall cease immediately and the Public Works Department and other agencies with jurisdiction shall be contacted immediately to coordinate spill containment and cleanup plans.

It shall be the responsibility of property owner to fund and implement the approved spill containment and cleanup plans and to complete the work by the deadline established in the plans.

- f. All materials that come into contact with water shall be constructed of untreated wood, cured concrete, steel or other approved non-toxic materials. Materials used for over-water decking or other structural components that may come into contact with water shall comply with regulations of responsible agencies (i.e. Washington State Department of Fish and Wildlife or Department of Ecology) to avoid discharge of pollutants.
- g. The application of pesticides, herbicides, or fertilizers shall comply with the following standards:
 - 1) The application of pesticides, herbicides or fertilizers within shoreline setbacks shall utilize Best Management Practices (BMPs) outlined in the BMPs for Landscaping and Lawn/Vegetation Management Section of the 2005 Stormwater Management Manual for Western Washington, to prevent contamination of surface and ground water and/or soils, and adverse effects on shoreline ecological functions and values.
 - 2) Pesticides, herbicides, or fertilizers shall be applied in a manner that minimizes their transmittal to adjacent water bodies. The direct runoff of chemical-laden waters into adjacent water bodies is prohibited. Spray application of pesticides shall not occur within 100 feet of open waters including wetlands, ponds, and streams, sloughs and any drainage ditch or channel that leads to open water except when approved by the City.
 - 3) The use of pesticides, herbicides or fertilizers within the shoreline jurisdiction, including applications of herbicides to control noxious aquatic vegetation, shall comply with regulations of responsible federal and state agencies.
 - 4) A copy of the applicant's National Pollutant Discharge Elimination System (NPDES) permit, issued from Washington State Department of Ecology, authorizing aquatic pesticide (including herbicides) to Lake Washington must be submitted to the Planning Department prior to the application.

83.490 Critical Areas – General Standards

1. The provisions of this Chapter do not extend beyond the shoreline jurisdiction limits specified in this Chapter and the Act. For regulations addressing critical area buffers that are outside of the shoreline jurisdiction, see KZC Chapter 85 and 90.
2. Avoiding impacts to critical areas.
 - a. An applicant for a land surface modification or development permit within a critical area or its associated buffer shall utilize the following mitigation sequencing guidelines, which appear in order of preference, during design of the proposed project:
 - 1) Avoiding the impact or hazard by not taking a certain action, or redesigning the proposal to eliminate the impact. The applicant shall consider reasonable, affirmative steps and make best efforts to avoid critical area impacts. If impacts cannot be avoided through redesign, or because of site conditions or project requirements, the applicant shall then proceed with the sequence of steps in subsection (2)(a)(2) through (7) of this subsection.
 - 2) Minimizing the impact or hazard by limiting the degree or magnitude of the action or impact with appropriate technology or by changing the timing of the action.
 - 3) Restoring the impacted critical areas by repairing, rehabilitating or restoring the affected critical area or its buffer.
 - 4) Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through plantings, engineering or other methods.

- 5) Reducing or eliminating the impact or hazard over time by preservation or maintenance operations during the life of the development proposal, activity or alteration.
- 6) Compensating for the adverse impact by enhancing critical areas and their buffers or creating substitute critical areas and their buffers as required in the KZC 83.500 and 510.
- 7) Monitoring the impact, hazard or success of required mitigation and taking remedial action based upon findings over time.

In the required critical areas study, the applicant shall include a discussion of how the proposed project will utilize mitigation sequencing to avoid, minimize, and mitigate impacts to critical areas and associated buffers. The applicant should seek to avoid, minimize and mitigate overall impacts based on the functions and values of all relevant critical areas.

- b. In addition to the above steps, the specific development standards, permitted alteration requirements, and mitigation requirements of this Chapter and elsewhere in the KZC apply.
 - c. In determining the extent to which the proposal should be further redesigned to avoid and minimize the impact, the City may consider the purpose, effectiveness, engineering feasibility, commercial availability of technology, best management practices, safety and cost of the proposal and identified modifications to the proposal. The City may also consider the extent to which the avoidance of one type or location of a critical area could require or lead to impacts to other types or locations of nearby or adjacent critical areas. The City shall document the decision-making process used under this subsection as a part of the critical areas review conducted pursuant to KZC 500 and 510.
3. Trees in Critical Areas or Critical Area Buffers
- a. General - The intent of preserving vegetation in and near streams and wetlands and in geologically hazardous areas is to support the functions of healthy sensitive areas and sensitive area buffers and/or avoid disturbance of geologically hazardous areas.
 - b. Submittal Requirements – When proposing to trim or remove any tree located within critical areas or critical area buffers, the property owner must submit a report to the City containing the following:
 - 1) A site plan showing the approximate location of significant trees, their size (DBH) and their species, along with the location of structures, driveways, access ways and easements.
 - 2) An arborist report explaining how the tree(s) fit the criteria for a nuisance or hazard tree. This requirement may be waived by the Planning Official if it is determined that the nuisance or hazard condition is obvious.
 - 3) A proposal detailing how the trees will be made into a snag or wildlife tree, including access and equipment, snag height, and placement of woody debris.
 - 4) For required replacement trees, a planting plan showing location, size and species of the new trees.
 - c. Tree Removal Standards
 - 1) If a tree is meets the criteria of a nuisance or hazard in a critical area in or its buffer as described below, then a “snag” or wildlife tree shall be created. If creation of a snag is not feasible, then the felled tree shall be left in place unless the Planning Official permits its removal in writing.
 - a) Hazard Tree Criteria. A hazard tree must meet the following criteria:
 - i) The tree must have a combination of structural defects and/or disease that makes it subject to a high probability of failure and is in proximity to moderate-high frequency of persons or property; and

- ii) The hazard condition of the tree cannot be lessened with reasonable and proper arboricultural practices.
 - b) Nuisance Tree Criteria. A nuisance tree must meet the following criteria:
 - i) The tree is causing obvious, physical damage to private or public structures, including but not limited to: sidewalk, curb, road, driveway, parking lot, building foundation, roof;
 - ii) The tree has been damaged by past maintenance practices that cannot be corrected with proper arboricultural practices; or
 - iii) The problems associated with the tree must be such that they cannot be corrected by any other reasonable practice, including but not limited to, the following:
 - 1. Pruning of the crown or roots of the tree and/or small modifications to the site improvements, including but not limited to a driveway, parking lot, patio or sidewalk, to alleviate the problem.
 - 2. Pruning, bracing, or cabling to reconstruct a healthy crown.
 - 2) The removal of any tree will require the planting of a native tree of a minimum of 6 feet in height in close proximity to where the removed tree was located. The Planning Official shall approve the selection of native species and timing of installation.
4. Mitigation and Restoration Plantings in Critical Areas and Critical Area Buffers.
- a. Plants intended to mitigate for the loss of natural resource values are subject to the following requirements.
 - 1) Plant Source. Plant materials must be native and selected from the Kirkland Plant List or otherwise approved by the City's Urban Forester. Seed source must be as local as possible, and plants must be nursery propagated unless transplanted from on-site areas approved for disturbance. These requirements must be included in the Mitigation Plan specifications.
 - 2) Installation. Plant materials must be supported only when necessary due to extreme winds at the planting site. Where support is necessary, stakes, guy wires, or other measures must be removed as soon as the plant can support itself, usually after the first growing season. All fertilizer applications to turf or trees and shrubs shall follow Washington State University, National Arborist Association or other accepted agronomic or horticultural standards.
 - 3) Fertilizer Applications. Fertilizers shall be applied in such a manner as to prevent their entry into waterways and wetlands and minimize entry into storm drains. No applications shall be made within 50 feet of a waterway or wetland, or a required buffer, whichever is greater, unless specifically authorized in an approved mitigation plan or otherwise authorized in writing by the Planning Official.

83.500 Wetlands

- 1. Applicability – The following provisions shall apply to wetlands and wetland buffers located within the shoreline jurisdiction, in replace of provisions contained in Chapter 90 KZC. Provisions contained in Chapter 90 KZC that are not addressed in this section continue to apply, with the exception of the following subsections that shall not apply within the shoreline jurisdiction:
 - a. KZC 90.20 – General Exceptions
 - b. KZC 90.30 – Definitions
 - c. KZC 90.75 – Minor Lakes
 - d. KZC 90.140 – Reasonable Use Exception

- e. KZC 90.160 – Appeals
- f. KZC 90.170 – Planning/Public Works Official Decisions – Lapse of Approval

2. Wetland Determinations, Delineations, Regulations, Criteria, and Procedures - All determinations and delineations of wetlands shall be made using the criteria and procedures contained in the Washington State Wetlands Identification and Delineation Manual (Washington Department of Ecology, 1997). All determinations, delineations, and regulations of wetlands shall be based on the entire extent of the wetland, irrespective of property lines, ownership patterns, or other factors.

3. Wetland Determinations - Either prior to or during review of a development application, the Planning Official shall determine whether a wetland or its buffer is present on the subject property using the following provisions:

- a. During or immediately following a site inspection, the Planning Official shall make an initial assessment as to whether any portion of the subject property or surrounding area (which shall be the area within 250 feet of the subject property) meets the definition of a wetland. If this initial site inspection does not indicate the presence of a wetland on the subject property or surrounding area, no additional wetland studies will be required at that time.

However, if the initial site inspection or information subsequently obtained indicates the presence of a wetland on the subject property or surrounding area, then the applicant shall follow the procedure in subsection (b) of this section.

- b. If the initial site inspection or information subsequently obtained indicates that a wetland may exist on or near the subject property or surrounding area, the applicant shall either (a) fund a study and report prepared by the City's consultant; or (b) submit a report prepared by a qualified professional approved by the City, and fund a review of this report by the City's wetland consultant.
- c. If a wetlands study and report are required, at a minimum the report shall include the following:
 - 1) A summary of the methodology used to conduct the study;
 - 2) A professional survey which is based on the KCAS or plat-bearing system and tied to a known monument, depicting the wetland boundary on a map of the surrounding area which shows the wetland and its buffer;
 - 3) A description of the wetland habitat(s) found throughout the entire wetland (not just on the subject property) using the U.S. Fish & Wildlife Service classification system (Classification of Wetlands and Deepwater Habitats in the U.S., Cowardin et al., 1979);
 - 4) A description of nesting, denning, and breeding areas found in the wetland or its surrounding area;
 - 5) A description of the surrounding area, including any drainage systems entering and leaving the wetland, and a list of observed or documented plant and wildlife species;
 - 6) A description of historical, hydrologic, vegetative, topographic, and soil modifications, if any;
 - 7) A proposed classification of the wetland as Category I, II, III, or IV wetland; and
 - 8) A completed rating form using the *Washington State Wetland Rating System for Western Washington – Revised* (Washington State Department of Ecology Publication # 04-06-025, or latest version). [Note: When a wetland buffer outside of shoreline jurisdiction is proposed to be modified, the wetland in shoreline jurisdiction must be rated using the methodology required by KZC 90 to determine the appropriate buffer width. Ecology's rating system and the corresponding buffers only apply to those wetlands and buffers located in shoreline jurisdiction.]
- d. Formal determination of whether a wetland exists on the subject property, as well as its boundaries and rating, shall be made by the Planning Official after preparation and review of

the report, if applicable, by the City’s consultant. The Planning Official’s decision under this section shall be used for review of any development permit or activity proposed on the subject property for which an application is received within two (2) years of the decision; provided, that the Planning Official may modify any decision whenever physical circumstances have markedly and demonstrably changed on the subject property or the surrounding area as a result of natural processes or human activity.

4. Wetland Buffers and Setbacks

- a. No land surface modification shall occur and no improvement may be located in a wetland or its buffer, except as provided in KZC 83.500.4 through 83.500.10. See also KZC 83.49-490, Trees in Critical Areas or Critical Area Buffers; and KZC 83.490, Mitigation and Restoration Plantings in Critical Areas and Critical Area Buffers. Required or standard, buffers for wetlands are as follows and are measured from the outer edge of the wetland boundary:

Wetland Buffers

WETLAND CATEGORY AND CHARACTERISTICS	BUFFER
Category I	
Natural Heritage Wetlands	215 feet
Bog	215 feet
Habitat score ¹ from 29 to 36 points	225 feet
Habitat score from 20 to 28 points	150 feet
Other Category I wetlands	125 feet
Category II	
Habitat score from 29 to 36 points	200 feet
Habitat score from 20 to 28 points	125 feet
Other Category II wetlands	100 feet
Category III	
Habitat score from 20 to 28 points	125 feet
Other Category III wetlands	75 feet
Category IV	
	50 feet

¹Habitat score is one of three elements of the rating form.

Note: Buffer widths were developed by King County for its urban growth areas using the best available science information presented in *Chapter 9: Wetlands of Best Available Science – Volume 1: A Review of Scientific Literature*

Modification to Buffer for Divided Wetland Buffer - Where a legally established, improved road right-of-way or structure divides a wetland buffer, the Planning Official may approve a modification of the required buffer in that portion of the buffer isolated from the wetland by the road or structure, provided the isolated portion of the buffer:

- 1) Does not provide additional protection of the wetland from the proposed development; and
 - 2) Provides insignificant biological, geological or hydrological buffer functions relating to the portion of the buffer adjacent to the wetland.
- b. Buffer Setback – Structures shall be set back at least 10 feet from the designated or modified wetland buffer. The City may allow minor improvements within this setback that would clearly

have no adverse effect during their construction, installation, use, or maintenance, on fish, wildlife, or their habitat or any vegetation in the buffer or adjacent wetland.

- c. Storm Water Discharge Outfalls – Necessary surface discharges of storm water through wetland buffers and buffer setbacks may be allowed on the surface, but piped system discharges are prohibited unless approved pursuant to this section.

Storm water outfalls (piped systems) may be located within the buffer setback specified in subsection (b) of this section and within the buffers specified in subsection (a) of this section only when the City determines, based on a report prepared by a qualified professional under contract to the City and paid for by the applicant, that:

1. Surface discharge of storm water through the buffer would clearly pose a threat to slope stability, and
2. The storm water outfall will not:
 - i. Adversely affect water quality;
 - ii. Adversely affect fish, wildlife, or their habitat;
 - iii. Adversely affect drainage or storm water detention capabilities;
 - iv. Lead to unstable earth conditions or create erosion hazards or contribute to scouring actions; and
 - v. Be materially detrimental to any other property in the area of the subject property or to the City as a whole, including the loss of significant open space or scenic vistas.

Storm water outfalls shall minimize potential impacts to the wetland or wetland buffer by meeting the following design standards:

1. Catch basins must be installed as far as feasible from the buffer boundary.
 2. Outfalls must be designed to reduce the chance of adverse impacts as a result of concentrated discharges from pipe systems. This may include:
 - a) Installation of the discharge end as far as feasible from the sensitive area; and
 - b) Use of appropriate energy dissipation at the discharge end.
- d. Water Quality Facilities –Water quality facilities, as determined by the City, may be located within the required wetland buffers of KZC 83.500.4. The City may only approve a proposal to install a water quality facility within the outer one-half (1/2) of a wetland buffer if a feasible location outside of the buffer is not available and only if:
- 1) It will not adversely affect water quality;
 - 2) It will not adversely affect fish, wildlife, or their habitat;
 - 3) It will not adversely affect drainage or storm water detention capabilities;
 - 4) It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions;
 - 5) It will not be materially detrimental to any other property in the area of the subject property or to the City as a whole, including the loss of significant open space or scenic vistas;
 - 6) The existing buffer is already degraded as determined by a qualified professional;
 - 7) Installation would be followed immediately by enhancement of an area equal in size and immediately adjacent to the affected portion of the buffer; and
 - 8) Once installed, it would not require any further disturbance or intrusion into the buffer.

The City may only approve a proposal by a public agency to install a water quality facility elsewhere in a wetland buffer if criteria 9 – 12 (below) are met in addition to 1 – 8 (above):

- 9) The project includes enhancement of the entire buffer;
- 10) The project would provide an exceptional ecological benefit off-site;
- 11) The water quality facility, once installed, would not require any further disturbance or intrusion into the buffer; and
- 12) There is no feasible alternative proposal that results in less impact to the buffer.

f. Utilities and Rights-of-Way –The following work may only be allowed in critical areas and their buffers subject to City review after appropriate mitigation sequencing per KZC 83.460.2 has been considered and implemented, provided that activities will not increase the impervious area or reduce flood storage capacity:

- 1) All utility work in improved City rights-of-way;
- 2) All normal and routine maintenance, operation and reconstruction of existing roads, streets, and associated rights-of-way and structures; and
- 3) Construction of sewer or water lines that connect to existing lines in a sensitive area or buffer where no feasible alternative location exists based on an analysis of technology and system efficiency.

All affected critical areas and buffers shall be expeditiously restored to their pre-project condition or better. For purposes of this subsection only, “improved City rights-of-way” include those rights-of-way that have improvements only underground, as well as those with surface improvements.

g. Minor Improvements – Minor improvements may be located within the sensitive area buffers specified in subsection (a) of this section. These minor improvements shall only be located within the outer one-half (1/2) of the sensitive area buffer, except where approved stream crossings are made.

The City may only approve a proposal to construct a minor improvement within an environmentally sensitive area buffer if:

- 1) It will not adversely affect water quality;
- 2) It will not adversely affect fish, wildlife, or their habitat;
- 3) It will not adversely affect drainage or storm water detention capabilities;
- 4) It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions;
- 5) It will not be materially detrimental to any other property in the area of the subject property or to the City as a whole, including the loss of significant open space or scenic vistas; and
- 6) It supports public or private shoreline access.

The City may require the applicant to submit a report prepared by a qualified professional that describes how the proposal will or will not comply with the criteria for approving a minor improvement.

5. Wetland Buffer Fence or Barrier - Prior to beginning development activities, the applicant shall install a six (6) foot high construction-phase chain link fence or equivalent fence with silt screen fabric, as approved by the Planning Official and consistent with City standards, along the upland boundary of the entire wetland buffer. The construction-phase fence shall remain upright in the approved location for the duration of development activities.

Upon project completion, the applicant shall install between the upland boundary of all wetland buffers and the developed portion of the site, either (1) a permanent three (3) to four (4) foot-tall split rail fence; or (2) equivalent barrier, as approved by the Planning Official. Installation of the permanent fence or equivalent barrier must be done by hand where necessary to prevent machinery from entering the wetland or its buffer.

6. Permit Process -

The City shall consolidate and integrate the review and processing of the critical areas aspects of the proposal with the shoreline permit required for the proposed development activity, except as follows .

Development Proposal	Permit Process
Wetland Modifications, or Wetland Buffer Modifications affecting greater than 25% of the standard buffer	Shoreline Variance pursuant to Process IIA, described in Chapter 141
Wetland Buffer Modifications affecting 25% or less of the standard buffer or Reasonable Use Exceptions	Underlying development permit or if none, then building permit
Wetland Restoration Plans	Underlying development permit or if none, then building permit

7. Modification of Wetlands -

- a. No land surface modification shall occur and no improvement shall be located in a wetland, except as provided in this subsection. Furthermore, all modifications of a wetland shall be consistent with *Kirkland's Streams, Wetlands and Wildlife Study* (The Watershed Company, 1998) and the *Kirkland Sensitive Areas Regulatory Recommendations Report* (Adolfson Associates, Inc., 1998).
- b. Submittal Requirements - The applicant shall submit a report prepared by a qualified professional and fund a review of this report by the City's consultant. The report shall include the following:
 - 1) A determination and delineation of the sensitive area and sensitive area buffer containing all the information specified in KZC 83.500 3) for a wetland;
 - 2) A description of the area of the site that is within the sensitive area or within the setbacks or buffers required by this Chapter;
 - 3) An analysis of the impact that the amount of development proposed would have on the sensitive area and the sensitive area buffer;
 - 4) An analysis of the mitigation sequencing as outlined in KZC 83.490.2;
 - 5) An assessment of the habitat, water quality, storm water detention, ground water recharge, shoreline protection, and erosion protection functions of the wetland and its buffer. The report shall also assess the effects of the proposed modification on those functions.
 - 6) Sensitive site design and construction staging of the proposal so that the development away from the sensitive area and/or sensitive area buffer and will minimizes net loss of sensitive area and/or sensitive area buffer functions to the greatest extent possible;
 - 7) A description of protective measures that will be undertaken, such as siltation curtains, hay bales and other siltation prevention measures, and scheduling the

construction activity to avoid interference with wildlife and fisheries rearing, nesting or spawning activities;

- 8) Information specified in KZC 83.500 8);
- 9) An evaluation of the project's consistency with the shoreline variance criteria contained in WAC 173-27-170; and
- 10) Such other information or studies as the Planning Official may reasonably require.

c. Decisional Criteria - The City may only approve an improvement or land surface modification in a wetland if:

- 1) The project demonstrates consideration and implementation of appropriate mitigation sequencing as outlined in KZC 83.590.2;
- 2) It will not adversely affect water quality;
- 3) It will not adversely affect fish, wildlife, or their habitat;
- 4) It will not have an adverse effect on drainage and/or storm water detention capabilities;
- 5) It will not lead to unstable earth conditions or create an erosion hazard or contribute to scouring actions;
- 6) It will not be materially detrimental to any other property or the City as a whole;
- 7) Compensatory mitigation is provided in accordance with the table in subsection 8 ;
- 8) Fill material does not contain organic or inorganic material that would be detrimental to water quality or fish and wildlife habitat;
- 9) All exposed areas are stabilized with vegetation normally associated with native wetlands and/or buffers, as appropriate; and
- 10) There is no feasible alternative development proposal that results in less impact to the wetland and its buffer.

8. Compensatory Mitigation –All approved impacts to regulated wetlands require compensatory mitigation so that the goal of no net loss of wetland function, value, and acreage is achieved. A mitigation proposal must utilize the mitigation ratios specified below as excerpted from: Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. March 2006. *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1)*. Washington State Department of Ecology Publication #06-06-011a. Olympia, WA.

Compensatory Mitigation

Category and Type of Wetland Impacts	Re-establishment or Creation	Rehabilitation Only ³³	Re-establishment or Creation (R/C) and Rehabilitation (RH) ¹	Re-establishment or Creation (R/C) and Enhancement (E) ¹	Enhancement Only ¹
All Category IV	1.5:1	3:1	1:1 R/C and 1:1RH	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	3:1	6:1	1:1 R/C and 4:1 RH	1:1 R/C and 8:1 E	12:1
Category I Forested	6:1	12:1	1:1 R/C and 10:1 RH	1:1 R/C and 20:1 E	24:1
Category I - based on score for functions	4:1	8:1	1:1 R/C and 6:1 RH	1:1 R/C and 12:1 E	16:1
Category I Natural Heritage site	Not allowed	6:1 Rehabilitation of a Natural Heritage site	Not allowed	Not allowed	Case-by-case
Category I Bog	Not allowed	6:1 Rehabilitation of a bog	Not allowed	Not allowed	Case-by-case

a. On Site versus Off-Site Mitigation

On-site mitigation is preferable to off-site mitigation. Given on-site constraints, the City may approve a plan to implement all or a portion of the required mitigation off-site, if the off-site mitigation is within the same drainage basin as the property that will be impacted by the project. The applicant shall demonstrate that the off-site mitigation will result in higher wetland functions, values, and/or acreage than on-site mitigation. Required compensatory mitigation ratios shall be the same for on-site or off-site mitigation, or a combination of both.

If the proposed on-site or off-site mitigation plan will result in the creation or expansion of a wetland or its buffer on any property other than the subject property, the plan shall not be approved until the applicant submits to the City a copy of a statement signed by the owners of all affected properties, in a form approved by the City Attorney and recorded in the King

³³ These ratios are based on the assumption that the rehabilitation or enhancement actions implemented represent the average degree of improvement possible for the site. Proposals to implement more effective rehabilitation or enhancement actions may result in a lower ratio, while less effective actions may result in a higher ratio. The distinction between rehabilitation and enhancement is not clear-cut. Instead, rehabilitation and enhancement actions span a continuum. Proposals that fall within the gray area between rehabilitation and enhancement will result in a ratio that lies between the ratios for rehabilitation and the ratios for enhancement

County Department of Elections and Records, consenting to the wetland and/or buffer creation or increase on such property and to the required maintenance and monitoring that may follow the creation or expansion of a wetland or its buffer.

b. Mitigation Plan and Monitoring and Maintenance Program

Applicants proposing to alter wetlands or their buffers shall submit a mitigation plan prepared by a qualified professional. The mitigation plan shall consist of a description of the existing functions and values of the wetlands and buffers affected by the proposed project, the nature and extent of impacts to those areas, and the mitigation measures to offset those impacts. The mitigation plan shall also contain a drawing that illustrates the compensatory mitigation elements. The plan and/or drawing shall list plant materials and other habitat features to be installed.

To ensure success of the mitigation plan, the applicant shall submit a monitoring and maintenance program prepared by a qualified professional. At a minimum, the monitoring and maintenance plan shall include the following:

- 1) The goals and objectives for the mitigation plan;
- 2) Success criteria by which the mitigation will be assessed;
- 3) Plans for a five (5) year monitoring and maintenance program;
- 4) A contingency plan in case of failure; and
- 5) Proof of a written contract with a qualified professional who will perform the monitoring program.

The monitoring program shall consist of at least two site visits per year by a qualified professional, with annual progress reports submitted to the City and all other agencies with jurisdiction.

The cost of producing and implementing the mitigation plan, the monitoring and maintenance program, reports, and drawing, as well as the review of each component by the City's wetland consultant, shall be borne by the applicant.

9. Wetland Buffer Modification

- a. Departures from the standard buffer requirements shall be approved only after the applicant has demonstrated consideration and implementation of appropriate mitigation sequencing as outlined in KZC 83.490.2.
- b. Approved departures from the standard buffer requirements of KZC 83.500.4 allow applicants to modify the physical and biological conditions of portions of the standard buffer for the duration of the approved project. These approved departures from the standard buffer requirements do not permanently establish a new regulatory buffer edge. Future development activities on the subject property may be required to reestablish the physical and biological conditions of the standard buffer.
- c. Modification of Wetland Buffers when Wetland Is Also To Be Modified – Wetland buffer impact is assumed to occur when wetland fill or modification is proposed. Any proposal for wetland fill/modification shall include provisions for establishing a new wetland buffer to be located around the compensatory mitigation sites and to be equal in width to its standard buffer specified in KZC 83.470.4(a) or a buffer reduced in accordance with this section by no more than twenty-five percent (25%) of the standard buffer width in all cases, regardless of wetland category or basin type.
- d. Modification of Wetland Buffers when Wetland Is Not To Be Modified – No land surface modification may occur and no improvement may be located in a wetland buffer, except as provided for in this subsection.

- 1) Types of Buffer Modifications – Buffers may be reduced through one of two means, either (a) buffer averaging, or (b) buffer reduction with enhancement. A combination of these two buffer reduction approaches shall not be used:

- a) Buffer averaging requires that the area of the buffer resulting from the buffer averaging is equal in size and quality to the buffer area calculated by the standards specified in KZC 83.500.4. Buffers may not be reduced at any point by more than twenty-five (25%) percent of the standards specified in KZC 83.500.4, unless approved through a shoreline variance. Buffer averaging calculations shall only consider the subject property.
- b) Buffers may be decreased through buffer enhancement. The applicant shall demonstrate that through enhancing the buffer (by removing invasive plants, planting native vegetation, installing habitat features, such as downed logs or snags, or other means), the reduced buffer will function at a higher level than the existing standard buffer.

The reduced on-site buffer area must be planted and maintained as needed to yield over time a reduced buffer that is equivalent to undisturbed Puget Lowland forests in density and species composition. At a minimum, a buffer enhancement plan shall provide the following: (a) a map locating the specific area of enhancement; (b) a planting plan that uses native species, including groundcover, shrubs, and trees; and (c) a monitoring and maintenance program prepared by a qualified professional consistent with the standards specified in KZC 83.500.8.

Buffers may not be reduced at any point by more than 25% of the standards in KZC 83.500.3(a). Buffer reductions of more than 25% approved through a shoreline variance will be assumed to have direct wetland impacts that must be compensated for as described above under KZC 83.500.8.

- 2) Decisional Criteria – An improvement or land surface modification may only be approved in a wetland buffer only if:

- a) The development activity or buffer modification demonstrates consideration and implementation of appropriate mitigation sequencing as outlined in KZC 83.490.2.
- b) It is consistent with *Kirkland's Streams, Wetlands and Wildlife Study* (The Watershed Company, 1998) and the *Kirkland Sensitive Areas Regulatory Recommendations Report* (Adolfson Associates, Inc., 1998);
- c) It will not adversely affect water quality;
- d) It will not adversely affect fish, wildlife, or their habitat;
- e) It will not have an adverse effect on drainage and/or storm water detention capabilities;
- f) It will not lead to unstable earth conditions or create an erosion hazard;
- g) It will not be materially detrimental to any other property or the City as a whole;
- h) Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;
- i) All exposed areas are stabilized with vegetation normally associated with native wetland buffers, as appropriate; and
- j) There is no feasible alternative development proposal that results in less impact to the buffer.

As part of the modification request, the applicant shall submit a report prepared by a qualified professional and fund a review of this report by the City's consultant. The report shall assess the habitat, water quality, storm water detention, ground water recharge, shoreline protection, and erosion protection functions of the buffer; assess the effects of

the proposed modification on those functions; and address the ten (10) criteria listed in this subsection 9 d)(2) of this section.

10. Reasonable Use Exception –

An applicant for a detached dwelling unit in the Natural shoreline environment who is unable to comply with the specific standards of this section may seek approval pursuant to the following standards and procedures:

- 1) When allowed - A reasonable use exception may be granted if the strict application of this section would preclude all reasonable use of a site. The reasonable use process within the shoreline jurisdiction area applies to lots that are significantly constrained by critical area and critical area buffers, but still contain a minimum of 20 percent of the land area of the subject property outside of wetlands, either in wetland buffer or as upland area.
- 2) Submittal Requirements – As part of the reasonable use request, the applicant shall submit a report prepared by a qualified professional and fund a review of this report by the City's qualified professional. The report shall include the following:
 - a) A determination and delineation of the sensitive area and sensitive area buffer containing all the information specified in KZC 83.500 3) for a wetland;
 - b) An analysis of whether any other reasonable use with less impact on the sensitive area and sensitive area buffer is possible;
 - c) Sensitive site design and construction staging of the proposal so that the development will have the least feasible impact on the sensitive area and sensitive area buffer;
 - d) A description of the area of the site which is within the sensitive area or within the setbacks or buffers required by this Chapter;
 - e) A description of protective measures that will be undertaken, such as siltation curtains, hay bales and other siltation prevention measures, and scheduling the construction activity to avoid interference with wildlife and fisheries rearing, nesting or spawning activities;
 - f) An analysis of the impact that the amount of proposed development would have on the sensitive area and the sensitive area buffer;
 - g) How the proposal minimizes net loss of sensitive area and/or sensitive area buffer functions to the greatest extent possible;
 - h) Whether the improvement is located away from the sensitive area and the sensitive area buffer to the greatest extent possible;
 - i) Information specified in KZC 83.500.8 for Compensatory Mitigation;
 - j) Such other information or studies as the Planning Official may reasonably require.
- 3) Decisional Criteria – The City shall grant approval of a reasonable use exception only if all of the following criteria are met:
 - a) No permitted type of land use for the property with less impact on the sensitive area and associated buffer is feasible and reasonable, which in the Natural shoreline environment shall be one single-family dwelling;
 - b) There is no feasible on-site alternative to the proposed activities, including reduction in size, density or intensity, phasing of project implementation, change in timing of activities, revision of road and lot layout, and/or related site planning considerations, that would allow a reasonable economic use with less adverse impacts to the sensitive area and buffer;

- c) Unless the applicant can demonstrate unique circumstances related to the subject property, the amount of site area that will be disturbed by structure placement or other land alteration, including but not limited to grading, utility installation, decks, driveways, paving, and landscaping, shall not exceed 3,000 square feet. The amount of allowable disturbance shall be the minimum feasible with the least impact on the sensitive area and the sensitive area buffer, given the characteristics and context of the subject property, sensitive area, and buffer;
 - d) The applicant shall pay for a qualified professional to assist the City's determination of the appropriate limit for disturbance;
 - e) The proposal is compatible in scale and use with other legally established development in the immediate vicinity of the subject property in the same zone and with similar site constraints;
 - f) The proposal maximizes the amount of existing tree canopy that is retained;
 - g) The proposal utilizes to the maximum extent possible innovative construction, design, and development techniques, including pervious surfaces, which minimize to the greatest extent possible net loss of sensitive area functions and values;
 - h) The proposed development does not pose an unacceptable threat to the public health, safety, or welfare on or off the property;
 - i) The proposal meets the mitigation, maintenance, and monitoring requirements of this Chapter;
 - j) The inability to derive reasonable use is not the result of actions by the applicant after the effective date of the ordinance of this Chapter or its predecessor; and
 - k) The granting of the exception will not confer on the applicant any special privilege that is denied by this Chapter to other lands, buildings, or structures under similar circumstances.
- 4) Modifications and Conditions – The City may approve a reduction in required yards or buffer setbacks and may allow the maximum height of structures to be increased up to 5 feet to reduce the impact on the sensitive area and sensitive area buffer. The required front yard may be reduced by up to 50 percent where the applicant demonstrates that the development cannot meet the City's code requirements without encroaching into the sensitive area buffer.

The City shall include in the written decision any conditions and restrictions that the City determines are necessary to eliminate or minimize any undesirable effects of approving an exception.

11. Wetland Restoration - City approval is required prior to wetland restoration. The City may permit or require the applicant or property owner to restore and maintain a wetland and/or its buffer by removing material detrimental to the area, such as debris, sediment, or vegetation. The City may also permit or require the applicant to restore a wetland or its buffer through the addition of native plants and other habitat features. See also KZC 83.490.3, Trees in Critical Areas or Critical Area Buffers; and KZC 83.490.4, Mitigation and Restoration Plantings in Critical Areas and Critical Area Buffers. Restoration may be required whenever a condition detrimental to water quality or habitat exists. When wetland restoration is required by the City, the requirements of KZC 83.500.8, Compensatory Mitigation, shall apply.
12. Wetland Access - The City may develop access through a wetland and its buffer in conjunction with a public park, provided the purpose supports education or passive recreation, and is designed to minimize environmental impacts during construction and operation.

83.510 Streams

1. Applicability – The following provisions shall apply to streams and stream buffers located within the shoreline jurisdiction, in place of provisions contained in Chapter 90 KZC. Provisions contained in Chapter 90 KZC that are not addressed in this section continue to apply, with the exception of the following subsections that shall not apply within the shoreline jurisdiction:
 - a. KZC 90.20 – General Exceptions
 - b. KZC 90.30 – Definitions
 - c. KZC 90.75 – Minor Lakes
 - d. KZC 90.140 – Reasonable Use Exception
 - e. KZC 90.160 – Appeals
 - f. KZC 90.170 – Planning/Public Works Official Decisions – Lapse of Approval

2. Activities in or Near Streams - No land surface modification may occur and no improvements may be located in a stream or its buffer except as provided in KZC 83.510.3 through 83.510.11.

3. Stream Determinations - The Planning Official shall determine whether a stream or stream buffer is present on the subject property using the following provisions. During or immediately following a site inspection, the Planning Official shall make an initial assessment as to whether a stream exists on any portion of the subject property or surrounding area (which shall be the area within approximately 100 feet of the subject property).

If the initial site inspection indicates the presence of a stream, the Planning Official shall determine, based on the definitions contained in this Chapter and after a review of all information available to the City, the classification of the stream.

If this initial site inspection does not indicate the presence of a stream on or near the subject property, no additional stream study will be required.

If an applicant disagrees with the Planning Official’s determination that a stream exists on or near the subject property or the Planning Official’s classification of a stream, the applicant shall submit a report prepared by a qualified professional approved by the Planning Official that independently evaluates the presence of a stream or the classification of the stream, based on the definitions contained in this Chapter.

The Planning Official shall make final determinations regarding the existence of a stream and the proper classification of that stream. The Planning Official’s decision under this section shall be used for review of any development activity proposed on the subject property for which an application is received within 2 years of the decision; provided, that the Planning Official may modify any decision whenever physical circumstances have markedly and demonstrably changed on the subject property or the surrounding area as a result of natural processes or human activity.

4. Stream Buffers and Setbacks

- a. Stream Buffers – No land surface modification shall occur and no improvement may be located in a stream or its buffer, except as provided in this section. See also KZC 83.490(3), Trees in Critical Areas or Critical Area Buffers; and KZC 83.490(4), Mitigation and Restoration Plantings in Critical Areas and Critical Area Buffers.

Required or standard buffers for streams are as follows:

Stream Buffers

Stream Class	Primary Basins	Secondary Basins
A	75 feet	N/A
B	60 feet	50 feet
C	35 feet	25 feet

Stream buffers shall be measured from each side of the OHWM of the stream, except that where streams enter or exit pipes, the buffer shall be measured in all directions from the pipe opening. Essential improvements to accommodate required vehicular, pedestrian, or utility access to the subject property may be located within those portions of stream buffers which are measured toward culverts from culvert openings.

Where a legally established, improved road right-of-way or structure divides a stream buffer, the Planning Official may approve a modification of the required buffer in that portion of the buffer isolated from the stream by the road or structure, provided the isolated portion of the buffer:

- 1) Does not provide additional protection of the stream from the proposed development; and
 - 2) Provides insignificant biological, geological or hydrological buffer functions relating to the portion of the buffer adjacent to the stream.
- b. Buffer Setback – Structures shall be set back at least 10 feet from the designated or modified stream buffer. The City may allow within this setback minor improvements that would have no potential adverse effect during their construction, installation, use, or maintenance to fish, wildlife, or their habitat or to any vegetation in the buffer or adjacent stream.
- c. Storm Water Discharge – Necessary discharge of storm water through stream buffers and buffer setbacks may be allowed on the surface, but a piped system discharge is prohibited unless approved pursuant to this section. Storm water outfalls (piped systems) may be located within the buffer setback specified in subsection (b) of this section and within the buffers specified in subsection (a) of this section only when the City determines, based on a report prepared by a qualified professional under contract to the City and paid for by the applicant, that surface discharge of storm water through the buffer would clearly pose a threat to slope stability; and if the storm water outfall will not:
- 1) Adversely affect water quality;
 - 2) Adversely affect fish, wildlife, or their habitat;
 - 3) Adversely affect drainage or storm water detention capabilities;
 - 4) Lead to unstable earth conditions or create erosion hazards or contribute to scouring actions; and
 - 5) Be materially detrimental to any other property in the area of the subject property or to the City as a whole, including the loss of significant open space or scenic vistas.

Storm water facilities shall minimize potential impacts to the stream or stream buffer by meeting the following design standards:

- 1) Catch basins must be installed as far as feasible from the buffer boundary.
 - 2) Outfalls must be designed to reduce the chance of adverse impacts as a result of concentrated discharges from pipe systems. This may include:
 - a.) Installation of the discharge end as far as feasible from the sensitive area, and
 - b.) Use of appropriate energy dissipation at the discharge end.
- d. Water Quality Facilities –The City may only approve a proposal to install a water quality facility within the outer one-half (1/2) of a stream buffer if a suitable location outside of the buffer is not available and only if:
- 1) It will not adversely affect water quality;
 - 2) It will not adversely affect fish, wildlife, or their habitat;
 - 3) It will not adversely affect drainage or storm water detention capabilities;

- 4) It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions;
- 5) It will not be materially detrimental to any other property in the area of the subject property or to the City as a whole, including the loss of significant open space or scenic vistas;
- 6) The existing buffer is already degraded as determined by a qualified professional;
- 7) The installation of the water quality facility would be followed immediately by enhancement of an area equal in size and immediately adjacent to the affected portion of the buffer; and
- 8) Once installed, it would not require any further disturbance or intrusion into the buffer.

The City may only approve a proposal by a public agency to install a water quality facility elsewhere in a stream buffer if Criteria 9 – 12 (below) are met in addition to 1 – 8 (above):

- 9) The project includes enhancement of the entire on-site buffer;
- 10) The project would provide an exceptional ecological benefit off-site;
- 11) The water quality facility, once installed, would not require any further disturbance or intrusion into the buffer; and
- 12) There is no feasible alternative proposal that results in less impact to the buffer.

e. Utilities and Rights-of-Way – Provided that activities will not increase the impervious area or reduce flood storage capacity, the following work shall be allowed in critical areas and their buffers subject to City review after appropriate mitigation sequencing per KZC 83.500.2 has been considered and implemented:

- 1) All utility work in improved City rights-of-way;
- 2) All normal and routine maintenance, operation and reconstruction of existing roads, streets, and associated rights-of-way and structures; and
- 3) Construction of sewer or water lines that connect to existing lines in a sensitive area or buffer where no feasible alternative location exists based on an analysis of technology and system efficiency.

All affected critical areas and buffers shall be expeditiously restored to their pre-project condition or better. For purposes of this subsection only, “improved City rights-of-way” include those rights-of-way that have improvements only underground, as well as those with surface improvements.

f. Minor Improvements – Minor improvements may be located within the sensitive area buffers specified in subsection 83.500.4. These minor improvements shall be located within the outer one-half of the sensitive area buffer, except where approved stream crossings are made. The City may only approve a proposal to construct a minor improvement within a sensitive area buffer if:

- 1) It will not adversely affect water quality;
- 2) It will not adversely affect fish, wildlife, or their habitat;
- 3) It will not adversely affect drainage or storm water detention capabilities;
- 4) It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions;
- 5) It will not be materially detrimental to any other property in the area of the subject property or to the City as a whole, including the loss of significant open space or scenic vistas; and
- 6) It supports public or private shoreline access.

The City may require the applicant to submit a report prepared by a qualified professional that describes how the proposal will or will not comply with the criteria for approving a minor improvement.

5. Stream Buffer Fence or Barrier - Prior to beginning development activities, the applicant shall install a 6-foot-high construction-phase chain link fence or equivalent fence, as approved by the Planning Official and consistent with City standards, along the upland boundary of the entire stream buffer with silt screen fabric. The construction-phase fence shall remain upright in the approved location for the duration of development activities.

Upon project completion, the applicant shall install between the upland boundary of all stream buffers and the developed portion of the site, either (1) a permanent three- to four-foot-tall split rail fence; or (2) equivalent barrier, as approved by the Planning Official. Installation of the permanent fence or equivalent barrier must be done by hand where necessary to prevent machinery from entering the stream or its buffer.

6. Permit Process -

The City shall consolidate and integrate the review and processing of the critical areas aspects of the proposal with the shoreline permit required for the proposed development activity, except as follows .

Development Proposal	Permit Process
Stream Relocations or Modifications, or Stream Buffer Modifications affecting more than one-third (1/3) of the standard buffer	Shoreline Variance pursuant to Process IIA, described in Chapter 141
Stream Buffer Modifications affecting more than one-third (1/3) of the standard buffer or Reasonable Use Exceptions	Underlying development permit or if none, then building permit
Bulkheads in Stream, Stream Crossings or Stream Rehabilitation	Underlying development permit or if none, then building permit

7. Stream Buffer Modification

- a. Departures from the standard buffer requirements shall be approved only after the applicant has demonstrated consideration and implementation of appropriate mitigation sequencing as outlined in KZC 83.490.2.
- b. Approved departures from the standard buffer requirements of KZC 83.510.4(a) allow applicants to modify the physical and biological conditions of portions of the standard buffer for the duration of the approved project. These approved departures from the standard buffer requirements do not permanently establish a new regulatory buffer edge. Future development activity on the subject property may be required to reestablish the physical and biological conditions of the standard buffer.
- c. Types of Buffer Modification – Buffers may be reduced through one of two means, either (1) buffer averaging; or (2) buffer reduction with enhancement. A combination of these two buffer reduction approaches shall not be used.
 - 1) Buffer averaging requires that the area of the buffer resulting from the buffer averaging be equal in size and quality to the buffer area calculated by the standards specified in KZC 83.510.4(a). Buffers may not be reduced at any point by more than one-third (1/3) of the standards in KZC 83.510.4(a). Buffer averaging calculations shall only consider the subject property.
 - 2) Buffers may be decreased through buffer enhancement. The applicant shall demonstrate that through enhancing the buffer (by removing invasive plants, planting native vegetation, installing habitat features such as downed logs or snags, or other means) the

reduced buffer will function at a higher level than the standard existing buffer. The reduced on-site buffer area must be planted and maintained as needed to yield over time a reduced buffer that is equivalent to an undisturbed Puget Lowland forests in density and species composition.

A buffer enhancement plan shall at a minimum provide the following: (1) a map locating the specific area of enhancement; (2) a planting plan that uses native species, including groundcover, shrubs, and trees; and (3) a monitoring and maintenance program prepared by a qualified professional consistent with the standards specified in KZC 83.510.8.

Buffers may not be reduced at any point by more than one-third (1/3) of the standards in KZC 83.510.4(a).

- c. Decisional Criteria – An improvement or land surface modification may only be approved in a stream buffer only if:
- 1) The project demonstrates consideration and implementation of appropriate mitigation sequencing as outlined in KZC 83.510.2.
 - 2) It is consistent with *Kirkland's Streams, Wetlands and Wildlife Study* (The Watershed Company, 1998) and the *Kirkland Sensitive Areas Regulatory Recommendations Report* (Adolfson Associates, Inc., 1998);
 - 3) It will not adversely affect water quality;
 - 4) It will not adversely affect fish, wildlife, or their habitat;
 - 5) It will not have an adverse effect on drainage and/or storm water detention capabilities;
 - 6) It will not lead to unstable earth conditions or create an erosion hazard or contribute to scouring actions;
 - 7) It will not be materially detrimental to any other property or the City as a whole;
 - 8) Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;
 - 9) All exposed areas are stabilized with vegetation normally associated with native stream buffers, as appropriate; and
 - 10) There is no practicable or feasible alternative development proposal that results in less impact to the buffer.

As part of the modification request, the applicant shall submit a report prepared by a qualified professional and fund a review of this report by the City's consultant. The report shall assess the habitat, water quality, storm water detention, ground water recharge, and erosion protection functions of the buffer; assess the effects of the proposed modification on those functions; and address the 10 criteria listed in this subsection above.

8. Reasonable Use Exception –

An applicant for a detached dwelling unit in the Natural shoreline environment who is unable to comply with the specific standards of this section may seek approval pursuant to the following standards and procedures:

- 5) When allowed - A reasonable use exception may be granted if the strict application of this section would preclude all reasonable use of a site. The reasonable use process within the shoreline jurisdiction area applies to lots that are significantly constrained by critical area and critical area buffers, but still contain a minimum of 20 percent of the land area of the subject property outside of stream, either in stream buffer or as upland area.
- 6) Submittal Requirements – As part of the reasonable use request, the applicant shall submit a report prepared by a qualified professional and fund a review of this report by the City's qualified professional. The report shall include the following:

- k) A determination and delineation of the sensitive area and sensitive area buffer containing all the information specified in KZC 83.500.3) for a stream based on the definitions contained in this Chapter for a stream;
 - l) An analysis of whether any other reasonable use with less impact on the sensitive area and sensitive area buffer is possible;
 - m) Sensitive site design and construction staging of the proposal so that the development will have the least feasible impact on the sensitive area and sensitive area buffer;
 - n) A description of the area of the site which is within the sensitive area or within the setbacks or buffers required by this Chapter;
 - o) A description of protective measures that will be undertaken, such as siltation curtains, hay bales and other siltation prevention measures, and scheduling the construction activity to avoid interference with wildlife and fisheries rearing, nesting or spawning activities;
 - p) An analysis of the impact that the amount of proposed development would have on the sensitive area and the sensitive area buffer;
 - q) How the proposal minimizes net loss of sensitive area and/or sensitive area buffer functions to the greatest extent possible;
 - r) Whether the improvement is located away from the sensitive area and the sensitive area buffer to the greatest extent possible;
 - s) Information specified in KZC 83.500.8 for Compensatory Mitigation;
 - t) Such other information or studies as the Planning Official may reasonably require.
- 7) Decisional Criteria – The City shall grant approval of a reasonable use exception only if all of the following criteria are met:
- l) No permitted type of land use for the property with less impact on the sensitive area and associated buffer is feasible and reasonable, which in the Natural shoreline environment shall be one single-family dwelling;
 - m) There is no feasible on-site alternative to the proposed activities, including reduction in size, density or intensity, phasing of project implementation, change in timing of activities, revision of road and lot layout, and/or related site planning considerations, that would allow a reasonable economic use with less adverse impacts to the sensitive area and buffer;
 - n) Unless the applicant can demonstrate unique circumstances related to the subject property, the amount of site area that will be disturbed by structure placement or other land alteration, including but not limited to grading, utility installation, decks, driveways, paving, and landscaping, shall not exceed 3,000 square feet. The amount of allowable disturbance shall be the minimum feasible with the least impact on the sensitive area and the sensitive area buffer, given the characteristics and context of the subject property, sensitive area, and buffer;
 - o) The applicant shall pay for a qualified professional to assist the City's determination of the appropriate limit for disturbance;
 - p) The proposal is compatible in scale and use with other legally established development in the immediate vicinity of the subject property in the same zone and with similar site constraints;
 - q) The proposal maximizes the amount of existing tree canopy that is retained;
 - r) The proposal utilizes to the maximum extent possible innovative construction, design, and development techniques, including pervious surfaces, which

minimize to the greatest extent possible net loss of sensitive area functions and values;

- s) The proposed development does not pose an unacceptable threat to the public health, safety, or welfare on or off the property;
 - t) The proposal meets the mitigation, maintenance, and monitoring requirements of this Chapter;
 - u) The inability to derive reasonable use is not the result of actions by the applicant after the effective date of the ordinance of this Chapter or its predecessor; and
 - v) The granting of the exception will not confer on the applicant any special privilege that is denied by this Chapter to other lands, buildings, or structures under similar circumstances.
- 8) Modifications and Conditions – The City may approve a reduction in required yards or buffer setbacks and may allow the maximum height of structures to be increased up to 5 feet to reduce the impact on the sensitive area and sensitive area buffer. The required front yard may be reduced by up to 50 percent where the applicant demonstrates that the development cannot meet the City’s code requirements without encroaching into the sensitive area buffer.

The City shall include in the written decision any conditions and restrictions that the City determines are necessary to eliminate or minimize any undesirable effects of approving an exception.

9. Stream Relocation or Modification - The City may only permit a stream to be relocated or modified if water quality, conveyance, fish and wildlife habitat, wetland recharge (if hydrologically connected to a wetland), and storm water detention capabilities of the stream will be significantly improved by the relocation or modification. Convenience to the applicant in order to facilitate general site design may not be considered.

A proposal to relocate or modify a Class A stream may only be approved if the Washington Department of Fish and Wildlife issues a Hydraulic Project Approval for the project. Furthermore, all modifications shall be consistent with *Kirkland’s Streams, Wetlands and Wildlife Study* (The Watershed Company, 1998) and the *Kirkland Sensitive Areas Regulatory Recommendations Report* (Adolfson Associates, Inc., 1998).

If the proposed stream activity will result in the creation or expansion of a stream or its buffer on any property other than the subject property, the City shall not approve the plan until the applicant submits to the City a copy of a statement signed by the owners of all affected properties, in a form approved by the City Attorney and recorded in the King County Department of Elections and Records, consenting to the sensitive area and/or buffer creation or increase on such property.

Prior to the City’s decision to authorize approval of a stream relocation or modification, the applicant shall submit a stream relocation/modification plan prepared by a qualified professional approved by the City. The cost of producing, implementing, and monitoring the stream relocation/modification plan, and the cost of review of that plan by the City’s stream consultant shall be borne by the applicant. This plan shall contain or demonstrate the following:

- a. A topographic survey showing existing and proposed topography and improvements;
- b. The filling and revegetation of the existing stream channel;
- c. A proposed phasing plan specifying time of year for all project phases;
- d. The ability of the new stream channel to accommodate flow and velocity of 100-year storm events; and
- e. The design and implementation features and techniques listed below, unless clearly and demonstrably inappropriate for the proposed relocation or modification:
 - 1) The creation of natural meander patterns;

- 2) The formation of gentle and stable side slopes, no steeper than two feet horizontal to one-foot vertical, and the installation of both temporary and permanent erosion-control features (the use of native vegetation on stream banks shall be emphasized);
- 3) The creation of a narrow sub-channel (thalweg) against the south or west stream bank;
- 4) The utilization of native materials;
- 5) The installation of vegetation normally associated with streams, emphasizing native plants with high food and cover value for fish and wildlife;
- 6) The creation of spawning areas, as appropriate;
- 7) The re-establishment of fish population, as appropriate;
- 8) The restoration of water flow characteristics compatible with fish habitat areas;
- 9) Demonstration that the flow and velocity of the stream after relocation or modification shall not be increased or decreased at the points where the stream enters and leaves the subject property, unless the change has been approved by the City to improve fish and wildlife habitat or to improve storm water management;
- 10) A written description of how the proposed relocation or modification of the stream will significantly improve water quality, conveyance, fish and wildlife habitat, wetland recharge (if hydrologically connected to a wetland), and storm water detention capabilities of the stream; and
- 11) A monitoring and maintenance plan consistent with KZC 83.500.8 for wetlands.

Prior to diverting water into a new stream channel, a qualified professional approved by the City shall inspect the completed new channel and issue a written report to the City stating that the new stream channel complies with the requirements of this section. The cost for this inspection and report shall be borne by the applicant.

10. Bulkheads in Streams - Bulkheads are not permitted along a stream, except as provided in this subsection. The City shall allow a bulkhead to be constructed only if:
 - a. It is not located within a wetland or between a wetland and a stream;
 - b. It is needed to prevent significant erosion;
 - c. The use of vegetation and/or other biological materials would not sufficiently stabilize the stream bank to prevent significant erosion;
 - d. The applicant submits a plan prepared by a qualified professional approved by the City that shows a bulkhead and implementation techniques that meet the following criteria:
 - 1) There will be no adverse impact to water quality;
 - 2) There will be no adverse impact to fish, wildlife, and their habitat;
 - 3) There will be no increase in the velocity of stream flow, unless approved by the City to improve fish habitat;
 - 4) There will be no decrease in flood storage volumes;
 - 5) The installation, existence, nor operation of the bulkhead will lead to unstable earth conditions or create erosion hazards or contribute to scouring actions; and
 - 6) The installation, existence nor operation of the bulkhead will be detrimental to any other property or the City as a whole.
 - e. The Washington Department of Fish and Wildlife issues a Hydraulic Project Approval for the project.
 - f. The bulkhead shall be designed consistent with Washington Department of Fish and Wildlife's *Integrated Streambank Protection Guidelines* (2003, or as revised). The bulkhead

shall be designed and constructed to minimize the transmittal of water current and energy to other properties. Changes in the horizontal or vertical configuration of the land shall be kept to a minimum. Fill material used in construction of a bulkhead shall be non-dissolving and non-decomposing. The applicant shall also stabilize all exposed soils by planting native riparian vegetation with high food and cover value for fish and wildlife.

11. Stream Crossings - Stream crossings are not permitted, except as specified in this section. The City shall review and decide upon an application to cross a stream with an access drive, driveway, or street. A stream crossing shall be allowed only if:
- a. The stream crossing is necessary to provide required vehicular, pedestrian, or utility access to the subject property. Convenience to the applicant in order to facilitate general site design shall not be considered;
 - b. The Washington Department of Fish and Wildlife issues a Hydraulic Project Approval for the project; and
 - c. The applicant submits a plan prepared by a qualified professional approved by the City that shows the crossing and implementation techniques that meet the following criteria:
 - 1) There will be no adverse impact to water quality;
 - 2) There will be no adverse impact to fish, wildlife, and their habitat;
 - 3) There will be no increase in the velocity of stream flow, unless approved by the City to improve fish habitat;
 - 4) There will be no decrease in flood storage volumes;
 - 5) The installation, existence, nor operation of the stream crossing will lead to unstable earth conditions or create erosion hazards or contribute to scouring actions; and
 - 6) The installation, existence nor operation of the stream crossing will be detrimental to any other property or to the City as a whole.
 - d. The stream crossing shall be designed and constructed to allow passage of fish inhabiting the stream or which may inhabit the stream in the future. The stream crossing shall be designed to accommodate a 100-year storm event. The applicant shall at all times maintain the crossing so that debris and sediment do not interfere with free passage of water, wood and fish. The City shall require a security or perpetual maintenance agreement under KZC 90.145 for continued maintenance of the stream crossing.
 - e. A bridge is the preferred stream crossing method. If a bridge is not economically or technologically feasible, or would result in greater environmental impacts than a culvert, a proposal for a culvert may be approved if the culvert complies with the criteria in this subsection must be designed consistent with Washington Department of Fish and Wildlife's *Design of Road Culverts for Fish Passage* (2003, or as revised).
 - f. If a proposed project requires approval through a Shoreline Conditional Use, the City may require that any stream in a culvert on the subject property be opened, relocated, and restored consistent with the provisions of this subsection.
12. Stream Rehabilitation - City approval is required prior to stream rehabilitation. The City may permit or require the applicant or property owner to restore and maintain a stream and/or its buffer by removing material detrimental to the stream and its surrounding area such as debris, sediment, or vegetation. The City may also permit or require the applicant to restore a stream or its buffer through the addition of native plants and other habitat features. See also KZC 83.500, Trees in Critical Areas or Critical Area Buffers; and KZC 83.500, Mitigation and Restoration Plantings in Critical Areas and Critical Area Buffers. Restoration may be required at any time that a condition detrimental to water quality or habitat exists. When the City requires stream rehabilitation, the mitigation plan and monitoring requirements of KZC 83.510.8 shall apply.

83.520 Geologically Hazardous Areas

1. The City of Kirkland Geologically Hazardous Area Regulations in Chapter 85 KZC (O-3719, dated December 1999 with subsequent amendments) is herein incorporated into this Chapter.
2. In addition to the required information contained in KZC 85.15, any required geo-technical report shall also contain any additional information specified under the definition of Geotechnical Report contained in KZC Section 83.80.

83.530 Flood Hazard Reduction

1. The City of Kirkland Flood Damage Regulations in Chapter 21.56 KMC (O-3946, dated June 1, 2004 with subsequent amendments) is herein incorporated into this Chapter.

83.540 Archaeological and Historic Resources

1. General - Uses, developments and activities on sites of historic or archeological significance or sites containing items of historic or archeological significance must not unreasonably disrupt or destroy the historic or archeological resource.
2. Standards -
 - a. Permits submitted for land surface modification or development activity in areas documented by the Washington State Office of Archaeology and Historic Preservation to contain archaeological resources shall include a site inspection and a draft written report prepared by a qualified professional archaeologist, approved by the City, prior to the issuance of a permit. In addition, the archaeologist will provide copies of the draft report to the affected tribe(s) and the State Office of Archaeology and Historic Preservation. After consultation with these agencies, the archaeologist shall provide a final report that includes any recommendations from the affected tribe(s) and the State Office of Archaeology and Historic Preservation on avoidance or mitigation of the proposed project's impacts. The Planning Official shall condition project approval, based on the final report from the archaeologist, to ensure that impacts to the site are avoided or minimized consistent with federal and state law.
 - b. Shoreline permits shall contain provisions that require developers to immediately stop work and notify the City if any potential archaeological resources are uncovered during land surface modification or development activity. In such cases, the developer shall be required to provide for a site inspection and evaluation by a qualified professional archaeologist, approved by the City, to ensure that all possible valuable archaeological data is properly handled. The City shall subsequently notify the affected tribe and the State Office of Archaeology and Historic Preservation. Failure to comply with this requirement shall be considered a violation of the shoreline permit.
 - c. If identified historical or archaeological resources are present, site planning and access to such areas shall be designed and managed to give maximum protection to the resource and surrounding environment.
 - d. Interpretative signs, historical markers and other similar exhibits providing information about historical and archaeological features and natural areas shall be provided when appropriate.
 - e. In the event that unforeseen factors constituting an emergency as defined in RCW 90.58.030 that necessitate rapid action to retrieve or preserve artifacts or data identified above, the project may be exempted from the permit requirement of these regulations. The City shall notify the State Department of Ecology, the State Attorney General's Office and the State Historic Preservation Office of such a waiver in a timely manner.
 - f. Archaeological sites are subject to RCW 27.44 (Indian Graves and Records) and RCW 27.53 (Archaeological Sites and Records) and shall comply with WAC 25-48 or its successor as well as the provisions of this chapter.
 - g. Proposed changes to historical properties that are registered on the State or National Historic Register are subject to review under the National and State Registers' review process.

83.550 Nonconformances

1. General - This section establishes when and under what circumstances nonconforming aspects of a use or development must be brought into conformance with this Chapter. You need to consult the provisions of this section if there is some aspect of the use or development on the subject property that is not permitted under this Chapter.
2. When Conformance is Required - If an aspect, element or activity of or on the subject property conformed to the applicable shoreline regulations in effect at the time the aspect, element or activity was constructed or initiated, that aspect, element or activity may continue and need not be brought into conformance with this Chapter unless a provision of this section requires conformance. Further, nonconforming structures may be maintained, remodeled, repaired and continued; provided that nonconforming development may not be enlarged, intensified, increased or altered in any way which increases its nonconformity, except as specifically permitted under this section.
3. Abatement of Nonconformance That Was Illegal When Initiated - Any nonconformance that was illegal when initiated must immediately be brought into conformance with this chapter. The City may, using the provisions of WAC 173-27, abate any nonconformance that was illegal when initiated.
4. Special Provision for Damaged Improvements - Non-conforming structures that are damaged or destroyed by fire, explosion, flood, or other casualty may be restored or replaced in kind, if there is no feasible alternative that allows for compliance with the provisions of this Chapter; provided that, the following are met:
 - a. The permit process is commenced within twelve (12) months of the date of such damage; and
 - b. The reconstruction does not expand, enlarge, or otherwise increase the non-conformity, except as provided for in this section; and
 - c. The reconstruction locates the structure in the least environmentally damaging location relative to the shoreline and any critical areas; and
 - d. For existing residential structures built over the water, appropriate measures are taken to mitigate adverse impacts to the maximum extent feasible while still retaining the existing residential density, including but not limited to:
 - 1) Reducing the overwater footprint;
 - 2) Reducing the number or size of pilings to the extent allowed by site-specific engineering or design considerations;
 - 3) Softening existing hard shoreline stabilization measures to the extent allowed by site-specific characteristics;
 - 4) Raising the height of the structure off the water, provided that the height of the existing building is not increased; and
 - 5) Incorporating grating into the re-built structure where feasible.
5. Certain Nonconformances Specifically Regulated –
 - a. General –
 - 1) The provisions of this section specify when and under what circumstances certain nonconformances must be corrected. If a nonconformance must be corrected under this section, the applicant must submit all information necessary for the City to review the correction as part of the application for any development permit. In addition, the City will not permit occupancy until the correction is made.
 - 2) If subsection 4 above of this section applies to a specific nonconformance, then the provisions of this section do not apply to that same nonconformance.
 - b. Non-conforming structure –

- 1) A nonconforming structure that is moved any distance must be brought into conformance.
- 2) Any structural alteration of a roof or exterior wall that does not comply with height, shoreline setback, or view corridor standards shall be required to be brought into conformance for the nonconforming height, setback or view corridor, except as provided otherwise in this Chapter. Excepted from this subsection is the repair or maintenance of structural members.
- 3) Increases in structure footprint outside of the shoreline setback or wetland or stream buffer shall be allowed, even if all or a portion of the previously approved footprint is within the shoreline setback, wetland or stream buffer.
- 4) If existing accessory structures are located within the shoreline setback, these nonconforming structures must be brought into conformance if the applicant is making an alteration to the primary structure, the cost of which exceeds 50 percent of the replacement cost of the structure.
- 5) Non-conforming structures that are expanded or enlarged within the shoreline setback must obtain a shoreline variance; provided that, a non-conforming detached dwelling unit may be expanded without a shoreline variance where the following provisions apply:
 - a) The non conforming structure must have been constructed prior to December 1, 2006, the date of the City's *Final Shoreline Analysis Report*.
 - b) The structure must be located landward of the OHWM.
 - c) The enlargement or expansion in the shoreline setback shall not exceed 10 percent of the gross floor area of the existing dwelling unit prior to the expansion.
 - d) The enlargement, expansion or addition shall not extend further waterward than the existing primary residential structure. For purposes of this subsection, the improvements allowed within the shoreline setback as established in Section 83.180, such as bay windows, chimneys, greenhouse windows, eaves, cornices, awnings and canopies shall not be used in determining the most waterward location of the building (see **Plate XX**).
 - e) The applicant must restore a portion of the shoreline setback area to offset the impact, such that the shoreline setback area will function at a higher level than the existing conditions. The restoration plan shall be prepared by a qualified professional and shall be reviewed by the Planning Official and/or a consultant who may approve, approve with conditions, or deny the request. The cost of producing and implementing the restoration plan and the review by City staff and/or a consultant shall be borne by the applicant. Examples include, but are not limited to:
 - i) Installation of additional native vegetation within the shoreline setback that would otherwise not be required under this Chapter. At a minimum, the area of shoreline setback restoration and/or enhancement shall be equivalent to the area impacted by the improvement.
 - ii) Removal of an existing hard shoreline stabilization structure covering at least 15 linear feet of the lake frontage which is located at, below, or within 5 feet landward of the OHWM and subsequent restoration of the shoreline to a natural or semi-natural state, including creation or enhancement of nearshore shallow-water habitat.
 - iii) Setting back hard shoreline stabilization structures or portions of hard shoreline stabilization structures from the OHWM and subsequent restoration of the shoreline to a natural or semi-natural state, including restoration of topography and beach/substrate composition.
 - iv) Other shoreline restoration projects that are demonstrated to result in an improvement to existing shoreline ecological functions and processes.

- v) The applicant must comply with the best management practices contained in KZC Section 83.480 addressing the use of fertilizer, herbicides and pesticides as needed to protect lake water quality.
 - f) The applicant shall use “fully shielded cut off” light fixtures as defined by the Illuminating Engineering Society of North America (IESNA), or other appropriate measure to conceal the light source from adjoining uses and the lake, and direct the light toward the ground for any exterior light sources located on the west façade of the residence or other façades with exterior light sources that is directed towards the lake.
 - g) The remodel or expansion will not cause adverse impacts to shoreline ecological functions and/or processes as described on KZC 83.360.
 - h) This encroach provision shall only be used once within any 5-year period.
- 6) .A nonconforming detached dwelling unit that is located on a lot that has less than 3,000 square feet of building area lying landward of the required shoreline setback and upland of required wetland or stream buffers, may be rebuilt or otherwise replaced within the shoreline setback and required wetland or stream buffer without a shoreline variance, provided the following standards are met:
- a) The structure must be located landward of the OHWM.
 - b) The major exterior dimensions of the portion of the structure that is nonconforming shall not exceed the major exterior dimensions of the previous structure.
 - c) The reconstruction does not expand, enlarge, or otherwise increase the non-conformity.
 - d) The reconstruction locates the structure in the least environmentally damaging location relative to the shoreline and the critical areas.
 - e) The structure must comply with any requirements of this Chapter, zoning, building, or fire codes in effect when the structure is built, other than allowed in the subsection.
- 7) A primary structure that does not conform to the required shoreline setback and is located on a lot that has less than 3,000 square feet of building area lying landward of the shoreline setback, not including the area located within the required side yard setbacks and up to 10 feet of a required front yard, may be rebuilt or otherwise replaced in its current location within the shoreline setback, provided the following standards are met:
- a) The structure must be located landward of the OHWM.
 - b) The major exterior dimensions of the portion of the structure that does not comply with the shoreline setback shall not exceed the major exterior dimensions of the previous structure.
 - c) The reconstruction does not expand, enlarge, or otherwise increase the non-conformity.
 - d) The structure must comply with all other requirements of this Chapter, zoning, building, or fire codes in effect when the structure is built
- c. Nonconforming Use –
- 1) A nonconforming use may be continued by successive owners or tenants.
 - 2) Any nonconforming use, except for a detached dwelling, unit must be brought into conformance or discontinued if:
 - a) The applicant is making a structural alteration or increasing the gross floor area of any structure that houses or supports the nonconforming use; or

- b) The nonconforming use has ceased for 90 or more consecutive days. It shall not be necessary to show that the owner of the property intends to abandon such nonconforming use in order for the nonconforming rights to expire; or
- c) The nonconforming use is replaced by another use. The City may allow a change from one nonconforming use to another such use if, through a Shoreline Conditional Use process, the City determines that the proposed new use will comply with the following standards:
 - i) The proposed use will be consistent with the policies and provisions of the Act and this Chapter and is compatible with the uses in the area as the preexisting use;
 - ii) The use or activity is not enlarged, intensified, increased or altered in a manner that increases the extent of the non-conformity;
 - iii) The structure(s) associated with the non-conforming use shall not be expanded in a manner that increases the extent of the non-conformity, including encroachment into areas, such as setbacks, and any wetlands, streams and/or associated buffers established by this Chapter, where new structures, development or use would not be allowed;
 - iv) The change in use will not create adverse impacts to shoreline ecological functions and/or processes as described in KZC 83.360; and
 - v) Uses that are specifically prohibited or which would thwart the intent of the Act or this Chapter shall not be authorized.

d. Non-conforming wetland or stream buffer –

1) If existing structures or other improvements are located within the wetland, stream or associated buffers, these structures and improvements must be brought into conformance if the applicant is making an alteration, change or any other work on the subject property in a consecutive 12-month period and the cost of the alteration, change or work exceeds 50 percent of the replacement cost of all existing structure and improvements on the subject property.

3)2) If the cost threshold of subsection d above is not exceeded, the alterations or changes may occur provided that the alterations or changes comply with this code and no exterior alterations or changes are made to the nonconforming portion of the structure or improvement, unless otherwise authorized by this Chapter.

d.e. Non-conforming lot size - An undeveloped lot, tract, parcel, site or division which was created or segregated pursuant to all applicable laws, ordinances and regulations in effect at the time, but which is nonconforming as to the present lot size or density standards may be developed so long as such development conforms to other requirements of this Chapter and the Act.

e.f. Nonconforming public pedestrian walkway -

- 1) If a previously installed public shoreline access trail is subsequently found to have not been installed to the property line, the trail shall be extended to the property line consistent with conditions established in the original permit.
- 2) If a previously installed shoreline access trail was subsequently found to have vegetation, fencing, other improvements or accessory structures installed that block connection to an adjacent shoreline access trail, the blockage shall be removed.
- 3) Nonconforming shoreline access trails that were legally created shall not be required to comply with the dimensional standards or setback standards of this Chapter.
- 4) The shoreline public access walkway requirements established in this Chapter must be brought into conformance as much as is feasible, based on available land area if the applicant completes an alteration to all primary habitable structure(s) in shoreline

jurisdiction, the cost of which exceeds 50 percent of the replacement cost of all structures and improvements on the subject property.

f.g. Nonconforming Shoreline Setback Vegetation- The landscaping requirements of this Chapter must conform with as much as is feasible, based on available land area, in either of the following situations:

- 1) An increase of at least 10 percent in gross floor area of any structure located in shoreline jurisdiction; or
- 2) An alteration to any structure(s) in shoreline jurisdiction, the cost of which exceeds 50 percent of the replacement cost of all structures on the subject property.

g-h. Nonconforming Lighting - Exterior lighting must be brought into compliance with the requirements of this Chapter under the following circumstances:

- 1) The shielding requirements of KZC 83.470 shall be met when any nonconforming light fixture is replaced or moved.
- 2) All other requirements of KZC 83.470 shall be met when there is an increase in gross floor area of more than 50 percent of the primary structures on the subject property.

h-i. Prior approval of Shoreline Variance - A structure for which a shoreline variance has been issued shall be considered a legal nonconforming structure and the requirements of this section shall apply as they apply to preexisting nonconformities.

i-j. Prior approval of Shoreline Conditional Use - A use which is listed in this Chapter as a conditional use, but existed prior to adoption of this Chapter or any relevant amendment and for which a conditional use permit has not been obtained shall be considered a nonconforming use.

j-k. Any Other Nonconformance -

- 1) If any nonconformance exists on the subject property, other than as specifically listed in the prior subsections of this section, these must be brought into conformance if:
 - a) The applicant is making any alteration or change or doing any other work in a consecutive 12-month period to an improvement that is nonconforming or houses, supports or is supported by the nonconformance, and the cost of the alteration, change or other work exceeds 50 percent of the replacement cost of that improvement; or
 - b) The use on the subject property is changed and this Chapter establishes more stringent or different standards or requirements for the nonconforming aspect of the new use than this code establishes for the former use.

CHAPTER 30 – WATERFRONT DISTRICT (WD) ZONES

30.05 User Guide. The charts in KZC 30.15 contain the basic zoning regulations that apply in the WD I zones of the City. Use these charts by reading down the left hand column entitled Use. Once you locate the use in which you are interested, read across to find the regulations that apply to that use.

Section 30.10

Section 30.10 – GENERAL REGULATIONS

The following regulations apply to all uses in this zone unless otherwise noted:

1. Refer to Chapter 1 KZC to determine what other provisions of this code may apply to the subject property.
2. ~~See KZC 30.17 for regulations regarding bulkheads and land surface modification.~~
23. ~~The required 30-foot front yard may be reduced one foot for each one foot of this yard that is developed as a public use area if:~~
 - a. ~~Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and~~
 - b. ~~Substantially, the entire width of this yard (from north to south property lines) is developed as a public use area; and~~
 - c. ~~The design of the public use area is specifically approved by the City.~~

~~(Does not apply to Public Access Pier or Boardwalk; Boat launch; Moorage Facility for 1 or 2 Boats; Piers, docks, boat lifts and canopies serving Detached Dwelling Unit; Piers, docks, boat lifts and canopies serving Detached, Attached or Stacked Dwelling Units; Public Park; or Public Utility uses; Boat Launch; or Water Taxi).~~
3. ~~The required 30-foot front yard may be reduced one foot for each one foot of the shoreline setback of increase in dimension for any existing primary structure that is located closer than 25 feet from the ordinary high water mark, subject to the following conditions:~~
 - a. ~~Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and~~
 - b. ~~The primary structure must comply with the minimum required shoreline setback established under the provisions of KZC Chapter 83.~~

~~(Does not apply to Public Access Pier, Boardwalk, or Public Access Facility; Boat launch; Piers, docks, boat lifts and canopies serving Detached Dwelling Unit; Piers, docks, boat lifts and canopies serving Detached, Attached or Stacked Dwelling Units; Public Park; Public Utility uses; Boat Launch; or Water Taxi).~~
4. ~~A view corridor must be maintained across 30 percent of the average parcel width. Refer to KZC Chapter 83 for additional details. The view corridor must be in one continuous piece. Within the view corridor, structures, parking areas, and landscaping will be allowed, provided that they do not obscure the view from Lake Washington Boulevard to and beyond Lake Washington. This corridor must be adjacent to either the north or south property line, whichever will result in the widest view corridor given development on adjacent properties (does not apply to Public Access Pier or Boardwalk, Moorage Facility for 1 or 2 Boats, or Public Park uses).~~
5. May not use lands waterward of the ~~high waterline~~ ordinary high water mark to determine lot size or to calculate allowable density.

Section 30.15

Zone
WDI

USE ZONE CHART

6. May also be regulated under the Shoreline Master Program, [KMC Title 24 refer to KZC Chapter 83](#).

Section 30.15

REGULATIONS

Require d Review Process

MINIMUMS

MAXIMUMS

Lot Size

REQUIRED YARDS (See Ch. 115)

Height of Structure

Landscape Category

Sign Category (See Ch. 100)

Required Parking Spaces (See Ch. 105)

Special Regulations (See also General Regulations)

010	Detached Dwelling Unit	None	3,600 sq. ft./unit, except if 1,800 sq. ft./unit for up to 2 dwelling units if the public access provisions of KZC 83.390 are met 3,600 sq. ft.	30'	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average building elevation minus	5', but the north and south property yards must equal at least 15 feet. 10'	See Chapter 83 KZC. The greater of: a. 15' or b. 15% of the average parcel depth.	80%	30' above average building elevation. This provision may not be varied.	E	A	2.0 per unit.	<ol style="list-style-type: none"> No structures, other than moorage structures or public access piers, may be waterward of the high-waterline ordinary high water mark. For the regulations regarding moorages and public access piers, see the specific listings in this zone piers or docks serving detached dwelling units, refer to the specific listings in this zone and Chapter 83 KZC. Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities and activities associated with this use.
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Section 30.15

Zone
WDI

USE ZONE CHART

					40'								
				The minimum dimension of any yard, other than those listed, is 5'. See General Regulations.									
020	Attached or Stacked Dwelling Units	Process I, Chapter 145 KZC	3,600 sq. ft. per unit.	30'	<u>5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average building</u>	<u>40' 5', but the north and south property yards must equal at least 15 feet.</u>	<u>See Chapter 83 KZC. The greater of: a. 15' or b. 15% of the average parcel depth.</u>	30' above average building elevation. See also Special Regulation 3.	D				<ol style="list-style-type: none"> No structures, other than moorage structures or public access piers, may be waterward of the <u>high-waterline</u> ordinary high water mark. For the regulations regarding moorage and public access piers, see the specific listings in this zone <u>and Chapter 83 KZC</u>. <u>Chapter 83 KZC contains regulations regarding shoreline</u> Must provide public pedestrian access from the right of way to and along the entire waterfront of the subject property within the high waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be reached from adjoining property. The City shall require signs designating the public pedestrian access and public use areas. Structure height may be increased to 35 feet above average building elevation if the increase does not impair views of the lake from properties east of Lake Washington Boulevard; and <ol style="list-style-type: none"> The increase is offset by a view corridor that is superior to that required by the General Regulations; or The increase is offset by maintaining comparable portions of the structure lower than 30 feet above average building elevation. <p>REGULATIONS FOR THIS USE CONTINUED ON THE NEXT PAGE</p>

Section 30.15

Zone
WDI

USE ZONE CHART

					g elevati on minus 10'											
				See General Regulations and Spec. Reg. 6.												
. 0 2 0	Attached or Stacked Dwelling Units (continue d)												<p>REGULATIONS CONTINUED FROM PREVIOUS PAGE</p> <ol style="list-style-type: none"> 4. The design of the site must be compatible with the scenic nature of the waterfront. If the development will result in the isolation of a detached dwelling unit, site design, building design and landscaping must mitigate the impacts of that isolation. 5. Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities and activities associated with this use. 6. Any required yard, other than the front yard or high water line or shoreline setback required yard, may be reduced to zero feet if the side of the dwelling unit is attached to a dwelling unit on an adjoining lot. If one side of a dwelling unit is so attached and the opposite side is not, the side that is not attached shall provide the minimum required yard. 			

DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

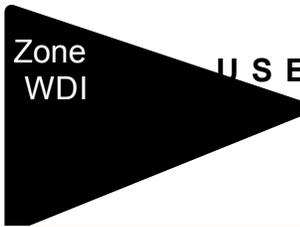
Section 30.15	USE ↓	REGULATIONS □	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High Water Line					
.030	Public Access Pier, or Boardwalk, or Public Access Facility	Process 1, Chapter 445 KZC See Chapter 83 KZC.	None	See Chapter 83 KZC Waterward of the High Waterline - 10' 10' - See also Special Regulation 8.				-	Pier decks may not be more than 24' above mean sea level. Diving boards and similar features may not be more than 3' above the deck.	-	See Spec. Reg. 7.	See KZC 105.25.	Refer to Chapter 83 KZC for additional regulations. 1. No accessory uses, buildings, or activities are permitted as part of this use. 2. If a structure will extend waterward of the Inner Harbor Line, the applicant must obtain a lease from the Washington State Department of Natural Resources prior to submittal of a building permit for this use. 3. May not treat a structure with creosote, oil base or toxic substances. 4. Must provide at least one covered and secured waste receptacle. 5. All utility lines must be below the pier deck and, where feasible, underground. 6. Piers must be adequately lit; the source of the light must not be visible from neighboring properties. 7. Structures must display the street address of the subject property. The address must be oriented to the lake with letters and numbers at least four inches high, and visible from the lake. 8. North and south property line yards may be decreased for over water public use facilities which connect with waterfront public access on adjacent property.
.040	Piers, docks, boat lifts and canopies	See Chapter 83 KZC None		See Chapter 83 KZC Waterward of the High Waterline - 10' 10' -				-80%			See Spec. Reg.	None 1-per each 2 slips. Otherwise, None if the	Refer to Chapter 83 KZC for additional regulations. 1. No accessory uses, buildings, or activities are permitted as part of this use. Various accessory components are permitted as part of a

Section 30.15

Zone
WDI

USE ZONE CHART

DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS													
Section 30.15	USE ↓	REGULATIONS	Required Review Process	MINIMUMS				MAXIMUMS		Special Regulations (See also General Regulations)			
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)
					Front	North Property Line	South Property Line	Shoreline Setback High Water Line					
	serving Detached Dwelling Unit Moorage Facility for 1 or 2 boats			<p>In addition, no moorage structure may be within—</p> <p>a. 25' of a public park; or</p> <p>b. 25' of another moorage structure not on the subject property.</p> <p>The minimum dimension of any yard, other than those listed, is 5'.</p>					8-	<p>moorage is reserved for the exclusive use of an adjoining residential development.</p> <p>General Moorage Facility. See that listing in this zone.</p> <p>2. Moorage structure may not extend waterward beyond a point 150 feet from the high waterline. In addition, piers and docks may not be wider than is reasonably necessary to provide safe access to the boats, but not more than eight feet in width.</p> <p>3. If the moorage structures will extend waterward of the Inner Harbor Line, the applicant must obtain a lease from the Washington State Department of Natural Resources prior to submittal of a building permit for this use.</p> <p>4. May not treat moorage structure with creosote, oil base or toxic substances.</p> <p>5. Must provide at least one covered and secured waste receptacle.</p> <p>6. All utility lines must be below the pier deck and, where feasible, underground.</p> <p>7. Piers must be adequately lit; the source of the light must not be visible from neighboring properties.</p> <p>8. Moorage structures must display the street address of the subject property.</p> <p>9. Covered moorage is not permitted.</p> <p>10. Aircraft moorage is not permitted.</p>			
.050	Piers, docks, boat lifts and canopies serving Detached	See Chapter 83 KZC	None	See Chapter 83 KZC				-		None	Refer to Chapter 83 KZC for additional regulations.		



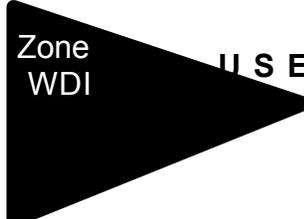
DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 30.15	USE ↓	REGULATIONS □	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)	
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure					
					Front	North Property Line	South Property Line	Shoreline Setback High Water Line						
	Attached or Stacked Dwelling Units													
.0650	Marina General Moorage Facility	Process II-A, Chapter 150 KZC. See Chapter 83 KZC	None, but must have at least 100' of frontage on Lake Washington.	Landward of the High Waterline	30' See Gen. Regs.	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average building elevation minus 10'.	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 15% of the average parcel depth.	See Chapter 83 KZC. For moorage structure, or For other structures, the greater of a. 15' or b. 15% of the average parcel depth.	80%	Landward of the High Waterline ordinary high water mark, 30' above average building elevation. See also Spec. Reg. 3. Waterward of the High Waterline, Dock and Pier decks may not be more than 24' above mean sea level.	B	B See Spec. Reg. 13.	1 per each 2 slips. Otherwise, None, if the moorage is reserved for the exclusive use of an adjoining residential development.	<ol style="list-style-type: none"> 1. Refer to Chapter 83 KZC for additional regulations. 1. Except as permitted by Special Regulation 16, no structures, other than each moorage structure or public access pier, may be waterward of the high waterline. For regulations regarding public access piers, see the specific listing in this zone. 2. Must provide public pedestrian access from the right-of-way to and along the entire waterfront of the subject property within the high waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be reached from adjoining property. In addition, the City may require that part or all of the high waterline yard be developed as a public use area. The City shall require signs designating the public pedestrian access and public use areas. 3. Structure height may be increased to 35 feet above average building elevation if the increase does not impair views of the lake from properties east of Lake Washington Boulevard; and <ol style="list-style-type: none"> a. The increase is offset by a view corridor that is superior to that required by the General Regulations; or b. The increase is offset by maintaining comparable portions of the structure lower than 30' above average building elevation. 4. The design of the site must be compatible with the scenic nature of the waterfront. If the development will result in the isolation of a detached dwelling unit, site design, building design and landscaping must mitigate the impacts of that isolation. 5. The City will determine the maximum allowable number of moorages based on the following factors:

Section 30.15

Zone
WDI

USE ZONE CHART



DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 30.15	USE ↓	REGULATIONS ↓	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High Water Line					

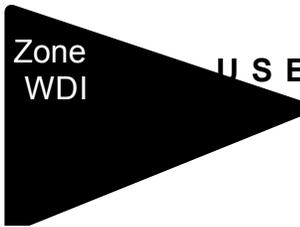
Waterward of the ~~Ordinary High Water~~
[See Chapter 83 KZC High Waterline](#)

- | 10' | 10' | -

No moorage structure may be—
a. Within 100' feet of a public park or
b. Closer to a public park than a line that starts where the high waterline of the park intersects with the side property line of the park closest to the moorage structure at a 45° angle from the side property line. This setback applies whether or not the subject property abuts the park, but does not extend beyond any intervening over water structure; or
(See next page for the rest of the Required Yard Regulations)

- a. ~~The ability of the land landward of the high waterline to accommodate the necessary support facilities.~~
- b. ~~The potential for traffic congestion.~~
- 6. ~~Moorage structures may not be larger than is necessary to provide safe and reasonable moorage for the boats moored. The City will specifically review size and configuration of moorage structures to insure that:~~
 - a. ~~The moorage structures are not larger than is necessary to moor the specified number of boats; and~~
 - b. ~~The moorage structures will not interfere with the public use and enjoyment of the water or create a hazard to navigation; and~~
 - c. ~~The moorage structures will not adversely affect nearby uses; and~~
 - d. ~~The moorage structures will not have a significant long term adverse effect on aquatic habitats.~~
- 7. ~~If the moorage structure will extend waterward of the Inner Harbor Line, the applicant must obtain a lease from the Washington State Department of Natural Resources prior to submittal of a Building Permit for this use.~~

[REGULATIONS FOR THIS USE CONTINUED ON THE NEXT PAGE](#)



DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 30.15	USE ↓	REGULATIONS □	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)			Height of Structure					
					Front	North Property Line	South Property Line		Shoreline Setback High Water Line				

30.15.00 General Moorage Facility (continue d)

e. Closer to a lot containing a detached dwelling unit than a line that starts where the high waterline of the lot intersects the side property line of the lot closest to the moorage structure and runs waterward toward the moorage structure at a 30° angle from that side property line. This setback applies whether or not the subject property abuts the lot, but does not extend beyond any intervening overwater structure; or
 d. Within 25' of another moorage structure not on the subject property.

The minimum dimension of any yard, other than those listed, is 5'.

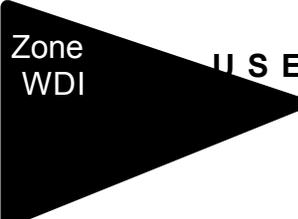
See previous page for the rest of this column.

- 8. May not treat moorage structure with creosote, oil base or toxic substance.
- 9. Must provide at least two covered and secured waste receptacles.
- 10. All utility and service lines must be below the pier deck and, where feasible, underground.
- 11. Must provide public restrooms unless moorage is only available for residents of dwelling units on the subject property.
- 12. Piers must be adequately lit. The source of light must not be visible from neighboring properties.
- 13. Moorage structures must display the street address of the subject property. The address must be oriented to the lake with letters and numbers at least four inches high.
- 14. Covered moorage is not permitted.
- 15. Aircraft moorage is not permitted.
- 316. The following accessory components are allowed if approved through Process IIB, Chapter 152 KZC:
 - a. Boat and motor sales leasing.
 - b. Boat and motor repair and service if:
 - 1) This activity is conducted on dry land and either totally within a building or totally sight screened from adjoining property and the right-of-way; and
 - 2) All dry land motor testing is conducted within a building.
 - c. Boat launching ramp if:
 - 1) It is not for use of the general public; and
 - 2) Is paved with concrete; and
 - 3) There is sufficient room on the subject property for maneuvering and parking so that traffic impact on the frontage road will not be significant; and
 - 4) Access to the ramp is not directly from the frontage road; and
 - 5) The design of the site is specifically approved by the City.
 - d. Dry land storage. However, stacked storage is not permitted.
 - e. Meeting and special events rooms.
 - f. Gas and oil sale for boats, if:
 - 1) Storage tanks are underground.
 - 2) The use has facilities to contain and cleanup gas and oil spills. May have an over-water shed that is not more than 30 square feet and 10 feet high as measured from the deck.
- 17. At least one pump out facility shall be provided for use by the general public. This facility must be easily accessible to the

Section 30.15

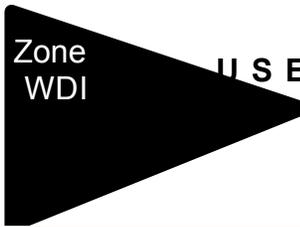
Zone
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USE ZONE CHART



DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 30.15	USE ↓	REGULATIONS □	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)	
				Lot Size	REQUIRED YARDS (See Ch. 115)			Height of Structure						
					Front	North Property Line	South Property Line		Shoreline Setback High Water Line					
060	Restaurant or Tavern		Process IIA, Chapter 150 KZC.	7,200 sq. ft.	30' Setbacks: See also Sections 6, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average	See Chapter 83 KZC. The greater of: a. 15' or b. 15% of the average parcel depth.	80%	30' above average building elevation. See also Special Regulation 3.	B	E	1 per each 100 sq. ft. of gross floor area.	<ol style="list-style-type: none"> No structures, other than moorage structures or public access piers, may be waterward of the <u>high waterline</u> ordinary high water mark. For the regulations regarding moorages, see the <u>moorage specific</u> listings in this zone and Chapter 83 KZC. Chapter 83 KZC contains regulations regarding shoreline. Must provide public pedestrian access from the right of way to and along the entire waterfront of the subject property within the high waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be reached from adjoining property. In addition, the City may require that part or all of the high waterline yard be developed as a public use area. The City shall require signs designating the public pedestrian access and public use areas. Structure height may be increased to 35 feet above average building elevation if the increase does not impair views of the lake from properties east of Lake Washington Boulevard; and <ol style="list-style-type: none"> The increase is offset by a view corridor that is superior to that required by the General Regulations; or The increase is offset by maintaining comparable portions of the structure lower than 30 feet above average building elevation. The design of the site must be compatible with the scenic nature of the waterfront. If the development will result in the isolation of a detached dwelling unit, site design, building design, and landscaping must mitigate the impacts of that isolation. Outside storage is not permitted. The required yard of a structure abutting Lake Washington



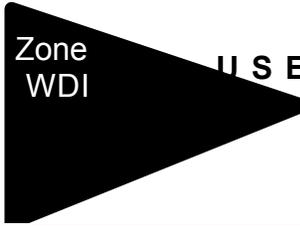
DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 30.15	USE ↓	REGULATIONS □	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)			Height of Structure					
					Front	North Property Line	South Property Line		Shoreline Setback High Water Line				
					Building elevation minus 10'							Boulevard or Lake Street South must be increased two feet for each one foot that structure exceeds 25 feet above average building elevation. 7. Drive-in or drive-through facilities are prohibited.	

Section 30.15

Zone
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USE ZONE CHART

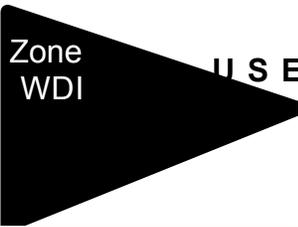


DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 30.15	USE ↓	REGULATIONS 	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)			Height of Structure					
					Front	North Property Line	South Property Line						

The minimum dimension of any yard, other than those listed, is 5'.

.070	Public Park	Development standards will be determined on a case-by-case basis. See Chapter 49 KZC for required review process. <u>May also be regulated under the Shoreline Master Program, refer to KZC Chapter 83.</u>							<ol style="list-style-type: none"> The provisions of Chapter 90 KZC, limiting development in and around wetlands, do not apply to a public park, if the development is approved as part of a Master Plan. This use may include a public access pier, or boardwalk, <u>or public access facility</u>. See KZC 30.15.030 <u>the specific listing in this Zone and Chapter 83 KZC</u> for regulations regarding these uses. <u>This use may include swimming beaches or other public recreational uses. See Chapter 83 for regulations regarding these uses.</u> 				
.080	Public Utility	Process	None	30'	<u>5', but</u>	<u>5', but</u>	<u>See</u>	80%	30' above	A	B	See KZC	1. No structures, other than moorage structures or public access piers,

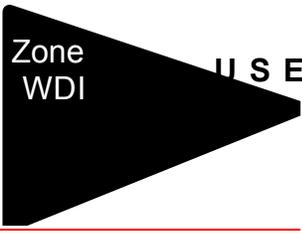


DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

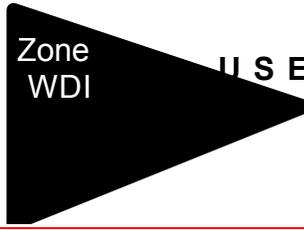
Section 30.15	USE ↓	REGULATIONS	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High Water Line					
.090	Government Facility Community Facility	IIA, Chapter 150 KZC.	See Gen. Regs.	the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average building elevation minus 10'.	the north and south property yards must equal at least 15 feet. 10'	Chapter 83 KZC. The greater of: a. 15' or b. 15% of the average parcel depth.	average building elevation. See also Special Regulation 3.	C See Spec. Reg. 5.	105.25.	<ol style="list-style-type: none"> may be waterward of the high waterline <u>ordinary high water mark</u>. For the regulation regarding moorages and public access piers, see the specific listings in this zone <u>and Chapter 83 KZC</u>. Chapter 83 KZC contains regulations regarding shoreline. Must provide public pedestrian access from the right of way to and along the entire waterfront of the subject property within the high waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be reached from the adjoining property. The City shall require signs designating the public pedestrian access and public uses areas. Structure height may be increased to 35 feet above average building elevation if the increase does not impair views of the lake from properties east of Lake Washington Boulevard; and <ol style="list-style-type: none"> The increase is offset by a view corridor that is superior to that required by the General Regulations; or The increase is offset by maintaining comparable portions of the structure lower than 30 feet above average building elevation. The design of the site must be compatible with the scenic nature of the waterfront. If the development will result in the isolation of a detached dwelling unit, site design, building design, and landscaping must mitigate the impacts of that isolation. For a Government Facility use, Landscape Category A or B may be required depending on the type of use on the subject property and the impacts on the nearby uses. 			

Zone
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USE ZONE CHART



Section 30.15

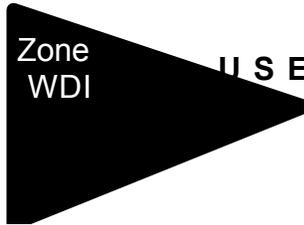


USE ZONE CHART

Section 30.15	F S C	REGULATIONS	Required Review Process	Lot Size	MINIMUMS				MAXIMUMS			Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
					REQUIRED YARDS (See Ch. 115)				Lot Coverage	Height of Structure	Landscape Category		
					Front	North Property Line	South Property Line	Shoreline Setback High Water Line					

100	Assisted Living Facility	Process I, Chapter 145 KZC.	3,600 sq. ft.	30' Setbacks and Social Regulation 6.	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average	5', but the north and south property yards must equal at least 15 feet. 40'	See Chapter 83 KZC. The greater of: a. 45' or b. 15% of the average parcel depth.	80%	30' above average building elevation. See also Special Regulation 6.	D	A	2.0 per independent unit. 1 per assisted living unit.	<ol style="list-style-type: none"> 1. A facility that provides both independent dwelling units and assisted living units shall be processed as an assisted living facility. 2. A nursing home use may be permitted as part of an assisted living facility use in order to provide a continuum of care for residents. If a nursing home is included, the following parking standards shall apply to the nursing home portion of the facility: <ol style="list-style-type: none"> a. One parking stall shall be provided for each bed. 3. For density purposes, two assisted living units shall constitute one dwelling unit. Total dwelling units may not exceed the number of stacked dwelling units allowed on the subject property. Through Process IIB, Chapter 152 KZC, up to 1 1/2 times the number of stacked dwelling units allowed on the property may be approved if the following criteria are met: <ol style="list-style-type: none"> a. Project is of superior design, and b. Project will not create impacts that are substantially different than would be created by a permitted multifamily development. 4. No structures, other than moorage structures or public access piers, may be waterward of the <u>high waterline</u> <u>ordinary high water mark</u>. For the regulation regarding moorages and public access piers, see the specific listings in this zone <u>and Chapter 83 KZC</u>. 5. <u>Chapter 83 KZC contains regulations regarding shoreline</u> <u>Must provide public pedestrian access from the right-of-way to and along the entire waterfront of the subject property, within the high waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be</u>
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Section 30.15

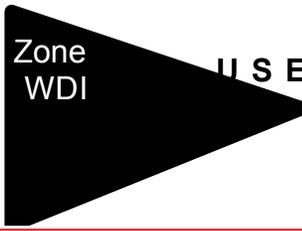


USE ZONE CHART

.1 1 0	Boat launch (for non-motorized boats)	See Chapter 83 KZC	None	See Chapter 83 KZC	-				None	Refer to Chapter 83 KZC for additional regulations.
.1 2 0	Water taxi	See Chapter 83 KZC	None	Landward of the Ordinary High Water Mark	80%	Landward of the ordinary high water mark, 30' above average building elevation. See also Spec. Reg. 3.	B	B	See KZC 105.25.	Refer to Chapter 83 KZC for additional regulations.

[30'](#)
[See General Regulations](#)
[5', but the north and south property yards must](#)
[5', but the north and south property yards must equal at least 15 feet](#)
[See Chapter 83 KZC](#)

Section 30.15



USE ZONE CHART

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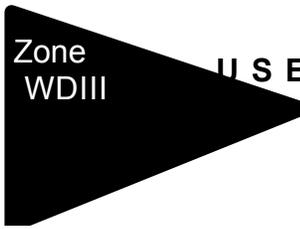
30.29 User Guide. The charts in KZC 30.35 contain the basic zoning regulations that apply in the WD III zones of the City. Use these charts by reading down the left hand column entitled Use. Once you locate the use in which you are interested, read across to find the regulations that apply to that use.

Section 30.30

Section 30.30 – GENERAL REGULATIONS

The following regulations apply to all uses in this zone unless otherwise noted:

1. ~~See KZC 30.37 for regulations regarding bulkheads and land surface modification.~~
2. Refer to Chapter 1 KZC to determine what other provisions of this code may apply to the subject property.
3. May not use lands waterward of the ~~high waterline~~ ordinary high water mark to determine lot size or to calculate allowable density.
4. May also be regulated under the Shoreline Master Program, ~~KMC Title 24~~ Chapter 83 KZC.



DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

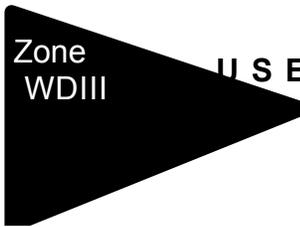
Section 30.35	USE ↓	REGULATIONS ↙ ↘	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					
.010	Detached Dwelling Unit	None	3,600 sq. ft./unit, except if 1,800 sq. ft./unit for up to 2 dwelling units if the public access provisions of KZC 83.390 are met 3,600 sq. ft.	30' See also Spec. Reg. 2.	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 45' or b. 1 1/2 times the height of the primary structure above average building elevation minus 10'.	5', but the north and south property yards must equal at least 15 feet. 40'	See Chapter 83. The greater of: a. 45' or b. 15% of the average parcel depth.	80%	30' above average building elevation. This provision may not be varied.	E	A	2.0 per unit.	<ol style="list-style-type: none"> No structures, other than moorage structures or public access piers, may be waterward of the high waterline <u>ordinary high water mark</u>. For the regulations regarding moorages and public access piers, see the specific listings in this zone <u>and Chapter 83 KZC-</u> The required 30-foot front yard may be reduced one foot for each one foot of this yard that is developed as a public use area if: <ol style="list-style-type: none"> Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and Substantially, the entire width of this yard (from north to south property lines) is developed as a public use area; and The design of the public use area is specifically approved by the City. <u>The required 30-foot front yard may be reduced one foot for each one foot of increase in the shoreline setback that is increased in dimension for any existing primary structure that is located closer than 25 feet from the ordinary high water mark, subject to the following conditions:</u> <ol style="list-style-type: none"> <u>Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front</u>

Section 30.35

Zone
WDIII

USE ZONE CHART

DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS													
Section 30.35	USE ↩	REGULATIONS ↴	Required Review Process	MINIMUMS				MAXIMUMS		Special Regulations (See also General Regulations)			
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					
				The minimum dimension of any yard, other than those listed, is 5'. Ⓟ						property line; and b. The primary structure must comply with the minimum required shoreline setback established under the provisions of KZC Chapter 83. 34. A view corridor must be maintained across 30 percent of the average parcel width. The view corridor must be in one continuous piece. Within the view corridor, structures, parking areas and landscaping will be allowed, provided that they do not obscure the view from Lake Washington Boulevard to and beyond Lake Washington. This corridor must be adjacent to either the north or south property line, whichever will result in the widest view corridor given development on adjacent properties. Chapter 83 KZC contains regulations regarding shoreline. 45. Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities and activities associated with this use. 56. The required yard of a structure abutting Lake Washington Blvd. must be increased two feet for each one foot that structure exceeds 25 feet above the adjacent centerline of Lake Washington Blvd.			



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Section 30.35	USE ↓	REGULATIONS ↕	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)			Height of Structure					
					Front	North Property Line	South Property Line		Shoreline Setback High Water Line				
.020	Attached or Stacked Dwelling Units	Process I, Chapter 145 KZC.	3,600 sq. ft. per unit	30' See also Spec. Reg. 3.	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average building elevation minus 10'.	5', but the north and south property yards must equal at least 15 feet.	See Chapter 83 KZC. The greater of: a. 15' or b. 15% of the average parcel depth.	80%	30' above average building elevation. See also Spec. Reg. 5.	D	A	2.0 per unit.	<ol style="list-style-type: none"> No structures, other than moorage structures or public access piers, may be waterward of the high waterline<u>ordinary high water mark</u>. For the regulations regarding moorages and public access piers, see the specific listings in this zone <u>and Chapter 83 KZC</u>. Chapter 83 KZC contains regulations regarding shoreline<u>Must provide public pedestrian access from the right-of-way to and along the entire waterfront of the subject property within the high waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be reached from adjoining property. The City shall require signs designating the public pedestrian access and public uses areas. See Chapter 83 KZC for requirements.</u> The required 30-foot front yard may be reduced one foot for each one foot of this yard that is developed as a public use area if: <ol style="list-style-type: none"> Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and Substantially, the entire width of this yard (from north to south property lines) is developed as a public use area; and The design of the public use area is specifically approved by the City.

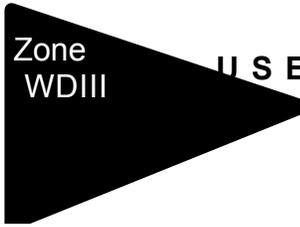
Section 30.35

Zone
WDIII

USE ZONE CHART

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Section 30.35	USE ↕	REGULATIONS ↔	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
			Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure					
				Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line						
The minimum dimension of any yard, other than those listed, is 5'. See Spec. Reg. 8.										<p>4. <u>The required 30-foot front yard may be reduced one foot for each one foot of increase in the shoreline setback that is increased in dimension for any existing primary structure that is located closer than 25 feet from the ordinary high water mark, subject to the following conditions:</u></p> <p style="margin-left: 20px;">a. <u>Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and</u></p> <p style="margin-left: 20px;">b. <u>The primary structure must comply with the minimum required shoreline setback established under the provisions of KZC Chapter 83.</u></p> <p>5. <u>A view corridor must be maintained across 30% of the average parcel width. The view corridor must be in one continuous piece. Within the view corridor, structures, parking areas and landscaping will be allowed, provided that they do not obscure the view from Lake Washington Boulevard to and beyond Lake Washington. This corridor must be adjacent to either the north or south property line, whichever will result in the widest view corridor given development on adjacent properties.</u></p> <p>66. Structure height may be increased to 35 feet above average building elevation if the increase does not impair views of the lake from properties east of Lake Washington Boulevard; and</p> <p style="margin-left: 20px;">a. The increase is offset by a view corridor that is superior to that required by Special Regulation 4; or</p> <p style="margin-left: 20px;">b. The increase is offset by maintaining comparable portions of the structure lower than 30 feet above average building elevation.</p> <p>67. <u>The design of the site must be compatible with the scenic nature of the waterfront. If the development will result in the isolation of a</u></p>			



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				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					

detached dwelling unit, site design, building design and landscaping must mitigate the impacts of that isolation.

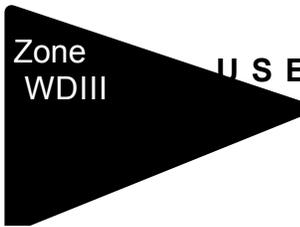
REGULATIONS FOR THIS USE CONTINUED ON THE NEXT PAGE

Section 30.35

Zone
WDIII

USE ZONE CHART

DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS													
Section 30.35	USE ↓	REGULATIONS ↓	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					
.020	Attached or Stacked Dwelling Units (continued)											REGULATIONS CONTINUED FROM PREVIOUS PAGE 7. Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities and activities associated with this use. 8. Any required yard, other than the front <u>required yard</u> or <u>high-water line required yard shoreline setback</u> , may be reduced to zero feet if the side of the dwelling unit is attached to a dwelling unit on an adjoining lot. If one side of a dwelling unit is so attached and the opposite side is not, the side that is not attached shall provide the minimum required yard.	
.030	Public Access Pier, Boardwalk or	<u>See Chapter 83 KZC Process</u>	None	<u>See Chapter 83 KZC Waterward of the High-Waterline</u>	-	<u>10'</u>	<u>10'</u>	<u>-</u>	<u>-</u>	<u>See Spec. Reg.</u>	See KZC 105.25.	<u>Refer to Chapter 83 KZC for additional regulations.</u> <u>1. No accessory uses, buildings, or activities are permitted as part of this use.</u>	



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				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					
	Public Access Facility		445-KZC-		See also Special Regulation 8-					7-		<ol style="list-style-type: none"> 2. If a structure will extend waterward of the Inner Harbor Line, the applicant must obtain a lease from the Washington State Department of Natural Resources prior to submittal of a Building Permit for this use. 3. May not treat a structure with creosote, oil base or toxic substances. 4. Must provide at least one covered and secured waste receptacle. 5. All utility lines must be below the pier deck and, where feasible, underground. 6. Piers must be adequately lit; the source of the light must not be visible from neighboring properties. 7. Structures must display the street address of the subject property. The address must be oriented to the lake with letters and numbers at least four inches high, and visible from the lake. 8. North and south property line yards may be decreased for over-water public use facilities which connect with waterfront public access on adjacent property. 	
.040	Piers, docks, boat lifts and canopies serving	See Chapter 83 KZC None	None	See Chapter 83 KZC Waterward of the High Waterline	80%	Pier decks may not be more than 24' above	-	See Spec. Reg-	None	Refer to Chapter 83 KZC for additional regulations. <ol style="list-style-type: none"> 1. Moorage must be for the exclusive use of the residents of the subject property. Renting moorage spaces is not permitted. 			
				-	10'	10'	-						

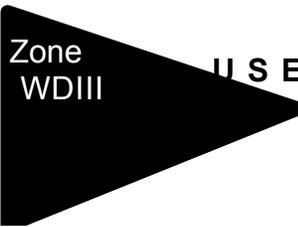
Section 30.35

Zone
WDIII

USE ZONE CHART

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Section 30.35	USE ↕	REGULATIONS ↕	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High Water Line					
	Detached Dwelling UniMoorage Facility for 1 or 2 boats See Spec-Reg-1.			In addition, no moorage structure may be within - a. 25' of a public park; or b. 25' of another moorage structure not on the subject property. The minimum dimension of any yard, other than those listed, is 5'.				mean sea level. Diving boards and similar features may not be more than 3' above the deck.	9.		<ol style="list-style-type: none"> 2. No accessory uses, buildings, or activities are permitted as part of this use. Various accessory components are permitted as part of a General Moorage Facility. See that listing in this zone. 3. Moorage structure may not extend waterward beyond a point 150 feet from the high waterline. In addition, piers and docks may not be wider than is reasonably necessary to provide safe access to the boats, but not more than eight feet in width. 4. If the moorage structures will extend waterward of the Inner Harbor Line, the applicant must obtain a lease from the Washington State Department of Natural Resources prior to submittal of a Building Permit for this use. 5. May not treat moorage structure with creosote, oil base or toxic substances. 6. Must provide at least one covered and secured waste receptacle. 7. All utility lines must be below the pier deck and, where feasible, underground. 8. Piers must be adequately lit; the source of the light must not be visible from neighboring properties. 9. Moorage structures must display the street address of the subject property. The address must be oriented to the Lake with letters and numbers at least four inches high, and visible from the Lake. 10. Covered moorage is not permitted. 11. Aircraft moorage is not permitted. 12. Live aboard boats are prohibited. 		
.050	General Moorage	See Chapter 83	None, but must	Landward of the High Waterline Ordinary High Water Mark				80%	Landward of the High	B	B See	None	Refer to Chapter 83 KZC for additional regulations. 1. Moorage must be for the exclusive use of the residents of the subject property.



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				Lot Size	REQUIRED YARDS (See Ch. 115)								
					Front	North Property Line	South Property Line						Shoreline Setback High Water Line
Facility Piers, docks, boat lifts and canopies serving Detached, Attached or Stacked Dwelling Units	KZ Process HA, Chapter 150 KZC.	have at least 100' of frontage on Lake Washington.	30' See also Spec. Reg. 3.	5', but the north and south property yards must equal at least 15 feet The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average building elevation minus 10'.	5', but the north and south property yards must equal at least 15 feet 10'	See Chapter 83 KZC For moorage structures, 0'. For other structures, the greater of: a. 15' or b. 15% of the average parcel depth.	Waterline Ordinary High Water Mark, 30' above average building elevation. Waterward of the High Waterline, Deck and Pier decks may not be more than 24' above mean sea level.	Spec. Reg. 14.	<ol style="list-style-type: none"> 1. Renting moorage space is not permitted. 2. No structures, other than moorage structures or public access piers, may be waterward of the high waterline. For regulations regarding public access piers, see the specific listing in this zone. 3. Must provide public pedestrian access from the right-of-way to and along the entire waterfront of the subject property within the high waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be reached from adjoining property. In addition, the City may require that part or all of the high waterline yard be developed as a public use area. The City shall require signs designating the public pedestrian access and public use areas. 4. The required 30 foot front yard may be reduced one foot for each one foot of this yard that is developed as a public use area if: <ol style="list-style-type: none"> a. Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and b. Substantially, the entire width of this yard (from north to south property lines) is developed as a public use area; and c. The design of the public use area is specifically approved by the City. 5. A view corridor must be in one continuous piece. Within the view corridor, structures, parking areas and landscaping will be allowed, provided that they do not obscure the view from Lake Washington Boulevard to and beyond Lake Washington. This corridor must be adjacent to either the north or south property line, whichever will result in the widest view corridor given. 				
Waterward of the Ordinary High Water Mark, see Chapter 83 KZC High Waterline				-	40'	40'	-						

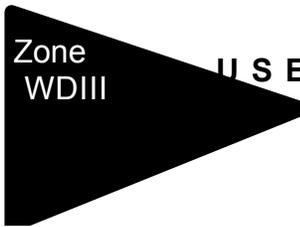
USE ZONE CHART

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				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					

~~No moorage structure may be-~~
~~a. Within 100' feet of a public park; or~~
~~b. Closer to a public park than a line that starts where the high waterline of the park intersects with the side property line of the park closest to the moorage structure at a 45° angle from the side property line. This setback applies whether or not the subject property abuts the park, but does not extend beyond any intervening overwater structure; or~~
 (See next page for the rest of the Required Yard Regulations)

~~development on adjacent properties.~~
~~6. The design on the site must be compatible with the scenic nature of the waterfront. If the development will result in the isolation of a detached dwelling unit, site design, building design and landscaping must mitigate the impacts of that isolation.~~
~~7. The City will determine the maximum allowable number of moorages based on the following factors:~~
~~a. The ability of the land landward of the high waterline to accommodate the necessary support facilities.~~
~~b. The potential for traffic congestion.~~
~~c. The number of moorages shall not exceed the number of dwelling units on the subject property.~~
 REGULATIONS FOR THIS USE CONTINUED ON THE NEXT PAGE



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				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					
.050	General Moorage-Facility (continued)			<p>e. Closer to a lot containing a detached dwelling unit than a line that starts where the high waterline of the lot intersects the side property line of the lot closest to the moorage structure and runs waterward toward the moorage structure at a 30° angle from that side property line. This setback applies whether or not the subject property abuts the lot, but does not extend beyond any intervening overwater structure; or</p> <p>d. Within 25' of another moorage structure not on the subject property.</p> <p>The minimum dimension of any yard, other than those listed, is 5'.</p> <p>(See previous page for the rest of this column)</p>								<p>8. Moorage structures may not be larger than is necessary to provide safe and reasonable moorage for the boats moored. The City will specifically review size and configuration of moorage structures to insure that:</p> <ul style="list-style-type: none"> a. The moorage structures do not extend waterward of the point necessary to provide reasonable draft for the boats to be moored, but not beyond the outer harbor line; and b. The moorage structures are not larger than is necessary to moor the specified number of boats; and c. The moorage structures will not interfere with the public use and enjoyment of the water or create a hazard to navigation; and d. The moorage structures will not adversely affect nearby uses; and e. The moorage structures will not have a significant long term adverse effect on aquatic habitats. <p>9. If the moorage structures will extend waterward of the Inner Harbor Line, the applicant must obtain a lease from the Washington State Department of Natural Resources prior to submittal of a Building Permit for this use.</p> <p>10. May not treat moorage structure with creosote, oil base or toxic substance.</p> <p>11. Must provide at least two covered and secured waste receptacles.</p> <p>12. All utility and service lines must be below the pier deck and, where feasible, underground.</p> <p>13. Piers must be adequately lit. The source of light must not be visible from neighboring properties.</p> <p>14. Moorage structures must display the street address of the subject property. The address must be oriented to the lake with letters and numbers at least four inches high.</p> <p>15. Covered moorage is not permitted.</p> <p>16. Aircraft moorage is not permitted.</p> <p>17. At least one pump out facility shall be provided.</p>	

Section 30.35

Zone
WDIII

USE ZONE CHART

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				Lot Size	REQUIRED YARDS (See Ch. 115)			Height of Structure				
					Front	North Property Line	South Property Line		Shoreline Setback High-Water-Line			
.060	Public Park		Development standards will be determined on a case-by-case basis. See Chapter 49 KZC for required review process. <u>May also be regulated under the Shoreline Master Program, refer to KZC Chapter 83.</u>								<ol style="list-style-type: none"> The provisions of Chapter 90 KZC limiting development in and around wetlands do not apply to a public park, if the development is approved as part of a Master Plan. This use may include a public access pier, or boardwalk <u>or public access facility.</u> See the specific listing in this Zone and Chapter 83 KZC for regulations regarding these uses. See KZC 30.15.030 for regulations regarding these uses. <u>This use may include swimming beaches or other public recreational uses. See Chapter 83 for regulations regarding these uses.</u> 	

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Section 30.35

Zone
WDIII

USE ZONE CHART

				Front	North Property Line	South Property Line	Shoreline Setback High-Water Line		Height of Structure				
.070	Public Utility	Process IIA,	None	30'	<u>5'. but</u>	<u>5'. but</u>	<u>See</u>	80%	30' above	A	B	See KZC	1. No structures, other than moorage structures or public access piers,

Section 30.35

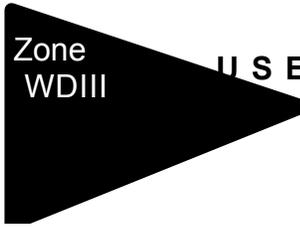
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.080	Government Facility Community Facility	Chapter 150 KZC.	See also Spec Reg. 3.	the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average building elevation minus 10'.	the north and south property yards must equal at least 15 feet. 10'	Chapter 83 KZC. The greater of: a. 15' or b. 15% of the average parcel depth.	average building elevation. See also Special Regulation 5.	C See Spec. Reg. 7.	105.25.	<ol style="list-style-type: none"> may be waterward of the high waterline <u>ordinary high water mark</u>. For regulations regarding moorages and public access piers, see the specific listings in this zone and Chapter 83 KZC. Must provide public pedestrian access from the right of way to and along the entire waterfront of the subject property within the high-waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be reached from the adjoining property. The City shall require signs designating the public pedestrian access and public uses areas. The required 30-foot front yard may be reduced one foot for each one foot of this yard that is developed as a public use area if: <ol style="list-style-type: none"> Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and Substantially, the entire width of this yard (from north to south property lines) is developed as a public use area; and The design of the public use area is specifically approved by the City. The required 30-foot front yard may be reduced one foot for each one foot of the shoreline setback that is increased in dimension for any existing primary structure that is located closer than 25 feet from the ordinary high water mark, subject to the following conditions: <ol style="list-style-type: none"> Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and The primary structure must comply with the minimum required shoreline setback established under the provisions of KZC Chapter 83. 			

171 (Revised)



DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

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				Lot Size	REQUIRED YARDS (See Ch. 115)			Height of Structure					
					Front	North Property Line	South Property Line						
.090	Assisted Living Facility	Process I, Chapter 145 KZC.	3,600 sq. ft.	30' See also Spec. Reg. 6.	5', but the north and south property yards must equal at least 15 feet. The greater of: a. 15' or b. 1 1/2 times the height of the primary structure above average building elevation minus 10'.	5', but the north and south property yards must equal at least 15 feet. 10'	See Chapter 83 KZC. The greater of: a. 15' or b. 15% of the average parcel depth.	80%	30' above average building elevation. See also Special Regulation 8.	D	A	2.0 per independent unit. 1 per assisted living unit.	<ol style="list-style-type: none"> 1. A facility that provides both independent dwelling units and assisted living units shall be processed as an assisted living facility. 2. A nursing home use may be permitted as part of an assisted living facility use in order to provide a continuum of care for residents. If a nursing home is included, the following parking standards shall apply to the nursing home portion of the facility: <ol style="list-style-type: none"> a. One parking stall shall be provided for each bed. 3. For density purposes, two assisted living units shall constitute one dwelling unit. Total dwelling units may not exceed the number of stacked dwelling units allowed on the subject property. Through Process IIB, Chapter 152 KZC, up to 1 1/2 times the number of stacked dwelling units allowed on the property may be approved if the following criteria are met: <ol style="list-style-type: none"> a. Project is of superior design, and b. Project will not create impacts that are substantially different than would be created by a permitted multifamily development. 4. No structures, other than moorage structures or public access piers, may be waterward of the high waterline. For the regulation regarding moorages and public access piers, see the specific listings in this zone and Chapter 83 KZC. 5. Chapter 83 KZC contains regulations regarding shoreline. Must-

Section 30.35

Zone
WDIII

USE ZONE CHART

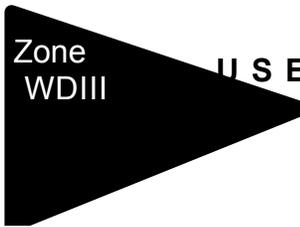
DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 30.35	USE ⇩	REGULATIONS ⇩	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					
The minimum dimension of any yard, other than those listed, is 5'.													

~~provide public pedestrian access from the right of way to and along the entire waterfront of the subject property within the high-waterline yard. Access to the waterfront may be waived by the City if public access along the waterfront of the subject property can be reached from the adjoining property. The City shall require signs designating the public pedestrian access and public use areas.~~

6. The required 30-foot front yard may be reduced one foot for each one foot of this yard that is developed as a public use area if:
 - a. Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and
 - b. Substantially, the entire width of this yard (from north to south property lines) is developed as a public use area; and
 - c. The design of the public use area is specifically approved by the City.

REGULATIONS CONTINUED ON NEXT PAGE



DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

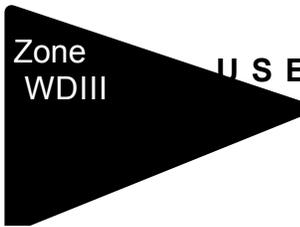
Section 30.35	USE ↓	REGULATIONS ↕	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure				
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line					
.090	Assisted Living Facility (continued)											<p>7. <u>The required 30-foot front yard may be reduced one foot for each one foot of the shoreline setback that is increased in dimension for any existing primary structure that is located closer than 25 feet from the ordinary high water mark, subject to the following conditions:</u></p> <p><u>a. Within 30 feet of the front property line, each portion of a structure is setback from the front property line by a distance greater than or equal to the height of that portion above the front property line; and</u></p> <p><u>b. The primary structure must comply with the minimum required shoreline setback established under the provisions of KZC Chapter 83.</u></p> <p><u>A view corridor must be maintained across 30 percent of the average parcel width. The view corridor must be in one continuous piece. Within the view corridor, structures, parking areas and landscaping will be allowed, provided that they do not obscure the existing view from Lake Washington Boulevard to and beyond Lake Washington. This corridor must be adjacent to either the north or south property line, whichever will result in the widest view corridor given development on adjacent properties.</u></p> <p>8. Structure height may be increased to 35 feet above average building elevation if the increase does not impair views of the lake from properties east of Lake Washington Boulevard; and</p> <p>a. The increase is offset by a view corridor that is superior to that required by Special Regulation 7; or</p> <p>b. The increase is offset by maintaining comparable portions of the structure lower than 30 feet above average building elevation.</p> <p>9. The design of the site must be compatible with the scenic nature of the waterfront. If the development will result in the isolation of a detached dwelling unit, site design, building design, and landscaping must mitigate the impacts of that isolation.</p> <p>10. Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities, and activities associated with this use.</p>	

Section 30.35

Zone
WDIII

USE ZONE CHART

DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS												
Section 30.35	USE ↓	REGULATIONS ↕	Required Review Process	MINIMUMS				MAXIMUMS		Special Regulations (See also General Regulations)		
				Lot Size	REQUIRED YARDS (See Ch. 115)			Height of Structure	Landscape Category (See Ch. 95)		Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)
					Front	North Property Line	South Property Line					
.100	Boat launch (for non-motorized boats)	See Chapter 83 KZC	None	See Chapter 83 KZC						None	Refer to Chapter 83 KZC for additional regulations.	



DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 30.35	USE ↓	REGULATIONS ↕	Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)	
				Lot Size	REQUIRED YARDS (See Ch. 115)				Height of Structure					
					Front	North Property Line	South Property Line	Shoreline Setback High-Water-Line						
.110	Water taxi	See Chapter 83 KZC	None	Landward of the Ordinary High Water Mark	30' See Gen. Regs	5', but the north and south property yards must equal at least 15 feet	5', but the north and south property yards must equal at least 15 feet	See Chapter 83 KZC	80%	Landward of the ordinary high water mark, 30' above average building elevation. See also Spec. Reg. 3.	B	B	See KZC 105.25.	Refer to Chapter 83 KZC for additional regulations.

4.2.3 Restoration Objectives for Properties owned by City of Kirkland

The following projects (Table 1) are developed from a list of opportunity areas that are described in more detail as part of Section 6.2 of this report. These programs are currently or have previously been listed as funded or unfunded projects in the Parks Capital Improvement Program.

- By 2016, initiate and, where possible, complete the following restoration activities on properties managed by the City of Kirkland:

Table 1. List of potential shoreline restoration projects on City property

Site Number	Park	Restoration Type	Description
1	Juanita Beach Park	Redesign breakwater	Remove or redesign the breakwater in order to improve migratory conditions for juvenile salmonids and water circulation.
3	Forbes Creek - Juanita Bay Park	Remove invasive vegetation	Invasive vegetation, primarily reed canarygrass, purple and garden loosestrife, and Himalayan blackberry in the terrestrial zones.
9	Waverly Beach Park	Reduce shoreline armoring	Removing or minimizing the impacts of shoreline armoring.
10	Waverly Beach Park	Enhance shoreline vegetation	Supplementation of nearshore native vegetation to improve habitat conditions for juvenile salmonids.
11	Waverly Beach Park	Reduce stormwater runoff	The impact of existing impervious surfaces (paved parking areas) could be reduced through the use of pervious materials, relocation, or minimization.
17	David Brink Park	Reduce shoreline armoring	Removing or minimizing the impacts of shoreline armoring.
Various	Various	Reduce overwater cover	Reducing overwater cover through the installation of deck grating on the existing piers and removing pier skirting as feasible.
Various	Various	Enhance shoreline vegetation	Improving nearshore native vegetation.

- As these projects are completed, the City will look for opportunities to promote the value of the improvements in benefitting shoreline conditions, as well as demonstrate potential techniques for reducing bank hardening, restoring overhanging riparian vegetation, and for incorporating deck grating into pier surfaces.

DRAFT

SHORELINE CUMULATIVE IMPACTS ANALYSIS
for the City of Kirkland
Shoreline Master Program

Prepared by:



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May 2009



The Watershed Company Reference Number:
051011

The Watershed Company Contact Person:
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TABLE OF CONTENTS

	Page #
1 Introduction.....	1
2 Existing Conditions.....	3
2.1 Residential – L Environment	4
2.1.1 Existing Land Use.....	4
2.1.2 Parks and Open Space/Public Access	5
2.1.3 Shoreline Modifications	5
2.2 Residential – M/H Environment	6
2.2.1 Existing Land Use.....	6
2.2.2 Parks and Open Space/Public Access	8
2.2.3 Shoreline Modifications	8
2.3 Urban Conservancy.....	9
2.3.1 Existing Land Use.....	9
2.3.2 Parks and Open Space/Public Access	9
2.3.3 Shoreline Modifications	10
2.4 Urban Mixed.....	10
2.4.1 Existing Land Use.....	11
2.4.2 Parks and Open Space/Public Access	11
2.4.3 Shoreline Modifications	11
2.5 Natural Environment	12
2.5.1 Existing Land Use.....	12
2.5.2 Parks and Open Space/Public Access	12
2.5.3 Shoreline Modifications	13
2.6 Aquatic Environment.....	13
2.7 Biological Resources and Critical Areas.....	13
3 Anticipated Development and Potential Effect on Function	14
3.1 Patterns of Shoreline Activity.....	14
3.2 Residential Development (Residential – L and Residential M/H).....	15
3.3 Higher Intensity Development (Urban Mixed).....	18
3.4 Overwater Structures	20
3.5 Shoreline Stabilization	22
4 Protective SMP Provisions	25
4.1 Environment Designations	25
4.2 General Goals, Policies and Regulations.....	32
5 Effect of Other Programs	33
5.1 Washington Department of Fish and Wildlife	33
5.2 Washington Department of Ecology.....	33
5.3 U.S. Army Corps of Engineers	34

6	Restoration Opportunities	34
7	Assessment of Cumulative Impacts	35
8	Net Effect on Ecological Function	43
9	References	44
10	List of Acronyms and Abbreviations.....	45

LIST OF EXHIBITS

Exhibit 1.	Department of Ecology Illustration to Achieve “no net loss”	2
Exhibit 2.	Relationship between Parcel Depth and Existing Structure Setback in the Residential – Low Shoreline Environment.....	5
Exhibit 3.	Relationship between Parcel Depth and Existing Structure Setback in the Residential – Medium/High Shoreline Environment.	8

LIST OF TABLES

Table 1.	Length of Shoreline Frontage and Shoreline Area by Environment Designation.....	3
Table 2.	Existing shoreline residential structure setback data for the Residential – L environment.....	4
Table 3.	Shoreline armoring in the Residential – L environment.....	6
Table 4.	In-water structures in the Residential – L environment.	6
Table 5.	Existing shoreline residential structure setback data for the Residential – M/H environment.	7
Table 6.	Shoreline armoring in the Residential – M/H environment.	8
Table 7.	In-water structures in the Residential – M/H environment.....	9
Table 8.	Shoreline armoring in the Urban Conservancy environment.....	10
Table 9.	In-water structures in the Urban Conservancy environment.	10
Table 10.	Existing shoreline primary structure setback data for the Urban Mixed environment.....	11
Table 11.	Shoreline armoring in the Urban Mixed environment.	12
Table 12.	In-water structures in the Urban Mixed environment.....	12
Table 13.	Shoreline Permit History in the City of Kirkland Since 1991.....	14
Table 14.	Anticipated Quantity of New Piers in the City of Kirkland by Environment Designation.....	21
Table 16.	Shoreline Use and Activities Matrix	26

Table 17. Qualitative Assessment of Cumulative Impacts 37

APPENDICES

Appendix A – Environment Designation Maps

Appendix B – Figures

Figures 1a-1d: Redevelopable Parcels

Figure 2: Vacant Parcels

Figures 3a-3f: Primary Structure Setbacks

Figure 4: Shoreline Setback Regulation for Lake Ave West R-L Area

Figures 5a-5e: Shoreline Setback Regulation for R-M/H and UM Environments

Figures 6a-6d: Shoreline Setback Regulation for R-L Environments (not including Lake Ave West)

Appendix ~~B~~C – Pier Analysis

SHORELINE CUMULATIVE IMPACTS ANALYSIS

FOR CITY OF KIRKLAND SHORELINE MASTER PROGRAM

1 INTRODUCTION

The Shoreline Management Act guidelines (Washington Administrative Code [WAC] 173-26, Part III) require local shoreline master programs (SMPs) to regulate new development to “achieve no net loss of ecological function.” The guidelines state that, “To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts” (WAC 173-26-186(8)(d)).

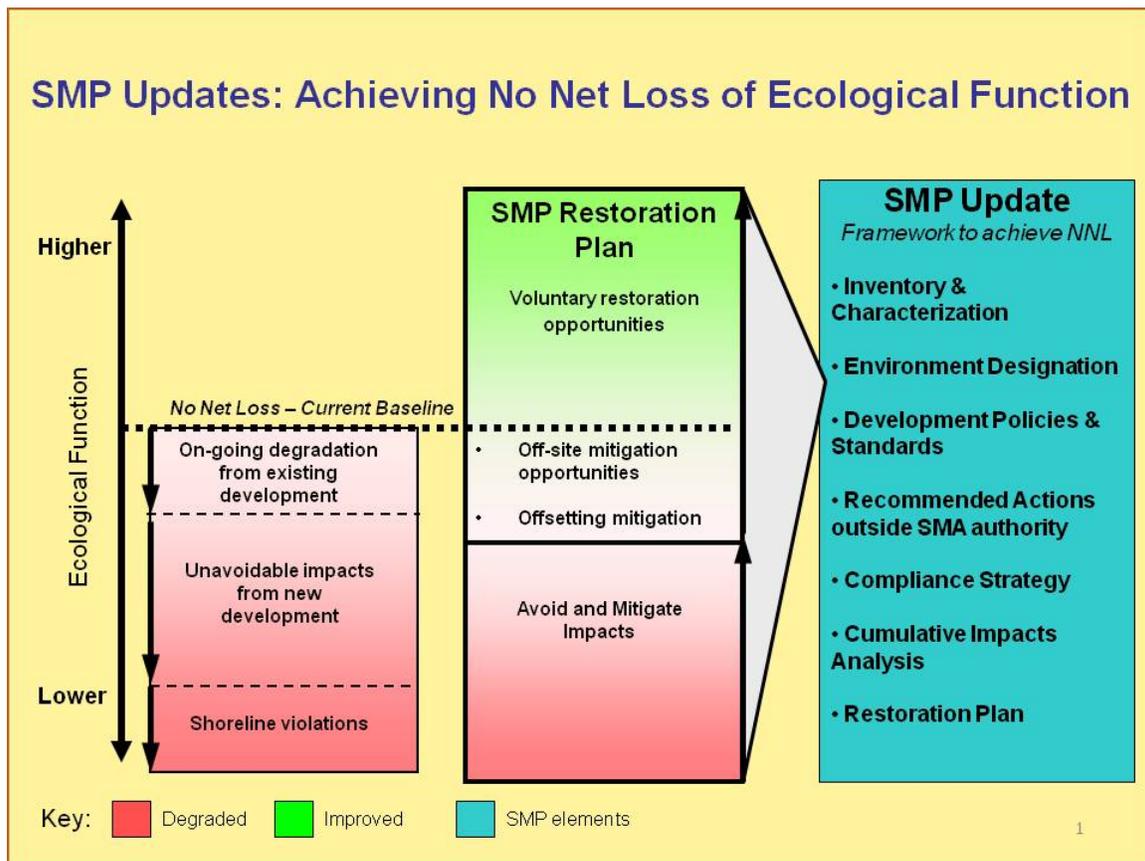
The guidelines further elaborate on the concept of net loss as follows:

“When based on the inventory and analysis requirements and completed consistent with the specific provisions of these guidelines, the master program should ensure that development will be protective of ecological functions necessary to sustain existing shoreline natural resources and meet the standard. 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 shoreline resources and values as they currently exist. Where uses or development that impact ecological functions are necessary to achieve other objectives of RCW 90.58.020, master program provisions shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions.” [WAC 173-206-201(2)(c)]

In short, updated SMPs shall contain goals, policies and regulations that prevent degradation of ecological functions relative to the existing conditions as documented in that jurisdiction’s characterization and analysis report. For those projects that result in degradation of ecological functions, the required mitigation must return the resultant ecological function back to the baseline. This is illustrated in Exhibit 1 below. The jurisdiction must be able to demonstrate that it has accomplished that goal through an

analysis of cumulative impacts that might occur through implementation of the updated SMP. Evaluation of such cumulative impacts should consider:

- (i) current circumstances affecting the shorelines and relevant natural processes;
- (ii) reasonably foreseeable future development and use of the shoreline; and
- (iii) beneficial effects of any established regulatory programs under other local, state, and federal laws.”



Source: Department of Ecology

Exhibit 1. Department of Ecology Illustration to Achieve “No Net Loss”

As outlined in the Shoreline Restoration Plan prepared as part of this SMP update, the SMA also seeks to restore ecological functions in degraded shorelines. This cannot be required by the SMP at a project level, but Section 173-26-201(2)(f) of the Guidelines says: “master programs shall include goals and policies that provide for restoration of such impaired ecological functions.” See the Shoreline Restoration Plan for additional discussion of SMP policies and other programs and activities in Kirkland that contribute to the long-term restoration of ecological functions relative to the baseline condition.

The following information and analysis provided in this report provides an overview by proposed environment designation of existing conditions, anticipated development, relevant Shoreline Master Program (SMP) and other regulatory provisions, and the expected net impact on ecological function.

2 EXISTING CONDITIONS

The following summary of existing conditions is based on the Final Shoreline Analysis Report (The Watershed Company 2006) and additional analysis needed to perform this assessment. This discussion has been divided by proposed shoreline environment designations. As shown in Figure 1 in Appendix A, these include Residential – L, Residential M/H, Urban Mixed, Urban Conservancy, Natural, and Aquatic designations. The Shoreline Analysis Report includes an in-depth discussion of the topics below, as well as information about transportation, stormwater and wastewater utilities, impervious surfaces, and historical/archaeological sites, among others.

As shown in Table 1, nearly 40 percent of the City’s shoreline frontage and over 60 percent of the City’s total shoreline area is designated Natural or Urban Conservancy, the designations assigned to those lands that have higher levels of ecological function and the lower levels of existing and allowed alteration. The majority of the City’s shoreline development is concentrated in the remaining 60 percent of the shoreline frontage and 40 percent of the shoreline area, in areas that generally have lower level of ecological function as a result of that development.

Table 1. Length of Shoreline Frontage and Shoreline Area by Environment Designation

Environment Designation	Waterfront Length	Percent of Total Shoreline Frontage	Area in Shoreline Jurisdiction	Percent of Total Shoreline Area
Natural (N)	8,312 Feet (1.57 Miles)	26%	143 acres	58%
Urban Conservancy (UC)	4,514 Feet (0.85 Miles)	14%	18 acres	7%
Residential – Low (R-L)	8,123 Feet (1.54 Miles)	25%	31 acres	13%
Residential – Medium/High (R-M/H)	6,204 Feet (1.18 Miles)	19%	30 acres	12%
Urban Mixed (UM)	5,043 Feet (0.96 Miles)	16%	24 acres	10%
TOTAL	32,196 Feet (6.1 Miles)	100%	245	100%

It is important to note that overall Kirkland’s shoreline zone is generally deficient in high-quality biological resources and critical areas, with the exception of the wetlands and shoreline areas within and adjacent to Yarrow Bay and Juanita Bay.

2.1 Residential – L Environment

Approximately 13 percent of the City’s upland shoreline jurisdiction is in the Residential – L environment. Results from Kirkland’s Shoreline Analysis Report (The Watershed Company 2006) show that the majority of the Residential – L environment contains Medium functioning shoreline. Two small areas of Residential – L environment are located along Lake Washington Boulevard, in an area rated as Low functioning. These shoreline analysis results are based on a relative scale of shoreline conditions throughout Kirkland, including the information provided below.

2.1.1 Existing Land Use

The shoreline within the Residential – L environment is exclusively single-family residential. In general, the land area designated as Residential – L is fully developed, containing approximately 35 percent impervious surface. Expansion, redevelopment or alteration to existing single-family units will occur over time [\(see Figures 1a-d in Appendix B\)](#). The Residential – L environment contains 117 lots, 97 of which abut the water. Two lots are vacant, including one waterfront lot [\(see Figure 2 in Appendix B\)](#).

The existing median residential structure setback in the Residential – L environment is approximately 43 feet from the ordinary high water mark (OHWM) [\(see Figures 3a-f in Appendix B\)](#). However, the median distance from the OHWM to improvements (either paved surfaces or other accessory structures) is approximately 36 feet. Table 2 presents data on existing residential structure setbacks on parcels within the Residential – L environment. As Table 2 shows, 23 (24%) of the 97 waterfront parcels have residential structures located less than 30 feet (non-conforming structures) from the OHWM. Of the remaining developed lots, 53 (55%) have residential structures between 30 and 60 feet from OHWM, and 22 (23%) have residential structures greater than 60 feet from the OHWM.

Table 2. Existing shoreline residential structure setback data for the Residential – L environment.

Measure of residential structure setback	Number of Waterfront Parcels
Total Waterfront Parcels	97
Structures < 30 ft from OHWM	23
Structures 30 - 60 ft. from OHWM	53
Structures > 60 ft. from OHWM	22

In general, setbacks ranged widely from essentially 0 feet to 232 feet. Setbacks at individual properties seem to be based on several factors, including local topography, lot depth (see Exhibit 2), and location of the sewer line. A cluster of very shallow lots corresponding to very small existing structure setbacks is located south of the Heritage Park street end to just north of Marina Park.

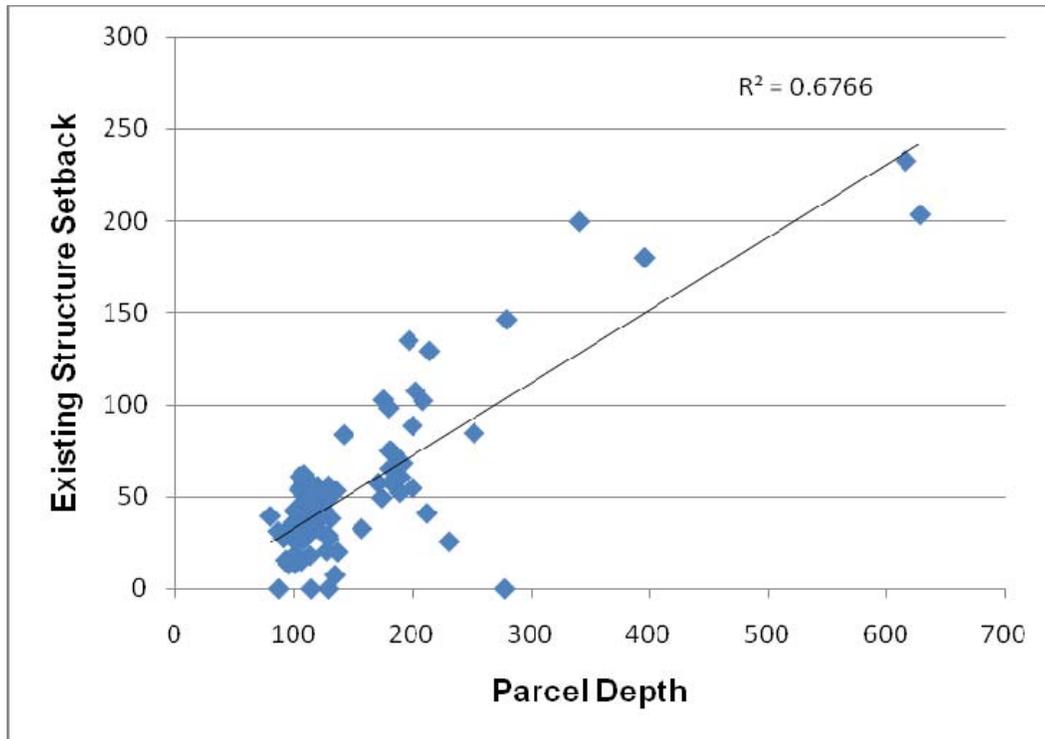


Exhibit 2. Relationship between Parcel Depth and Existing Structure Setback in the Residential – Low Shoreline Environment.

2.1.2 Parks and Open Space/Public Access

There are no formal public parks or open spaces within the Residential – L environment. However, there are several waterfront street ends, though these are presently not developed or used for public purposes.

2.1.3 Shoreline Modifications

The Residential – L environment is heavily modified with just over 88 percent of the shoreline armored at or near the OHWM (Table 3) (see Figures 7a-7e in the Shoreline Analysis Report) and a pier density of approximately 56 piers per mile (Table 4). This compares to 71 percent armored and 36 piers per mile for the entire Lake Washington shoreline (Toft 2001). Thus, for Kirkland’s Residential – L environment, pier density and shoreline armoring are much higher than the lake-wide figures.

Table 3. Shoreline armoring in the Residential – L environment.

Shoreline Condition (feet / % of shoreline)	
Armored ¹	Natural / Semi-Natural ²
7,148 (88%)	975 (12%)

- ¹ “Armored” shorelines encompass angular or rounded granite or basalt boulder, concrete, and wood armoring types.
- ² “Natural/Semi-Natural” shorelines captures those areas that are not solidly armored at the ordinary high water line; they may include some scattered boulders or woody debris at or near the ordinary high water line.

Table 4. In-water structures in the Residential – L environment.

Total Number of Piers	Average Number of Piers per Mile	Total Overwater Cover (square feet)
90	56	73,947

It is not uncommon around Lake Washington for some historic fills to be associated with the original bulkhead construction, usually to create a more level or larger yard. Most of these shoreline fills occurred at the time that the lake elevation was lowered during construction of the Hiram Chittenden Locks.

2.2 Residential – M/H Environment

Approximately 12 percent of the City’s upland shoreline jurisdiction is in the Residential – M/H environment. Results from Kirkland’s Shoreline Analysis Report (The Watershed Company 2006) show that the majority of the Residential – M/H environment contains Low functioning shoreline. However, one small area of Residential – M/H environment is located just west of Juanita Beach Park, in an area rated as High functioning. A second area of Residential – M/H environment is located just north of Marina Park, in an area rated as Medium functioning. These shoreline analysis results are based on a relative scale of shoreline conditions throughout Kirkland, including the information provided below.

2.2.1 Existing Land Use

The shoreline within the Residential – M/H environment is comprised of both single- and multi-family residential uses. In general, the land area is fully developed, containing approximately 54 percent impervious surface. Expansion, redevelopment or alteration to existing multi-family units will occur over time (see Figures 1a-d in

[Appendix B](#)). The Residential – M/H environment contains 92 lots, 57 of which abut the water. Five lots are vacant, including four waterfront lots [\(see Figure 2 in Appendix B\)](#).

The existing median residential structure setback in the Residential – M/H environment is approximately 24 feet from the ordinary high water mark (OHWM) [\(see Figures 3a-f in Appendix B\)](#). However, the median distance from the OHWM to improvements (either paved surfaces or other accessory structures) is approximately 15 feet. Table 5 presents data on existing residential structure setbacks on parcels within the Residential – M/H environment. As Table 5 shows, 28 (50%) of the 56 waterfront parcels have residential structures located less than 25 feet from the OHWM. Of these, six residential condominium structures were built out over the water. Of the remaining developed lots, 15 (27%) have residential structures between 25 and 40 feet from OHWM, and 13 (23%) have residential structures greater than 40 feet from OHWM.

Table 5. Existing shoreline residential structure setback data for the Residential – M/H environment.

Measure of primary structure setback	Number of Waterfront Parcels
Total Waterfront Parcels	56
Structures < 25 ft from OHWM	28
Structures 25 - 40 ft. from OHWM	15
Structures > 40 ft. from OHWM	13

In general, setbacks ranged widely from essentially 0 feet to 134 feet. This environment also contains several buildings constructed over the water and supported on pilings. Similar to the Residential – L environment, setbacks at individual properties seem to be based on several factors, including lot depth (see Exhibit 3) and location of the sewer line. However, the correlation is not as strong. This is likely because most of the existing multi-family developments attempt to maximize number of units on a given parcel, making it a higher priority to push the development closer to the water.

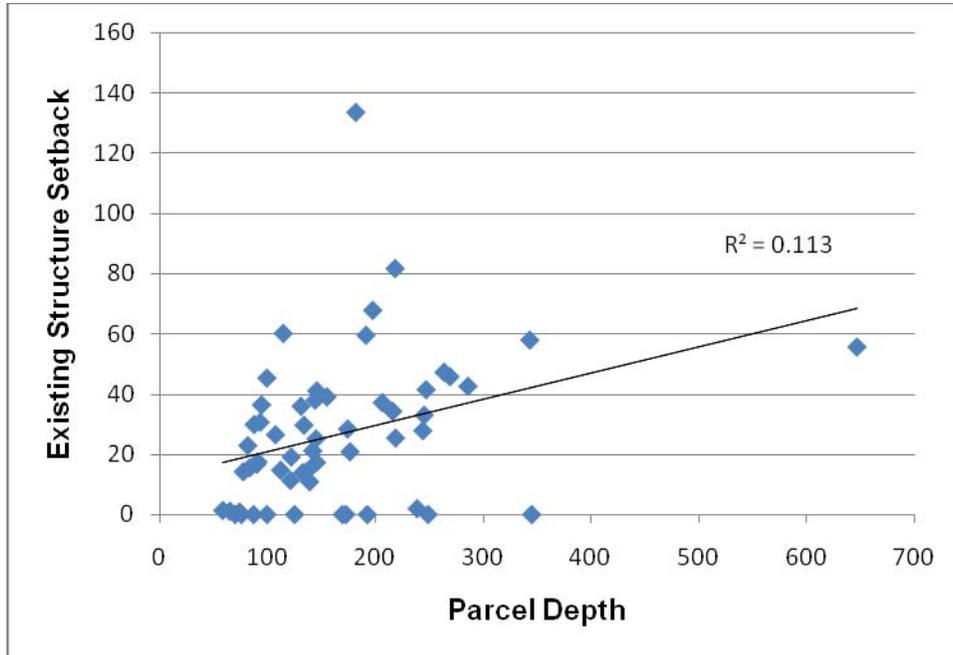


Exhibit 3. Relationship between Parcel Depth and Existing Structure Setback in the Residential – Medium/High Shoreline Environment.

2.2.2 Parks and Open Space/Public Access

There are no formal public parks or open spaces within the Residential – M/H environment.

2.2.3 Shoreline Modifications

The Residential – M/H environment is heavily modified with just over 89 percent of the shoreline armored at or near the OHWM (Table 6) (see Figures 7a-7e in the Shoreline Analysis Report) and a pier density of approximately 42 piers per mile (Table 7). This compares to 71 percent armored and 36 piers per mile for the entire Lake Washington shoreline (Toft 2001). Thus, for Kirkland’s Residential – M/H environment, pier density and shoreline armoring are both higher than the lake-wide figures, although pier density is lower than the Residential –L environment.

Table 6. Shoreline armoring in the Residential – M/H environment.

Shoreline Condition (feet / % of shoreline)	
Armored ¹	Natural / Semi-Natural ²
5,522 (89%)	682 (11%)

¹ “Armored” shorelines encompass angular or rounded granite or basalt boulder, concrete, and wood armoring types.

² “Natural/Semi-Natural” shorelines captures those areas that are not solidly armored at the ordinary high water line; they may include some scattered boulders or woody debris at or near the ordinary high water line.

Table 7. In-water structures in the Residential – M/H environment.

Total Number of Piers	Average Number of Piers per Mile	Total Overwater Cover (square feet)
49	42	145,571

2.3 Urban Conservancy

Approximately 7 percent of the City’s shoreline jurisdiction is in the Urban Conservancy environment. Results from Kirkland’s Shoreline Analysis Report (The Watershed Company 2006) show that the Urban Conservancy environment contains areas rated at all three levels of shoreline ecological function (Low, Medium, and High). The area just west of the Juanita Beach Park swimming beach is rated as High. Kiwanis Park, Waverly Park, and the Lave Avenue West Street-end Park are each rated as Medium. Finally, the parks/open spaces located south of Marina Park and north of the Yarrow Bay Wetlands are rated as Low. These shoreline analysis results are based on a relative scale of shoreline conditions throughout Kirkland, including the information provided below.

2.3.1 Existing Land Use

The Urban Conservancy environment is comprised entirely of City-owned parks and street-ends designated as Park/Open Space per the City’s Comprehensive Plan. The land area contains approximately 23 percent impervious surface. The existing median primary structure setback in the Urban Conservancy environment is 31 feet, and the mean is 37 feet (see Figures 3a-f in Appendix B). There are 14 parcels in the Urban Conservancy environment, 10 of which abut the water. Nine lots are vacant (likely undeveloped street-ends or parks), including six waterfront lots (see Figure 2 in Appendix B).

2.3.2 Parks and Open Space/Public Access

The City parks listed below provide public access to Lake Washington, as well as provide opportunities for water-dependent, water-related, and water-enjoyment recreational uses.

- Houghton Beach Park
- Marsh Park
- Settler’s Landing
- David Brink Park

- Street-end Park
- Lake Avenue West Street-end Park
- Kiwanis Park
- Waverly Beach Park
- Juanita Beach Park

The western portion of Juanita Beach Park, containing Juanita Creek and its associated stream buffer, is designated as Urban Conservancy. However, the heavily used beach area is designated as Urban Mixed (see below).

2.3.3 Shoreline Modifications

The Kirkland shoreline in the Urban Conservancy environment has been modified with approximately 60 percent of the shoreline armored (Table 8) (see Figures 7a -7e in the Shoreline Analysis Report) at or near the OHWM and a total of approximately 7 piers per mile (Table 9). As expected, pier density and shoreline armoring along Kirkland’s Urban Conservancy environment is significantly lower than the lake-wide figures.

Table 8. Shoreline armoring in the Urban Conservancy environment.

Shoreline Condition (feet / % of shoreline)	
Armored ¹	Natural / Semi-Natural ²
2,708 (60%)	1,806 (40%)

- ¹ “Armored” shorelines encompass angular or rounded granite or basalt boulder, concrete, and wood armoring types.
- ² “Natural/Semi-Natural” shorelines captures those areas that are not solidly armored at the ordinary high water line; they may include some scattered boulders or woody debris at or near the ordinary high water line.

Table 9. In-water structures in the Urban Conservancy environment.

Total Number of Piers	Average Number of Piers per Mile	Total Overwater Cover (square feet)
18	24	23,206

2.4 Urban Mixed

Approximately 10 percent of the City’s upland shoreline jurisdiction is in the Urban Mixed environment. Results from Kirkland’s Shoreline Analysis Report (The Watershed Company 2006) show that the majority of the Urban Mixed environment contains Low

functioning shoreline. However, the majority of Juanita Beach Park and the adjoining multi-family uses to the east are included in an area rated as High functioning. These shoreline analysis results are based on a relative scale of shoreline conditions throughout Kirkland, including the information provided below.

2.4.1 Existing Land Use

The shoreline within the Urban Mixed environment is comprised of a variety of uses including higher-intensity park/open space (relative to Urban Conservancy or Natural parks), some multi-family residential, and commercial. In general, the land area is fully developed, containing approximately 56 percent impervious surface. The Urban Mixed environment contains 40 lots, 15 of which abut the water. Four lots are vacant, including two waterfront lots (see Figure 2 in Appendix B).

The existing median primary structure setback in the Urban Mixed environment is 28 feet from the ordinary high water mark (OHWM) (see Figures 3a-f in Appendix B). However, the median distance from the OHWM to improvements (either paved surfaces or other accessory structures) is approximately 11 feet. Table 10 presents data on existing residential structure setbacks on parcels within the Urban Mixed environment. As Table 10 shows, 4 (31%) of the 13 waterfront parcels have primary structures located less than 25 feet from the OHWM. Of the remaining developed lots, 5 (38%) have primary structures between 25 and 40 feet from OHWM, and 4 (31%) have primary structures greater than 40 feet from OHWM.

Table 10. Existing shoreline primary structure setback data for the Urban Mixed environment.

Measure of Primary Structure Setback	Number of Waterfront Parcels
Total Developed Waterfront Parcels	13
Structures < 25 ft from OHWM	4
Structures 25 - 40 ft. from OHWM	5
Structures > 40 ft from OHWM	4

2.4.2 Parks and Open Space/Public Access

Both Marina Park, located in downtown Kirkland, and the swimming beach at Juanita Beach Park are designated as Urban Mixed.

2.4.3 Shoreline Modifications

The Urban Mixed environment is heavily modified with just over 80 percent of the shoreline armored at or near the OHWM (Table 11) (see Figures 7a-7e in the Shoreline Analysis Report) and a pier density of approximately 14 piers per mile (Table 12). Thus, for Kirkland’s Urban Mixed environment, pier density is lower but shoreline armoring is higher than the lake-wide figures.

Table 11. Shoreline armoring in the Urban Mixed environment.

Shoreline Condition (feet / % of shoreline)	
Armored ¹	Natural / Semi-Natural ²
4,034 (80%)	1,009 (20%)

- ¹ “Armored” shorelines encompass angular or rounded granite or basalt boulder, concrete, and wood armoring types.
- ² “Natural/Semi-Natural” shorelines captures those areas that are not solidly armored at the ordinary high water line; they may include some scattered boulders or woody debris at or near the ordinary high water line.

Table 12. In-water structures in the Urban Mixed environment.

Total Number of Piers	Average Number of Piers per Mile	Total Overwater Cover (square feet)
13	14	157,824

2.5 Natural Environment

Approximately 58 percent of the City’s upland shoreline jurisdiction is in the Natural environment. These areas all rate as High for existing shoreline ecological function (The Watershed Company 2006).

2.5.1 Existing Land Use

The shoreline within the Natural environment is predominately park/open space, though there are some privately held undeveloped properties located in both the Yarrow Bay and Juanita Bay wetland complexes. The Natural environment contains only 1 percent impervious surface. There are a number of existing, undeveloped lots located within this environment. The Natural environment contains all or portions of 73 lots, 16 of which abut the water. Forty-one lots are vacant, including thirteen waterfront lots ([see Figure 2 in Appendix B](#)). However, only one of these lots has the potential for development within shoreline jurisdiction due to critical area restrictions ([see Figures 1a and 1d in Appendix B](#)). The remaining lots are either owned by the City, or are encumbered by associated wetlands but have upland area outside of shoreline jurisdiction that may accommodate new development.

2.5.2 Parks and Open Space/Public Access

Yarrow Bay Park, Juanita Bay Park and their associated wetlands are designated as Natural.

2.5.3 Shoreline Modifications

The Natural environment contains no shoreline armoring at or near the OHWM (see Figures 7a-7e in the Shoreline Analysis Report) and a very low pier density of approximately 1 pier per mile. Two piers are located within Juanita Bay Park. Thus, as expected, pier density and shoreline armoring within Kirkland's Natural environment are both extremely low compared to the lake-wide figures.

2.6 Aquatic Environment

The Aquatic environment encompasses all areas waterward of the ordinary high water mark of Lake Washington contained within the City limits. The purpose of this designation is to protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high water mark. Regulations and performance standards that apply to individual uses and developments are evaluated under the above designations and uses.

2.7 Biological Resources and Critical Areas

With the exception of the wetlands and shoreline areas within and adjacent to Yarrow Bay and Juanita Bay, Kirkland's shoreline zone itself is generally deficient in high-quality biological resources and critical areas, primarily because of the extensive residential and commercial development and their associated shoreline modifications. Outside of the shoreline associated wetlands, the highest functioning shoreline areas are primarily along city-owned parks and open spaces. Although not specifically separated as a distinct unit during the shoreline inventory, Kiwanis Park represents the highest quality City-owned shoreline, in terms of existing ecological functions, not including the Yarrow Bay and Juanita Bay wetland areas. Many of the parks in both the Urban Conservancy and Urban Mixed environment have the potential for the improvement of ecological functions.

There are a number of streams along the Kirkland shoreline that discharge into Lake Washington. Several, including Juanita Creek, Forbes Creek, Carillon Creek, and Yarrow Creek, are known to support fish use. Adult salmon have been documented in each of these creeks. Many of the smaller tributaries to Lake Washington, including streams that flow seasonally or during periods of heavy rains, are piped at some point and discharge directly to Lake Washington via a closed system.

3 ANTICIPATED DEVELOPMENT AND POTENTIAL EFFECT ON FUNCTION

3.1 Patterns of Shoreline Activity

The City reviewed its shoreline permitting records for the 16 years between 1991 and 2006 (Table 13). Several projects had multiple components and obtained multiple permits; the available permit summary did not consistently indicate which permit type was granted so there are a number of “unknowns.” This summary underestimates shoreline activity, as not all shoreline exemptions were tracked.

Table 13. Shoreline Permit History in the City of Kirkland Since 1991.

Year	# of Cases	Pier		Bulkhead Mod.	Upland Structure	Upland Park Mod.	Utilities	Permit Type			
		Extension/ Mod.	New/ Replacement					SDP	SCUP	Variance	Unknown
1991	1				1					1	
1992	5	2	1	1	1	1	1	4	1	1	1
1993	4		3		1			3		1	
1994	3	1	1	1	1			1	1		1
1995	9	1	1		4	1	2	4			5
1996	4		2	1	1		1	2		1	1
1997	4	2			1		1	4			
1998	5	1	1	1	4			3		3	1
1999	6	1	4		1			4		1	1
2000	4	1	1		1		1	2			2
2001	3				3					1	2
2002	2				1		1			1	1
2003	2				2						2
2004	5		2		2		1	3			2
2005	4	1	1	1		1		1			3
2006	3	3			1			1			
TOTAL	64	13	17	5	25	3	8	32	2	9	22

SDP = Shoreline Substantial Development, SCUP = Shoreline Conditional Use Permit

In addition, a number of shoreline exemptions, not included in the summary table above, have been issued for pier repairs, pier replacements, pier extensions, and bulkhead construction or repair meeting the standards contained in WAC 173-27-040. Also, the numbers below do not include single-family residential development that met the exemption standard contained in WAC 173-27-040.

No trends in shoreline activity or permit type are apparent. Over the past 16 years, 26 percent of permitted shoreline projects included a new or replacement pier component, 20 percent a pier extension or modification component, 8 percent a bulkhead modification component, 39 percent an upland structure component (for new commercial or residential construction, setback variances, etc.), 13 percent a utilities component (sewer lines, sewer lift stations, storm drain outfall dredging, etc.), and 5 percent a parks component (trails, hard landscape elements, benches, etc.). Case notes indicate that pier proposals began to include impact minimization measures, such as deck grating and narrow walkways, prescribed by state and federal agencies in 2000. Although not indicated, it is likely that several of the 1999 pier proposals included minimization measures as well, consistent with the listing of chinook salmon and bull trout as Threatened under the federal Endangered Species Act in 1999.

As indicated by the data presented above, new or replacement piers were very infrequent. Pier extensions or modifications were even less common. Bulkhead modifications were also extremely low, with only 5 applications during the 16 year review period. However, it is expected that the number of these types of proposals, except for new piers, will exceed these rates in coming years as the existing structures and modifications reach their life expectancy.

3.2 Residential Development (Residential – L and Residential M/H)

With the possible exception of limited additional residential lands being acquired for public open space (in the Natural environment of Yarrow Bay wetland complex), residential uses are limited to the Residential –L and Residential – M/H environments. While the single-family nature of Residential – L is not expected to change over the next 20 years, the mix of single- and multi-family developments may change and new development will occur in the Residential – M/H environment. On the whole, a substantial amount of re-builds and remodels are anticipated in both environments.

Typically, development of vacant lots into residential uses would result in replacement of pervious, vegetated areas with impervious surfaces and a landscape management regime that often includes chemical treatments of lawn and landscaping along with increased exterior lighting. These actions can have multiple effects on shoreline ecological functions, including:

1. Increase in surface water runoff due to reduced infiltration area and increased impervious surfaces, which can lead to excessive soil erosion and subsequent in-lake sediment deposition. This can affect the following:

Hydrologic Functions

Storing water and sediment

2. Reduction in ability of site to improve quality of waters passing through the untreated vegetation and healthy soils. This can affect the following:

Hydrologic Functions

Removing excess nutrients and toxic compounds

Vegetation Functions

Water quality improvement

3. Potential contamination of surface water from chemical and nutrient applications. This can affect the following:

Vegetation Functions

Water quality improvement

4. Elimination of upland habitat occupied by wildlife that use riparian areas. This can affect the following:

Habitat Functions

Physical space and conditions for life history

Food production and delivery

5. Lighting is known to affect both fish and wildlife in nearshore areas. This can affect the following:

Habitat Functions

Physical space and conditions for life history

Expansions and remodels of existing residences are likely to occur relatively frequently during the future. Many of these activities would not change the baseline condition of ecological function, although expansions that increase impervious surfaces may occur. Runoff from most expanded residences is clean, however, and water quantity is not an issue in the Lake Washington environment. The significance of impervious surfaces on a lake environment where water quantity is not really a factor is very diminished given the residential uses. Single-family or multi-family homes generally have clean roof and sidewalk runoff, and driveways whether 50 square feet or 5,000 square feet are typically pollution-generating surfaces only to the extent that vehicle-related pollutants are deposited on them. Most single-family homes have between two and four vehicles, regardless of the driveway area and thus the correlation between driveway area and amount of pollution is not strong. However, improperly managed runoff during and post construction could increase erosion, and could cause sediments and pollutants to enter the lake.

In the Residential – L environment, there are four lots that have capacity for further subdivision to create additional building lots, with a total capacity of approximately 17 lots. In addition, in the Residential – L environment, approximately 54 waterfront lots (roughly 56% percent) are considered to have strong redevelopment potential ([see Figures 1a-d in Appendix B](#)). Redevelopment potential was based on assumptions made for each lot related to age of the home and the ratio of improvement value to land value. As mentioned above, the existing median setback in the Residential – L environment is 43 feet. The SMP proposes a residential setback of 30 percent of the proposed lot depth, with a 30-foot minimum and a 60-foot maximum ([see Figures 6a-d in Appendix B](#)).

except for an area along Lake Avenue West south of the Lake Avenue West street end park. The latter area would have a setback based on the average of the adjacent properties, but no less than 15 feet (see Figure 4 in Appendix B). Based on the City's analysis of redevelopment potential, the resultant median setback in the Residential – L environment would be approximately 36 feet. This reduction in the median setback results in a conversion of a maximum of 1.79 acres of space between the primary structure and the OHWM to a greater level of development. As previously mentioned, two lots in Residential - L are vacant, including one waterfront lot (see Figure 2 in Appendix B). However, the waterfront lot is owned by a private utility company and the upland lot has no development potential.

In the Residential – M/H environment, approximately 20 waterfront lots (roughly 35% percent, including the vacant lots) and approximately 25 overall lots within the shoreline jurisdiction ~~that~~ are considered to have strong redevelopment potential (see Figures 1a-d in Appendix B). Redevelopment potential was based on assumptions made for each lot related to the allowed density permitted in the underlying zone and the ratio of improvement value to land value. Expansion (of structure size as well as number of multi-family dwelling units), redevelopment or alteration to existing developments will occur over time, but the majority of this environment will remain functionally unchanged.

As previously mentioned, five lots are vacant, including four waterfront lots (see Figure 2 in Appendix B). Each of these four lots has potential for new multi-family development. However, two of the lots are already altered. One lot has paved parking that appears to be used by the adjacent lot to the north, and a path to the water's edge with a bulkhead and a pier. The second lot has a substantial overwater structure paralleling the nearshore. All of the lots are narrow, between 25 and 50 feet wide; armored; and sandwiched between developments to the north and south and busy Lake Washington Boulevard/Lake Street South to the east. These lots are mostly well vegetated, with one or more trees each, but several also appear to include substantial patches of Himalayan blackberry. The small size of these low-functioning habitat areas and proximity to intensive development and roadways limits their value.

The existing median setback in the Residential – M/H environment is 24 feet. The SMP proposes a residential setback of 15 percent of the proposed lot depth, with a 25-foot minimum (see Figures 5a-e in Appendix B). Based on the City's analysis of redevelopment potential, the resultant median setback in the Residential – M/H environment would be approximately 25 feet, with the average dropping from 27 to 21 feet. This reduction in the average setback results in a conversion of a maximum of 0.74 acre of space between the primary structure and the OHWM to a greater level of development.

These conversion numbers are likely an overestimate, both in area and assumed corresponding function, as primary structures are never as wide as the lot. It also does

not factor in that much of that “lost” space is already occupied by decks, paved surfaces, lawn or other improvements that have reduced or eliminated the function of that space. Finally, because of the staggered distribution of lot depths and primary structure locations, some of that space landward of a primary structure currently set back far from the water’s edge may be greatly impacted by activities on shallower adjacent lots where the structure is located closer to the water’s edge.

However, that space, while perhaps not providing direct habitat to fish and wildlife species, did provide attenuation of exterior and interior lighting with respect to illumination of the water and immediately adjacent shorelands (Rich and Longcore 2006; Rich and Longcore 2004; Mazur and Beauchamp 2006). To offset the reduction in lighting attenuation, the SMP includes provisions in Section 83.440.4 regarding lighting shielding, direction, levels, height, and other standards.

To address the other less direct losses to shoreline function resulting from reduction in the space between primary structures and their attendant activities and the water’s edge, the SMP contains a native landscape standard in SMP 83.370 (Shoreline Vegetation Management) that requires native plantings, including trees, in at least 75 percent of the nearshore riparian area located along the water’s edge, an average of 10 feet wide in Residential – L and 15 feet wide in Residential – M/H. When a development proposal includes an increase of at least 10 percent in gross floor area of any structure located in shoreline jurisdiction or an alteration to any structure(s) in shoreline jurisdiction, the cost of which exceeds 50 percent of the replacement cost of the structure(s), the development must come into conformity with the landscape standard. Based on the anticipated level of redevelopment in the Residential – L and Residential – M/H environments, approximately 0.85 acre of native vegetation, including trees, will be installed along the water’s edge.

Although it is difficult to estimate how many property owners might take advantage of different buffer reduction options, those that do will be required to implement one or more additional ecological function improvements on the site. The amount of reduction allowed for a given improvement is at least proportional to the amount of function lost by allowing the reduction. Further, several of the improvements, such as shoreline armoring removal, would have positive effects on shoreline processes, not just improvements in function.

3.3 Higher Intensity Development (Urban Mixed)

Typically, development of vacant lots would result in replacement of pervious, vegetated areas with impervious surfaces and a landscape management regime that often includes chemical treatments of landscaping along with increased exterior lighting. These actions in the Urban Mixed environment would have identical impacts to those in the Residential – L and M/H environments as discussed above in Section 3.2.

In the Urban Mixed environment, approximately 11 lots in the Urban Mixed environment have additional capacity for development within the shoreline jurisdiction. Most of this potential redevelopment would occur in areas that are separated from the waterfront by major roads or intervening properties. Along the waterfront area, which contained 15 existing lots, only two (roughly 13% percent) are considered to have strong redevelopment potential (see Figures 1a-d in Appendix B). One of the properties has been redeveloped since the inventory was completed (Yarrow Bay Marina). The redevelopment resulted in a net increase in shoreline functions, as buildings were relocated back from the shoreline and native plantings were installed along a portion of the shoreline riparian area. Lighting was also shielded in order to limit impacts.

Redevelopment potential was based on assumptions made for each lot related to the allowed intensity of uses, the allowed density permitted in the underlying zone, and the ratio of improvement value to land value. The majority of this environment will functionally remain unchanged, particularly as a large portion of Urban Mixed is occupied by Carillon, which has already been fully developed consistent with its Master Plan. The other major Urban Mixed areas include the core downtown area, including the more intensely utilized Marina Park, and portions of Juanita Beach Park and some adjacent commercial or multi-family developments. Juanita Beach Park was not identified as having “redevelopment potential,” but it is actually the subject of a Master Plan that will effectively result in the next 20 years in ecological function improvements. Wetlands and their buffers will be enhanced, and other vegetation improvements will be made.

As mentioned above, the existing median setback in the Urban Mixed environment is 29 feet and the average setback is 38 feet. The SMP proposes a setback of 15 percent of the lot depth, with a 25-foot minimum, except for the Carillon Master Plan area which has a 20-foot setback (see Figures 1a-d in Appendix B). Based on the City’s analysis of redevelopment potential, the resultant median setback in the Urban Mixed environment would remain 29 feet, with a slight increase in the average setback to 40 feet. Maintenance of the median setback and a slight increase in the average results in maintenance of the acres of space between the primary structure and the OHWM. As previously mentioned, two waterfront lots in Urban Mixed are vacant; however, these lots are located entirely waterward of the OHWM, and as such have no development potential.

Ecological functions are not expected to change, except to improve, as a result of upland development. However, similar protective provisions that apply to residential development also apply to developments in the Urban Mixed environment. These include restrictions on lighting and a landscape standard, which may result in approximately 0.04 acres of native shoreline vegetation at the redevelopment lots. Further, developments in the Urban Mixed environment may also take advantage of setback reduction incentives that would yield function and process improvements.

3.4 Parks and Open Space Development (Natural and Urban Conservancy)

The Natural environment contains 73 lots (partially and full), 16 of which are waterfront lots. Forty-one of the lots are vacant (open space, parks, critical areas), and 13 of those about the water's edge. In the Urban Conservancy environment, there are only 14 lots and 10 of those about the water. Six vacant lots about the water, and three vacant lots are not contiguous with the water. Although the total number of vacant lots is high in these environments, the actual potential for new and redevelopment in the Natural and Urban Conservancy environments is extremely limited ([see Figures 1a-d in Appendix B](#)). First, because most of these properties are public park lands, and second, because many of the remaining properties are completely or substantially encumbered by critical areas (primarily wetlands). The lots in the Urban Conservancy environment are entirely public park property, and no major developments are anticipated. In the Natural environment, the City does not anticipate any new development. On many of the parcels, the portions of the parcel in shoreline jurisdiction are wetland. However, most of these parcels are anticipated to have sufficient upland area (outside of shoreline jurisdiction) to accommodate a single-family house.

Most of the anticipated activities within the City's Natural and Urban Conservancy parks would include routine maintenance and upkeep of existing facilities or restoration elements – replacement of pier decking with grating, removal or enhancement of shoreline armoring, increases in native shoreline vegetation, and restoration of Juanita Creek within shoreline jurisdiction, for example.

In shoreline jurisdiction, ecological functions are not expected to change, except to improve, as a result of shoreland activities.

3.5 Overwater Structures

Piers can adversely affect ecological functions and habitat in the following ways:

1. Alter patterns of natural light transmission to the water column, affecting macrophyte growth and altering habitat for and behavior of aquatic organisms, including juvenile salmon. This can affect the following:

Habitat Functions

Physical space and conditions for life history
Food production and delivery

2. Interfere with long-shore movement of sediments, altering substrate composition and development. This can affect the following:

Hydrologic Functions

Attenuating wave energy

3. Contribute to contamination of surface water from chemical treatments of structural materials. This can affect the following:
 - Hydrologic Functions**
 - Removing excess nutrients and toxic compounds*
4. Pier lighting is known to affect fish movement and predation. This can affect the following:
 - Habitat Functions**
 - Physical space and conditions for life*

Overwater structures encompass a variety of uses, from in-water structures, such as fixed-pile piers and floating docks, to moorage covers, such as canopies and boathouses with associated boatlifts. This discussion does not include overwater multi-family residential structures. It is difficult to determine exactly how many waterfront properties do not have a pier or pier access, particularly as many piers are located near property lines and thus it is possible that those may be shared with the adjacent property. However, Table 14 provides some indication of the potential for new piers based on existing conditions and trends.

Table 14. Anticipated Quantity of New Piers in the City of Kirkland by Environment Designation.

Shoreline Environment	# of Lots with Pier(s)	# of Lots without Pier(s)	Probable New Piers
Residential – L	90 (with approximately 2 existing joint piers)	9 (including three waterfront street ends)	6 (5 single-family and 1 joint-use)
Residential – M/H	45 (with approximately 3 existing joint piers)	11 (including one waterfront street end)	5 (assume community)
Urban Mixed	10 (includes public piers)	3	1
Urban Conservancy	5 (at park, rather than a single lot and includes public piers)	2 (including community-owned property near Juanita Beach)	0
			12

Under the proposed SMP, new piers will be smaller and narrower than piers approved under the original SMP. New and replacement piers will also include light-transmitting decking material, which will reduce the impact of the overwater cover. Nevertheless, if new piers were the only pier-related activity, ecological function would still decline. The decline would be due to an unavoidable net increase in in-water structures and overwater cover that can be minimized but not entirely mitigated.

However, pier repair and pier maintenance activities are more common, and it is anticipated that pier replacement proposals may become even more common as existing piers degrade or do not meet the property owner's needs in their current configuration

or location. Under the proposed SMP, replacement piers are considered new moorage structures and must meet the dimensional criteria for new private piers or be otherwise approved by State and Federal agencies (Washington Department of Fish and Wildlife and the U.S. Army Corps of Engineers) (KZC 83.280.6). Any pier repair which involves the replacement of more than 60 percent of the pier support piles along with pier decking or sub-structure over a five year period must also meet the dimensional criteria of new private piers. Pier repairs (KZC 83.280.8) would include decking and/or sub-structure replacement and up to 60 percent pile replacement. Repairs which involve full deck replacement must install grated surfaces within the nearshore 30 feet.

A summary of the quantitative analysis is provided below (Table 15, full analysis provided in Appendix BC), based on City trends and assumptions. Based on the trends and assumptions made regarding new piers, pier replacement, pier repairs, and pier additions, the total area of effective¹ overwater cover would decline by 4.2 percent over a 20-year time period.

Table 15. Summary of Pier Analysis

Existing Overwater Coverage	
Total existing overwater coverage - single-family	93,384
Total existing overwater coverage - multi-family	59,867
Total existing overwater coverage - commercial	133,516
Total existing overwater coverage - public	32,218
Total existing overwater coverage (square footage)	318,985
Effective Overwater Coverage at Buildout	
Total overwater cover at buildout - single-family	85,908
Total overwater cover at buildout - multi-family	65,747
Total overwater cover at buildout - commercial	133,199
Total overwater cover at buildout - public	20,820
Total effective overwater coverage at buildout (square footage)	305,675
Change in Effective Overwater Coverage at Buildout	
Net change in overwater cover - single-family	-7,476
Net change in overwater cover - multi-family	5,880
Net change in overwater cover - commercial	-317
Net change in overwater cover - public	-11,398
TOTAL CHANGE IN EFFECTIVE OVERWATER COVER AT BUILDOUT	-13,310
PERCENTAGE DECREASE IN OVERWATER COVER AT BUILDOUT	-4.2%

¹ Note: “Effective” overwater cover is a measure of the actual solid footprint that shades the water, rather than the structure’s total footprint. Use of grated decking with a minimum of 40% open space reduces the adverse impacts of the overwater structure, even though the traditional structure footprint may increase.

The proposed regulations (SMP 83.280 and 83.290) have specifically been crafted to avoid and minimize the following specific potential impacts as outlined below:

1. Growth of aquatic vegetation: Overwater cover is minimized through size and height restrictions for new piers (SMP 83.280(5) and 83.290(3)), restricting size of replacement structures (SMP 83.280(6) and 83.290(3)), and requiring grated decking (SMP 83.280(5-8) and SMP 83.290(3)).
2. Juvenile salmon migration: Impacts to juvenile salmon migration are mitigated via the same provisions listed under #1 above. Additionally, new piers must be mitigated through the addition of shoreline vegetation (SMP 83.280(5)(g)).
3. Sediment movement. Piles and floats are restricted in the nearshore area (SMP 83.280(5) and SMP 83.290(3)). The use of jetties or groins are prohibited in most environments, except they are allowed only with a Conditional Use Permit in the Urban Mixed and Aquatic environments unless they are part of a restoration project (SMP 83.170).
4. Chemical contamination: Piers and other structures shall be constructed of materials that will not adversely affect water quality (SMP 83.280(3)(a)(2) and SMP 83.290(3)).
5. External lighting impacts: Placement and direction of external lighting is restricted to minimize impacts (SMP 83.440(4)(a)(2)).

3.6 Shoreline Stabilization

Bulkheads typically have the following effects on ecological functions:

1. Reduction in nearshore habitat quality for juvenile salmonids and other aquatic organisms. Specifically, shoreline complexity and emergent vegetation that provides forage and cover may be reduced or eliminated. Elimination of shallow-water habitat may also increase vulnerability of juvenile salmonids to aquatic predators. This can affect the following:
 - Habitat Functions**
 - Physical space and conditions for life history*
 - Food production and delivery*
2. Reduction of natural sediment recruitment from the shoreline. This recruitment is necessary to replenish substrate and preserve shallow water conditions. This can affect the following:
 - Habitat Functions**
 - Physical space and conditions for life history*
3. Increase in wave energy at the shoreline if shallow water is eliminated, resulting in increased nearshore turbulence that can be disruptive to juvenile fish and other organisms. This can affect the following:

Hydrologic Functions

Attenuating wave energy

Habitat Functions

Physical space and conditions for life history

Repairs and replacements of existing bulkheads perpetuate those conditions. There have been no new bulkhead permit applications, and only five bulkhead modification permits issued in the last 16 years. Future proposals are likely to be bulkhead repairs and replacements rather than new bulkheads.

The updated SMP states that new shoreline stabilization would only be allowed when “conclusive evidence, documented by a geotechnical analysis, is provided that the structure is in danger from shoreline erosion caused by waves...” It must be demonstrated in a study prepared by a qualified professional that the proposed stabilization is the least harmful method to the environment. Replacement bulkheads must be installed in the same location as the existing bulkhead, or farther landward, and must also demonstrate some level of need for a hardened shoreline stabilization measure. Under no circumstances would a replacement bulkhead be allowed to encroach farther waterward. Finally, all shoreline stabilization and modification proposals must avoid impacts to the maximum extent practicable; use the “softest” stabilization approach feasible; and, when impacts are unavoidable, mitigate those impacts to achieve no net loss of ecological functions. Independent of regulations by other regulatory agencies, the proposed SMP ensures that shoreline stabilization projects will not degrade the baseline condition. Further, the proposed SMP includes incentives for the removal or function enhancement of existing bulkheads in exchange for buffer reduction.

The proposed regulations (**SMP 83.300**) have specifically been crafted to avoid and minimize the following specific potential impacts as outlined below:

1. Reduced shoreline complexity: Shoreline vegetation is required mitigation for significant new upland construction (**SMP 83.370**), as an incentive option in exchange for a shoreline setback reduction (**SMP 83.360**), as well as new pier proposals (**SMP 83.280(5)(g)**). Implementation of soft shoreline stabilization techniques (defined in **SMP 83.80**) will also improve shoreline complexity (**SMP 83.300**).
2. Lack of wave attenuation: Wave attenuation should be improved through the implementation of soft shoreline stabilization techniques as identified in #1 above. Some fill waterward of OHWM may occur to enhance nearshore functions (**SMP 83.300(3)(b)(4)**).

Over time, the combined effects of the City's proposed SMP will likely result in a reduction over time of the net amount of hardened shoreline at the ordinary high water mark and an increase in shallow-water habitat.

4 PROTECTIVE SMP PROVISIONS

4.1 Environment Designations

The first line of protection of the City's shorelines is the environment designation assignments. The Natural environment, which comprises nearly 60 percent of the total shoreline area, is the most restrictive, but closely followed by the Urban Conservancy environments. In some respects, the Residential – L, Residential – M/H and Urban Mixed environments are as, or more, restrictive than the other two environments.

Table 16 below identifies the prohibited and allowed uses and modifications in each of the shoreline environments, and clearly shows a hierarchy of higher-impacting uses and modifications being allowed in the already highly altered shoreline environments. This strategy helps to minimize cumulative impacts by concentrating development activity in lower functioning areas that are not likely to experience function degradation with incremental increases in new development.

Table 16. Shoreline Use and Activities Matrix

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
SHORELINE USE						
Resource Land Uses						
Agriculture	X	X	X	X	X	X
Aquaculture	X	X	X	X	X	X
Forest practices	X	X	X	X	X	X
Mining	X	X	X	X	X	X
Commercial Uses						
Water-dependent uses						
Float plane landing and mooring facilities ²	X	X	X	X	CU	See adjacent upland environments
Water-related, water-enjoyment commercial uses						
Any water-oriented Retail Establishment other than those specifically listed in this chart, selling goods or providing services.	X	SD ³	X	X	SD	X
Retail Establishment providing new or used Boat Sales or Rental	X	SD ³	X	CU ^{4,6}	SD ⁵	See adjacent upland environments

² Limited to water-based aircraft facilities for air charter operations.

³ Permitted as an accessory use to a Public Park.

⁴ Permitted if located on the west side of Lake Washington Lake Blvd NE/Lake St S south of Lake Avenue West and north of NE 52nd Street.

⁵ Permitted in the Juanita Business District or as an accessory use to a marina.

The chart is coded according to the following legend.	Natural	Urban Conservancy	Residential - L	Residential - M/H	Urban Mixed	Aquatic
SD = Substantial Development						
CU = Conditional Use						
X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit						
Retail establishment providing gas and oil sale for boats	X	X	X	CU ^{4,6}	CU ⁶	See adjacent upland environments
Retail establishment providing boat and motor repair and service	X	X	X	CU ^{4,6}	CU ⁶	X
Restaurant or Tavern ⁷	X	X	X	CU ⁴	SD	X
Concession Stand	X	SD ³	X	X	SD ³	X
Entertainment or cultural facility	X	CU ⁸	X	X	SD	X
Hotel or Motel	X	X	X	CU ⁹ /X	SD	X
Nonwater-oriented, nonwater-dependent uses						
Any Retail Establishment other than those specifically listed in this chart, selling goods, or providing services including banking and related services	X	X	X	X	SD ¹⁰	X
Office Uses	X	X	X	X	SD ¹⁰	X
Neighborhood-oriented Retail Establishment	X	X	X	CU ¹¹	SD ¹⁰	X
Private Lodge or Club	X	X	X	X	SD ¹⁰	X
Vehicle Service Station	X	X	X	X	X	X

⁶ Accessory to a marina only.

⁷ Drive-in or drive-through facilities are prohibited.

⁸ Use must be open to the general public.

⁹ Permitted in Planned Area 3B established in the Lakeview Neighborhood Plan only.

¹⁰ Permitted as part of mixed-use development containing water-oriented uses, where there is intervening development between the shoreline and the use, or if located on the east side of Lake Washington Blvd NE/Lake St S or the east side of 98th Avenue NE.

¹¹ Permitted if located on the east side of Lake Washington Blvd NE between NE 60th Street and 7th Ave S.

The chart is coded according to the following legend.						
SD = Substantial Development	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
CU = Conditional Use						
X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit						
Automotive Service Center	X	X	X	X	X	X
Dry land boat storage	X	X	X	X	X	X
Industrial Uses						
Water-dependent uses	X	X	X	X	X	See adjacent upland environments
Water-related uses	X	X	X	X	X	X
Nonwater-oriented uses	X	X	X	X	X	X
Recreational Uses						
Water-dependent uses						
Marina ¹²	X	CU	X	SD	SD	See adjacent upland environments
Piers, docks, boat lifts and canopies serving Detached Dwelling Unit ¹²	X	X	SD	SD	SD ¹⁶	
Piers, docks, boat lifts and canopies serving Detached, Attached or Stacked Dwelling Units ¹²	X	X	X	SD	SD	
Float	X	SD ³	X	X	SD ³	
Tour Boat Facility	X	X	X	X	SD ¹³	
Moorage buoy ¹²	X	SD	SD	SD	SD	
Public Access Pier or Boardwalk	CU	SD	SD	SD	SD	
Boat launch (for motorized boats)	X	X	X	X	CU	
Boat launch (for non-motorized boats)	SD	SD	SD	SD	SD	

¹² No boat moored in or off the shoreline of Kirkland shall be used as a place of habitation.

¹³ Permitted as an accessory use to a Marina or Public Park only.

The chart is coded according to the following legend. SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit	Natural	Urban Conservancy	Residential - L	Residential - M/H	Urban Mixed	Aquatic
Boat houses or other covered moorage not specifically listed	X	X	X	X	X	
Water-related, water-enjoyment uses						
Any water-oriented recreational development other than those specifically listed in this chart	X	CU	CU	CU	SD	X
Other Public Park Improvements ¹⁴	CU	SD	SD	SD	SD	X
Public Access Facility	SD ¹⁵	SD	SD	SD	SD	See adjacent upland environments
Nonwater-oriented uses						
Nonwater-oriented recreational development.	X	X	X	X	SD ¹⁰	X
Residential Uses						
Detached dwelling unit	CU	CU	SD	SD	SD ¹⁶	X
Accessory dwelling unit ¹⁷	X	X	SD	SD	SD ¹⁶	X
Detached, Attached or Stacked Dwelling Units	X	X	X	SD	SD	X
Houseboats	X	X	X	X	X	X
Assisted Living Facility ¹⁸	X	X	X	CU	SD	X

¹⁴ This use does not include other public recreational uses or facilities specifically listed in this chart

¹⁵ Limited to trails, viewpoints, interpretative signage and similar passive and low-impact facilities.

¹⁶ Permitted if located south of NE 60th Street only.

¹⁷ One accessory dwelling unit (ADU) is permitted as subordinate to a single-family dwelling

¹⁸ A nursing home use may be permitted as part of an assisted living facility use.

The chart is coded according to the following legend.						
SD = Substantial Development	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed	Aquatic
CU = Conditional Use						
X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit						
Convalescent Center or Nursing Home	X	X	X	CU ¹⁹	SD ²⁰	X
Land division	SD ²¹	SD ²¹	SD	SD	SD	X
Institutional Uses						
Float plane landing and mooring facilities (public)	X	X	X	X	CU	See adjacent upland environments
Government Facility	X	SD	SD	SD	SD	X
Community Facility	X	X	X	X	SD	X
Church	X	X	X	CU ¹⁹	SD ²⁰	X
School or Day-Care Center	X	X	X	CU ¹⁹	SD ¹⁰	X
Mini-School or Mini-Day-Care Center	X	X	X	SD ¹⁹	SD ¹⁰	X
Transportation						
Water-dependent						
Bridges	CU	CU	SD	SD	SD	See adjacent upland environments
Passenger-only Ferry terminal	X	X	X	X	CU	
Water Taxi	X	SD ²²	SD ²²	SD ²²	SD ²²	

¹⁹ Permitted if located on the east side of Lake Washington Blvd NE/Lake St S, or the east side of 98th Avenue NE.

²⁰ Not permitted in the Central Business District. Otherwise, permitted if located on the east side of Lake Washington Blvd NE/Lake St S, the east side of 98th Avenue NE or on the south side of NE Juanita Drive.

²¹ May not create any new lot that would be wholly contained within shoreland area in this shoreline environment.

²² Permitted as an accessory use to a marina or a public park.

The chart is coded according to the following legend.	Natural	Urban Conservancy	Residential - L	Residential - M/H	Urban Mixed	Aquatic
SD = Substantial Development						
CU = Conditional Use						
X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit						
Nonwater-oriented						
Arterials, Collectors, and neighborhood access streets	CU	SD ²³ /CU	SD	SD	SD	X
Helipad	X	X	X	X	X	X
Utilities						
Utility production and processing facilities	X	CU ²⁴	CU ²⁴	CU ²⁴	CU ²⁴	X
Utility transmission facilities	CU ²⁴	SD ²⁴	SD ²⁴	SD ²⁴	SD ²⁴	CU ²⁴
Personal Wireless Service Facilities ²⁵	X	SD	SD	SD	SD	X
Radio Towers	X	X	X	X	X	X
SHORELINE MODIFICATIONS						
Breakwaters/jetties/rock weirs/groins	X	X	X	SD ²⁶ /CU	SD ²⁶ /CU	See adjacent upland environments
Dredging and dredge materials disposal	SD ²⁶ /CU					
Fill waterward of the ordinary high water mark	SD ²⁶ /CU					
Land surface modification	SD ²⁶ /CU	SD	SD	SD	SD	
Shoreline habitat and natural systems enhancement projects	SD	SD	SD	SD	SD	
Hard Structural Shoreline Stabilization	X	CU	SD	SD	SD	
Soft Shoreline Stabilization Measures	X	SD	SD	SD	SD	

²³ Construction of pedestrian and bicycle facilities only.

²⁴ This use may be allowed provided there is no other feasible route or location.

²⁵ New towers are not permitted.

²⁶ Permitted under a substantial development permit when associated with a restoration or enhancement project.

4.2 General Goals, Policies and Regulations

The SMP contains numerous general policies, with supporting regulations (see SMP), intended to protect the ecological functions of the shoreline, prevent adverse cumulative impacts, and encourage restoration. Some key policies substantially contributing to prevention of adverse cumulative impacts are summarized below.

- **Policy SMP-1.2:** Preserve and enhance the natural and aesthetic quality of important shoreline areas while allowing for reasonable development to meet the needs of the city and its residents.
- **Policy SMP-3.1:** Establish development regulations that avoid, minimize and mitigate impacts to the ecological functions associated with the shoreline zone.
- **Policy SMP-3.2:** Provide adequate setbacks and buffers from the water and ample open space and pervious areas to protect natural features and minimize use conflicts.
- **Policy SMP-3.3:** Require new development or redevelopment to include establishment or preservation of appropriate shoreline vegetation to contribute to the ecological functions of the shoreline area.
- **Policy SMP-3.4:** Incorporate low-impact development practices, where feasible, to reduce the amount of impervious surface area.
- **Policy SMP-3.6:** Limit outdoor lighting levels in the shoreline to the minimum necessary for safe and effective use
- **Policy SMP-3.8:** Encourage the development of joint-use overwater structures, such as joint use piers, to reduce impacts to the shoreline environment
- **Policy SMP-3.9:** Allow variations to development standards that are compatible with surrounding development in order to facilitate restoration opportunities along the shoreline
- **Policy SMP-6.4:** Evaluate new single-family development within areas impacted by critical areas to protect ecological functions and ensure some reasonable economic use for all property within Kirkland's shoreline
- **Policy SMP-10.1:** Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions
- **Policy SMP-10.2:** Limit fill waterward of the ordinary high water mark to support ecological restoration or to facilitate water-dependent or public access uses
- **Policy SMP-10.6:** Limit use of hard structural stabilization measures to reduce shoreline damage
- **Policy SMP-10.7:** Design, locate, size and construct new or replacement structural shoreline protection structures to minimize and mitigate the impact of these activities on the Lake Washington shoreline.
- **Policy SMP-10.9:** Encourage salmon friendly shoreline design during new construction and redevelopment by offering incentives and regulatory flexibility to improve the design of shoreline protective structures and revegetate shorelines.

- **Policy SMP-11.2:** Design and construct new or expanded piers and their accessory components, such as boatlifts and canopies, to minimize impacts on native fish and wildlife and their habitat.
- **Policy SMP-12.1:** Include provisions for shoreline vegetation restoration, fish and wildlife habitat enhancement, and low impact development techniques in projects located within the shoreline, where feasible.
- **Policy SMP-13.1:** Conserve and protect critical areas within the shoreline area from loss or degradation.
- **Policy SMP-15.2:** Prevent impacts to water quality.
- **Policy SMP-16.1:** Plan and design new development or substantial reconstruction to retain or provide shoreline vegetation.
- **Policy SMP-19.1:** Manage natural areas within the shoreline parks to protect and restore ecological functions, values and features.
- **Policy SMP-19.2:** Promote habitat and natural resource conservation through acquisition, preservation, and rehabilitation of important natural areas, and continuing development of interpretive education programs.

5 EFFECT OF OTHER PROGRAMS

5.1 Washington Department of Fish and Wildlife

The Washington Department of Fish and Wildlife (WDFW) has jurisdiction over in- and over-water activities up to and including the ordinary high water mark, as well as any other activities that could “use, divert, obstruct, or change the bed or flow of state waters” (<http://www.wdfw.wa.gov/hab/hpapage.htm>). Practically speaking, these activities in the City of Kirkland include, but are not limited to, installation or modification of shoreline stabilization measures, piers and accessory structures such as boatlifts, culverts, and bridges and footbridges. These types of projects must obtain a Hydraulic Project Approval from WDFW, which will contain conditions intended to prevent damage to fish and other aquatic life, and their habitats. In some cases, the project may be denied if significant impacts would occur that could not be adequately mitigated.

5.2 Washington Department of Ecology

The Washington Department of Ecology may review and condition a variety of project types in Kirkland, including any project that needs a permit from the U.S. Army Corps of Engineers (see below), any project that requires a shoreline Conditional Use Permit or Shoreline Variance, and any project that disturbs more than 1 acre of land. Project types that may trigger Ecology involvement include pier and shoreline modification proposals and wetland or stream modification proposals, among others. Ecology’s three primary goals are to: 1) prevent pollution, 2) clean up pollution, and 3) support sustainable

communities and natural resources (<http://www.ecy.wa.gov/about.html>). Their authority comes from the State Shoreline Management Act, Section 401 of the Federal Clean Water Act, the Federal Water Pollution Control Act, the Federal Coastal Zone Management Act of 1972, the State Environmental Policy Act, the Growth Management Act, and various RCWs and WACs of the State of Washington.

5.3 U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers has jurisdiction over any work in or over navigable waters (including Lake Washington) under Section 10 of the Federal Rivers and Harbors Act of 1899, and discharges of dredged or fill material into waters of the United States (including Lake Washington, streams, and non-isolated wetlands) under Section 404 of the Federal Clean Water Act.

As a federal agency, any activity within Corps jurisdiction that could affect species listed under the Federal Endangered Species Act must be consulted on with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. These agencies ensure that the project includes impact minimization and compensation measures for protection of listed species and their habitats. Since salmon were first listed in Puget Sound, the Corps and the other federal agencies have been working closely to streamline the permitting process, particularly for new pier and pier modification projects. The result of those efforts for Lake Washington has culminated in Regional General Permit (RGP) 3 and a Programmatic Biological Evaluation for Bank Stabilization in Lake Washington. As mentioned above, RGP 3 has been the partial basis for the pier dimensional standards included in the proposed Kirkland SMP.

6 RESTORATION OPPORTUNITIES

As discussed above, one of the key objectives that the SMP must address is “no net loss of ecological shoreline functions necessary to sustain shoreline natural resources” (Ecology 2004). However, SMP updates seek not only to maintain conditions, but to improve them:

“...[shoreline master programs] include planning elements that when implemented, serve to improve the overall condition of habitat and resources within the shoreline area of each city and county (WAC 173-26-201(c)).”

The guidelines state that “master programs shall include goals, policies and actions for restoration of impaired shoreline ecological functions. These master program 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” (WAC 173-26-201(2)(f)). Pursuant to that direction, the City has prepared a Shoreline Restoration Plan.

Practically, it is not always feasible for shoreline developments and redevelopments to achieve no net loss at the site scale, particularly for those developments on currently undeveloped properties or a new pier or bulkhead. The Restoration Plan, therefore, can be an important component in making up that difference in ecological function that would otherwise result just from implementation of the SMP. The Restoration Plan represents a long-term vision for restoration that will be implemented over time, resulting in incremental improvement over the existing conditions.

The Shoreline Restoration Plan identifies a number of project-specific opportunities for restoration on both public and private properties inside and outside of shoreline jurisdiction (see [Figure 15 in the Final Shoreline Analysis Report](#)), and also identifies ongoing City programs and activities, non-governmental organization programs and activities, and other recommended actions consistent with the *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan*.

7 ASSESSMENT OF CUMULATIVE IMPACTS

The following table (Table 17) summarizes for each environment designation the existing conditions (Chapter 2 above), anticipated development (Chapter 3 above), relevant Shoreline Master Program (SMP) and other regulatory provisions, and the expected net impact on ecological function. The complete assessment of overwater structure impacts is presented in Section 3.5, organized by pier type rather than environment designation. The discussion of existing conditions is based on the *Final Shoreline Analysis Report* (The Watershed Company 2006), and additional analysis conducted to perform this assessment. The Analysis Report includes a more in-depth discussion of the topics below, as well as information about transportation, stormwater and wastewater utilities, impervious surfaces, and historical/archaeological sites, *among others*.

A distinct discussion of the Aquatic environment designation is not included, as any developments waterward of the OHWM are associated with and discussed under either Section 3.5 above or in the corresponding upland environment designation section.

Table 17. Qualitative Assessment of Cumulative Impacts

Existing Conditions	Likely Development / Functions or Processes Potentially Impacted	Effect of SMP Provisions	Effect of Other Regulatory Programs and Non-Regulatory Restoration Actions
Residential – L			
<p>This segment is dominated by single-family homes and is almost entirely built out. Nearly the entire shoreline has been altered with a variety of armoring and alteration types, including piers, boatlifts, boathouses, and moorage covers. Approximately 93 percent of all residences already have a pier and the shoreline is approximately 88 percent armored.</p>	<p>FUTURE DEVELOPMENT in the Residential – L environment will likely be restricted to remodeled or expanded residences since only two vacant lots (2 percent) exist in shoreline jurisdiction, and both have no development potential. Based on a ratio of land value to structure value and age of existing structure (35+ years old), the City anticipates that approximately 54 (56 percent) of existing developed lots will likely redevelop.</p> <p>No change in uses is anticipated.</p> <p>FUNCTIONS/PROCESSES IMPACTED: As described in Section 3.2, new and re-development may be accompanied by:</p> <ol style="list-style-type: none"> 1. <i>Impervious surface increases</i> 2. <i>Vegetation removal</i> 3. <i>Chemical contaminant increases</i> 4. <i>External lighting impacts</i> <p>Additional impacts could occur with associated new pier development and shoreline modification; these are cumulatively discussed in Sections 3.5 and 3.6. These impacts may affect:</p> <ol style="list-style-type: none"> 5. <i>Growth of aquatic vegetation</i> 6. <i>Juvenile salmon migration and behavior</i> 7. <i>Sediment movement</i> 8. <i>Chemical contamination</i> 9. <i>External lighting impacts on overwater structures</i> 10. <i>Shoreline complexity</i> 11. <i>Wave attenuation</i> 	<p>Several facets of the SMP development standards for the Residential – L environment are aimed at minimizing potential impacts to shoreline ecological functions that are discussed in Sections 3.2, 3.5, and 3.6. Residential setbacks are one of the key components to assess overall impacts to ecological function as they relate to many of the items listed below. Structure setbacks are regulated under SMP 83.180 and SMP 83.360. Under these scenarios and an anticipated redevelopment of up to 54 lots, the median residential setback would change from 43 feet to 36 feet.</p> <ol style="list-style-type: none"> 1. <i>Impervious surface increases</i> No change in impervious surface requirements is proposed under the new SMP. However, with the anticipated level of redevelopment, expansion of impervious surfaces is anticipated. Based on the 54 lot redevelopment potential mentioned above, approximately 1.79 acres of land area between existing primary structures and the water's edge would become impervious while 0.55 acres of nearshore area would be revegetated with native plants. The proposed SMP requires that all new and redeveloped lots include provisions to control stormwater runoff which will minimize erosion and sediment and pollutant delivery (SMP 83.450). Additional restrictions may be chosen by applicants reducing their setbacks, such as inclusion of biofiltration/ infiltration mechanisms and use of pervious material (SMP 83.360). 2. <i>Vegetation Removal</i> Retention of existing vegetation is regulated by SMP 83.370 which requires applicants to plant at least 75 percent of the nearshore area with native vegetation. Removal of significant trees within the shoreline setback 	<p>Other Regulatory Programs: Any in- or over-water proposals, primarily piers and shoreline reconstruction, would require review not only by the City of Kirkland, but also by the WDFW, the U.S. Army Corps of Engineers (Corps), and/or Ecology. Each of these agencies is charged with regulating and/or protecting streams, lakes, and wetlands, and would impose certain design or mitigation requirements on applicants. Due to Endangered Species Act consultation requirements with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, the Corps has developed recommendations to minimize project impacts. These include Regional General Permit 3 (RGP-3) for overwater structures and a Programmatic Biological Evaluation for shoreline stabilization. WDFW also follows similar design standards as the Corps and the City of Kirkland has included many of these standards within the proposed SMP. These agencies would also impose certain design and mitigation requirements on a proposed project to minimize adverse impacts.</p> <p>Outside of the immediate shoreline zone, short- and long-term stormwater management per the latest Ecology Stormwater Manual would minimize/eliminate construction-related stormwater runoff impacts and may slowly improve the quality of any waters reaching the shoreline.</p> <p>Non-Regulatory Restoration Actions Although no specific restoration projects have been identified in the Residential – L environment, the City's Shoreline Restoration Plan does include goals and objectives with an emphasis on public education and involvement intended to promote voluntary shoreline enhancement and restoration on private land. Examples of specific items include:</p> <ul style="list-style-type: none"> • Encourage salmon friendly shoreline design during new construction or redevelopment • Offer incentives for voluntary removal of bulkheads, beach improvement, riparian revegetation • Encourage low impact development through regulations, incentives, education/training, and demonstration projects • Through grant funding sources, restoration opportunities may be available to multiple contiguous shoreline properties, including residential lots that are interested in improving shoreline function.

Existing Conditions	Likely Development / Functions or Processes Potentially Impacted	Effect of SMP Provisions	Effect of Other Regulatory Programs and Non-Regulatory Restoration Actions
		<p>shall be mitigated at a 3:1 ratio.</p> <p>3. <i>Chemical contaminant increases</i> No new development is anticipated, and potential redevelopment is unlikely to result in an increased level of chemical contaminants (pesticides/herbicides etc). Reductions in existing chemical usage may occur with redevelopment if applicants chose to utilize shoreline setback reduction alternatives (SMP 83.360) which implement landscape best management practices and may limit lawn area. Further, under SMP 83.450, developments will need to follow the City's adopted surface water design manual with respect to treatment and stormwater conveyance.</p> <p>4. <i>External lighting impacts</i> Lighting shall be controlled to minimize adverse effects on fish and wildlife and their habitats (SMP 83.440)</p> <p>(Note: items 5-11 addressed in Sections 3.5 and 3.6)</p>	
Residential – M/H			
<p>This segment is almost entirely built out and dominated by multi-family housing with some single-family uses spread throughout. Nearly the entire shoreline has been altered with a variety of armoring and alteration types, including piers, boatlifts, boathouses, and moorage covers. 81 percent of all lots already have a pier and the shoreline is approximately 89 percent armored.</p>	<p>FUTURE DEVELOPMENT in the Residential – M/H environment will likely be restricted to remodeled or expanded single- and multi-family residences since only 4 vacant lots (7 percent) exist in shoreline jurisdiction. Based on residential development capacity and a ratio of land value to structure value, the City anticipates that approximately 20 (36 percent) of existing waterfront developed lots will likely redevelop.</p> <p>Although some change in use may occur from property to property, no net change in functional uses are anticipated throughout the Residential – M/H environment.</p>	<p>Several facets of the SMP development standards for the Residential – M/H environment are aimed at minimizing potential impacts to shoreline ecological functions that are discussed in sections 3.2, 3.5, and 3.6. Structure setbacks are one of the key components to assess overall impacts to ecological function as they relate to many of the items listed below. Structure setbacks are regulated under SMP 83.180 and SMP 83.360. Under these scenarios and an anticipated redevelopment of up to 20 lots, the median setback would increase from 24 feet to 25 feet.</p> <p>See discussion above under Residential – L environment for expanded details as to how the SMP Provisions address the following impacts.</p> <p>1. <i>Impervious surface increases</i></p>	<p>Other Regulatory Programs: As described above under the Residential – L environment, any in- or over-water proposals, primarily piers and shoreline reconstruction, would require review not only by the City of Kirkland, but also by the WDFW, the U.S. Army Corps of Engineers (Corps), and/or Ecology. The Corps would use RGP-3 to review small residential pier projects or joint-use proposals involving no more than three residences. Projects which involve larger overwater structures would likely require a Biological Assessment for consultation with the federal Services. The programmatic Biological Evaluation for shoreline stabilization would likely apply to both single- and multi-family property within the City. As mentioned above, these agencies would also impose certain design and mitigation requirements on a proposed project to minimize adverse impacts.</p> <p>Stormwater management, as described above under Residential – L environment, would likely minimize/eliminate construction-related stormwater runoff impacts and may slowly improve the quality of any waters reaching the shoreline.</p> <p>Non-Regulatory Restoration Actions Although no specific restoration projects have been identified in the Residential – M/H environment, the City's Shoreline Restoration Plan does include goals and objectives with an emphasis on public education and involvement intended to promote voluntary shoreline enhancement and restoration on private land. See the Residential – L discussion above for examples.</p>

Existing Conditions	Likely Development / Functions or Processes Potentially Impacted	Effect of SMP Provisions	Effect of Other Regulatory Programs and Non-Regulatory Restoration Actions
	<p>FUNCTIONS/PROCESSES IMPACTED: The functions and processes affected by future development within the Residential – M/H environment are very similar to those described above for the Residential – L environment. However, given the existing built out condition (impervious surfaces already total over 54 percent of the total shoreline jurisdiction for Residential –M/H) impacts on ecological functions from future expansion are anticipated to be less. Regardless, development impacts may include:</p> <ol style="list-style-type: none"> 1. <i>Impervious surface increases</i> 2. <i>Vegetation removal</i> 3. <i>Chemical contaminant increases</i> 4. <i>External lighting impacts</i> 5. <i>Growth of aquatic vegetation</i> 6. <i>Juvenile salmon migration and behavior</i> 7. <i>Sediment movement</i> 8. <i>Chemical contamination</i> 9. <i>External lighting impacts on overwater structures</i> 10. <i>Shoreline complexity</i> 11. <i>Wave attenuation</i> 	<p>No change in impervious surface requirements are proposed under the new SMP. Based on the redevelopment potential mentioned above, approximately 0.74 acres of land area between existing primary structures and the water's edge would become impervious while 0.3 acre of nearshore area would be revegetated with native plants. Stormwater provisions are included in SMP 83.450. Additional impact reductions are listed in SMP 83.360.</p> <ol style="list-style-type: none"> 2. <i>Vegetation Removal</i> Retention of existing vegetation is regulated by SMP 83.370. For the Residential – M/H environment, this also requires an average of 15 feet of riparian vegetation planted from the OHWM (SMP 83.370(1)(d)(1)). Removal of significant trees in the setback shall be mitigated at a 3:1 ratio. 3. <i>Chemical contaminant increases</i> Shoreline setback reduction alternatives (SMP 83.360) include landscape best management practices and may limit lawn area. 4. <i>External lighting impacts</i> Lighting shall be controlled to minimize adverse effects on fish and wildlife and their habitats (SMP 83.440). However, several exemptions from the lighting standards are included, such as emergency lighting, public rights-of-way (i.e. trails), and seasonal lighting (SMP 83.440(2)(a)). <p>(Note: items 5-11 addressed in Sections 3.5 and 3.6)</p>	
Urban Conservancy			
<p>This segment contains land areas in shoreline jurisdiction generally dominated by City parks and open spaces. These areas include, the western portion of Juanita Beach Park, Kiwanis Park, Waverly Park, Lake Ave West Street-end Park,</p>	<p>FUTURE DEVELOPMENT in the Urban Conservancy environment will be very limited. As discussed above in Section 3.4, the "vacant" lots are all public property managed for parks and open space. There will be a number of park improvements, including</p>	<p>Several facets of the SMP development standards for the Urban Conservancy environment are aimed at minimizing potential impacts to shoreline ecological functions that are discussed in sections 3.4, 3.5, and 3.6. Structure setbacks are one of the key components to assess overall impacts to ecological function as</p>	<p>Other Regulatory Programs: Any in- or over-water proposals, primarily piers and shoreline reconstruction, would require review not only by the City of Kirkland, but also by the WDFW, the U.S. Army Corps of Engineers (Corps), and/or Ecology. Each of these agencies is charged with regulating and/or protecting streams, lakes, and wetlands, and would impose certain design or mitigation requirements on applicants. Due to Endangered Species Act consultation requirements with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, the Corps has developed recommendations to minimize project impacts. These include Regional General Permit 3 (RGP-3) for overwater structures and a Programmatic Biological</p>

Existing Conditions	Likely Development / Functions or Processes Potentially Impacted	Effect of SMP Provisions	Effect of Other Regulatory Programs and Non-Regulatory Restoration Actions
<p>Street-end Park, David Brink Park, Settler's Landing, Marsh Park, and Houghton Beach Park.</p>	<p>implementation of the Juanita Beach Park Master Plan (which includes stream and wetland restoration), repairs to overwater structures (including conversions to grated decking), and enhancements to armored shorelines.</p> <p>No change in uses is anticipated.</p> <p>FUNCTIONS/PROCESSES IMPACTED: The anticipated alterations to parks are expected to alter, in most cases beneficially, the following upland functions.</p> <ol style="list-style-type: none"> 1. <i>Impervious surface</i> 2. <i>Vegetation/habitat</i> <p>Additional impacts could occur with associated overwater structure development and shoreline modification; these are cumulatively discussed in Sections 3.5 and 3.6. These impacts may affect:</p> <ol style="list-style-type: none"> 3. <i>Growth of aquatic vegetation</i> 4. <i>Juvenile salmon migration and behavior</i> 5. <i>Sediment movement</i> 6. <i>Chemical contamination</i> 7. <i>External lighting impacts on overwater structures</i> 8. <i>Shoreline complexity</i> 9. <i>Wave attenuation</i> 	<p>they relate the items listed below. Structure setbacks are regulated under SMP 83.180 and SMP 83.360. In the Urban Conservancy environment, the SMP establishes that structures and developments should be located <u>outside</u> of shoreline jurisdiction if possible, and otherwise be no less than 50 feet (SMP 83.180.3). As already mentioned, new developments within the parks are not anticipated and redevelopment is not likely to result in structures being located closer to the water's edge than the current condition, so the existing average setback would not change.</p> <p>Several of the parks have streams and wetlands, which have additional protections under SMP 83.470 and SMP 83.480.</p> <ol style="list-style-type: none"> 1. <i>Impervious surface</i> No change in impervious surface requirements are proposed under the new SMP. Based on the redevelopment potential mentioned above, impervious surface areas are not expected to change. 2. <i>Vegetation/Habitat</i> As previously mentioned, many of the activities in the parks are intended to improve ecological functions, and would be conducted voluntarily beyond the SMP requirements for mitigation tied to any development. <p>(Note: items 3-9 addressed in Sections 3.5 and 3.6)</p>	<p>Evaluation for shoreline stabilization. WDFW also follows similar design standards as the Corps and the City of Kirkland has included many of these standards within the proposed SMP. These agencies would also impose certain design and mitigation requirements on a proposed project to minimize adverse impacts.</p> <p>Outside of the immediate shoreline zone, short- and long-term stormwater management per the latest Ecology Stormwater Manual would minimize/eliminate construction-related stormwater runoff impacts and may slowly improve the quality of any waters reaching the shoreline.</p> <p>Non-Regulatory Restoration Actions <i>The Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan (WRIA 8 Steering Committee 2005) includes potential restoration of the mouth of Juanita Creek through the removal of bank armoring and returning the mouth to a more natural outlet as Project C296 on the "Lake Washington - Tier I - Initial Habitat Project List."</i> It is identified as a low-priority project, however, because of its limited benefit to chinook salmon and perceived low feasibility. Nevertheless, the City is currently planning to implement this project, including riparian wetland enhancement, as part of its Juanita Beach Park Master Plan. This activity is described in the Shoreline Restoration Plan.</p> <p>The City is also planning to resurface all of its public piers with grated decking, not just because of requirements to do so in SMP 83.290(3), but because of other maintenance and public safety benefits.</p> <p>The City's parks are also maintained using Integrated Pest Management (IPM) techniques, which dramatically minimize the amount of chemical treatments that lawn and landscaping require.</p> <p>Other enhancements to the shoreline parks are possible through Capital Improvement Program funds, which help complete shoreline or stream restoration, install new landscaping, and to implement Low Impact Development (LID) practices. Open Space and Park Land Acquisition Grant Match Program, which assists with or provides funding for acquisition of key sites as they become available.</p> <p>The City's Parks Department also has a number of other partnerships or efforts that will likely result in additional improvements to parks that improve ecological function, including Juanita Bay Park Rangers, Eagle Scout/Capstone Projects, and the Youth Tree Education Program.</p>
Urban Mixed			
<p>The shoreline within the Urban Mixed environment is comprised of a variety of uses including park/open space, residential, and commercial. In general, the land area is fully developed.</p>	<p>FUTURE DEVELOPMENT in the Urban Mixed environment will likely be restricted to redevelopment of two waterfront properties, and implementation of the Urban Mixed portion of Juanita Beach Park Master Plan. Although some change in use</p>	<p>Several facets of the SMP development standards for the Urban Mixed environment are aimed at minimizing potential impacts to shoreline ecological functions that are discussed in Sections 3.3, 3.5, and 3.6. Structure setbacks are one of the key components to assess overall impacts to ecological function as they relate to</p>	<p>Other Regulatory Programs: Any in- or over-water proposals, primarily piers and shoreline reconstruction, would require review not only by the City of Kirkland, but also by the WDFW, the U.S. Army Corps of Engineers (Corps), and/or Ecology. Each of these agencies is charged with regulating and/or protecting streams, lakes, and wetlands, and would impose certain design or mitigation requirements on applicants. Due to Endangered Species Act consultation requirements with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, the Corps has developed recommendations to minimize project impacts. These include Regional General Permit 3 (RGP-3) for overwater structures and a Programmatic Biological</p>

Existing Conditions	Likely Development / Functions or Processes Potentially Impacted	Effect of SMP Provisions	Effect of Other Regulatory Programs and Non-Regulatory Restoration Actions
	<p>may occur from property to property, no net change in functional uses are anticipated throughout the Urban Mixed environment.</p> <p>FUNCTIONS/PROCESSES IMPACTED: The functions and processes potentially affected by future development within the Urban Mixed environment are very similar to those described above for the Residential – L environment. However, given the existing built out condition (impervious surfaces already total over 56 percent of the total shoreline jurisdiction for Urban Mixed) and the maintenance of the existing setback, impacts on ecological functions from future expansion are anticipated to be less. Regardless, development impacts may include:</p> <ol style="list-style-type: none"> 1. <i>Impervious surface alterations</i> 2. <i>Vegetation alteration</i> 3. <i>Chemical contaminant alterations</i> 4. <i>External lighting impacts</i> 5. <i>Growth of aquatic vegetation</i> 6. <i>Juvenile salmon migration and behavior</i> 7. <i>Sediment movement</i> 8. <i>Chemical contamination</i> 9. <i>External lighting impacts on overwater structures</i> 10. <i>Shoreline complexity</i> 11. <i>Wave attenuation</i> 	<p>many of the items listed below. Structure setbacks are regulated under SMP 83.180 and SMP 83.360. Under these scenarios and an anticipated redevelopment of up to 2 lots, the median setback would remain the same (~29 feet) and the average setback would actually increase from approximately 38 to approximately 40 feet.</p> <p>See discussion above under Residential – L environment for expanded details as to how the SMP Provisions address the following impacts.</p> <ol style="list-style-type: none"> 1. <i>Impervious surface alterations</i> In the Urban Mixed environment, allowed impervious surface has been slightly decreased for waterfront lots in order to recognize the area devoted to the shoreline riparian planting required under SMP 83.370. Based on the redevelopment potential mentioned above, approximately 0 acres of land area between existing primary structures and the water's edge would become impervious while 0.04 acre of nearshore area would be revegetated with native plants. Stormwater provisions are included in SMP 83.450. Additional impact reductions are listed in SMP 83.360. 2. <i>Vegetation alteration</i> Retention of existing vegetation is regulated by SMP 83.370. For the Urban Mixed environment, this also requires an average of 10 feet of riparian vegetation planted from the OHWM (SMP 83.370(1)(d)(1)). Removal of significant trees in the setback shall be mitigated at a 3:1 ratio. 3. <i>Chemical contaminant increases</i> Shoreline setback reduction alternatives (SMP 83.360) include landscape best management practices and may limit lawn area. 4. <i>External lighting impacts</i> Lighting shall be controlled to minimize adverse effects on fish and wildlife and their habitats (SMP 83.440). However, several exemptions from the lighting standards are 	<p>Evaluation for shoreline stabilization. WDFW also follows similar design standards as the Corps and the City of Kirkland has included many of these standards within the proposed SMP. These agencies would also impose certain design and mitigation requirements on a proposed project to minimize adverse impacts.</p> <p>Outside of the immediate shoreline zone, short- and long-term stormwater management per the latest Ecology Stormwater Manual would minimize/eliminate construction-related stormwater runoff impacts and may slowly improve the quality of any waters reaching the shoreline.</p> <p>Non-Regulatory Restoration Actions Although no specific restoration projects have been identified in the Urban Mixed environment, the City's Shoreline Restoration Plan does include goals and objectives with an emphasis on public education and involvement intended to promote voluntary shoreline enhancement and restoration on private land. See the Residential – L discussion above for examples.</p> <p>The City is also planning to resurface all of its public piers with grated decking, not just because of requirements to do so in SMP 83.290(3), but because of other maintenance and public safety benefits.</p> <p>The City's parks are also maintained using Integrated Pest Management (IPM) techniques, which dramatically minimize the amount of chemical treatments that lawn and landscaping require.</p> <p>Other enhancements to the shoreline parks are possible through Capital Improvement Program funds, which help complete shoreline or stream restoration, install new landscaping, and to implement Low Impact Development (LID) practices.</p>

Existing Conditions	Likely Development / Functions or Processes Potentially Impacted	Effect of SMP Provisions	Effect of Other Regulatory Programs and Non-Regulatory Restoration Actions
		<p>included, such as emergency lighting, public rights-of-way (i.e. trails), and seasonal lighting (SMP 83.440(2)(a)).</p> <p>(Note: items 5-11 addressed in Sections 3.5 and 3.6)</p>	
Natural			
<p>The shoreline within the Natural environment is entirely park/open space with no existing development, containing only 1 percent impervious surface. It is comprised entirely of the Yarrow Bay wetlands and Juanita Bay Park and Forbes Creek wetland corridors.</p>	<p>FUTURE DEVELOPMENT in the Natural environment will be very limited. As discussed above in Section 3.4, the “vacant” lots are all either public property managed for parks and open space, or are lots highly encumbered (in several cases completely) by wetlands. No change in uses is anticipated.</p> <p>FUNCTIONS/PROCESSES IMPACTED: Activities anticipated to occur within the Natural environment are almost exclusively related to management of invasive vegetation, installation of native plantings, and perhaps some improvements to public trails.</p> <p>1. <i>Vegetation/habitat</i></p>	<p>Several facets of the SMP development standards for the Natural environment are aimed at minimizing potential impacts to shoreline ecological functions that are discussed in Sections 3.4, 3.5, and 3.6 above. Setbacks are not a relevant issue in the Natural environment, as no new structures, other than potentially public trails, will ever be proposed. Most of the Natural environment consists of streams and wetlands, which have additional protections under SMP 83.470 and SMP 83.480.</p> <p>1. <i>Vegetation/Habitat</i> As previously mentioned, many of the activities in the parks are intended to improve ecological functions, and would be conducted voluntarily beyond the SMP requirements for mitigation tied to development.</p>	<p>Other Regulatory Programs: Any in- or over-water proposals, primarily piers and shoreline reconstruction, would require review not only by the City of Kirkland, but also by the WDFW, the U.S. Army Corps of Engineers (Corps), and/or Ecology. Each of these agencies is charged with regulating and/or protecting streams, lakes, and wetlands, and would impose certain design or mitigation requirements on applicants. Due to Endangered Species Act consultation requirements with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, the Corps has developed recommendations to minimize project impacts. These include Regional General Permit 3 (RGP-3) for overwater structures and a Programmatic Biological Evaluation for shoreline stabilization. WDFW also follows similar design standards as the Corps and the City of Kirkland has included many of these standards within the proposed SMP. These agencies would also impose certain design and mitigation requirements on a proposed project to minimize adverse impacts.</p> <p>Outside of the immediate shoreline zone, short- and long-term stormwater management per the latest Ecology Stormwater Manual would minimize/eliminate construction-related stormwater runoff impacts and may slowly improve the quality of any waters reaching the shoreline.</p> <p>Non-Regulatory Restoration Actions Although no specific restoration projects have been identified in the Natural environment, the City’s Shoreline Restoration Plan does include goals and objectives with an emphasis on public education and involvement intended to promote voluntary shoreline enhancement and restoration on private land. See the Residential – L discussion above for examples.</p> <p>The City’s parks are also maintained using Integrated Pest Management (IPM) techniques, which dramatically minimize the amount of chemical treatments that lawn and landscaping require.</p> <p>Other enhancements to the shoreline parks are possible through Capital Improvement Program funds, which help complete shoreline or stream restoration, install new landscaping, and to implement Low Impact Development (LID) practices. The Open Space and Park Land Acquisition Grant Match Program, which assists with or provides funding for acquisition of key sites as they become available, may be used to purchase additional private parcels located in wetlands associated with Yarrow Bay Park.</p> <p>The City’s Parks Department also has a number of other partnerships or efforts that will likely result in additional improvements to parks that improve ecological function, including Juanita Bay Park Rangers, Eagle Scout/Capstone Projects, and the Youth Tree Education Program.</p>

8 NET EFFECT ON ECOLOGICAL FUNCTION

Table 17 above examines development and redevelopment potential by environment designation, except for piers and shoreline armoring which are addressed collectively in Section 3.5 and 3.6. It is clear from Table 17 that the City is already highly developed, and has limited potential for new development on just a few vacant lots. A large number of other vacant lots are encumbered by wetlands and are not expected to be developed. The vacant lots with potential for new development are vegetated, and even contain a few trees, but much of the vegetation is invasive and the lots are so narrow that their habitat value is quite limited by the proximity of roads and other developments.

Collectively, the redevelopment potential may shift development closer to the water's edge, but the condition of the remaining space will be improved overall by installations of native landscaping and compliance with lighting standards. Further, the allowances for non-structural developments in the setbacks are more limited than the existing condition. In the long term, impervious surfaces currently located in the existing and proposed setbacks may be removed.

The effective overwater coverage (but not the actual footprints) should also decrease over the next 20 years, even with installation of new piers and pier additions. Because of the increased requirements to demonstrate need for new shoreline armoring and the requirements to consider soft solutions for new and replacement shoreline armoring, the City's overall shoreline hardening condition will at worst remain the same, and realistically will improve over time.

Potential for improvement of shoreline ecological functions is currently greatest on City park properties, with substantial conversions of solid to grated decking, installation of native vegetation and removal of invasive vegetation, restoration of wetlands and a stream, and enhancement of currently armored shoreline.

Even without implementation of the Restoration Plan, the proposed Shoreline Master Program should result in maintenance of the current level of ecological function, and possibly even improvements over time. However, when paired with the Restoration Plan, ecological function of the City's Lake Washington shoreline is certain to improve.

Therefore, **no net loss of shoreline ecological functions is anticipated.**

9 REFERENCES

- Longcore, T. and C. Rich. 2004. Ecological Light Pollution. *Frontiers in Ecology and the Environment*. 2(4):191-198
- Mazur, M. and D. Beauchamp. 2006. Linking piscivory to spatial-temporal distributions of pelagic prey fishes with a visual foraging model. *Journal of Fish Biology*.
- Rich, C. and T. Longcore. 2006. *Ecological Consequences of Artificial Night Lighting*. Island Press. Washington.
- The Watershed Company. 2006. *Final Shoreline Analysis Report Including Shoreline Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline*. Prepared for City of Kirkland.

10 LIST OF ACRONYMS AND ABBREVIATIONS

Corps	U.S. Army Corps of Engineers
Ecology	Washington Department of Ecology
OHWM.....	ordinary high water mark
SMP	Shoreline Master Program
WDFW.....	Washington Department of Fish and Wildlife

APPENDIX A – ENVIRONMENT DESIGNATION MAPS

APPENDIX B – FIGURES

APPENDIX **B-C** – PIER ANALYSIS

New Single-Family Overwater Structures

Total # of new single-family piers possible (5 SF at 480 and 1 joint-use at 700)	6
Total square footage allowed for new single-family pier (fully grated)	480
Total square footage allowed for new joint-use pier (fully grated)	700
Total new square footage for new piers	3,100
Total new effective overwater square footage (40% open space)	1,860
Total effective square footage of overwater cover for new single-family piers	1,860

Replacement of Single-Family Overwater Structures

Total # of existing single-family piers	111
Percentage of piers to be replaced	20%
Total # of piers to be replaced	22
Average replacement pier size (assumes piers to be rebuilt at same size as existing, but fully grated)	841
Total square footage fully grated	841
Total square footage of replacement piers (same as existing footage)	18,677
Total replacement square footage with grating	18,677
Effective overwater coverage of replacement piers (40% open space)	11,206
Effective reduction in overwater coverage as result of replacement	7,471

Repair of Single-Family Overwater Structures

Total # of existing single-family structures	111
Percentage of existing piers to be replaced with grated decking in nearshore 30 feet (240 sf/pier)	30%
Total square footage of decking to be replaced with grating	7,992
Effective overwater coverage of replaced decking (40% open space)	4,795
Effective reduction in overwater coverage as result of repair	3,197

Additions to Single-Family Overwater Structures

Percent of existing piers expected to propose additions	10%
Total square footage estimated for new additions (50'x4' for each addition)	2,220
Total square footage fully grated	2,220
Total new effective overwater cover (40% open space)	1,332
Effective increase in overwater coverage for additions	1,332

Total square footage of existing pier	93,384
Reduction of effective overwater cover based on repairs	-3,197
Increase in effective overwater cover based on new piers	1,860
Increase in effective overwater cover based on pier additions	1,332
Reduction in effective overwater cover based on replacements	-7,471

TOTAL FINAL EFFECTIVE OVERWATER COVER 85,908
NET CHANGE IN EFFECTIVE OVERWATER COVER -7,476

Repair of Multi-Family Overwater Structures

Total # of existing multi-family structures	25
Total square footage of structures	59,867
Average square footage of multi-family structures	

	2,395
Percentage of existing piers to be replaced with grated decking in nearshore 30 feet (240 sf/pier)	5%
Total square footage of decking to be replaced with grating	300
Effective overwater coverage of replaced decking (40% open space)	180
Effective reduction in overwater coverage as result of repair	120

New Multi-Family Overwater Structures

Total # of new multi-family piers possible	5
Total square footage estimated for new community pier	2,000
Total square footage fully grated	2,000
Total new square footage for new piers	10,000
Total new effective overwater square footage (40% open space)	6,000
Total square footage of non-grated section	4,000
Total effective square footage of overwater cover for new multi-family piers	6,000

Total square footage of existing multi-family piers	59,867
Reduction of effective overwater cover based on repairs	-120
Increase in effective overwater cover based on new piers	6,000
TOTAL FINAL EFFECTIVE OVERWATER COVER	65,747
NET CHANGE IN EFFECTIVE OVERWATER COVER	5,880

Repair of Commercial Overwater Structures

Total # of existing commercial structures	11
Total square footage of structures	133,516
Average square footage of commercial structures	12,138
Percentage of existing piers to be replaced with grated decking in nearshore 30 feet (240 sf/pier)	30%
Total square footage of decking to be replaced with grating	792
Effective overwater coverage of replaced decking (40% open space)	475
Effective reduction in overwater coverage as result of repair	317

Total square footage of existing commercial piers	133,516
Reduction of effective overwater cover based on repairs	-317
TOTAL FINAL EFFECTIVE OVERWATER COVER	133,199
NET CHANGE IN EFFECTIVE OVERWATER COVER	-317

Repair of Public Overwater Structures

Total # of existing public structures	9
Total square footage of structures	32,218
Average square footage of public structures	3,580
Percentage of existing decking to be replaced with grated decking	100%
Total square footage of decking to be replaced	32,218
Effective overwater coverage of replaced decking (40% open space)	19,331
Effective reduction in overwater coverage as result of repair	12,887

Additions to Public Overwater Structures

Total # of additions to piers possible	2
Total square footage estimated for new additions	2,482
Total square footage fully grated	2,482
Total new effective overwater cover (40% open space)	1,489
Effective increase in overwater coverage for additions	1,489
Total square footage of existing public piers	32,218
Reduction of effective overwater cover based on repairs	-12,887
Increase in effective overwater cover based on additions	1,489
TOTAL FINAL EFFECTIVE OVERWATER COVER	20,820
NET CHANGE IN EFFECTIVE OVERWATER COVER	-11,398

Existing Overwater Coverage

Total existing overwater coverage - single-family	93,384
Total existing overwater coverage - multi-family	59,867
Total existing overwater coverage - commercial	133,516
Total existing overwater coverage - public	32,218
Total existing overwater coverage (square footage)	318,985

Effective Overwater Coverage at Buildout

Total overwater cover at buildout - single-family	85,908
Total overwater cover at buildout - multi-family	65,747
Total overwater cover at buildout - commercial	133,199
Total overwater cover at buildout - public	20,820
Total effective overwater coverage at buildout (square footage)	305,675

Change in Effective Overwater Coverage at Buildout

Net change in overwater cover - single-family	-7,476
Net change in overwater cover - multi-family	5,880
Net change in overwater cover - commercial	-317
Net change in overwater cover - public	-11,398
TOTAL CHANGE IN EFFECTIVE OVERWATER COVER AT BUILDOUT	-13,310
PERCENTAGE DECREASE IN OVERWATER COVER AT BUILDOUT	-4.2%



May 28, 2009

From: David Douglas, Waterfront Construction, Inc.
 To: City of Kirkland
 Attn: Paul Stewart
 Stacy Clauson
 Teresa Swan
 Houghton Community Council
 Kirkland Planning Commission Members
 SMP Interested Parties of Record

To All Interested Parties,

The Kirkland City staff and biological consultant working on the SMP Update are likeable and knowledgeable individuals; however I am concerned as I'm sure many of your citizens are, over how the Kirkland Planning Commission and Houghton Community Council are being directed on issues regarding this important document that will soon be passed on in recommended draft form for review and approval by the Kirkland City Council. The current process will result in the future SMP being more complex and restrictive than necessary and reaching far beyond what is required to meet Department of Ecology SMP Update guidelines. This will occur at the expense of a small percentage of Kirkland residents who will be directly impacted by the changes contained in this document. I am requesting that the Planning Commissioners and Houghton Community Council Members, both bodies who have displayed a genuine concern for the protection of both property owner rights and the environment, assure that the Updated SMP stretch no further than necessary. Please take full advantage of the flexibility in the Shoreline Management Act, SMP Update Guidelines, and the Corps RGP-3 offered to local governments understanding that there is no turning the clock back if mistakes are made.

I have reviewed Responses to Questions from 2/28/09 Shoreline Workshop and provide the following feedback. I will review the latest draft SMP posted on March 30, 2009 sections on docks and shoreline stabilization and will provide comment in the near future. At the request of several planners from other local governments I am also preparing a comparative chart between the RGP-3 dimensional standards and typical construction standards and will provide the City with a copy of the finished document.

Responses to Questions from 2/28/09 Shoreline Workshop

Question 2: Regarding piers, what are "minor repairs? Clear and reasonable thresholds desired.

Staff Response: The Department of Ecology's Guidelines and the State Shoreline Management Act do not provide a clear distinction between what constitutes a minor and major repair, but leave it up to the jurisdiction to make the distinction.

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Feedback/Response: WAC 173-26-040, a copy of which has been recently provided to City Staff, Planning Commission and Council Members, lists a number of activities exempt from the substantial development process. Applicants have been approved by local governments to replace entire pier structures using WAC 173-26-040 (SDP Exemptions) and WAC 197-11-800 (SEPA Exemptions) as a guideline. There is no distinction between major and minor repair but because the WAC covers both residential and commercial structures, the repair and/or replacement of residential piers similar to those on Kirkland's waterfront have always been viewed as minor repairs. With the exception of Bellevue, which has some thresholds outlined, this is consistent throughout the region and makes no distinction on whether or not piles are involved.

The following activities are listed in WAC 173-27-040(b) under SDP Exemptions:

(b) **Normal maintenance or repair of existing structures** or developments, including damage by accident, fire or elements. **"Normal maintenance" includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition. "Normal repair" means 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 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.**

NOTE: Replacement is the common method of repair for a pier because all components typically deteriorate at a similar rate. Because all pier repairs over the last 5 or so years have resulted in improvements over existing conditions by replacing treated timber piles with untreated timber or steel piles, solid decking with grating and in some cases elevating the pier, and the use of state and federally approved treatments, they have been viewed favorably and justified using this section of the WAC since they do not cause substantial adverse effects to shoreline resources or environment.

The following activities are listed in WAC 197-11-8009(3) under SEPA Exemptions;

(3) **Repair, remodeling and maintenance activities.** The following activities shall be categorically exempt: The repair, remodeling, maintenance, or minor alteration of existing private or public structures, facilities or equipment, including utilities, **involving no material expansions or changes in use beyond that previously existing**; except that, **where undertaken wholly or in part on lands covered by water, only minor repair or replacement of structures may be exempt (examples include repair or replacement of piling, ramps, floats, or mooring buoys, or minor repair, alteration, or maintenance of docks).**

Recommended Action: Please keep the repair and/or replacement of existing residential piers involving no change in size, location or configuration exempt from the SDP and SEPA process. Does DOE require the City to differentiate between minor and major repairs and does DOE require a replacement pier or bulkhead to be classified as "new"? The result is always an improvement over existing conditions through grating, untreated wood or steel piles, smaller diameter piles, approved treatments, and sometime elevation of the pier higher above the OHWL. This clearly meets the "no net loss" standard if balanced consideration is applied.

Staff Response: Replacement pilings would need to meet new size standards (be constructed of steel 4 inches in diameter) and achieve the minimum 18-foot spacing to the extent allowed by site-specific engineering or design considerations.

Feedback/Response: The SMP Update guidelines do not require or request an SMP to regulate the size or spacing of piles. The Planning staff is operating beyond its expertise and responsibility into an area that should be left to contractors, engineers and the Building Department. This could also trigger an additional expense for the property owner through the hiring of a structural engineer for what is routine work in the marine construction industry.

Staff has extracted these figures directly from the Corps RGP-3 and has not conducted adequate research on this issue. As I have tried to stress to the staff time and again, the RGP-3 was designed to be a flexible regulatory tool for use by federal regulators and not for adoption directly into a SMP. It is to be used for environmental review; not structural evaluation. The Army Corps fully understands that pile size and spacing varies with each project based on a number of factors (pier size and width, substrate material, water depth, location, size of watercraft to be moored, etc...). There is no need for the SMP to regulate pile size and spacing as this is well managed by federal regulators and those who design and construct new piers and repair existing piers as a profession.

The RGP-3 is designed for new or modifications of existing overwater residential structures and not for repairs. The 4 inch piles are only requested for the first set of inwater piles and this guideline is rarely met but always approved. The first set of inwater piles are most commonly 6 inch diameter and subsequent sets are usually 8 or 10 inch diameter depending on water depth or the size and weight of watercraft to be moored. A pier repair can involve reusing the same piles, repairing existing piles using the pile splice method, or totally replacing one or more piles as needed with new piles. The size and diameter of replacement piles must be driven by those factors listed on the previous page and not guidelines listed in a SMP. It is common practice for contractors to try and replace deteriorated piles with the smallest diameter possible based on conditions.

Four inch piles do not offer the lateral or vertical support need for a pier that is subject to wind and wave action and is used to secure a watercraft that can weigh anywhere from 2 to 50 tons. Additionally, if four inch piles could be used the number would need to be increased at each bent, with the additional piles being battered (angled) to provide the necessary lateral support. This could very well double or triple the number of piles required to provide the same amount of support and stability provided by a single 6, 8 or 10 inch pile.

Traditional pier repairs involve partial or total replacement of the in-kind structural members, typically comprised of 6" x 8" cap beams and 4" x 8" stringers to support the decking or grated surface. A 4" x 8" cannot span the 18 foot the staff is recommending so this means much larger outside and intermediate support members would be required. A recent repair project we completed using in-kind materials required 4" x 12" stringers to meet the load requirements for an 18 foot span. What this means is a deeper member more shading from the side of the pier.

Piers are always value engineered and designed to use the smallest number and diameter of piles and the maximum spacing possible while meeting load requirements, provide a safe moorage structure, and the most cost effective product for the property owner. This makes sense for everyone and further supports why the City should not be regulating such a thing in a SMP.

Recommended Action: Please remove all references to pile size and spacing from the draft SMP. There is no requirement from Ecology in the SMP Update Guidelines for the City to include this and this responsibility should be left to the experts.

NOTE: If staff is recommending these same standards for new piers I recommend they be removed for the same reasons above. New piers under the RGP-3 rarely if ever meet these standards. If examples of recently designed piers submitted under the RGP are needed to show that no piles are 4 inch diameter and some cannot be spaced at 18 feet please let me know. As stated above, conditions should determine pile sizes.

Staff Response: Decking could generally be replaced in-kind except that when 50 percent or more of the decking or decking substructure on the pier is replaced over a five (5) year time frame, any solid decking surface located within the nearshore 30 feet of the pier would need to be replaced with a grated surface material.

Feedback/Response: In reality, when a few deck boards go bad, pier owners typically replace them using self-help with a solid surface and this will never change. The truth is that most pier materials tend to deteriorate at the same rate so rarely are we contacted to do a partial repair or replacement unless it was from damage or an accident.

More extensive (although still minor) repairs such as replacing all caps, stringers and decking, or even some pile repairs, usually involves all or a majority of a structure. This means that WDFW and/or the Army Corps will also be involved in permitting the project. Because WDFW requires all surfaces (new or repaired) to be fully grated and the Army Corps will require full grating if a pile repair is done in addition to the pier surface, the City should consider requiring grated material for all repairs like several other communities are doing.

Staff Response for the scenarios provided on page 2 in order of their listing:

1) Replace everything above the pilings first 30 foot of pier must be grated.

Feedback/Response: The owner would be required to install a fully grated surface by WA Department of Fish and Wildlife for the HPA. The City's requirement for the first 30 foot nearshore area to be grated is unnecessary. If the City believes this requirement is needed, it should require the entire surface to be grated on all repairs to align with other agencies.

2) Replace less than 50% of the decking over a 5 year period can use similar materials:

Feedback/Response: If the property owner applies for a permit from WDFW, regardless of the percent to be replaced, grating will be required. Under this scenario, 98 percent of a pier surface could be repaired over a 6- year period (49% in the first 5 years and 49% in year number 6) and the solid deck would still be in place. I am not one to support over-regulation but this would clearly open the way for total deck replacements with a new solid surface over time. Most people are not going to apply for a permit to replace small areas of deck repairs. Because the City is unlikely to see repairs for less than 50% of a pier's surface, if the City wants to see improvements it should simply require all repairs to replace solid decking with grated surface regardless of percentage.

3) Property owner replaces several deteriorated piles must use 4 inch steel replacement piles and attain 18 foot spacing:

Feedback/Response: State and federal regulatory agencies will not require a property owner to use 4-inch steel piles or 18 foot spacing for repairs. Piles sizes and spacing are driven by project specific issues which the SMP should not control based on the earlier explanation. Should the City choose to dictate the size and spacing of piling they must also accept responsibility for any resulting structural and personal or watercraft damage that occur as a result.

4) Property owner wants to replace all pier components:

Feedback/Response: Under WAC 173-27-040(b), as explained previously, an in-kind pier replacement with no change in size, location or configuration qualifies as exempt from the Substantial Development Permit process. The property owner would also receive approval from WDFW (1:1 square footage replacement as long as the replacement pier is fully grated) and the Army Corps (using the NWP3 Maintenance permit process). Each of these agencies would require a fully grated deck, the replacement pier could be elevated to 18" above the OHWL, and fewer and smaller diameter piles could be used). If the City requires a property owner to meet new dimensional standards it will deter most people from improving their existing piers and they will simply hold on to solid deck surfaces for many years.

Note: In Scenario 4 above the City should continue to allow piers to be repaired/replaced within the same footprint under a shoreline exemption because in the area of redevelopment it offers one of the best opportunities to meet the "no net loss" goal. The new dimensional standards the staff is referencing are taken from the Corps RGP-3 which is designed for New and Modification of Existing Residential Overwater Structures, and not the in-kind replacement of existing structures. Replacement of an existing structure in the same configuration is not a new or modified pier by definition.

Recommended Action: It is requested that the staff, Planning Commission and Community Council reconsider each of these staff recommendations and eliminate those that are unnecessary, redundant or would result in structural and safety concerns based on the explanations above. **There is nothing in the SMP Update Guidelines that require the City to dictate pile size or spacing.**

Question 3: Be clear about what "no net loss" means.

Staff Response on Attachment 1: 1) This means that the existing condition of shoreline ecological functions needs to remain the same, and should even be improved as a result of restoration, as the updated SMP is

implemented and 2) Resulting impacts of development should be identified and mitigated so **as to maintain shoreline ecological function** as it exists at the time of the City's 2006 shoreline inventory, and 3) Because there are **no easy tools to measure ecological function**, indicators that are related to function and can be measured are used to assess possible change in ecological function over time (e.g., square feet of overwater coverage, average structure setback, area of native vegetation).

Feedback/Response: The definition of no net loss DOE published in Fall 2008 to local planners and the general public has been altered from **remain the same or be improved over time** to **remain the same, and should even be improved as a result of restoration**. This changes the meaning and makes the primary responsibility for property owners to restore rather than maintain existing ecological functions.

The shoreline inventory of 2006 is 3 years old but no updated inventory to measure total overwater coverage, average size of structures, effective overwater coverage after grating, environmentally friendly design, mitigation, conservation and impact minimization measures including grated decks, size and spacing of piling, elevation of piers above the OHWL, and approved treatments for new, repaired and replacement piers has been completed. The Corps RGP-3 was implemented in 2005 and when used in conjunction with WDFW standards in effect for the last 5 years has encouraged property owners to replace existing piers with less impacting piers. As a result, each of these projects, combined with responsible bulkhead replacement and shoreline renovation projects, all with native planting plans included, have contributed to a "no net loss" along Kirkland's shorelines during this time frame. Unfortunately, overwater coverage along Kirkland's shorelines and riparian vegetation was not inventoried so this improvement cannot be verified or appreciated.

Recommended Action: Conduct an inventory of all piers and overwater structures, piles, hard armoring and shoreline vegetation so the City has the most accurate information on overwater and shoreline structures. In the case of recently replaced piers, the size of the original and replacement piers should be recorded. This is the only way to apply equitable dimensional standards for future new and replacement piers. Failing to collect current information on all over and inwater structures (piers and piling) is the only way to fairly apply new dimensional standards and evaluate future development.

Question 4: Is dock shade bad and vegetation shade good?

Staff Response 1: In general, the answer is "yes".

Feedback/Response: There are mixed reviews on the science relating to shading from docks and the real impacts to fish and habitat caused by docks and bulkheads in the freshwater environment but the staff has chosen to adopt a conclusive "yes" rather than directing the Commission, Council, and Public to read the science and draw conclusions on their own.

I have provided past communications on the studies completed on overwater structures and other reports, all of which are inconclusive and contradictory. Please take time to review several of these studies, including the Chinook Salmon Recovery Plan and decide for yourself rather than accepting a strongly biased, one-sided opinion. The inferences, cross applications, structures chosen for the studies, questionable conclusions, and contradictions from one statement to the next will lead any objective reader to question and challenge the science. Additionally, overlapping life stages of predator-prey fish, the natural predator-prey relationship, water temperatures, depletion of the forest canopy, poor rearing habitat and conditions in rivers and streams in the watershed far from the lake, pollution from runoff, dams and culverts contribute far more impacts to the highly valued Chinook population than shade from small residential piers. This is not to say there are no impacts from overwater structures, but not to the extent one would be led to believe. It is undetermined whether any of these studies have received peer review by a neutral party.

Please review a paper on The Green Wave and Vetting of Science prepared by Mr. Dick Sandaas who conducted a detailed review of one or more scientific studies. It makes a strong case in questioning the science directed at residential piers and bulkheads. Kirkland staff has requested that those from the general public who question the science should deal with the state and federal agencies directly but as stated in a previous communication, it is the City's responsibility to challenge the science on behalf of their citizens to ensure the standards in the SMP are proportionate with substantiated impacts without employing guesswork.

Additionally, follow the text provided by staff on pages 2, 3 and 4 and note the following words and phrases:

- Piers and overwater structures **tend** to produce sharp lines.

- Nearshore vegetation **tends** to produce a softer shade line.
- The way juvenile salmon **use or avoid** these shaded areas **differs depending on their age and rearing/migration strategy.**
- Small salmon fry, are **typically found rearing near the mouths of tributary streams.**
- During the day, **they tend to find areas of overhead cover, which may include vegetation and piers.**
- During the night, **they tend to move into open water.**
- During this migration stage (outmigration), salmon fingerlings have a much different reaction to shaded areas, **tending to avoid areas of overwater cover.**
- During migration along the Lake Washington shoreline, shade avoidance results in the fingerlings swimming around piers, **forcing them into deeper water where predators are more likely to reside.**

This is how the scientific connection is made and the case against piers and bulkheads is formed. **Toss aside the nature of fish, overlapping life cycles,** point out the contrast in how pier and vegetation shading **tend** to differ, begin with statements identifying what juvenile salmon and fingerlings **tend to do and how they tend to move,** and finish it off with a strong conclusion that piers **force** salmon to swim around into deeper waters where they become prey to predator fish. No numbers, no hard evidence and no declaration that like humans fish are simply fish, predator or prey, doing what fish do. Is there anything here to support sweeping changes to a SMP? Maybe the only reason to update a local SMP is a mandate from the state and that is reason enough and not to be questioned.

On page 4, the staff has drawn statements from Roger Tabor's study including:

- Juvenile salmonids **will often change course** to circumvent piers or other overwater structures rather than swimming beneath them.

Question: How often is often and why isn't it always?

- These behavior modifications disrupt natural patterns of migration and **can expose** juvenile salmonids to increased levels of predation.

Question: Are juvenile salmonids exposed to increased levels of predation or aren't they and if so to what extent?

- Minimizing or modifying overwater coverage and associated support structures to decrease shade impacts **should benefit** salmon migration.

Question: Will it or won't it benefit salmon migration? There have been enough new, modified and replacement piers built since the RGP-3 was implemented to provide solid data to support this and provide guidance for overwater coverage in the nearshore area. Too much has been done to still use guesswork. Additionally, the studies primarily target overwater coverage in the nearshore area so efforts should be directed at relocating wide platforms and decks to deeper water, not removing or restricting them altogether.

- Structural modification to reduce shade impacts, such as the use of grated decking, **may lead to improved migratory conditions for juvenile salmon.**

Question: Will it or won't it improve migratory conditions? As stated above, there have been enough piers constructed using these guidelines to support or negate this statement. As stated above, actions should be directed connected to improving migratory conditions which take place in the nearshore area along the shoreline.

Question 5: Regulations must be based on sound science that is reviewed and vetted. There are a lot of holes in the science. Has there been a study of fish coming out of Sammamish?

Staff Response: The City is utilizing the available scientific information and agency recommendations developed by highly respected scientists in state and federal government, and from the University of Washington. It is certainly true that our knowledge of issues **continues to evolve** as additional scientific studies are completed and findings are vetted among peers in the scientific community – **this is the nature of scientific research.**

However, that does not relieve the City of the obligation to use the scientific information that is available and has resulted in **an understanding by the scientific community that shoreline modifications, such as piers and bulkheads, have adverse affects on ecological functions, as well as on sensitive fish species.**

Regardless of where Chinook salmon fry and fingerlings come from, juvenile Chinook are present along the City of Kirkland shoreline, as evidenced by observations of scientists with which the City has been in contact. Therefore, **conclusive scientific evidence of where these fish originate from is less relevant to the question of how to manage the shoreline environment for them.**

Feedback/Response: Has the staff reviewed the reports or is it using a brief phone conversation to support its actions? It is clear in the scientific studies that the major impacts on Chinook Salmon originate in streams and deep into the watersheds and not in Lake Washington. For the City to downplay and bypass the impacts taking place in streams and rearing habitat which threaten the survival of juvenile salmonids and fingerlings and place more relevance on the Lake Washington seems misdirected.

The references listed by the staff on page 5 supporting the Chinook Salmon Conservation Plan contain studies on the Sammamish River, Cedar River, Bear Creek, and Issaquah Creek. It is interesting that the Salmon Recovery Plan itself mentions very little regarding impacts from bulkheads and piers on Lake Washington and each of the aforementioned references discuss problems in the watershed's rivers and streams.

Each of the scientific studies was completed by state and/or regulatory agency with an interest in stricter regulations to support regulatory goals. **Please provide the name of the independent, non-agency, non-state and non-federal biological firm who conducted peer review and vetting of the information. The same is requested for the Roger Tabor and Mark Celedonia study referenced on page 3. Does the State or City have any responsibility to their citizens to have an independent evaluation completed?**

Question 8: Seems that regulations are focused on incremental improvement, rather than no net loss.

Staff Response: This means that the existing condition of shoreline ecological functions **should remain the same, and should be improved as a result as a result of restoration**, as updated SMP's are implemented over time.

Feedback/Response: The no net loss definition provided to local planners, contractors and the general public in the Fall of 2008 from DOE read, **"Should remain the same or be improved over time."** These are essentially different meanings and place the emphasis on **improvement and restoration rather than maintaining**. Although each project completed in recent years has reflected improvement **the DOE goal of "no net loss" is remain the same or be improved over time.**

Staff Response: Further, several sections of the Guidelines have specific requirements for different uses or modifications that may result in improvement in existing conditions at a particular site. No net loss is just one of the requirements of the SMP; there are many others that must also be met.

Feedback/Response: Although there may be several sections of the Guidelines that have specific requirements for different uses or modifications and no net loss is one of many SMP requirements, the greatest opportunity for the highly developed Kirkland shoreline involves repair, redevelopment and replacement. Recognizing and assigning a "no net loss" classification to each future repair, redevelopment and replacement project, which has been naturally occurring over the last several years without an updated SMP, is where the City should direct its attention in order to work cooperatively with property owners. The same should be considered for bulkhead replacements.

With property owners and the City enjoying a "partnership" rather than the proverbial "my way or the highway" position of many regulatory agencies, incremental improvements are made to the environment through a spirit of cooperation.

Question 9: What will be the costs to individual homeowners?

Staff Response: One new cost that is required by the state guidelines is a geotechnical report for construction of a new bulkhead. Shoreline vegetation...which should not cost more than typical landscaping or lawn already installed along the shoreline. The cost of hard versus soft shoreline stabilization should be comparable. Replacing solid wood pier decking with grating should be a similar cost or even cost less because of the price of wood. Maintenance of grating material should be less while lasting longer.

Feedback/Response: The City Staff is operating beyond their knowledge base and publishing inaccurate information.

When considering **Geotechnical Reports**, it is important that the City point out to property owners that it plans to classify major bulkhead repairs (including what contractors view as minor repair) and all replacements as “new” even though a proposed hard stabilization structure will always result in a “no net loss”. This means all of these projects will require a costly geotechnical report that the guidelines only require for “new” bulkheads. This also fails

to state that up to this point new or replacement bulkheads constructed on a property with a single family residence anywhere on the site was always approved and typically “exempt” from the process altogether. Essentially, a geotechnical report will be required for all hard shoreline stabilization projects that replace more than an upper course rock or two. A residence on the site will no longer justify a new or replacement bulkhead unless that structure is threatened. This is a 180 degree turn from how the City has been reviewing bulkheads for many years.

The process recommended by Staff fails to differentiate between new, replacement and repair as defined below:

New- having recently come into existence or use; what is freshly made and unused; or has not been known before or not experienced before;

Replacement- to restore to a former place or position; to take the place of especially as a substitute or successor; to put something new in the place of; implies a filling of a place once occupied by something lost, destroyed, or no longer usable or adequate; to assume the former role, position, or function of; substitute for (a person or thing):

Repair- to restore to a sound or healthy state

It is hard to dispute that a replacement or repair of an existing bulkhead (or pier) is distinct from a totally new and nonexistent structure.

Shoreline vegetation typically involves a selection of native riparian plants specifically designed to benefit fish life and critical habitat in the nearshore area. This often involves hiring a landscape architect specializing in native riparian vegetation and a landscaper trained in maintaining the same. It often involves native trees which can cost more than standard landscape and ornamental plants and much more than lawn. The loss of useable property is not mentioned as a cost involved with the shoreline vegetation.

Hard versus soft shoreline stabilization costs can vary greatly, both in terms of materials, loss of useable property, and volume of nearshore fill required waterward of the OHWM, long-term effectiveness against erosion, and maintenance. **Hard shoreline stabilization** results in minimal loss of useable property, offers the best protection against upland erosion, allows vegetation to be planted close to the shoreline with excellent chance of survival and requires the least amount of nearshore fill. **Soft shoreline stabilization** nearly always results in a loss of actual or useable property, excavation and removal of more soil, can require several times the amount of nearshore fill to offer the best protection against upland erosion and maintaining the current OHWM, and requires additional area to accommodate a planting plan. Survival of emergent vegetation (if proposed) is often difficult and riparian vegetation is often located further from the shoreline having less effect. There is no assurance that the nearshore fill will stay in place long term or through a single storm event and it is used as one of the main defenses against shoreline erosion. Additionally, due to their buoyant nature, anchored logs and other large woody debris may break away over time as water works its way behind them and saturates the soil they are anchored in. Removal of the fill and soft stabilization materials will make the property vulnerable to increased erosion that hard shoreline stabilization won't. This means soft stabilization cost much more than hard stabilization since a typical rock bulkhead, for example, would provide erosion protection for 25 – 35 years or more. Many rock bulkheads on Lake Washington have been in place for in excess of 50 years and are still providing effective erosion protection.

Recommended Action: City staff and DOE have acknowledged that soft shoreline stabilization will not work everywhere so requiring all property owners to provide a geotechnical report to justify hard shoreline stabilization is working backwards. The City should identify properties they believe soft shoreline stabilization is feasible and require only those property owners to have geotechnical reports completed to support a hard shoreline stabilization measure. The hard shoreline stabilization would be installed in a “laid back” design to be as fish friendly as possible.

Question 11: Are there guidelines that show the percentage of the problem that is due to water quality and impacts from erosion and runoff?

Staff Response: In March 1999, the federal government listed Puget Sound Chinook salmon as threatened under the Endangered Species Act (ESA). Four main factors have been identified; habitat, hydropower, harvest, and hatcheries. Impacts identified for Lake Washington include:

The limiting factors include:

- The riparian shoreline is highly altered from its historic state.
Feedback/Response: All upland and shoreline development, including nearshore and overwater structures, is a direct result of local, state and federal regulatory agencies. The land use practices are not only the result of people but primarily those agencies that allowed the development to take place. Should restoration be placed primarily on property owners? Each project over the last 5 or so years has resulted in reestablishing native riparian vegetation.
- Introduced plant and animal species have altered trophic interactions between native and invasive species.
Feedback/Response: Who is responsible for the introduction of non-native plant and animal species? The state in many cases but it is unlikely the fault of property owners. Should the responsibility for this be placed on property owners? This problem is not the result of residential bulkheads or piers.
- Historic practices and discharges into Lake Washington have contributed to the contamination of bottom sediments at specific location.
Feedback/Response: This has no direct connection to residential bulkheads or piers.
- The presence of extensive numbers of docks, piers and bulkheads has highly altered the shoreline.
Feedback/Response: The impact of piers and bulkheads on Chinook habitat has not been adequately established. The science is not new and the Chinook has been ESA listed since 1999. Action taken by state and federal regulatory agencies to protect listed species and critical habitat has resulted in vast improvements. Each project over the last 5 or so years has resulted in reestablishing native riparian vegetation, smaller new piers and the replacement of existing piers with more fish friendly designs. Most scientific studies reference and revisit old information that has been around since the 1970's and provide very little new and no conclusive data.
- Riparian habitats are generally non-functional.
Feedback/Response: This may be a part truth but it isn't true for those projects permitted and constructed over the last 5 to 10 years because new fish-friendly pier and bulkhead design along with native planting plans have been included with each project. DOE and the local government have failed to inventory and include this in their characterization. Although DOE developed the SMP Guidelines in 2003 they are playing "catch up" with WDFW, the Army Corps, USFWS and NMFS on piers and bulkheads. DOE and local governments are failing to consider the positive impacts from progressive and incremental changes to the review and permitting processes conducted by WDFW and the Army Corps. This includes the highly flexible RGP-3 that has resulted in smaller new piers, less impacting redevelopment of existing piers and extensive planting plans. Additionally, projects that are processed by the Army Corps and WDFW using other processes, including repair of existing piers, always result in measurable improvements.

The SMP Update Guidelines, WRIA-8 Recommendations and the Chinook Recovery Plan are making recommendations to local governments that have already been practiced by other state and federal regulators for years.

- The most significant limiting factors for the entire watershed were identified as:
 - Altered Hydrology
 - Loss of Floodplain Connectivity
 - Lack of Riparian Vegetation
 - Disrupted Sediment Process
 - Loss of Channel and Shoreline Complexity

Feedback/Response: In reviewing the several hundred pages of text included in the Synthesis and Chinook Salmon Recovery Plan you will discover that most of the above factors are related to rivers, streams and other problems in the far reaches of the watershed. There is very little mention of impacts from piers and bulkheads on Lake Washington. When referenced, impacts for piers and bulkheads associated with Lake Washington are primarily near the north and south ends of the lake with no direct mention of Kirkland.

- Degraded water quality is attributed to Lake Union, the Ship Canal and the Sammamish River.

Feedback/Response: Lake Washington is not listed and is considered to have good water quality.

- Finally, impacts from erosion and runoff are undeniably important in stream and river systems. However, the scope of this SMP is limited to Lake Washington and limited adjacent lands.

Feedback/Response: The changes and actions taken in the SMP should be proportionate to the impact being caused by the targeted structures and/or development. It is imperative that the City understand the degree of the impact the structures along its shoreline are contributing to the overall problem and make changes based on that. To make sweeping changes on all residential structures disproportionate to their assumed impact would be a disservice to your property owners.

Question 15: Can the City Council retract its resolution supporting WRIA- planning and implementation?

Staff Response: Yes it possibly could, but the City Council is committed to the planning and implementation of WRIA 8. This is an issue you could address with the City Council.

Feedback/Response: WRIA 8 is not a regulatory agency and it is possible to support its planning and implementation while preserving protection of property and private owner rights. The science used to support the Chinook Salmon Recovery Plan is for the most part inconclusive and attributes a disproportionate amount of blame and burden on residential piers and bulkheads. There is no measurable data provided directly linking impacts from piers and bulkheads in a cause and effect relationship on Chinook. Because of this there is also a statement in the plan that questions whether or not the so called improvements will help improve habitat or help with the recovery of Chinook. In reviewing the synthesis report it becomes apparent that the primary impacts associated with the decline of Chinook spawning, rearing and migration habitat takes place further up the watershed in rivers and streams or in salt water habitat and has very little connection with bulkheads and piers in Lake Washington or Lake Sammamish.

Because little is being done to slow upland development which increases surface runoff, preserve forest canopy, control pollution through runoff and other means, remove dams and repair culverts, and to restore spawning and rearing habitat used prior to migration, the removal of residential bulkheads and restricting of pier size is likely to have no impact. Waterfront property owners are simply a visible target but not a valuable target in the steps required to assist in the recovery of the Chinook.

Question 16: Are there any measurable studies determining if in fact the Kirkland waterfront is impacting the migration of the salmonids?

Staff Response: After referencing the same studies that have been pointed out in previous communications as being inconclusive and contradictory, the final statement is, "Therefore, it is reasonable to conclude that Kirkland's overwater structures and shoreline modification are affecting migrating juvenile salmon in the same way.

Feedback/Response: Please conduct a balanced review of the white papers and studies being used to support these sweeping changes directed primarily at the bulkheads and piers of private property owners and ask yourself if they are necessary and will really make a difference. While some regulatory changes may be justified with regard to private piers and bulkheads it is not to the degree DOE and the City are trying to implement.

Thank you for the opportunity to comment on the SMP Update process.

Sincerely,

David Douglas
Permit Coordinator
Waterfront Construction, Inc.

Teresa Swan

From: Daved [Daved@waterfrontconstruction.com]
Sent: Friday, May 29, 2009 7:33 AM
To: Cathy Beam; MPaine@bellevuewa.gov; Peter Rosen; jding@ci.kenmore.wa.us; EConkling@ci.renton.wa.us; mvannostrand@ci.sammamish.wa.us; Margaret.glowacki@seattle.gov; mhgreen@comcast.net; Harry.reinert@kingcounty.gov; SBennett@ci.lake-forest-park.wa.us; Paul Stewart; travis.saunders@mercergov.org; Jean.White@kingcounty.gov; george.steierer@mercergov.org; Burcar, Joe (ECY); Teresa Swan; Stacy Clauson; Robert Grumbach; Skowlund, Peter (ECY)
Cc: becky@marinellc.com; eride@msn.com; raa@vnf.com; Mark Nelson; donovan@donovantracy.com; vanskamok@verizon.net; Mike Collins; Kathy Richardson; Ken Sethney; greg@shoreline-permitting.com; rlstyle@aol.com; dfiene@cityoffp.com
Subject: REVIEW OF KIRKLAND ANSWER TO SHORELINE QUESTIONS
Attachments: Kirkland SMP Response 5-28-2009.doc

Dear SMP Update Interested Parties,

The City of Kirkland continues to place a lot of time and effort into its SMP Update and respond to public inquiries. As the process works its way through the Houghton Community Council and Kirkland Planning Commission, the staff has met with and provided responses to questions from the public including a workshop on 2/28/09. The complete text is available on Kirkland's website.

As a result, I have reviewed the responses from the City staff and provided feedback which I have attached for your review. This may be helpful for other planning departments depending on where you are at in the SMP Update process.

It must be emphasized that the City of Kirkland staff is a great group working more diligently than most and have been very proactive in their effort to engage the public. The pressure local governments are under to meet DOE's written and implied standards is understandable but at the same time it is important that local planning departments operate within their scope of expertise and base the finished document on practical applications and solid evidence. This will help to gain support from those who will be impacted by its regulations.

Because DOE is placing such heavy emphasis on the Corps RGP-3 and at the request of several local planners, I am preparing a chart comparing the dimensional standards in the RGP-3 with typical construction and design standards used for overwater structures.

Thank you,
Dave Douglas
Permit Coordinator
Waterfront Construction, Inc.

Teresa Swan

From: RLSTYLE [rlstyle@aol.com]
Sent: Tuesday, June 02, 2009 12:22 PM
To: paul@waterfrontconstruction.com; landryk@waterfrontconstruction.com; allen schwartz;
nelsonmb@gte.net; jrogers407@comcast.net; eride@msn.com; scjm@ckwmail.com;
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Subject: Freedom to chose among many plans & regulations

In addition to shoreline regulations, the city has a "Natural Resource Management Plan" that has a chapter on Lake Washington Shorelines on page 39 of the Plan. The chapter should be consistent with the Shorelines Management Act that states that lake front homes are allowed and should be protected from erosion. There is much in the chapter than needs clarification. It is too broad in scope and almost guarantees full employment for attorneys.

The language of the Natural Resource Management Plan leaves a lot to be desired. If left as is, it could be referred to as being incompatible with or superceding the Shoreline Management Act.

Bob Style

