



MEMORANDUM

To: Planning Commission

From: Stacy Clauson, Contract Planner
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Date: September 30, 2008

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

INTRODUCTION

On September 11, 2008 the Commission began its review of the initial draft of the zoning regulations associated with the Shoreline Master Program. At the October 9, 2008 meeting, we will continue working through the topics covered in the staff memo for the September 11, 2008 meeting and then move onto new topics covered in this memo concerning shoreline uses and shoreline modifications. **Please be sure to bring your copy of the September 11, 2008 packet to the October 9th meeting, since we will be working from this previous packet as well as the materials enclosed with this packet.**

TABLE OF CONTENTS

Section	Topic	Page #
I.	Recommendation	1
II.	Staff Response to Comments from the Sept, 11, 2008 meeting	2-4
III.	Topics Carried over from the Sept. 11, 2008 meeting	4-6
IV.	New Topics for the October 9, 2008 meeting	6-7
V.	Shoreline Modifications	7-14
VI.	Shoreline Uses and Associated Development Standards	14-18
VII.	Public Comments	19

I. RECOMMENDATION

- Review briefly the questions and comments raised at the September 11, 2008 meeting and staff's responses.
- Continue discussion from September 11, 2008 meeting on remaining general regulations.

- Review and provide direction on proposed regulations for shoreline modifications, and shoreline uses and associated development standards.

II. STAFF RESPONSE TO COMMENTS FROM SEPTEMBER 11, 2008 MEETING

At the September 11th meeting, the Planning Commission discussed the proposed shoreline environment designations, uses and activities, and the general regulations addressing critical areas (including wetlands and streams) and public access. The Planning Commission provided a number of recommendations for policy direction, revisions, as well as requests for information to assist in further review of some items. (Please note that changes are now tracked in underline/strikeout so that they can better be identified). In response, staff has provided the following:

1. Shoreline Jurisdiction. The Planning Commission had questions about the **extent of shoreline jurisdiction** in several areas where roadways are located (e.g. the bridge over the wetlands along 98th Avenue NE, which has not been shown in shoreline jurisdiction, as well as existing roadways in the Yarrow Bay wetland complex). Roadways that are located within 200 feet of the ordinary high water mark of Lake Washington are located within shoreline jurisdiction, but roadways outside of this area are not included in shoreline jurisdiction. Staff has reviewed this issue and determined that in the Yarrow Bay area, no roadways outside of 200 feet are included in the shoreline jurisdiction – there is one right-of-way, but it is presently unopened and mapped as potentially being impacted by wetland (see Attachment 1 of this staff memo).
2. Shoreline Environment Designations Maps (see Attachment 1 in this staff memo).
 - a. The Shoreline Environment Designations have been **reordered** as requested by the Planning Commission so that the figure numbers go from north to south and the maps connect in that order.
 - b. The **inset of the Forbes Creek wetland complex has been enlarged**. Presently, this map format is consistent with the inventory maps and, as a result, staff is recommending that the insert be kept as proposed so that the map formats are consistent. Does the enlarged map sufficiently address the Planning Commissions concerns?
 - c. The **residential shoreline environments have been renamed** as follows, in response to Planning Commission input that the designations should use similar terminology: Low Density Residential is now noted as Residential – L and Urban Residential is now noted as Residential – M/H (medium/high density).
3. Definitions (see Attachment 2 in this staff memo).
 - a. A definition has been added for “**preserve**” as requested by the Planning Commission.
 - b. Staff identified a change needed to the definition of **Substantial Development** to reflect the WAC provisions.
 - c. Staff has amended the definition of **land surface modification** to be consistent with the changes recently reviewed by the Planning Commission.
 - d. Staff has inserted the **definitions that apply to wetlands and streams**, which were provided to you prior to the September 11, 2008 meeting.
 - e. Staff has revised the definition of **ordinary high water mark** as originally proposed in the memo for the September 11, 2008 meeting by deleting the last sentence in the definition. The sentence addressed the relocation of the OHWM when a shoreline restoration results in the OHWM being moved landward. Moving the OHWM further landward (in most cases east in

Kirkland) can result in a property to the east being regulated under the Shoreline Management Act that was not regulated before the shoreline restoration. The shoreline jurisdictional boundary is 200 feet from the OHWM. The proposed sentence would have set the pre-restoration OHWM location as the regulated location so landward properties would not be affected by the shift in the OHWM from a restoration project.

The sentence has been deleted because it is not consistent with the definition of OHWM found in RCW 90.58. The Department of Ecology is aware of the problem and the State Legislature has directed that DOE to find some mechanism to address this situation. But until the State definition is changed, the City must make its definition consistent with RCW 90.58.

Staff has added the phrase “or as amended” so that if and when DOE amends RCW 90.58 to address the problem of the OHWM location for shoreline restoration projects, the City does not need to amend its shoreline regulations to reflect the change.

However, DOE has indicated that the City can set the OHWM for a restoration project at the pre-restoration OHWM location for the shoreline setback and any other dimensional regulation since this approach would not affect the shoreline jurisdictional boundary (see Attachment 8)

4. Use Table (see Attachment 3 in this staff memo)

- a. A listing has been added for moorage for **public floatplane operations** as requested by the Planning Commission.
- b. A clarification has been made to the use listing related to public parks to clarify that the listing is focused on **public park improvements**. The Planning Commission has raised questions about whether this listing was intended to include the purchase of public parks, which it was not. This change is intended to clarify that the activities regulated would be focused on physical improvements that would be undertaken within public parks.
- c. Staff is also proposing a change to allow a **detached dwelling unit as a conditional use in the Urban Conservancy environment**. Previously, this use was noted as not permitted, due in large part to the fact that all but one property in the UC environment was under public ownership and was used for public park purposes. Further, the property that was under private ownership is owned as a private beach under common ownership and contains area outside of the shoreline jurisdiction that could be developed. However, since one privately held property is included and the jurisdiction limits could change if the outlet of Juanita Creek shifts over time, staff recommends that detached dwellings be permitted as a conditional use so that the property owners have some reasonable use of the property. This is similar to the approach used in the Natural Environment.
- d. Staff is requesting further direction from the Planning Commission on issues raised about the **Public Access Boardwalk** use listing. Planning Commissioner raised concerns that this use was listed as a Conditional Use in the Natural Environment. This use listing was intended to address piers or boardwalks that are constructed waterward of the ordinary high water mark, such as the grated piers located over the water in Juanita Bay Park. It would not include trails, boardwalk, or other public access facilities landward of the park, which have been listed separately as a Public Access Facility. Staff has consulted with the Parks Department, who has not expressed concerns about the proposed Conditional Use Process. Given this information, staff is requesting Planning Commission direction on whether this should remain as a Conditional Use or be changed to a Substantial Development in the Natural Environment.

5. General Regulations

- a. **Wetlands** (see Attachment 4 in this staff memo).
 - i. A **reference** has been added to the analysis completed by King County that documents how the proposed wetland buffers are consistent with the GMA requirement for **Best Available Science**, as requested by the Planning Commission.
 - ii. In response to further review by staff, the **reasonable use provisions that are currently contained in KZC Chapter have been inserted into the wetland regulations**. A Reasonable Use permit allows a single family home to be built on a single family zoned property containing a wetland or buffer that otherwise could not be built due to critical area restrictions. The City's Reasonable Use provisions provide the City with a mechanism to approve limited use and disturbance of a sensitive area and sensitive area buffer when strict application of Chapter 90 KZC would deny all economically viable use of the property.
- b. **Streams** (see Attachment 4 in this memo). In response to further review by staff, the **reasonable use provisions** that are currently contained in KZC Chapter 90 have been inserted into the stream regulations. This provides a specific process for property owners to seek relief if they believe that the strict application of the wetland regulations would deny all reasonable of a property.
- c. **Shoreline Vegetation** (see Attachment 5 in this staff memo).
 - i. The Planning Commission requested information on the **potential costs of shoreline restoration activities**, such as bulkhead removal replaced with soft shoreline stabilization, that are contemplated under Approach 1. See further discussed in Section V below.
 - ii. The Planning Commission also requested information showing typical **construction costs** associated with new construction along the waterfront. Building costs for new construction undertaken along the waterfront are also provided in Attachment 5. It should be noted that this information is typically generated from cost tables that the Building Department uses for all properties in the City and is based on generalized values for different structure types and square footage. Therefore, these costs may not reflect the true value of improvements and do not account for the value of the land.

III. TOPICS CARRIED OVER FROM THE SEPTEMBER 11, 2008 MEETING

The following topics were not discussed at the September 11, 2008 meeting and have been carried over to the October 9, 2008 meeting:

- A. Shoreline Vegetation Management – In the September 11, 2008 meeting, staff presented materials relating to shoreline enhancement/restoration as part of the shoreline vegetation standards. This was done because of the interconnectivity between shoreline armoring and vegetation. Staff recommends that this topic area be discussed as part of the shoreline stabilization provisions provided in Section V.I below, except for the following specific provisions that apply to preservation of existing shoreline vegetation:

- **Upland Vegetation** – What approach should be taken with regard to protection of existing trees located within the shoreline area? Approach 5 as addressed in Section VIII.8 on page 24 of the September 11th packet addressed tree removal standards that staff recommended the Planning Commission consider in the update to the SMP.
- **In-Water Vegetation** – When should in-water removal of vegetation be permitted? (see Section VIII.8 starting on page 20 of the September 11th packet, as well as Attachment 22 in the same packet containing an outline of other approaches taken by nearby jurisdictions that are farther along in the SMP update process than Kirkland).

B. Use of Pesticides, Herbicides, and Fertilizers -

- **Upland Vegetation** – What approach should be taken with regard to regulations addressing application of pesticides, herbicides, and fertilizers in areas adjacent to Lake Washington and streams and wetlands that are part of the shoreline jurisdiction?

Staff has provided several options to address upland application of pesticides, herbicides and fertilizers (see Section VIII.9 starting on page 27 of the September 11th packet).

Background information: Below is an overview of **on-going research into the effects of pesticides on salmonid health and aquatic ecosystems.**

An interagency Task Force was convened in March of 2000 to address the considerable scientific uncertainty surrounding the effects of pesticides on the essential biological requirements of salmonids. The Task Force is a collaborative effort between the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, the Environmental Protection Agency (Region 10), and Washington State Departments of Agriculture, Ecology, Fish and Wildlife, and Natural Resources. The principal mission of the Task Force is to provide science-based guidance to natural resource and regulatory agencies on the potential adverse impacts of pesticides on salmonids and/or aquatic ecosystems.

A primary goal of the Task Force has been to develop an evaluation process that incorporates the best available scientific data and information on 1) the transport of pesticides to salmonid habitat, and 2) the toxicity of these chemicals to fish and/or the aquatic foodweb. In 2002, WSDA contracted with Ecology to design and conduct a multi-year surface water monitoring program to characterize pesticide concentrations in salmonid-bearing streams. Thornton Creek, located in the Cedar-Sammamish watershed, was selected to represent an urban basin. Year 2007 is the fifth in a six-year cycle to study pesticides in the Cedar-Sammamish watershed.

An in-depth analysis of data will be released at the end of the second study cycle (2009). At this time, final results from this review are not available. The Planning Commission could opt to wait on specific provisions prohibiting or limiting the use of pesticides until more information from this Study is available. If the Planning Commission does opt to wait, it is recommended that minimum standards be put into place that would control application methods in order to reduce the potential occurrence of materials entering the lake.

- **Aquatic Noxious Weeds** - What approach should be taken with regard to management of aquatic noxious weeds, such as milfoil? (see Section VIII.9 starting on page 27 of the September 11th packet, as well as Attachment 23 in the same packet).

In the memo for the September 11, 2008 meeting, staff provided several options to address aquatic application of herbicides as well as background information from the Washington Toxics Coalition.

Mr. Richard Sandaas has addressed this issue in several letters including in Attachment 5 for the April 10th meeting packet, in a letter distributed to Planning Commission at the April 10th meeting and in a letter contained in Attachment 11 of this memo.

Background information. A review of scientific literature on this topic yields a variety of results, with some studies showing that there are no adverse health impacts, and others pointing to a correlation between health and environmental impacts and ingredients in the herbicides used in lake applications. Attachment 6 provides an information sheet that explains the Department of Ecology's position on this issue as it relates to the issuance of the Aquatic Plant and Algae Management General Permit. Please note that under the General Permit, it does not appear that the cumulative impacts of the chemicals are evaluated.

Ultimately, control of aquatic invasive species such as milfoil will take coordination at a regional, multijurisdictional level to address. The piecemeal approach used at this time is not an effective management tool. However, at this time, there is no coordinated effort underway to address this issue. The City will continue to look for opportunities to participate in a coordinated effort to address this issue.

- C. View corridors - What portion of the Lake or shoreline edge should be visible within designated view corridors? (see Section VIII.10 on page 30 of the September 11th packet).
- D. Other topics – Other topics were carried over from the September 11th meeting that may need to be discussed include proposed regulations for view corridors, parking, miscellaneous standards, lighting, signage, and in-water work.

IV. NEW TOPICS FOR THE OCTOBER 9, 2008 MEETING

The draft regulations contained in this packet (see Attachments 7 and 8) address the following sections of the new shoreline regulation chapter:

- Shoreline Modification Regulations (with the exception of piers, which will be addressed at a future meeting).
- Shoreline Uses and the associated Development Standards (with the exception of shoreline setbacks, which will be reviewed at a future meeting).

In order to use the meeting time effectively, staff recommends that the following key policy issues be discussed at the October 9th meeting, as well as any other key concerns identified by Planning Commission members:

- A. Shoreline Stabilization – Does the Planning Commission have any feedback on proposed standards for shoreline stabilization? Is the threshold that has been proposed to determine which repair activities qualify as major repair appropriate? (see Section V and Attachment 7 in this memo)
- B. Shoreline Restoration - What approaches should be used for shoreline restoration? Should bulkheads be required to be removed for new development or redevelopment, if possible, or should the City focus on alternative approaches, such as regulatory incentives or establishment of new shoreline vegetation? (see Section VIII.8 starting on page 20 and Attachment 22 of the September 11th packet. Attachment 22 contains an outline of other approaches taken by nearby jurisdictions that are farther along in the

SMP update process than Kirkland. Also refer to Section VI.1 and Attachment 7 in this memo for additional information on Approaches 1 and 8 as presented in the September 11th memo).

- C. Land Surface Modification – Does the Planning Commission have any feedback on proposed standards for land surface modification? (see Section V and Attachment 7 in this memo)
- D. Marinas – Does the Planning Commission have any questions or concerns about the proposed dimensional standards for marinas? Should there be any changes to the existing required setbacks for marinas from parks found in the Zoning Code? What should the setback be from a detached dwelling unit?(see Section VI and Attachment 8 in this memo)
- E. Development Standards – Are any changes needed to the draft standards for building height, lot coverage, or density/minimum lot size? Is the proposed density incentive to encourage development that will provide public pedestrian pathways appropriate? Are there any concerns about the standards established for encroachments into the shoreline setback? (see Section VI and Attachment 8 in this memo)
- F. Float plane facilities – Do the proposed standards sufficiently address the Planning Commission concerns about compatibility of these uses? (see Section VI and Attachment 8 in this memo)
- G. Other Shoreline Uses – Does the Planning Commission have any feedback on standards for shoreline uses, in particular new shoreline use listings, such as tour boat facilities, boat launches, water taxis, and passenger-only ferries? (see Section VI and Attachment 8 in this memo).

V. SHORELINE MODIFICATIONS.

The regulations in Attachment 7 contain provisions that will apply to typical activities that modify the shoreline environment. Provided below is a summary of each issue, input from the public (if any), options to consider (if there are different policy options), together with a staff recommendation, if needed. Also refer to Section VIII. 8, Shoreline Vegetation Management, pages 20-26, in the staff memo for the September 11, 2008 meeting.

1. Shoreline Stabilization – Hard and Soft Measures.

Key Issues: The key issues are as follows:

- **Whether to require a geotechnical analysis** for new or expanded hard structural shoreline stabilization to determine if a hard stabilization measure is necessary.
- **Whether to require the use of soft shoreline stabilization** when feasible.
- **Whether to require mitigation** with the installation of native vegetation and shallow-water habitat enhancement for existing hard measures and what should be the threshold when the mitigation should be required.

Background: The State Guidelines addressing shoreline stabilization are contained in WAC 173-26-231(3)(a) and focus on assuring no net loss of shoreline ecological functions will result from new and replacement shoreline stabilization measures. Much of the proposed regulations are taken directly from this WAC section that provides specific requirements and circumstances for allowance of new or expanded stabilization. The Guidelines and the proposed regulations make clear distinctions between hard structural shoreline stabilization and soft shoreline stabilization (see revised definitions in Attachment 2 of this memo) because of the following potential impacts of hard solutions, applicable to Lake Washington:

- Beach starvation. Sediment supply to nearby beaches is cut off, leading to "starvation" of the beaches for the gravel, sand, and other fine-grained materials that typically constitute a beach.

- Sediment impoundment. As a result of shoreline hardening, the sources of sediment on beaches are progressively lost and longshore transport is diminished. This leads to lowering of beaches, narrowing of beaches, and the coarsening of beach sediment. As beaches become more coarse, less prey for juvenile fish is produced. Sediment starvation may lead to accelerated erosion in down-drift areas.
- Exacerbation of erosion. The hard face of shoreline armoring, particularly concrete bulkheads, reflects wave energy back onto the beach, exacerbating erosion.
- Ground water impacts. Erosion control structures often raise the water table on the landward side, which leads to higher pore pressures in the beach itself. In some cases, this may lead to accelerated erosion of sand-sized material from the beach.
- Hydraulic impacts. Shoreline armoring generally increases the reflectivity of the shoreline and redirects wave energy back onto the beach. This leads to scouring and lowering of the beach, to coarsening of the beach, and to ultimate failure of the structure.
- Loss of shoreline vegetation. Vegetation provides important "softer" erosion control functions. Vegetation is also critical in maintaining ecological functions.
- Loss of large woody debris. Prevention of natural erosion of vegetated shorelines leads to the loss of organic material. This material can increase biological diversity, can serve as a stabilizing influence on natural shorelines, and is habitat for many aquatic-based organisms, which are, in turn, important prey for larger organisms.

The City's shoreline analysis report and other documents have confirmed that the above conditions can be found to a greater or lesser degree along the shoreline of Lake Washington.

Proposed Regulations: Below is a summary on the proposed regulations found in Attachment 7.

- For these reasons list above, all shoreline stabilization proposals, whether new, major repairs, or replacement, are to **implement a soft shoreline stabilization technique if it will provide the necessary protection in lieu of a hard structural shoreline stabilization technique.**
- To enable shoreline property owners to implement soft shoreline stabilization approaches in Kirkland, the proposed regulations would **allow placement of fill material for purposes of habitat enhancement waterward of the ordinary high water mark.** This will allow property owners who are not able to remove their hard structural stabilization to improve shoreline function, and increases design flexibility for those who can remove their hard structural stabilization.
- For those restoration projects that result in **shifts of the ordinary high water mark landward of its existing location**, the waterfront setbacks and lot coverage would be measured from the pre-restoration ordinary high water mark (OHWM) location.
- All approved new, enlarged, major repair or replacement shoreline stabilization measures would be required to **mitigate impacts at a minimum through implementation of a native shoreline planting plan and enhancement of shallow-water habitat** through placement of gravel. The general dimensions of the planted area are consistent with the U.S. Army Corps of Engineers (Corps) requirements, but with specific allowances made for consideration of views and water-dependent uses in the vegetation design. The entire completed project must obtain a performance or maintenance bond or security, and monitor the vegetation component of the project for five years.
- City permitting of **soft shoreline stabilization measures is proposed to have a lower level of review** than hard structural stabilization measures, which will require a CUP. In some cases, the soft shoreline stabilization may qualify as a restoration project and only require a Shoreline Exemption. The

Shoreline Master Program Update
Planning Commission Study Session
October 9, 2008

federal agencies have also created a process for streamlining review and approval of soft shoreline stabilization, which saves applicants time and money.

- A **threshold would be established to distinguish between minor and major repair** – major repair would be treated the same as a new shoreline stabilization project. As proposed, repair would qualify as ‘major’ if it includes repair to more than 25% of the linear feet of the existing bulkhead. Any proposed repair that involves modification of the toe rock or footings is also considered a major repair.

Further Discussion on Approaches to Shoreline Restoration: The City’s shoreline is now adversely impacted by a lack of riparian vegetation along the shoreline edge and woody debris. These degraded shoreline conditions resulted originally from lowering the lake water surface levels when the Ballard Locks were constructed. Further adverse impacts are a result of urbanization of the City’s shoreline. Landscaped yards and bank armoring (bulkheads and riprap) have reduced the amount of riparian vegetation and woody debris contributed to the lake, to the detriment of both fish and wildlife. Armoring has also modified substrates in shallow areas due to prevention of bank erosion and altering sediment dynamics at the water-land interface.

To begin enhancing the existing shoreline environment, staff recommends focusing on approaches that **soften the shoreline interface and provide riparian vegetation along the shoreline edge**. The various available approaches present a spectrum of different options, ranging from those that are more regulatory-based to those that only rely upon incentives. Each of these approaches has potential issues that should be discussed – many of these issues were addressed in the chart outlining the various approaches on pages 22-26 in the staff memo for the September 11th packet.

Below is a further discussion on the merits of Approach 1 and 8 (refer to the chart on pages 22-26 in the staff memo for the September 11, 2008 meeting) :

Approach 1 - Bulkhead softening or removal and re-vegetation. Staff would like to provide a more detailed description to the Planning Commission that might better describe this approach. Under this option, applicants would be asked to undertake an evaluation of the opportunities available to enhance their shoreline, taking into account a number of variables, including:

- wave fetch and boat-driven wave patterns,
- bathymetry (shallow or steep slope below the water line),
- topography (shallow or steep slope above the water line),
- depth of water at shoreline face, and
- location of residence, utilities, or other built structures relative to the shoreline edge.

Based on this information, an assessment of the necessity of shoreline stabilization measures would be required. If shoreline stabilization is determined to be necessary, then the feasibility of using soft shoreline measures in lieu of traditional hard structural shoreline measures would be needed. Soft shoreline stabilization often includes the use of gravels, cobbles, boulders, and logs, as well as vegetation. These would need to be used to the maximum extent possible. It should be noted that soft shoreline measures that provide enhancement of the shoreline ecological functions **may allow some fill waterward of the ordinary high water mark** to achieve this purpose – this is a significant change from past practices, intended to provide more flexibility to accommodate enhancement plans.

All shoreline enhancement designs are very site-specific, but virtually all sites have some potential for restoration on the broad continuum. For properties with the most favorable conditions, bulkhead removal and full shoreline restoration may be possible. At the other end of the spectrum are properties which may

only be able to plant a narrow band of native vegetation upland of the bulkhead and install gravel waterward of the bulkhead to provide improved shallow-water habitat. Properties in the latter category are those that have deep water at the bulkhead and utilities or structures close to the water's edge.

For most other properties, some bulkhead removal or modification may be possible provided that care is taken to size substrates appropriately so they are not easily mobilized by wind- or boat-driven waves, to place sufficient quantities of substrate or otherwise grade the site to achieve a stable slope, and to strategically place as needed boulders or logs to attenuate wave energy and improve habitat.

Potential Issues to Consider with Approach 1: There are a number of potential issues that should be considered as part of this approach, including the following:

- *Costs*. Attachment 5 provides an overview of anticipated costs associated with bulkhead removal and full shoreline restoration. These plans are expensive to implement. Staff is still investigating the eligibility and potential tax savings that may be available through the Public Benefit Rating System to determine how much of these capital costs could be offset. Staff is also evaluating how this may or may not impact the revenue for the City. Staff is also investigating the availability of grant funds that property owners may be eligible to apply for and receive. In discussions with a King County Grant Administrator, it appears that the under the Community Salmon fund (<http://dnr.metrokc.gov/wlr/pi/grant-exchange/grantprograms.htm>), property owners may be eligible for grants of up to \$75,000 for shoreline enhancement projects. The property owner is not an eligible applicant, but could partner with a community organization or jurisdiction to apply. The grant application has a higher likelihood of success if it involves several property owners enhancing a longer section of shoreline.
- *Consistency*. Because the site's characteristics impact the type of enhancement that can be completed, there may be a great deal of variability in the steps that are required to be taken by individual applicants, potentially resulting in equity and fairness concerns. Participation in offsite enhancement or fee-in-lieu programs may be one way to ensure that all applicants are required to make the same level of investment in enhancement activities.
- *Change in Shoreline Jurisdiction*. As noted above, if the ordinary high water mark changes as a result of a shoreline restoration project then upland properties not currently located within shoreline jurisdiction may become within the 200 feet of the OHWM. However, most projects can be designed to maintain the existing position of the ordinary high water mark as needed after restoration.
- *Threshold*. Because the costs of full shoreline restoration may be extensive, it will be important to establish an appropriate threshold that would be used to determine what projects are required to participate in this process. There are a number of different options to set the threshold at, including:
 - Specified increases in gross floor area – This could be based on a percentage of the existing building size.
 - The cost of the new improvement – This could be a set amount, a percentage of the total building valuation (what it would cost to replace the building using today's dollars), or a percentage of the total assessed value of the property and improvements.

Another potential option to lessen the impact on less extensive projects would be to exempt the project from the full shoreline restoration, and instead require shoreline plantings and/or installation of gravel beach fill waterward of the ordinary high water mark for projects of a certain size.

Approach 8 - Incentives for reduced shoreline setback. This approach is focused on a series of regulatory incentives. One of the key issues is setting this system up so that applicants will be enticed to seek the regulatory flexibility that would be provided to the benefit of improving the function of the shoreline.

Public Input: Public input has been received on the topic of bulkheads via survey responses, comments at Planning Commission meetings, and letters to the City. Sixty-six percent of survey respondents responded affirmatively to a question regarding whether the City should provide standards for bulkheads and other hard structural shoreline stabilization. However, only two of these were shoreline property owners. Of those that responded affirmatively, 28 would recommend prohibiting new bulkheads or other hard armoring unless necessary, which is reflected in the proposed regulations and is a requirement of the Guidelines.

Other bulkhead recommendations supported by the majority of respondents were tied to upland development thresholds for requiring shoreline restoration or other enhancement as reflected in the Shoreline Vegetation Management approach option of Attachment 22 in the September 11, 2008 packet. The Planning Commission has also heard from a number of property owners expressing concern about this type of limitation on their property rights and the cost. Protection of private property rights was also a key concern brought up at the June 9, 2008 Open House.

There has also been a lot of concern expressed by citizens regarding the feasibility of soft shoreline stabilization in Kirkland. The regulations have been carefully crafted to require and encourage use of soft shoreline stabilization *when feasible*. As noted above, the proposed regulations include a provision allowing fill waterward of the ordinary high water mark to enable shoreline restoration projects and other enhancements on more difficult sites.

2. **Marinas.**

Key Issues: **Setbacks for overwater moorage structures.**

Background: The State Guidelines addressing marinas (termed boating facilities) are contained in WAC 173-26-241(3)(c) and focus on:

- Location at sites with suitable environmental conditions, shoreline configuration, access, and neighboring uses.
- Health, safety, and welfare requirements.
- Avoidance or mitigation of aesthetic impacts.
- Public access.
- Limiting the impacts to shoreline resources from boaters living in their vessels (live-aboard).
- Regulations that assure that the development of boating facilities, and associated and accessory uses, will not result in a net loss of shoreline ecological functions or other significant adverse impacts.
- Regulations to protect the rights of navigation.
- Regulations restricting vessels from extended mooring on waters of the state except as allowed by applicable state regulations and unless a lease or permission is obtained from the state and impacts to navigation and public access are mitigated.

Existing and Proposed Regulations: See Attachment 7.

- **Marina Setbacks.** Planning Commission feedback is needed on the appropriate setbacks that marinas should be required to meet. Presently, the Zoning Code requires that most zones have the following in-water setbacks for marinas:

- a) *No moorage structure may be 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*
- c) *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 following two exceptions exist in the Zoning Code:

The **CBD 2 zone** has the following standard:

No moorage structure may be within:

- a. 100 feet of a public park;*
- b. 50 feet of any abutting lot that contains a detached dwelling unit; and*
- c. 25 feet of another moorage structure not on the subject property.*

These standards are likely because of the presence of Marina Park, which if b) above was applied would restrict other marinas in close proximity to the park.

The **JBD 5 zone** has the following standard:

Waterward of the high waterline

Front: 0'

Side: 10'

Rear: 0'

Again, this is likely because of the nearby presence of public parks.

Key issues:

- **Does the setback requirement from the public park still seem warranted?** This standard was likely put into place to separate boat activity from areas where swimming or other public recreation is likely to occur. In areas of intense waterfront activity where a mix of uses is desired, such as the CBD, this standard may be too restrictive. A standard establishing appropriate separation between piers may be appropriate.
- **Does the setback from the detached dwelling unit make sense?** This is intended to provide protection of existing single-family residences in medium/high density or commercial areas. In areas of intense waterfront activity where a mix of uses is desired, such as the CBD, this standard may be too restrictive. Further, it is important to note that the moorage facility is a preferred use and would be more appropriately suited to high intensity areas like the Urban Mixed Zone.

Staff has also proposed a **new setback from stream outlets** in order to provide enhanced protection of the stream outlet and the concentration of fish that may locate there.

Staff Recommendation: Provide reduced standards for marinas in the Urban Mixed shoreline environment that allows greater flexibility to locate near parks or single family residences.

3. Breakwaters/jetties/groins.

Key Issues: None.

Background: The State Guidelines addressing breakwaters, jetties and groins are contained in WAC 173-26-231(3)(d) and focus on assuring no net loss of shoreline ecological functions. The Guidelines and the proposed regulations limit the shoreline environments in which these types of structures may be approved, and prohibit them from use for any other purpose than protection of “water-dependent uses, public access, shoreline stabilization, or other specific public purpose.” Most of the standards contained in the proposed regulations are found in the City’s existing SMP.

Proposed Regulations: See Attachment 7.

4. Dredging and dredge materials disposal.

Key Issues: **Slightly more restrictive standards for dredging.** Proposed regulations do not allow dredging to accommodate new uses, just to maintain existing uses or implement a restoration project.

Background: The State Guidelines addressing dredging and dredge material disposal are contained in WAC 173-26-231(3)(f) and focus on assuring no net loss of shoreline ecological functions. Dredging projects have the potential for the following impacts:

- re-suspend contaminants that may be contained in the soil
- disturb substrates that have established aquatic vegetation
- disturb or harm invertebrates and fish that may be present in the substrate, and
- may cause short-term but acute turbidity problems

Accordingly, dredging is allowed only for specific purposes, such as maintenance of existing navigation channels, restoration, maintenance of existing boat moorage (both public and private), and maintenance of other water-dependent or public uses. To establish that the dredging is implemented to minimize impacts and is the minimum extent necessary, the proposed regulations include a requirement for submittal of a detailed plan and may require special studies to assess contaminant levels in the material to be disturbed. Placement of dredged materials into the lake is tightly controlled.

Proposed Regulations: See Attachment 7.

Public Input: A number of property owners who reside in **Juanita Bay** have noted the desire to see **dredging** activities in this bay. The City’s **Final Shoreline Analysis Report** contains a discussion about sedimentation in Juanita Bay. As explained in the report, the City has planned projects to do improvements along Juanita Creek to reduce erosion from going into Juanita Creek. In addition, the City is in the process of preparing a Surface Water Master Plan to address the overall condition of the City’s drainage basins, including storm water runoff and erosion.

5. Land Surface Modification.

Key Issues: More restrictive standards for land surface modification activities on upland property.

Background: The State Guidelines do not specifically address land surface modification, but do focus on the use of clearing and grading regulations as one of the techniques that should be used as part of shoreline vegetation management.

Proposed Regulations: The proposed regulations focus on **limiting potential impacts from land surface modification within the shoreline setback** area by narrowly scoping the permitted land surface modifications activities in this area (see Attachment 7). This may be more restrictive than the current SMP standards, which allowed land surface modification for 1) development of an approved activity, 2) use of the property, or 3) incidental landscaping for an existing use. Under the current standards, vegetation removal within the shoreline setback was not regulated by the City. The new provisions propose additional standards that would limit removal of native vegetation or vegetation installed as part of an enhancement plan. The new standards also address potential erosion and drainage impacts.

6. Fill.

Key Issues: None.

Background: The State Guidelines addressing fill are contained in WAC 173-26-231(3)(c) and focus on assuring no net loss of shoreline ecological functions. Circumstances in which fill are allowed are limited to those fills associated with water-dependent or public access uses, to accommodate certain transportation corridors, and for restoration. These regulations actually expand the circumstances where fill may be allowed, accommodating fills for soft shoreline stabilization or restoration purposes.

Proposed Regulations: See Attachment 7.

Public Input: A number of citizens and those with interest in Kirkland's shoreline have requested that the existing SMP be revised to allow private fills that would enable alternative shoreline stabilization or restoration. At least one citizen was precluded from implementing a restoration project as a result of provisions in the existing SMP. State and federal agencies with jurisdiction on Lake Washington have been approving and encouraging these types of fills for several years as a means to improve ecological functions.

7. Shoreline habitat and natural systems enhancement projects.

Key Issues: None.

Background: This is a new SMP section, and is addressed in the State Guidelines under WAC 173-26-231(3)(g). This section is designed to provide a clear and simple path for permitting and approval of projects specifically intended for the primary purpose of "establishing, restoring, or enhancing habitat for priority species in shorelines." A number of enhancement actions are covered under this section, including native vegetation establishment, removal of non-native vegetation, conversion of hard structural shoreline stabilization to soft shoreline stabilization, implementation of projects identified in the Restoration Plan that will be prepared as part of this SMP, and implementation of any projects identified in the WRIA 8 documents. Many of these projects may qualify for a Shoreline Exemption while others will require a Shoreline Substantial Development permit.

Proposed Regulations: See Attachment 7.

Public Input: Respondents to the survey indicated that a preferred method for the City to encourage restoration is to reduce review time – processing restoration projects as Exemptions or Substantial Developments will help enable this. Prior to creation of this section, some projects might have required a CUP because of fill activity that might have been proposed landward of the ordinary high water mark. This section enables these projects to be reviewed as enhancement of the shoreline.

VI. SHORELINE USES AND ASSOCIATED DEVELOPMENT STANDARDS

The draft regulations in Attachment 8 contain provisions that will be applied to specific uses. Provided below is a summary of each issue, input from the public (if any), options to consider (if there are different policy options), together with a staff recommendation, if needed.

1. Shoreline Development Standards.

Key Issues: Proposed changes to a number of existing SMP standards for building height, lot coverage and minimum lot size/density address **inconsistencies between existing zoning and SMP standards**.

Background: The State Guidelines reference the use of standards for density, setbacks, height and lot coverage in a number of different areas, including as part of the management policies for shoreline environments.

Proposed Regulations: The proposed regulations are contained in Attachment 8. Attachment 9 provides a summary of existing zoning and shoreline standards. The following discussion summarizes key changes:

- 1. Shoreline Setback.** Staff is looking for direction on the issues relating to shoreline restoration before proceeding with drafting standards for shoreline setbacks. The direction found in the State Guidelines is to treat the required setback from the lake more like the existing required setback from a wetland or stream, and thus the shoreline setback are supposed to be increased over the current standard of 15' or 15% of the average parcel depth, whichever is greater.

The draft shoreline standards do provide **direction on what encroachments** may be permitted within the shoreline setback. This would be a new provision to the SMP, though there is a similar provision in the Zoning Code. The draft standards are **more restrictive** on the type of encroachments permitted within the shoreline setback than currently provided in the zoning standards (e.g. does not permit unlimited improvements as long as they do not extend more than 4" above finished grade), in order to protect the shoreline ecological functions within this important interface between land and water.

- 2. Lot size/Density.** In general, lot sizes have been modified to reflect zoning standards. In an effort to encourage development that would provide public access, staff is proposing to include a **density incentive in the Residential – M/H environment** that would permit a minimum lot area of 1,800 square feet per dwelling unit for up to two dwelling units, instead of the typical 3,600 minimum lot area per unit. This is proposed to encourage an applicant to pursue development of two units, which would require a public access walkway, instead of a single unit on a lot, which does not require public access.

- 3. Building Height.** In general, the shoreline building height standards have been modified to reflect the existing zoning standards. In a number of instances, this results in a **decrease in allowable building height from the existing SMP standards**. However, the end result is the same because even if the shoreline standard allows taller buildings, the more restrictive zoning regulation would prevail.

For instance, the proposed shoreline building heights in a portion of CBD 2 on the west side of Lake St South and in JBD 4 is 28 feet and 26 feet respectively to reflect current zoning standards, but the current SMP would allow up to 41'.

Concerning building heights in the CBD 1 and 2 shoreline environments, over the next several months, the City Council will be reviewing building heights in the Downtown. If any changes occur to the CBD 1 or 2 zones, the changes will be reflected in the draft shoreline environment regulations.

In some zones the **method for calculating building height** has been modified from the existing SMP standard to be consistent with the current Zoning Code. In the CBD zones, height is currently measured above the midpoint of the abutting right-of-way so that building height more clearly relates to the building mass perceived at the street level, whereas the current SMP measures above existing grade of the proposed building.

The proposed regulations clarify how the **building height exceptions** that are allowed in the Zoning Code would apply within the shoreline area, such as the Carillon Master Plan site, PLA 15A zone outside of the master plan area, certain CDB zones and approved Planned Unit Developments that include an increase in height. The proposed regulations also reflect special criteria for views when a building exceeds a height of 35 feet above average building elevation found in the RCW and WACs.

4. Lot Coverage: New standards have been added for lot coverage not previously addressed in the SMP. In general, the property shoreline standards are consistent with current zoning regulations, except that in CBD 2, lot coverage on properties that abut Lake Washington has been reduced from 100% to 90% to reflect new requirement for vegetation along the shoreline edge.

Public Input: In the survey, over half of respondents indicated that standards should become more restrictive on structure placement along the shoreline (e.g. setback from the water's edge and other structures on adjacent lots, and designed to cover less area on a lot). However, it should be noted that property owners expressed a desire for site planning regulations, such as setbacks or lot coverage, to stay the same or become more flexible.

2. Residential Uses.

Key Issues: None.

Background: The State Guidelines addressing residential uses are contained in WAC 173-26-241(3)(j) and focus on assuring no net loss of shoreline ecological functions will result from residential development, including include specific regulations for setbacks and buffer areas, density, shoreline armoring, and vegetation conservation requirements.

Proposed Regulations: See Attachment 8.

3. Commercial Uses.

Key Issues: New standards for **float plane** landing and mooring facilities.

Background: The State Guidelines addressing commercial uses are contained in WAC 173-26-241(3)(d) and focus on:

- Giving preference to water-dependent commercial uses over non-water-dependent commercial uses; and second, giving preference to water-related and water enjoyment commercial uses over non-water-oriented commercial uses.
- Requiring that public access and ecological restoration be considered as potential mitigation of impacts to shoreline resources and values for all water-related or water-dependent commercial

Shoreline Master Program Update
Planning Commission Study Session
October 9, 2008

development unless such improvements are demonstrated to be infeasible or inappropriate.

1. Assuring that commercial development will not result in a net loss of shoreline ecological functions or have significant adverse impact to other shoreline uses, resources and values provided for in 90.58.020 RCW such as navigation, recreation and public access.

Proposed Regulations: See Attachment 8.

4. Industrial Uses.

Key Issues: None.

Background: The State Guidelines addressing industrial uses are contained in WAC 173-26-241(3)(f) and focus on:

- Giving preference to water-dependent industrial uses over non-water-dependent industrial uses; and second, giving preference to water-related industrial uses over non-water-oriented industrial uses.
- Assuring that industrial development will be located, designed, or constructed in a manner that assures no net loss of shoreline ecological functions and such that it does not have significant adverse impacts to other shoreline resources and values.
- Incorporating public access as mitigation for impacts to shoreline resources and values unless public access cannot be provided in a manner that does not result in significant interference with operations or hazards to life or property.

Proposed Regulations: See Attachment 8.

5. Recreational Uses.

Key Issues: New standards for **tour boat facilities** and **boat launches**.

Background: The State Guidelines addressing recreational uses are contained in WAC 173-26-241(3)(i) and focus on:

- Assuring that shoreline recreational development is given priority and is primarily related to access to, enjoyment and use of the water and shorelines of the State.
- Assuring that the facilities are located, designed and operated in a manner consistent with the purpose of the environment designation in which they are located and such that no net loss of shoreline ecological functions or ecosystem-wide processes results.

Proposed Regulations: See Attachment 8.

6. Transportation Facilities.

Key Issues: New standards for **water taxis** and **passenger only ferry terminals**. New standard regarding the section and placement of **street tree** to address protection of public views from the adjacent rights-of-way.

Background: The Guidelines addressing transportation facilities are contained in WAC 173-26-241(3)(k) and focus on:

- Planning, locating, and designing proposed transportation and parking facilities where routes will have the least possible adverse effect on unique or fragile shoreline features, will not result in a net loss of shoreline ecological functions or adversely impact existing or planned water-dependent uses. Where other options are available and feasible, new roads or road expansions should not be

Shoreline Master Program Update
Planning Commission Study Session
October 9, 2008

built within shoreline jurisdiction.

Proposed Regulations: See Attachment 8. Regarding street trees, the proposed regulations address tree selection and placement and note that street trees shall be selected and located so that they do not impair public views of the lake from properties east of the roadway.

The Houghton Community Council had a discussion earlier this year about protecting private views. However, in the past the City Council has taken the policy position that private views are not to be protected. The Comprehensive Plan reflects this policy decision in the Community Character Element Policy CC-4.5 and the Transportation Element Policy T-6.3 in which it is stated that public views are protected, but not private views.

7. Utilities.

Key Issues: None.

Background: The Guidelines addressing utilities are contained in WAC 173-26-241(3)(l) and focus on:

- Ensuring that utility facilities are designed and located to assure no net loss shoreline ecological functions, preserve the natural landscape, and minimize conflicts with present and planned land and shoreline uses while meeting the needs of future populations in areas planned to accommodate growth.
- Limiting utility production and processing facilities, such as power plants and sewage treatment plants, or parts of those facilities that are non-water-oriented.
- Limiting transmission facilities for the conveyance of services, such as power lines, cables, and pipelines, to outside of the shoreline area where feasible.
- Locating utilities in existing rights of way and corridors whenever possible.
- Limiting development of pipelines and cables on tidelands.

Proposed Regulations: See Attachment 8.

8. Land Division.

Key Issues: New standards for land division added to SMP.

Background: The State Guidelines addressing land division are contained in WAC 173-26-241(3)(i) and focus on:

- Providing standards for the creation of new residential lots through land division that accomplish the following:
 - Public access is provided where it could not be required without the division of land.
 - Plats and subdivisions must be designed, configured and developed in a manner that assures that no net loss of ecological functions results from the plat or subdivision at full build-out of all lots.
 - Prevent the need for new shoreline stabilization or flood hazard reduction measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions.

Proposed Regulations: See Attachment 8.

VII. PUBLIC COMMENTS

A summary of the public comments received to date is included in Attachment 10. Since the September 11th meeting, the City has received 5 written comment letters (see Attachments 11-15).

VIII. ATTACHMENTS

1. Draft Shoreline Environment Designation Maps
2. Definitions
3. Shoreline Environments, Permitted Uses and Activities Chart
4. Wetland and Stream Regulations
5. Potential Costs of Shoreline Restoration
6. Washington State Department of Ecology Q & A addressing herbicide use in Lakes and Lake Washington
7. Draft Shoreline Modification Regulations
8. Draft Shoreline Use Regulations
9. Comparison of Zoning and Existing SMP Development Standards
10. Table Summarizing Public Comments
11. Public Comment Letter from Richard Sandaas dated September 15, 2008
12. Public Comment Letter from Dave Douglas dated September 18, 2008
13. Public Comment Letter from Bill Wassmer dated September 18, 2008 and September 25, 2008
14. Public Comment Letter from Barry Powell dated September 26, 2008
15. Public Comment Letter from Richard Sandaas dated September 26, 2008

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



0 250 500 Feet
Scale: 1" = 500'

NOTE: In the event of a mapping error or ambiguity, the common boundary descriptions and criteria contained in RCW 90.58.030 (2) and Chapter 173-22 WAC pertaining to determinations of shorelands, as amended, shall apply, superseding the incorrect or outdated map.



Proposed Shoreline Environment Designations

Shoreline Master Program - City of Kirkland

	Natural
	Urban Conservancy
	Urban Mixed
	Residential - Medium/High
	Residential - Low
	Aquatic

Shoreline Management Area



Figure Xa

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0 250 500 Feet
Scale: 1" = 500'

NOTE: In the event of a mapping error or ambiguity, the common boundary descriptions and criteria contained in RCW 90.58.030 (2) and Chapter 173-22 WAC pertaining to determinations of shorelands, as amended, shall apply, superseding the incorrect or outdated map.



Proposed Shoreline Environment Designations

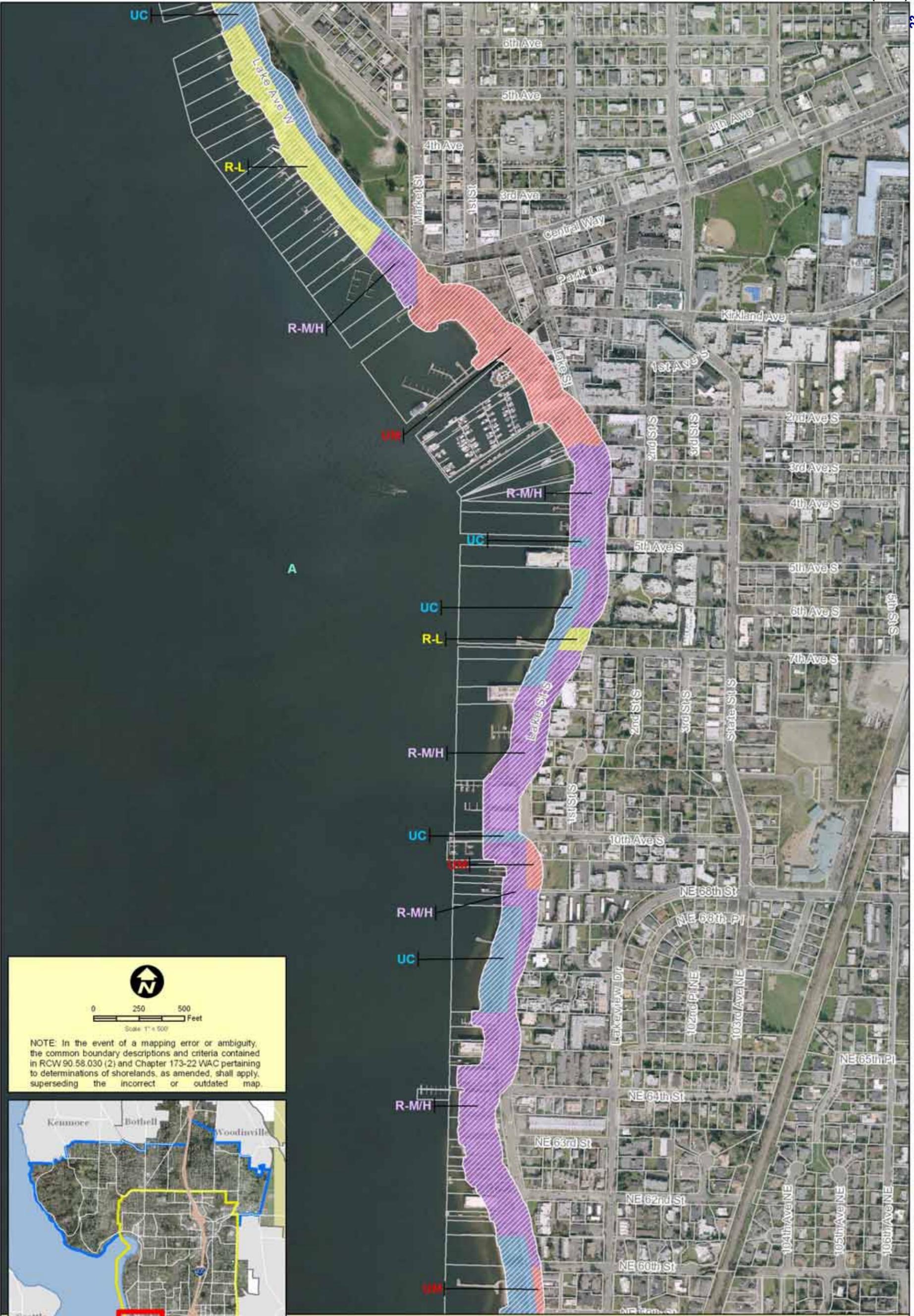
Shoreline Master Program - City of Kirkland

A	Aquatic	Shoreline Management Area
R-L	Residential - Low	
N	Natural	
UC	Urban Conservancy	
UM	Urban Mixed	
R-MH	Residential - Medium/High	

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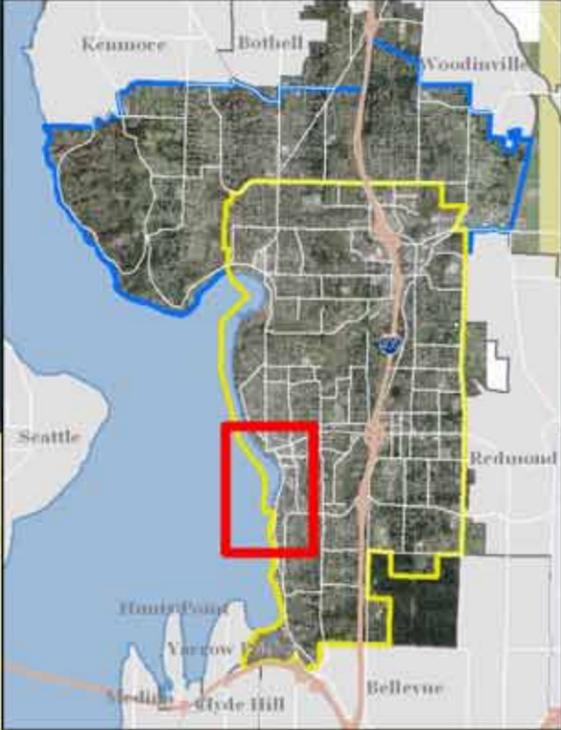


Figure Xb



0 250 500 Feet
Scale: 1" = 500'

NOTE: In the event of a mapping error or ambiguity, the common boundary descriptions and criteria contained in RCW 90.58.030 (2) and Chapter 173-22 WAC pertaining to determinations of shorelands, as amended, shall apply, superseding the incorrect or outdated map.



Proposed Shoreline Environment Designations

Shoreline Master Program - City of Kirkland

Shoreline Management Area

A	Aquatic
R-L	Residential - Low
N	Natural
UC	Urban Conservancy
UM	Urban Mixed
R-MH	Residential - Medium/High

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Figure Xc



Yarrow Point

NOTE: In the event of a mapping error or ambiguity, the common boundary descriptions and criteria contained in RCW 90.58.030 (2) and Chapter 173-22 WAC pertaining to determinations of shorelands, as amended, shall apply, superseding the incorrect or outdated map.



Proposed Shoreline Environment Designations
 Shoreline Master Program - City of Kirkland
 Shoreline Management Area

A	Aquatic
R-L	Residential - Low
N	Natural
UC	Urban Conservancy
UM	Urban Mixed
R-M/H	Residential - Medium/High

Figure Xd

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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.

Act: The Washington State Shoreline Management Act, chapter [90.58](#) RCW.

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

Aquaculture: The cultivation of fish, shellfish, and/or other aquatic animals or plants, including the incidental preparation of these products for human use.

Aquatic: Those areas waterward of the ordinary high water mark.

Appurtenance: Uses typically associated with single family residences, such as decks, driveways, utilities, fences, grading which does not exceed five hundred cubic yards and which does not involve placement of fill in any wetland or waterward of the ordinary high water mark, and accessory structures such as a tool shed, greenhouse, private garage, or accessory dwelling unit. An appurtenance is necessarily connected to the use and enjoyment of a single-family residence and is located landward of the ordinary high water mark and the perimeter of a wetland.

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.

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.

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.

Boat house: An overwater structure designed for the storage of boats, but not including boat lift canopies.

Boat Launch: Graded slopes, slabs, pads, planks, or rails used for launching boats by means of a trailer, hand, or mechanical device.

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.

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

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

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.

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.

Canopy: A cover installed as a component of a boat lift.-

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.

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.

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.

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.

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.

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.

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.

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.

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

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.

Dry land boat storage: A commercial service providing storage of boats and other boat on the upland portion of a property.

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.

Ecological Restoration: See Restore.

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.

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.

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.

In 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.

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.

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.

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.

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.

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 which meets the objectives of the Shoreline Management Act.

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.

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.

Geotechnical Analysis: See Geotechnical Report.

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.

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.

Hard Structural Shoreline Stabilization: ~~Shore erosion control practices using hardened structures that armor and stabilize the shoreline landward of the structure from further erosion. These include bulkheads, rip rap, groins, and similar structures.~~ 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.

Helipad: A takeoff and landing area for helicopters.

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.

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.

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.

Land Surface Modification: The clearing or removal of ~~trees, shrubs, groundcover and other vegetation, excluding trees, and all grading, excavation and filling of materials. The removal of overhanging vegetation and fire hazards as specified in Chapter 9.12 KMC shall not be deemed to be land surface modifications.~~

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 or 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.

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.

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).

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

Must: means a mandate; the action is required.

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.

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

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. ~~Further, in those instances where the OHWM moved further upland in accordance with permits involving a shoreline habitat and natural systems enhancement project approved by a local government or the department, the OHWM shall be measured from the point that existing immediately prior to the enhancement project.~~

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

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.

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.

Piling: The structural supports for piers, usually below the pier decking and anchored in the water.

Preserve: The protection of existing ecological shoreline processes or functions.

Primary Basins – The following basins, as shown on the Sensitive Areas Map: Juanita Creek, Forbes Creek, South Juanita Slope, Yarrow Creek, and Carillon Creek.

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.

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.

Public Access Pier or Boardwalk: An elevated structure which is constructed waterward of the ordinary high water mark and intended for public use.

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.

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.

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.

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.

Restoration: See Restore.

Revetment: A shoreline protective structure constructed on a slope, and used to prevent erosion.

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.

Secondary Basins – Moss Bay, Houghton Slope A, Houghton Slope B, and Kirkland Slope, which are depicted on the Sensitive Areas Map.

Shall: Means a mandate; the action must be taken.

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.

Shoreland Areas: See Shorelands.

Shoreline Functions: See Ecological Functions.

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.

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.

Shoreline Setback: The distance measured in feet that a structure or improvement must be located from the ordinary high water mark.

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.

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.

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.

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.

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.

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.

Soft Shoreline Stabilization Measures: ~~Shore erosion control and restoration practices using only plantings or organic materials to restore, protect or enhance the natural shoreline environment. These include vegetation plantings, logs, beach enhancement, and similar 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.

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.

Substantial Development: Any development of which the total cost or fair market value exceeds five thousand dollars, or any development which materially interferes with the normal public use of the water or shorelines of the state. The dollar threshold established in this subsection (3)(e) must be adjusted for inflation by the Office of Financial Management every five years, beginning July 1, 2007, based upon changes in the consumer price index during that time period. “Consumer price index” means, for any calendar year, that year’s annual average consumer price index, Seattle, Washington area, for urban wage earners and clerical workers, all items, compiled by the Bureau of Labor and Statistics, United States Department of Labor. The Office of Financial Management must calculate the new dollar threshold and transmit it to the Office of the Code Reviser for publication in the Washington State Register at least one month before the new dollar threshold is to take effect. ~~The following~~ Those developments that meet the precise terms of the listed exemptions as contained in WAC 173-27-040 as follows (or as subsequently amended in the future) shall not be considered substantial developments for the purpose of this chapter:

- a. Normal maintenance or repair of existing structures or developments, including damage by accident, fire, or elements;
- b. Construction of the normal protective bulkhead common to single family residences;
- c. Emergency construction necessary to protect property from damage by the elements;
- d. Construction and practices normal or necessary for farming, irrigation, and ranching activities, including agricultural service roads and utilities on shorelands, and the construction and maintenance of irrigation structures including but not limited to head gates, pumping facilities, and irrigation channels. A feedlot of any size, all processing plants, other activities of a commercial nature, alteration of the contour of the shorelands by leveling or filling other than that which results from normal cultivation, shall not be considered normal or necessary farming or ranching activities. A feedlot shall be an enclosure or facility used or capable of being used for feeding livestock hay, grain, silage, or other livestock feed, but shall not include land for growing crops or vegetation for livestock feeding and/or grazing, nor shall it include normal livestock wintering operations;
- e. Construction or modification of navigational aids such as channel markers and anchor buoys;
- f. Construction on shorelands by an owner, lessee, or contract purchaser of a single family residence for his own use or for the use of his or her family, which residence does not exceed a height of thirty-five feet above average grade level and which meets all requirements of the state agency or local government having jurisdiction thereof, other than requirements imposed pursuant to this chapter;
- g. Construction of a dock, including a community dock, designed for pleasure craft only, for the private noncommercial use of the owner, lessee, or contract purchaser of single and multiple

family residences. This exception applies if the fair market value of the dock does not exceed ten thousand dollars, but if subsequent construction having a fair market value exceeding two thousand five hundred dollars occurs within five years of completion of the prior construction, the subsequent construction shall be considered a substantial development for the purpose of this chapter;

- h. Operation, maintenance, or construction of canals, waterways, drains, reservoirs, or other facilities that now exist or are hereafter created or developed as a part of an irrigation system for the primary purpose of making use of system waters, including return flow and artificially stored ground water for the irrigation of lands;
- i. The marking of property lines or corners on state owned lands, when such marking does not significantly interfere with normal public use of the surface of the water;
- j. Operation and maintenance of any system of dikes, ditches, drains, or other facilities existing on September 8, 1975, which were created, developed, or utilized primarily as a part of an agricultural drainage or diking system;

k. Any project with a certification from the governor pursuant to chapter 80.50 RCW;

~~k-l.~~ Site exploration and investigation activities that are prerequisite to preparation of an application for development authorization under this chapter, if:

- i. The activity does not interfere with the normal public use of the surface waters;
The activity will have no significant adverse impact on the environment including, but not limited to, fish, wildlife, fish or wildlife habitat, water quality, and aesthetic values;
- ii. The activity does not involve the installation of a structure, and upon completion of the activity the vegetation and land configuration of the site are restored to conditions existing before the activity;
- iii. A private entity seeking development authorization under this section first posts a performance bond or provides other evidence of financial responsibility to the local jurisdiction to ensure that the site is restored to preexisting conditions; and
- iv. The activity is not subject to the permit requirements of RCW 90.58.550;

~~l-m.~~ The process of removing or controlling an aquatic noxious weed, as defined in RCW 17.26.020, through the use of an herbicide or other treatment methods applicable to weed control that are recommended by a final environmental impact statement published by the Department of Agriculture or the Department of Ecology jointly with other state agencies under chapter 43.21C RCW.

n. Watershed restoration projects.

o. A public or private project that is designed to improve fish or wildlife habitat or fish passage, when all of the following apply:

a. The project has been approved in writing by the department of fish and wildlife;

b. The project has received hydraulic project approval by the department of fish and wildlife pursuant to chapter 77.55 RCW; and

a-c. The local government has determined that the project is substantially consistent with the local shoreline master program. The local government shall make such determination in a timely manner and provide it by letter to the project proponent.

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

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

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.

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.

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

View Corridor: An open area that provides an unobstructed public view across the subject property to and beyond Lake Washington from the adjacent right-of-way.

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.

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.

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

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.

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.

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

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;

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.

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.

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.

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.

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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.

83.170 Shoreline Environments, Permitted [and Prohibited](#) Uses and Activities Chart

<p>The chart is coded according to the following legend.</p> <p>SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit</p>	Natural	Urban Conservancy	Low-Density Residential - L	Urban-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 ¹	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 ²	X	X	SD	X

<p>The chart is coded according to the following legend.</p> <p>SD = Substantial Development CU = Conditional Use X = Prohibited; the use is not eligible for a Variance or Conditional Use Permit</p>	Natural	Urban Conservancy	Low-Density Residential - L	Urban 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	See adjacent upland environments
Retail establishment providing gas and oil sale for boats	X	X	X	CU ^{3,5}	CU ⁵	See adjacent upland environments
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
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
Industrial Uses						
Water-dependent uses	X	X	X	X	CU	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						

The chart is coded according to the following legend.							
SD	= Substantial Development	Natural	Urban Conservancy	Low-Density Residential -L	Urban Residential -M/H	Urban Mixed	Aquatic
CU	= Conditional Use						
X	= Prohibited; the use is not eligible for a Variance or Conditional Use Permit						
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 ¹⁶	
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	
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	
Water-related, water-enjoyment uses							
Any water-oriented recreational development other than those specifically listed in this chart		X	CU	CU	CU	SD	X
<u>Other</u> Public Park <u>Improvements</u> ¹³		CU ¹⁴	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 ⁹	X
Residential Uses							
Detached dwelling unit		CU	CU X	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
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							

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	Low-Density Residential - L	Urban Residential - M/H	Urban Mixed	Aquatic
<u>Float plane landing and mooring facilities (public)</u>	X	X	X	X	CU	See adjacent upland environment
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 ⁹	X
Mini-School or Mini-Day-Care Center	X	X	X	SD ¹⁹	SD ⁹	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	
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	SD ²⁶ /CU	SD ²⁶ /CU	SD ²⁶ /CU	SD ²⁶ /CU	
Fill waterward of the ordinary high water mark	SD ²⁶ /CU	SD ²⁶ /CU	SD ²⁶ /CU	SD ²⁶ /CU	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	CU	CU	CU	
Soft Shoreline Stabilization Measures	X	SD	SD	SD	SD	

Notes to Matrix:

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- ¹ Limited to water-based aircraft facilities for air charter operations.
 - ² Permitted as an accessory use to a Public Park.
 - 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.
 - 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.
 - ¹¹ No boat moored in or off the shoreline of Kirkland shall be used as a place of habitation.
 - 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
 - ¹⁴ Recreational developments may be allowed as a Conditional Use if they are passive and low-impact.
 - 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.
 - 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.
 - 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.

Note: Much of the provisions of 83.450 and 83.460 below are taken from the City's existing critical area ordinance of Chapter 90. The subsections with highlighting reflect new provisions of significant revisions to the text from Chapter 90 after it was copied into the new shoreline section. Staff recommends that the Planning Commission focus on the new subsections and on the overall application of Chapter 90 to the shoreline critical areas.

83.450 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, which 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. 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 (2) 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 wetland 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 90.40 to determine the appropriate buffer width. Ecology's rating system and the corresponding buffers only apply to those wetlands and buffers which are located in shoreline jurisdiction.]

a.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 wetland consultant. 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 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 83.450.4 through 83.460.10. See also KZC 83.440, Trees in Critical Areas or Critical Area Buffers; and KZC 83.440, 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
<http://www.metrokc.gov/ddes/cao/PDFs04ExecProp/BAS-Chap9-04.pdf>.

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 within this setback minor improvements which 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 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 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 wetland or wetland buffer by meeting the following design standards:
- 6) Catch basins must be installed as far as feasible from the buffer boundary.
 - 7) Outfalls must be designed to reduce the chance of adverse impacts as a result of concentrated discharges from pipe systems. This may include:
 - a.a) Installation of the discharge end as far as feasible from the sensitive area; and
 - b.b) Use of appropriate energy dissipation at the discharge end.
- d. Water Quality Facilities – Detention and water quality treatment devices, and other similar facilities as determined by the City, shall not be located within the wetland buffers or buffer setbacks of this section except as provided below. Water quality facilities, as determined by the City, may be located within the wetland buffers of subsection 85.450.4 of this section. 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 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) Its 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 practicable or 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 may only be allowed in critical areas and their buffers subject to City review after appropriate mitigation sequencing per KZC 83.440.2 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.
- 4) All affected critical areas and buffers will 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 (a) of this section. 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 an environmentally sensitive area buffer if:

- ~~8.1)~~ It will not adversely affect water quality;
- ~~9.2)~~ It will not adversely affect fish, wildlife, or their habitat;
- ~~10.3)~~ It will not adversely affect drainage or storm water detention capabilities;
- ~~11.4)~~ It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions;

~~12-5)~~ 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

~~13-6)~~ It supports public or private shoreline access.

The City may require the applicant to submit a report prepared by a qualified professional which 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, as approved by the Planning Official and consistent with City standards, along the upland boundary of the entire wetland 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 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 -

- a. 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 noted in subsection ~~b-and-e~~.

~~b.~~ All Wetland Modification or Wetland Buffer Modification affecting > 25% of the standard buffer require a Shoreline Variance pursuant to Process IIA, described in Chapter 141, except as follows:

~~i. Development activity or land surface modification approved under subsection 4 above (Wetland Buffers and Setbacks) or subsection 10 (Wetland Restoration) below, and~~

~~e., except for development activity or land surface modification approved under subsection 4 above (Wetland Buffers and Setbacks) or subsection 10 (Wetland Restoration) below, require a Shoreline Variance pursuant to Process IIA, described in Chapter 141.~~

~~ii. In the Natural Environment, applicants for a detached dwelling who are unable to comply with the specific standards of this section may seek approval pursuant to the following standards and procedures:~~

~~a) Process – If the strict application of this section would preclude all reasonable use of a site, an owner of real property may apply for a reasonable use exception to this ~~chapter~~section.~~

~~1) The application shall be considered under Process IIA of Chapter 150 KZC; provided, that for a single-family development proposal which does not exceed a total of 3,000 square feet of site disturbance, and does not encroach into the sensitive area, but only the associated buffer, the application shall be considered pursuant to subsection (7) of this section, Reasonable Use Process: Administrative Alternative.~~

~~2) In addition, the application shall be processed as a Shoreline Conditional Use Permit under the provisions of Chapter 141 KZC and WAC 173-27.~~

~~b) Submittal Requirements – As part of the reasonable use request, in addition to submitting an application, 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:~~

- 1) A determination and delineation of the sensitive area and sensitive area buffer containing all the information specified in KZC 83.450(3) for a wetland or based on the definitions contained in this chapter for a stream;
 - 2) An analysis of whether any other reasonable use with less impact on the sensitive area and sensitive area buffer is possible;
 - 3) Sensitive site design and construction staging of the proposal so that the development will have the least practicable impact on the sensitive area and sensitive area buffer;
 - 4) A description of the area of the site which is within the sensitive area or within the setbacks or buffers required by this chapter;
 - 5) 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;
 - 6) An analysis of the impact that the amount of development proposed would have on the sensitive area and the sensitive area buffer;
 - 7) How the proposal minimizes to the greatest extent possible net loss of sensitive area functions;
 - 8) Whether the improvement is located away from the sensitive area and the sensitive area buffer to the greatest extent possible; and
 - 9) Such other information or studies as the Planning Official may reasonably require.
- c) Decisional Criteria – The City shall grant applications for reasonable use exceptions only if all of the following criteria are met:
- 1) That 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 a residential zone shall be one single-family dwelling and in a commercial or industrial zone shall be an office use;
 - 2) That 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;
 - 3) 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 the following limits:
 - i. If the subject property contains 6,000 square feet of area or less, no more than 50 percent of the site may be disturbed.
 - ii. If the subject property contains more than 6,000 square feet but less than 30,000 square feet, no more than 3,000 square feet may be disturbed.
 - iii. For properties containing 30,000 square feet or more, the maximum allowable site disturbance shall be between 3,000

square feet and 10 percent of the lot area, to be determined by the City on a case-by-case basis.

iv. The amount of allowable disturbance shall be that which will have the least practicable impact on the sensitive area and the sensitive area buffer given the characteristics and context of the subject property, sensitive area, and buffer.

v. The applicant shall pay for a qualified professional to help with the City's determination of the appropriate limit for disturbance;

4) The proposal is compatible in design, 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;

5) 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;

6) The proposed development does not pose an unacceptable threat to the public health, safety, or welfare on or off the property;

7) The proposal meets the mitigation, maintenance, and monitoring requirements of this chapter;

8) The inability to derive reasonable use is not the result of actions by the applicant after the effective date of the ordinance codified in this chapter or its predecessor; and

9) 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.

d) Modifications and Conditions – The City may approve reduction in required yards or buffer setbacks and may allow the maximum height of structures to be increased up to five feet to reduce the impact on the sensitive area and 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 the exception.

e) Process: Administrative Alternative – If, in order to provide reasonable use of a site, the standards of this chapter need to be modified and the proposed improvement does not exceed a total of 3,000 square feet of site impact, including but not limited to structures, paved areas, landscaping, decks, driveways, utility installation, and grading, the Planning Director is authorized to approve a reasonable use exception subject to subsections (4) and (5) of this section and considered under Process I of Chapter 145 KZC. Administrative approval shall also be subject to the following limitations:

1) 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.

2) The encroachment of the proposed development shall only be into the sensitive area buffer, not the sensitive area.

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).

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 wetland consultant. The report shall contain all information specified in KZC 83.450(c) as well as 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. The City may only approve an improvement or land surface modification in a wetland if:

- a.1) The project demonstrates consideration and implementation of appropriate mitigation sequencing as outlined in KZC 83.440.2;
- b.2) It will not adversely affect water quality;
- c.3) It will not adversely affect fish, wildlife, or their habitat;
- d.4) It will not have an adverse effect on drainage and/or storm water detention capabilities;
- e.5) It will not lead to unstable earth conditions or create an erosion hazard or contribute to scouring actions;
- f.6) It will not be materially detrimental to any other property or the City as a whole;
- g.7) Compensatory mitigation is provided in accordance with the table in subsection ~~(e)8~~ of this section;
- h.8) Fill material does not contain organic or inorganic material that would be detrimental to water quality or fish and wildlife habitat;
- i.9) All exposed areas are stabilized with vegetation normally associated with native wetlands and/or buffers, as appropriate; and
- j.10) There is no practicable or feasible alternative development proposal that results in less impact to the wetland and its buffer.

b. The following limits on the maximum wetland modification that may be approved on the subject property shall apply:

<u>Wetland Category</u>	<u>Primary Basin</u>	<u>Secondary Basin</u>
<u>I and II</u>	<u>5%</u>	<u>5%</u>
<u>III</u>	<u>10%</u>	<u>25%</u>
<u>IV</u>	<u>50%</u>	<u>100%</u>

14.8. Compensatory Mitigation – A modification may only be approved after the applicant has demonstrated consideration and implementation of appropriate mitigation sequencing as outlined in KZC 83.85.2. 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 ¹	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

On-site mitigation is presumed to be preferable to off-site mitigation. 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 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.

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

¹ 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

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:

- a.1) The goals and objectives for the mitigation plan;
- b.2) Success criteria by which the mitigation will be assessed;
- c.3) Plans for a five (5) year monitoring and maintenance program;
- d.4) A contingency plan in case of failure; and
- e.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 83.440.2.
- b. Approved departures from the standard buffer requirements of KZC 83.450.4(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 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 83.450.4(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. Buffer widths may be decreased if an applicant receives a modification request approval.
 - a)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 83.450.4(a). Buffers may not be reduced at any point by more than twenty-five percent (25%) of the standards specified in KZC 83.450.(a). 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 83.90.5(d). Buffers may not be reduced at any point by more than twenty-five (25) percent of the standards in KZC 83.450.3(a). Buffer reductions of more than twenty-five (25) percent approved through a Shoreline Variance will be assumed to have direct wetland impacts that must be compensated for as described above under KZC 83.450.8.

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

- b)a) The development activity or buffer modification demonstrates consideration and implementation of appropriate mitigation sequencing as outlined in KZC 83.440.2.
- e)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);
- d)c) It will not adversely affect water quality;
- e)d) It will not adversely affect fish, wildlife, or their habitat;
- f)e) It will not have an adverse effect on drainage and/or storm water detention capabilities;
- g)f) It will not lead to unstable earth conditions or create an erosion hazard;
- h)g) It will not be materially detrimental to any other property or the City as a whole;
- i)h) Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;
- j)i) All exposed areas are stabilized with vegetation normally associated with native wetland buffers, as appropriate; and
- k)j) 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 wetland 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 (d)(2) of this section.

10. 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 83.440, Trees in Critical Areas or Critical Area Buffers; and KZC 83.440, 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 83.450.8, Compensatory Mitigation, shall apply.

- | 11. 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.

83.460 Streams

1. ~~1.~~ 4. **Applicability** – The following provisions shall apply to streams and stream 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, which 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 83.460.3 through 83.460.11.
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 two 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**

i.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 83.85(1), Trees in Critical Areas or Critical Area Buffers; and KZC 83.85(2), 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 ordinary high water mark 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.~~1) Does not provide additional protection of the wetland from the proposed development; and
- ~~2.~~2) Provides insignificant biological, geological or hydrological buffer functions relating to the portion of the buffer adjacent to the wetland.

ii.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 which 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.

iii.c. Storm Water Outfalls – 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 Public Works and Planning Officials both determine, 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:

- ~~a.~~1) Adversely affect water quality;
- ~~b.~~2) Adversely affect fish, wildlife, or their habitat;
- ~~c.~~3) Adversely affect drainage or storm water detention capabilities;
- ~~d.~~4) Lead to unstable earth conditions or create erosion hazards or contribute to scouring actions;
- ~~e.~~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 wetland or wetland buffer by meeting the following design standards:

- ~~a.~~6) Catch basins must be installed as far as feasible from the buffer boundary.
- ~~b.~~7) Outfalls must be designed to reduce the chance of adverse impacts as a result of concentrated discharges from pipe systems. This may include:
 - ~~a.~~a) Installation of the discharge end as far as feasible from the sensitive area, and
 - ~~b.~~b) Use of appropriate energy dissipation at the discharge end.

iv.d. Water Quality Facilities – Detention and water quality treatment devices, and other similar facilities as determined by the City, shall not be located within the stream buffers or buffer setbacks of this section except as provided below. 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:

- a.1) It will not adversely affect water quality;
 - b.2) It will not adversely affect fish, wildlife, or their habitat;
 - c.3) It will not adversely affect drainage or storm water detention capabilities;
 - d.4) It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions;
 - e.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;
 - f.6) The existing buffer is already degraded as determined by a qualified professional;
 - g.7) Its 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
 - h.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):
- a.9) The project includes enhancement of the entire on-site buffer;
 - b.10) _____ The project would provide an exceptional ecological benefit off-site;
 - c.11) _____ The water quality facility, once installed, would not require any further disturbance or intrusion into the buffer; and
 - d.12) _____ There is no practicable or 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 83.440.2 has been considered and implemented:
- b.1) All utility work in improved City rights-of-way;
 - c.2) All normal and routine maintenance, operation and reconstruction of existing roads, streets, and associated rights-of-way and structures; and
 - d.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 will 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 83.460.4. 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:
- 2)1) It will not adversely affect water quality;
 - 3)2) It will not adversely affect fish, wildlife, or their habitat;
 - 4)3) It will not adversely affect drainage or storm water detention capabilities;

~~5)4)~~ It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions;

~~6)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

~~7)6)~~ It supports public or private shoreline access.

The City may require the applicant to submit a report prepared by a qualified professional which 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 six-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 -

a. 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 noted under subsection b ~~and c~~.

b. All Stream Relocation or Modification or Stream Buffer Modification affecting > one-third (1/3) of the standard buffer require a Shoreline Variance pursuant to Process IIA, described in Chapter 141, except as follows:

i. Development activity or land surface modification approved under subsection 4 above (Stream Buffer and Setback) or subsection 10 (Stream Crossings) and 11 (Stream Rehabilitation) below.

ii. In the Natural Environment, applicants for a detached dwelling who are unable to comply with the specific standards of this section may seek approval pursuant to the following standards and procedures:

b) Process – If the strict application of this section would preclude all reasonable use of a site, an owner of real property may apply for a reasonable use exception to this chapter.

3) The application shall be considered under Process IIA of Chapter 150 KZC; provided, that for a single-family development proposal which does not exceed a total of 3,000 square feet of site disturbance, and does not encroach into the sensitive area, but only the associated buffer, the application shall be considered pursuant to subsection (7) of this section, Reasonable Use Process: Administrative Alternative.

4) In addition, the application shall be processed as a Shoreline Conditional Use Permit under the provisions of Chapter 141 KZC and WAC 173-27.

c) Submittal Requirements – As part of the reasonable use request, in addition to submitting an application, 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:

- 1) A determination and delineation of the sensitive area and sensitive area buffer containing all the information specified in KZC 83.450(3) for a wetland or based on the definitions contained in this chapter for a stream;
 - 2) An analysis of whether any other reasonable use with less impact on the sensitive area and sensitive area buffer is possible;
 - 3) Sensitive site design and construction staging of the proposal so that the development will have the least practicable impact on the sensitive area and sensitive area buffer;
 - 4) A description of the area of the site which is within the sensitive area or within the setbacks or buffers required by this chapter;
 - 5) 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;
 - 6) An analysis of the impact that the amount of development proposed would have on the sensitive area and the sensitive area buffer;
 - 7) How the proposal minimizes to the greatest extent possible net loss of sensitive area functions;
 - 8) Whether the improvement is located away from the sensitive area and the sensitive area buffer to the greatest extent possible; and
 - 9) Such other information or studies as the Planning Official may reasonably require.
- c) Decisional Criteria – The City shall grant applications for reasonable use exceptions only if all of the following criteria are met:
- 1) That 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 a residential zone shall be one single-family dwelling and in a commercial or industrial zone shall be an office use;
 - 2) That 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;
 - 3) 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 the following limits:
 - i. If the subject property contains 6,000 square feet of area or less, no more than 50 percent of the site may be disturbed.
 - ii. If the subject property contains more than 6,000 square feet but less than 30,000 square feet, no more than 3,000 square feet may be disturbed.
 - iii. For properties containing 30,000 square feet or more, the maximum allowable site disturbance shall be between 3,000

square feet and 10 percent of the lot area, to be determined by the City on a case-by-case basis.

iv. The amount of allowable disturbance shall be that which will have the least practicable impact on the sensitive area and the sensitive area buffer given the characteristics and context of the subject property, sensitive area, and buffer.

v. The applicant shall pay for a qualified professional to help with the City's determination of the appropriate limit for disturbance;

4) The proposal is compatible in design, 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;

5) 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;

6) The proposed development does not pose an unacceptable threat to the public health, safety, or welfare on or off the property;

7) The proposal meets the mitigation, maintenance, and monitoring requirements of this chapter;

8) The inability to derive reasonable use is not the result of actions by the applicant after the effective date of the ordinance codified in this chapter or its predecessor; and

9) 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.

d) Modifications and Conditions – The City may approve reduction in required yards or buffer setbacks and may allow the maximum height of structures to be increased up to five feet to reduce the impact on the sensitive area and 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 the exception.

e) Process: Administrative Alternative – If, in order to provide reasonable use of a site, the standards of this chapter need to be modified and the proposed improvement does not exceed a total of 3,000 square feet of site impact, including but not limited to structures, paved areas, landscaping, decks, driveways, utility installation, and grading, the Planning Director is authorized to approve a reasonable use exception subject to subsections (4) and (5) of this section and considered under Process I of Chapter 145 KZC.

Administrative approval shall also be subject to the following limitations:

1) 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.

2) The encroachment of the proposed development shall only be into the sensitive area buffer, not the sensitive area.

7. Stream Buffer Modification

5)a. Approved departures from the standard buffer requirements of KZC 83.460.4(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.

6)b. 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.

a-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 83.460.4(a). Buffers may not be reduced at any point by more than one-third (1/3) of the standards in KZC 83.460.4(a). Buffer averaging calculations shall only consider the subject property.

b-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 83.450.8. Buffers may not be reduced at any point by more than one-third (1/3) of the standards in KZC 83.460.4(a).

a. 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 83.440.2.
- 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 wetland 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 ten criteria listed in this subsection.

8. 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 only 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 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 83.450.8.

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.

9. 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:
 - ~~6)1)~~ There will be no adverse impact to water quality;
 - ~~7)2)~~ There will be no adverse impact to fish, wildlife, and their habitat;
 - ~~8)3)~~ There will be no increase in the velocity of stream flow, unless approved by the City to improve fish habitat;
 - ~~9)4)~~ There will be no decrease in flood storage volumes;
 - ~~10)5)~~ Neither the installation, existence, nor operation of the bulkhead will lead to unstable earth conditions or create erosion hazards or contribute to scouring actions; and
 - ~~11)6)~~ Neither the installation, existence, nor operation of the bulkhead will be detrimental to any other property or the City as a whole; and
 - e. The Washington Department of Fish and Wildlife issues a Hydraulic Project Approval for the project.

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.

10. 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:
- ~~i-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;
 - ~~ii-b.~~ The Washington Department of Fish and Wildlife issues a Hydraulic Project Approval for the project; and
 - ~~iii-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:
 - ~~b-1)~~ There will be no adverse impact to water quality;
 - ~~c-2)~~ There will be no adverse impact to fish, wildlife, and their habitat;

d.3) There will be no increase in the velocity of stream flow, unless approved by the City to improve fish habitat;

e.4) There will be no decrease in flood storage volumes;

f.5) Neither 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

g.6) Neither the installation, existence, nor operation of the stream crossing will be detrimental to any other property or to the City as a whole.

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 culvert maintenance agreement under KZC 90.145 for continued maintenance of the stream crossing.

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 above criteria and the following additional criteria:

h.7) The culvert must be designed consistent with Washington Department of Fish and Wildlife's *Design of Road Culverts for Fish Passage* (2003, or as revised).

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.

11. 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 83.440, Trees in Critical Areas or Critical Area Buffers; and KZC 83.440, 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 stream rehabilitation is required by the City, the mitigation plan and monitoring requirements of KZC 83.450.8, shall apply.

Estimate of Costs Associated with Beach Establishment Restoration Activity¹

Activity	Cost	Example (Beach Establishment for 60' wide lot)
Permitting	\$5,000 - \$12,000	\$5,000 - \$12,000
Permitting consultation ²	\$1,000 - \$3,000	\$1,000 - \$3,000
Design	\$7,000 - \$15,000	\$7,000 - \$15,000
Geotechnical Analysis ³	\$2,000-\$4,000	\$2,000-\$4,000
Engineering Analysis ⁴	N/A	N/A
Construction Cost ⁵	\$600 - 700/linear foot	\$36,000 - \$42,000
Planting Costs	\$2.50-\$3.50 SF	\$2,250 - \$3,150 ⁶
5-Year Monitoring and Maintenance Costs ⁷	\$6,000 to \$12,500 for monitoring work. Estimated \$5,000 for maintenance ⁸	\$11,000 - \$17,500
Security Fees	The price for the Bonds are directly related to the cost of the project ⁹	\$2,400 - \$3,600 ¹⁰
Estimated Total¹¹		\$66,650 - \$100,250

¹ Assumes bulkhead removal and full beach restoration.

² There may be wide variability in the costs associated with permitting consultation. This is a rough estimate only.

³ A Geotechnical Report may be required to show that a softer solution is not possible. Otherwise, geotechnical reports may not be required, except in cases where there are particularly steep slopes involved that require engineering per City regulations due to rockery height.

⁴ Review by a P.E. is typically not required unless work involves new bulkhead walls greater than 4 feet high or if a pier involved.

⁵ Bulkhead removal (if needed) and beach establishment construction-related work only. Does not include plant installation. Costs are ~15% higher when done by water (i.e. by barge)

⁶ Estimating a planting space of 20' x 45'

⁷ Annual monitoring reports can typically range between \$1,200 to \$2,500. Maintenance should be done at least twice per year.

⁸ Maintenance costs may vary. Many properties owners may be able to complete much of the maintenance activity, significantly reducing this cost.

⁹ Bond premiums vary greatly depending on the applicant, the bond type, surety, and the obligee. Just like other forms of credit, everyone does not receive the same rate. Standard market rates are typically anywhere from 1-3%, while higher risk markets can be higher.

¹⁰ Estimated 3% of project cost, with a contingency fee of 25%.

¹¹ Please note that this is a general estimate only. Actual costs may vary depending on many variables, including site characteristics.

Recent Shoreline Construction Costs

Construction Type	Year	Building Valuation
New Single Family Residence	2004	\$875,000
	2005	\$600,000
	2006	\$684,000
	2007	\$1,900,000
	2007	\$1,800,000
New Commercial	2005	\$3,000,000
	2007	\$1,309,000
	2007	\$12,677,000
New Multi Family	2001 (3 units)	\$2,750,000

Does not include land cost

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Last Saved: Wednesday, October 01, 2008*



Frequently Asked Questions about Native Plant Control in Lakes

Question: Why do people want to treat their native plants? Aren't they an important part of the lakes ecosystem?

Answer: Aquatic plants play a very important role in lake ecosystems. As lakes become more developed and urbanized, it is not the areas where plants grow, but how much they grow that becomes an issue. Many lakes are experiencing heavy plant growth in parts of the lake where people wish to recreate. It is very common to see aquatic plant problems directly related to human activity in the watershed (lawns along the shoreline, septic systems, etc.). The purpose of Ecology's Aquatic Plant and Algae Management permit is to allow people to remove some native plants which interfere with recreation, while protecting the rest. It is a balancing act.

Question: Why does Ecology allow people to use herbicides to control native plants?

Answer: All aquatic herbicides are registered for use by the Environmental Protection Agency (EPA) and Washington State Department of Agriculture (WSDA). Ecology cannot legally prohibit chemical control of native plants, but does regulate their use under Aquatic Pesticide permitting programs. When challenged by pesticide applicators and citizens, the Pollution Control Hearings Board has reminded Ecology that recreation and aesthetics are beneficial uses of lakes, just like fish and wildlife habitat. We have been instructed to use the best available science, as well as our own professional judgment to put reasonable limits on the chemical control of native plants. Ecology's permits limit the percentage of littoral zone (plant growth area) that may be treated.

Question: Why doesn't Ecology make people look at all control options prior to allowing chemicals?

Answer: In the past, Ecology's permits required permittees to consider non-chemical alternatives for their plant control. Unfortunately, it is not within Ecology's authority to regulate what plant control method is chosen. Ecology can regulate only those methods which involve chemical or physical water quality impacts. By the time people apply for a permit from Ecology, the method of control has already been chosen. We cannot deny a permit because we think someone should hand pull or work on watershed nutrient inputs instead. Ecology can only regulate the type of pesticide used, and the percentage of plant control. While Ecology's permit does not require vegetation management or lake management plans, we encourage all lake groups to develop these plans.

Question: How is Ecology being more protective of the environment with their permits than EPA with the pesticide label?

Answer: Coverage under Ecology's permit imposes additional requirements above and beyond the EPA label, including notification, posting, and monitoring. Many states do not have these kinds of permits, and anyone can apply a pesticide to water without

notifying their neighbors. Ecology also regulates which herbicides can be used in water. There are many aquatic herbicides approved by EPA, and even approved by WSDA, that Ecology does not allow for use in natural waters. Copper compounds are used in waters all over the United States, but due to concerns about impacts of copper on salmon, Ecology banned copper use in natural waters in 2001.

Question: Are other states as protective as Washington?

Answer: No. The use of pesticides in Washington waters is heavily regulated. In fact, there are few states that restrict pesticide use like Washington currently does. In Washington State, not only do you have to use an herbicide approved for aquatic use by EPA, but it also must be approved by Washington State Department of Agriculture (WSDA). In addition, Ecology then completes a full risk assessment on the herbicide prior to its approval under a permit. Washington State also considers any herbicide applied to water to be restricted use, which means it can only legally be applied by a licensed pesticide applicator who has passed an additional test on aquatic pesticide use. This licensing is done by WSDA.

Question: What is the difference between a pesticide and an herbicide?

Answer: A pesticide is any chemical that kills a target pest. Herbicides, insecticides, fungicides, etc, are all subsets of the term “pesticide.” Herbicides are targeted to kill plants.

Question: How do these herbicides affect fish and wildlife?

Answer: None of these herbicides have direct impacts on fish or wildlife when applied under our permits. Every pesticide allowed for use under this permit has undergone a risk assessment prior to its use. Many have also had Environmental Impact Statements completed.

Each herbicide approved for use under Ecology’s permits has a different chemical active ingredient, and is applied at a different rate. Please see the risk assessments at: http://www.ecy.wa.gov/programs/wq/pesticides/seis/risk_assess.html. Here you will find herbicide-specific information.

All herbicides go through extensive toxicity testing. Any pesticide can kill non-target organisms at some chemical concentration. Toxicity testing requires that you test at different chemical concentrations until you get an effect (i.e. death, tumors, developmental problems, etc.). These concentrations are usually orders of magnitude higher than the allowable environmental concentration, and does not mean you will see these effects when a pesticide is applied to water.

Question: Will my pet get sick if they drink or swim in pesticide-treated lake water?

Answer: No. See answer above.

Question: Why do herbicide labels have words like “Caution” or “Danger” on them if they are safe?

Answer: Those signal words relate directly to the toxicity of the pesticide to humans. It is meant for the pesticide applicator or handler, and indicates what type of protective equipment they need. Many herbicides are skin or eye irritants, and that carries a strong warning on the label. Ecology tends to be more protective than the EPA label when dealing with herbicides that irritate skin or eyes. For those herbicides that are skin or eye irritants, the permit requires that a swimming advisory be posted at the treatment site for 24 hours after treatment. However, the type of irritation seen in lake exposure after herbicide treatment would be less than that of a person exposed to chlorine in a swimming pool.

Question: Will these herbicides impact my well, or get into the groundwater?

Answer: No. All of these herbicides have been evaluated for potential impacts to groundwater. For the most part, herbicides either dilute rapidly or bind to sediment. Once bound, they are unlikely to release back into the water column, or travel into groundwater. In the event that there was concern over impacts to groundwater, our permit would require specific mitigation or monitoring to address the issue.

Question: Does getting a permit from Ecology mean you endorse the project?

Answer: No. Ecology regulates the discharge of any material into waters of the state that has the potential either to pollute or to alter the biological or chemical characteristics of the water body (RCW 90.48.080). Ecology is further directed in [WAC 173-201A](#) to require any discharger to waters of the State to comply with the State’s surface water quality standards. Ecology has to issue permits regulating the activity, but it does not mean that we agree or disagree with the project objectives. Ecology’s role is to implement state law.

Question: Why does a pesticide applicator provide a date range for treatment instead of a specific date?

Answer: Because plant control is dependent on both plant growth and weather, the applicator provides himself a “cushion” of time to treat. Usually this is two to three weeks of time every few months for a treatment season. If you have special needs or concerns (i.e. vacation, birthday party, etc) you should contact the applicator directly – they are usually willing to work with you to adjust treatment dates.

Question: What are the possible indirect impacts of native plant control?

Answer: Some herbicides can cause short-term impacts on dissolved oxygen levels in the lake. Pesticide applicators are well-trained to understand the potential impact of treatments, and adjust the chemical application to prevent low oxygen conditions. Chemical applications can also increase the likelihood of algae blooms. However, many lakes without pesticide applications experience regular algae blooms.

Questions Asked at the Lake Washington Aquatic Herbicide Open House

The Washington Department of Ecology (Ecology) sponsored a public open house held on May 18, 2006 in Seattle. A portion of the program included comments and questions from the public. Below are Ecology's written responses to the questions that were asked that evening. The responses were prepared by Ecology's Aquatic Plant Specialist and Aquatic Pesticide Specialist.

1. Who are the parties appealing the Aquatic Plant and Algae Management General permit? Who are they appealing to and when will these appeals be heard?

The new Aquatic Plant and Algae Management General permit was appealed by three separate entities. These appeals were submitted to the Pollution Control Hearings Board (PCHB), the administrative board that makes decisions on Ecology permit appeals. The Washington Toxics Coalition (WTC) appealed and requested a stay of the permit. However in their June 6, 2006 decision, the PCHB upheld the Aquatic Plant and Algae Management General permit and denied the request for a stay. If a stay had been granted, all in-lake chemical applications would have been stopped. Northwest Aquatic Eco-Systems, and Aquatechnex, LLC, two private firms specializing in aquatic pesticide applications also appealed portions of the permit. The first hearing on this permit was held May 17th, and focused on the request for stay by WTC. The PCHB will hear the other issues on November 2, 3, and 6, 2006, although these dates are subject to change.

2. Was a public hearing required prior to the issuance of the Aquatic Plant and Algae Management General Permit?

Yes, Ecology is required by law to hold one hearing prior to issuing a permit. For this permit, Ecology held three public hearings, in Spokane, Lynnwood, and Centralia.

3. How was the public informed of the permit comment periods? Was enough advertising done to ensure public awareness?

Ecology informed the public of the comment period on the draft permit in four ways. Public input helps Ecology do a better job of insuring public awareness of the opportunity to comment. Ecology published notice of the draft permit and its comment period:

- In three newspapers: The Spokane Spokesman-Review, the Olympian, and the Seattle Daily Journal of Commerce
- In the state register
- On Ecology's website
- Via email notices to a wide audience.

Ecology received more than 700 letters commenting on this permit. At least 300 of these focused on Lake Washington, about 200 of which were in support and another 100 in opposition to pesticide applications on the lake.

Citizens at the May 18th meeting provided advice on additional avenues for getting the word out to the public.

4. Who has jurisdiction over Lakes Washington, Union, and Sammamish?

The only local government body that has jurisdiction over the entire three-lake system is King County. However, a patchwork of incorporated cities and towns have jurisdiction along the shorelines of these lakes.

5. How can other aquatic plant control methods be considered before chemicals?

Ecology strongly encourages lake groups to consider all methods of plant control and then select the methods that are most effective and appropriate for their site and situation. Ecology cannot require the applicant or a sponsor to conduct an evaluation of all control methods prior to applying for permit coverage.

For example, because Ecology provides grants for development of lake management plans for treatment of noxious weeds, Ecology can require grant recipients to consider non-chemical methods instead of, or in addition to, chemical methods. Ecology also provides grant funding to help develop these plans.

6. How could Ecology provide better communication to adjacent landowners prior to treatment? Could this be through the Department of Natural Resources or another way?

The Aquatic Plant and Algae Management General permit requires a 10-21 day notice to all shoreline residents within ¼ mile of the treatment site prior to any herbicide application. The permit also requires applicators to post the entire area of treatment, and 400 feet beyond the treatment area, prior to treatment taking place. These notification requirements go above and beyond what is required by the Environmental Protection Agency (EPA) on the pesticide label or by state law. For coverage under this general permit, each applicant must also publish a notice in the newspaper. In most situations, these steps provide adequate notice to affected landowners. If residents have ideas for additional notification, they may make recommendations for Ecology's consideration during the next permit cycle. You could also contact your neighbor directly for information about the treatment(s) they have requested.

7. How does the aquatic herbicide fluridone bind to sediment, and what is its persistence in the water?

Fluridone is a slow-acting herbicide that needs to be in the water for long periods of time to be effective. Fluridone is found in water and sediments following treatment of a pond or lake. Field tests have shown that the average half-life in water is 21 days and longer in sediments (90 days). Residues may persist longer depending on the amount of sunlight and the water temperature. Fluridone is primarily degraded by sunlight and microorganisms. Decreased temperatures and low light levels slow its breakdown in water.

8. What impacts are there to organisms due to the slow release fluridone product?

Research shows only minor impacts to organisms (other than aquatic plants) as a result of fluridone application, regardless of which formulation is applied. Fluridone works by acting on a biochemical pathway that exists in plants but not in animals.

9. What are the impacts of fluridone to Puget Sound?

No impacts to Puget Sound are anticipated following a fluridone application to Portage Bay. It is unlikely that any fluridone will reach Puget Sound because each treatment site is small compared to the volume and size of the entire lake. Even if fluridone did reach Puget Sound, no impacts would be expected on Puget Sound animals. Marine organisms are not known to be any more sensitive to fluridone than freshwater organisms.

10. How have you looked at the long-term effects of aquatic pesticides on returning salmon?

Research has been and continues to be conducted by Dr. Christian Grue and colleagues at the University of Washington. To date, the research has evaluated the effects of aquatic pesticides on young salmon (smoltification and olfactory) responses. According to Dr. Grue, there were no “red flags” raised as a result of this research that would indicate potential long-term effects on returning salmon.

11. How have you looked at long-term environmental/cumulative impacts of herbicide use?

Yes, Ecology’s risk assessment for each chemical evaluates short-term, long-term, and cumulative impacts of the chemical(s) on the ecosystem. A recent study indicated that 60 years extensive aquatic plant management, including herbicide use, had little impact on the ecology of Lake Moraine in New York as compared to a nearby lake that had no aquatic plant management. (Willard N. Harman, L.P. Hingula, and C.E. MacNamara. 2005. *Does Long-Term Macrophyte Management in Lakes Affect Biotic Richness and Diversity?* J. of Aquat. Plant Manage. 43:57-64.)

12. Can I water my plants and veggies with fluridone treated lake water?

Ecology does not recommend using lake water to water your house or vegetable plants after fluridone treatment, unless water testing indicates that fluridone is at five parts per billion or less. This product is an herbicide, designed to kill plants, and, unless testing shows otherwise, could still be at concentrations that would damage some plants.

13. This permit does not meet the needs of the Lake Washington system. When can Ecology start a process to develop a permit that will meet these needs?

Ecology does not currently have the resources to develop a permit specifically for the Lake Washington system. Later in this response to questions (see question 19), we discuss a possible option for addressing Lake Washington-specific issues. Ecology recognizes that many members of the public believe that this permit does meet the needs of Lake Washington.

14. Prior to the Washington Department of Agriculture conducting an aerial spray in Seattle for gypsy moths, they notified newspapers and other news media. Can Ecology do similar notification?

Ecology does not have the resources to notify the media each and every time a pesticide is applied to a lake in Washington. When the permit was issued March 1, 2006, Ecology issued a press release and an information sheet. For each treatment under this new permit, the permittee/applicator must send a 10-21 day notification to all shoreline residents within ¼ mile of the treatment site. In addition, before receiving permit coverage, applicants must place a legal notice in the newspaper detailing the planned treatment(s).

Gypsy moth spraying was sponsored by the Department of Agriculture using their contract applicators. A press release was issued by the Department of Agriculture prior to the treatment. This scenario does not parallel the Ecology permitting scenario. For almost all aquatic herbicide applications, Ecology is not the project sponsor or the applicant, as was the case with the gypsy moth spraying. Ecology's permit requires the applicants to assume responsibility for the public notification.

15. There are unknowns with all of these chemicals. Why do we continue to allow their use?

These aquatic herbicides undergo extensive acute (immediate) and chronic (long term) toxicity testing prior to use in the United States. They have been reviewed by the EPA and then further reviewed by the Washington State Department of Agriculture prior to registration in Washington. Unlike many other states, Ecology completes extensive risk assessments and environmental impact statements on aquatic herbicides prior to allowing their use under a permit. These risk assessments further restrict the number of chemicals allowed for use in Washington waters. After

reviewing copper, a very common aquatic algaecide/herbicide, Ecology chose to prohibit its use in Washington lakes. This product is allowed in almost every other state.

Ecology's risk assessments indicate that the products allowed under the permit do not pose an unacceptable risk to human health or the environment when used according to the EPA label and in compliance with the general permit conditions. In other parts of the country, applicators must follow EPA label guidelines only, but in Washington the permit also oversees aquatic pesticide use. And, in many states, lake residents can legally purchase these pesticides, and apply them without any training, regulatory oversight, or public notification or posting.

16. Why is there no evaluation of other methods prior to the use of herbicides?

Ecology evaluated all available aquatic plant control methods in an Environmental Impact Statement (EIS). In the EIS, Ecology determined that chemical control is one tool for aquatic plant management. Other tools include mechanical, manual, and biological control. In a number of lakes across the state, lake residents use non-chemical control methods (including on Lake Washington). In fact, the Seattle and Queen City Yacht Clubs completed an Integrated Aquatic Plant Management Plan, and all control methods were evaluated.

Ecology's water quality permitting program evaluated all aquatic plant management methods, and, through its permitting authority, only has the ability to regulate chemical control, and its potential impacts on water. Other plant control methods are regulated by Fish and Wildlife. Sometimes local governments may also impose additional local regulation of various aquatic plant management methods. Until a few years ago, the City of Seattle prohibited aquatic pesticide use within the city limits.

17. Why not focus on mechanical controls?

Through its NPDES and state waste discharge permitting programs, Ecology cannot require mechanical or other methods of aquatic plant control in lieu of aquatic herbicide use. Ecology only has regulatory authority over the application of products that may alter the biological or chemical characteristics of state waters. Ecology cannot mandate which aquatic plant control activity people must use, but under its permitting authority Ecology can mitigate for any impacts these pesticides may have on the environment, such as setting timing restrictions to protect young salmon.

Although Ecology cannot require permittees to pursue non-chemical treatment prior to receiving permit coverage, Ecology supports and encourages non-chemical plant management methods. Ecology has traditionally relied on voluntary methods to encourage use of these methods. For example, because Ecology provides grants for development of lake management plans for treatment of noxious weeds, Ecology can require grant recipients to consider non-chemical methods instead of, or in addition to, chemical methods.

Also, under the prior version of the Nuisance Plants General Permit, Ecology required permittees to consider alternatives to chemical treatment if they wanted to treat for more than two years during a permit cycle. Although Ecology could not require permittees to implement non-chemical treatment in lieu of chemical treatment, our hope was that applicants for permit coverage would seriously consider pursuing non-chemical treatment under appropriate circumstances. What we learned was that few, if any, applicants under the prior permit opted for non-chemical treatment due to its increased expense and, in some instances, decreased effectiveness compared to chemical treatment. Therefore, rather than continue to require consideration of non-chemical treatment, the new permit puts more stringent standards in place to ensure that water quality standards are met and waterbodies' beneficial uses, such as swimming, fishing and aquatic life, are preserved.

People incorrectly assume that mechanical controls have no environmental impacts. However, there are documented negative impacts to fish and wildlife from the use of mechanical methods such as harvesting. Harvesting inadvertently kills large numbers of fish, amphibian, reptiles, and invertebrates as the machines cut and collect aquatic plants. In addition to having negative impacts to fish and wildlife, mechanical removal can enhance the spread of invasive species by creating thousands of viable fragments, each of which can form a new plant. Machines, like rotovators, disturb the sediment, potentially releasing plant nutrients, or long-buried toxins to the water. The large machines can be difficult to maneuver around docks and in marina areas leading to safety concerns.

18. Does Ecology have the ability to re-evaluate and revise/modify this permit before next season?

Ecology may revise this permit prior to the 2007 treatment season based on the outcome of the permit appeals.

19. What is the possibility of forming a lake stewardship council for this lake system?

Forming a lake stewardship council depends heavily on the local governments and their willingness to undertake such a process. The Water Resource Inventory Area (large watershed) (WRIA) 8 Watershed Forum meetings can provide opportunities for public comments and discussion. Those interested in Lake Washington and Portage Bay herbicide treatment issues may want to submit written comments to the WRIA 8 Forum or attend one of their meetings.

Below we provide the 2006 schedule for the WRIA 8 Watershed Steering Committee and Forum. Any letters of concern should be addressed to the WRIA 8 Forum and specifically the WRIA 8 Chair - Dr. Don Davidson, Council member for the City of Bellevue.

Other key staff members include:

Sandy Kilroy, Regional Services Section Manager
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Local partners working together to conserve and restore salmon habitat

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Lake Washington/Cedar/Sammamish Watershed (WRIA 8) 2006 MEETING SCHEDULE and TOPICS

Meeting times are 3:30 to 5:30 PM unless noted. Meeting locations will be in the Community Center at Mercer View, with rooms identified below. (link for map and driving instructions: http://www.ci.mercer-island.wa.us/files/ccmv_directions.pdf.) Meeting dates, times, locations, and agenda topics are subject to change.

To verify or for more information, contact Mary Jorgensen, Acting Watershed Coordinator, at 206-296-8067 or mary.jorgensen@metrokc.gov.

WRIA 8 Steering Committee Interjurisdictional and multi-stakeholder committee overseeing development of the watershed implementation. Generally meetings are on 4th Thursdays.	
Meeting Date	Anticipated Topics
Thursday, April 6 (Mercer 3)	Implementation Committee Structure Options – Discussion 2007 Work Plan – Approval Prioritized 3-year list of Implementation Actions – Methodology - Approval Updates - SRFB Round 7 proposed changes and Regional H-Integration
Thursday, June 22 (Calkins)	Implementation – approach and initial actions – Discussion SRFB Progress Report Updates
Thursday, Sept 28 (TBD)	SRFB Project list – approval Hatchery and Harvest – initial H-integration
Thursday, Dec 7 (TBD)	TBD (EDT model – report on latest results)
WRIA 8 Forum Committee of elected officials representing local governments participating in the interlocal agreement to fund watershed implementation for salmon conservation. Generally meetings are	
Meeting Date	Anticipated Topics
Thursday, March 2 (Calkins)	Committee Structure, roles and responsibilities – initial discussion Organization Structure – service provider options pros and cons – Decision Updates – Regional Recovery Plan, watershed representative to Shared Strategy's Development Committee, other topics.
Thursday, April 20 (Mercer 3) 2:30 to 5:30 - 3 hours	Committee Structure, roles and responsibilities – Decision Implementation ILA - Overview of Changes – initial discussion 2007 workplan, staffing models – initial discussion Updates
Thursday, May 18 (Mercer 3) 2:30 to 5:30 - 3 hours	Additional meeting Implementation ILA revisions - discussion 2007 work plan, staffing and budget - Decision
Thursday, June 15 3:30 to 5:30 - 2 hours	Additional meeting Implementation ILA revisions - discussion 2007 work plan, staffing and budget - Decision

Thursday, July 20 (Mercer 3)	ILA approval - decision KCD projects – approval of project list, KCD progress report update MOU – initial discussion
Thursday, Oct 19 (TBD)	MOU approval - decision Implementation – Report on first year start-up Regional H- integration – Policy discussion

Shoreline Modification Regulations

- 83.270 General
- 83.280 Piers, Docks, Floats and Boatlifts
- 83.290 Marinas
- 83.300 Shoreline stabilization
- 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

83.270 General

1. Shoreline modifications are to be designed, located, sized, and constructed such that the structures or measures do not result in a net loss of shoreline ecological functions. Where adverse impacts to ecological functions cannot be avoided, mitigation shall be provided to achieve no net loss of shoreline ecological functions.
2. All work at or waterward of the ordinary high water mark 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. 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.

83.280 Piers, Docks, Floats and Boatlifts

[Placeholder]

83.290 Marinas

1. 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, except as permitted in KZC 83.210 or 83.320.
 - b. Marinas shall be designed and located according to the following criteria:
 - 1) The moorage structures shall not create a hazard to navigation;
 - 2) They shall not significantly damage fish and wildlife habitats; and
 - 3) They shall be located only at sites with suitable shoreline ecological conditions and configuration.
 - c. Moorage structures within marinas shall comply with the following setback standards:
 - 1) Except for those marinas located within a public or properties located in the Urban Mixed shoreline environment, the following setback standards from public parks apply to marinas:
 - a) No moorage structure may be within 100 feet of a public park; or

- b) No moorage structure may be closer to a public park than a line that starts where the shoreline edge 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 (see Plate XX).
 - 2) Except for properties located in the Urban Mixed shoreline environment, no moorage structure may be closer to a lot containing a detached dwelling unit on one lot than a line that starts where the ordinary high water mark 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 (see Plate XX); or
 - 3) No moorage structure may be within 25 feet of another moorage structure not on the subject property; or
 - 4) No moorage structure may be within 50 feet of the outlet of a stream, including piped streams.
 - d. No structures, other than moorage structures or public access piers, may be waterward of the ordinary high water mark. For regulations regarding public access piers, see KZC Section 83.200.
 - e. If a moorage structure will 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 for this use.
2. Number of Moorage Slips –
- a. The City will determine the maximum allowable number of moorage slips based on the following factors:
 - 1) The ecological conditions of the shoreline;
 - 2) The ability of the land landward of the ordinary high water mark to accommodate the necessary support facilities, such as required public restrooms and parking; and
 - 3) Sufficient water depth so that boats do not rest at any time of the year on the substrate.
 - b. Boats moored within marinas shall comply with the mooring restrictions contained in Chapter 14.16 KMC.
3. Design Standards -
- a. General –
 - 1) 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.
 - 2) Must provide at least two covered and secured waste receptacles upland of the ordinary high water mark.
 - 3) 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) Must provide public restrooms upland of the ordinary high water mark.

- 5) At least one pump-out facility shall be provided for use by the general public. This facility must be easily accessible to the general public and clearly marked for public use.
 - 6) Transient moorage may be required as part of a marina if the site contains a mix of uses generating commercial transient moorage demand.
 - 7) Moorage facilities shall be marked with reflectors, or otherwise identified to prevent unnecessarily hazardous conditions for water surface users during the day or night.
 - 8) Exterior finish of all structures shall be generally non-reflective.
 - 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.
 - 10) Covered moorage, including boatlift canopies, is not permitted.
 - 11) Aircraft moorage is not permitted, except as associated with an approved float plane landing and mooring facility.
 - 12) Marinas shall be designed and operated consistent with 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.
 - 13) Procedures for receiving, storing, dispensing, and disposing of oil or hazardous products, as well as a spill response plan for oil and other products, shall be required of new marinas and expansion or substantial alteration of existing marinas. Compliance with federal or state law may fulfill this requirement. Handling of fuels, chemicals or other toxic materials must be in compliance with all applicable federal and state water quality laws as well as health, safety and engineering requirements. Rules for spill prevention and response, including reporting requirements, shall be posted on site.
- b. Size and Design of Marinas –
- 1) Piers and docks shall be designed with the following techniques:
 - a) Use of materials that allow transmission of light (e.g. grating) in ramp and pier/float decking, as follows:
 - i. The pier and dock surface materials located within 30 feet of the ordinary high water mark shall be fully grated.
 - ii. If the pier is running essentially east to west, at an angle of more than 67° 30' from a line running true north-south (see Plate 28), then the decking shall contain a minimum of 30% grating along the entire length. Otherwise, the decking shall contain a minimum of 50% grating along entire length. When the underlying float tubs preclude meeting the grating standard, the applicant must demonstrate that alternative designs are not feasible that would allow compliance with the standard and must demonstrate that the float tub area is the minimum necessary to achieve floatation.
 - iii. Ramps must be fully grated.
 - b) Structures must be designed to preclude moorage in locations that would have insufficient water depth to avoid boats resting at any time of year on the substrate.

- c) Limit the number of piles to the minimum practicable. Pilings shall be spaced a minimum of 18 feet apart.
- d) Limit the size of piles to the minimum feasible.
- e) Pilings shall be composed of steel, concrete, plastic or untreated wood.
- f) Limit structure widths as follows:
 - i) Ramps may be no wider than 4 feet.
 - ii) Primary walkways may be no wider than 6 feet.
 - iii) Ells, fingers, and other 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.
- g) Maintain maximum height above water surface as is practicable in order to maintain light transmission.

83.300 Shoreline Stabilization

1. General – The purpose of this section is to provide standards and guidelines for the location and design of bulkheads and other hard structural and soft shoreline stabilization measures that have the potential to adversely impact the shoreline natural environment. New development, however, shall be located and designed to avoid the need for future shoreline stabilization to the extent feasible. In all cases, the feasibility of soft shoreline stabilization shall be evaluated prior to hard structural stabilization. The following standards apply to all developments and uses in shoreline jurisdiction:
2. New or expanded hard structural shoreline stabilization - Hard structural stabilization measures shall not be allowed, except as follows:
 - a. To protect an existing primary structure, including residences, when conclusive evidence, documented by a geotechnical analysis, is provided that the structure is in danger from shoreline erosion caused by waves. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.
 - b. In support of new non-water-dependent development, including a detached dwelling unit, when all of the conditions below apply:
 - 1) The erosion is not being caused by upland conditions, such as drainage and the loss of vegetation.
 - 2) Nonstructural measures, such as placing the development farther from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
 - 3) The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report. The damage must be caused by natural processes, such as waves.
 - c. In support of water-dependent development when all of the conditions below apply:
 - 1) The erosion is not being caused by upland conditions, such as drainage and the loss of vegetation.
 - 2) Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.

- 3) The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report.
- d. To protect projects for 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. Replacement or repair of existing shoreline stabilization measures - This section allows repair and replacement of existing legally established shoreline stabilization measures.
 - a. Minor Repair - Minor repair is permitted, subject to the following standards:
 - 1) Minor repair shall include modifications or improvements to an existing shoreline stabilization measure that are designed to ensure the continued function of the stabilization measure by preventing failure of any part of the stabilization measure. A repair that is proposed after more than 25% of the linear feet of the stabilization measure has collapsed, eroded away or otherwise demonstrated a loss of structural integrity is not a minor repair. Any proposed repair that involves modification of the toe rock or footings is considered a major repair.
 - 2) Areas of temporary disturbance within the shoreline setback shall be expeditiously restored to their pre-project condition or better.
 - b. Major Repair or Replacement - The following standards apply to major repair or replacement of existing hard structural shoreline stabilization measures:
 - 1) Major repair or replacement shall be treated as a new shoreline stabilization measure, subject to the provisions of subsection 2. above, including the requirement to prepare a geotechnical analysis and consider soft shoreline stabilization techniques. For purposes of this section, "replacement" means the construction of a new structure to perform a shoreline stabilization function of an existing structure that can no longer adequately serve its purpose. Additions to or increases in size of existing shoreline stabilization measures shall be considered new structures.
 - 2) Replacement hard structural shoreline stabilization measures shall not encroach waterward of the ordinary high water mark or waterward of the existing shoreline stabilization measure unless the primary structure was constructed prior to January 1, 1992, 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.
 - 3) Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may allow some fill waterward of the ordinary high water mark.
4. Submittal Requirements - In addition to submitting an application, the applicant shall submit the following as part of a request to construct a new, enlarged, major repair or replacement shoreline stabilization measure:
 - a. For new, enlarged, major repair or replacement hard structural shoreline stabilization measure, a geotechnical report prepared by a qualified professional. The report shall include the following:
 - 1) An assessment of the necessity for shoreline stabilization by estimating time frames and rates of erosion and report on the urgency associated with the specific situation. New or replacement hard structural shoreline stabilization measures shall not be authorized, except when a report confirms that there is a significant possibility that an existing structure will be damaged generally within three (3) years as a result of shoreline erosion in the absence of such hard 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.
- 2) An assessment of the cause of erosion, looking at processes occurring both waterward and landward of the ordinary high water mark.
 - 3) Where shoreline stabilization is determined to be necessary in subsection 4 a. above, the assessment must evaluate 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 minimum sizing of hard structural or soft shoreline stabilization materials, including gravel and cobble beach substrates, necessary to dissipate wave energy, eliminate scour, and provide long-term shoreline stability.
- b. For all shoreline stabilization measures, including soft shoreline stabilization, 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 ordinary high water marks.
 - 2) Detailed construction sequence and specifications for all materials, including gravels, cobbles, boulders, logs, and vegetation.
 - 3) Detailed five-year vegetation maintenance and monitoring program to include the following:
 - a) Goals and objectives of the shoreline stabilization plan;
 - b) Success criteria by which the implemented plan will be assessed;
 - c) A five (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;
 - d) A contingency plan in case of failure; and
 - e) Proof of a written contract with a qualified professional who will perform the monitoring.
- c. The Planning Official shall require a performance or maintenance bond or security, as determined to be appropriate by the Planning Official, to ensure compliance with any aspect of this chapter or any decision or determination made pursuant to this chapter.
- 1) Performance or Maintenance Bond or Security Requirement - The performance or maintenance security required by the Planning Official shall be provided in such forms and amounts as the Planning Official deems necessary to assure that all work or actions are satisfactorily completed or maintained in accordance with the approved plans, specifications, permit or approval requirements, and applicable regulations, and to assure that all work or actions not satisfactorily completed or maintained will be corrected to comply with approved plans, specifications, requirements, and regulations to restore environmental damage or degradation, protect fish and wildlife habitat, and protect the health, safety, and general welfare of the public.
 - 2) Form of Performance Security - The performance security shall be a surety bond 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.

- 3) 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.
 - 4) 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 performance or maintenance security may be released upon written notification by the Planning Official, following final site inspection or completion, as appropriate, or when the Planning Official is satisfied that the work or activity complies with permits or approved requirements.
 - 5) Exemptions for Public Agencies - State agencies and local government bodies, including school districts, shall not be 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 certificates of occupancy or occupancy approval, by administrative enforcement action, or by any other legal means.
- d. The cost of producing and implementing the shoreline stabilization plan, the monitoring and maintenance program, reports, and drawings, as well as the review of each component by the City and the City's consultant(s), shall be borne by the applicant.
5. General Design Standards - When a shoreline stabilization measure is demonstrated to be necessary, the following design standards shall be incorporated into the stabilization design:
- a. Soft shoreline stabilization measures shall be used to the maximum extent practicable, 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.
 - b. The shoreline stabilization measure shall be designed to not significantly interfere with normal surface and/or subsurface drainage into Lake Washington.
 - c. The shoreline stabilization measure shall be designed so as not to constitute a hazard to navigation or substantially interfere with visual access to the water.
 - d. Stairs or other water access measures may be incorporated into the shoreline stabilization, but shall not extend waterward of the shoreline stabilization measure.
 - e. The shoreline stabilization measures shall be designed to ensure that the measures do not restrict appropriate public access to the shoreline, except where such access is modified under the provisions of KZC Section 83.370 for public access.

- f. To the extent feasible, approved new, enlarged, major repair or replacement shoreline stabilization measures must mitigate any adverse impacts to ecological functions by incorporating the following measures at a minimum into the design:
 - 1) To increase shallow-water habitat, install gravel beach fill waterward of the ordinary high water mark, grading slope to a maximum of 1 Vertical (V):4 Horizontal (H).
 - 2) Plant native riparian vegetation at an average of ten (10) feet deep across at least 50% of the width of the shoreline. Vegetation must include a mix of trees, shrubs and groundcovers, which may be distributed along the shoreline area in a manner that provides maximum benefit to fish and wildlife, while preserving views and water-dependent uses.

Additional mitigation measures may be required depending on the level of impact.
 - g. Shoreline stabilization measures shall not extend waterward more than the minimum amount necessary to achieve effective stabilization.
 - h. When shoreline stabilization measures intended to improve ecological functions shift the ordinary high water mark landward of the pre-modification location, any structure setbacks from the ordinary high water mark or lot area for the purposes of calculating lot coverage shall be measured from the pre-modification location. The pre-modification ordinary high water mark shall be recorded in a form approved by the City Attorney and recorded in the King County Department of Elections and Records.
 - i. If shoreline stabilization measures intended to improve ecological functions shift the ordinary high water mark 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.
6. Specific Hard Structural Shoreline Stabilization Design Standards - When hard structural shoreline stabilization measures, such as bulkheads, are demonstrated to be necessary, incorporate the following standards into the design:
- a. When shoreline stabilization is approved on a site where bulkheads are not located on adjacent properties, the construction of a bulkhead shall tie in with the existing contours of the adjoining properties, as feasible, such that the proposed bulkhead would not cause erosion of the adjoining properties.
 - b. When shoreline stabilization is approved on a site where bulkheads are located on adjacent properties, the proposed bulkhead may tie in flush with existing bulkheads on adjoining properties, provided that the new bulkhead does not extend waterward of OHWM, except as necessary to make the connection to the adjoining bulkhead. In such circumstances, the remaining portion of the bulkhead shall be placed landward of the existing OHWM such that no net intrusion into the lake occurs nor does net creation of uplands occur.
 - c. Limit the size of hard structural shoreline stabilization measures to the minimum necessary, including height, depth, and mass.
 - d. To the extent feasible, shift the bulkhead landward and slope the bulkhead landward to provide some dissipation of wave energy.
 - e. When a bulkhead is required at a public access site, provisions for safe access to the water shall be incorporated into bulkhead design.

- f. Fill behind bulkheads 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.
7. Specific Soft Shoreline Stabilization Design Standards – In addition to applicable general design standards and hard structural shoreline stabilization standards above, incorporate the following standards into the design:
- a. The soft shoreline stabilization design shall provide sufficient protection of adjacent properties by tying in with the existing contours of the adjoining properties to prevent erosion at the property line. Projects that include necessary use of hard structural shoreline stabilization measures only at the property lines to tie in with adjacent properties shall be permitted as soft shoreline stabilization measures.
 - b. The soft shoreline stabilization design shall size and arrange any gravels, cobbles, logs, and boulders so that the project 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 or 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. Any undesirable effects or adverse impacts upon the environment or upon nearby waterfront properties from the structure are clearly outweighed by the benefits to the public provided by the moorage facility or other public water-dependent uses to be protected by the breakwater.
- 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 the project's purpose. Also to be certified is that the design will result in the minimum possible adverse impacts upon shoreline ecological functions, 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 ordinary high water mark may be allowed for the following purposes and under the following circumstances:
 - 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 ordinary high water mark. The project must be associated with a significant habitat enhancement project.
 - e. Depositing dredge materials waterward of the ordinary high water mark may be allowed only in approved sites, only when the material meets or exceeds pollutant standards, and only for one (1) or more of the following reasons:
 - 1) For fish or wildlife habitat improvement, or
 - 2) For permitted beach enhancement.
3. 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 - In addition to the minimum application 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 ordinary high water mark 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.
 - c. A detailed description of the physical, chemical and biological characteristics of the dredge spoils to be removed.
 - 1) Physical analysis of material to be dredged: material composition and amount, grain size, organic materials present, source of material, etc.
 - 2) For projects exceeding 1,000 cubic yards or projects in areas that the City has reason to believe may contain higher levels of chemical contaminants, the following may be required:

1. Chemical analysis of material to be dredged: including metals, organics, hydrocarbons, pesticides, etc.
 2. Biological analysis of material to be dredged.
- d. A description of the method of materials removal, including facilities for settlement and movement.
- 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 project maintenance dredging.
- e. Detailed plans for dredge spoil disposal, including, but not limited to:
- 1) Specific approved land or open-water disposal site.
 - 2) Total initial spoils volume.
 - 3) Plan for anticipated future maintenance dredging and disposal for at least a fifty (50)-year period.

83.330 Land Surface Modification

1. General – The following standards must be met for any approved land surface modification:
 - a. 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.
 - b. 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.
 - c. 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.
 - d. Areas disturbed by permitted land surface modification in the shoreline setback shall be stabilized with approved vegetation.
 - e. 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.
2. Permitted Activities -
 - a. Land surface modification is prohibited within the shoreline setback, except for the following:
 - 1) Land surface modification for the purpose of shoreline habitat and natural systems enhancement projects or soft shoreline stabilization measures under a plan approved by the City.
 - 2) Land surface modification authorized by a valid shoreline permit.
 - 3) 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.
 - 4) Land surface modification associated with the installation of improvements located within the shoreline setback or waterward of the ordinary high water mark, as

permitted under KZC Section 83.180.4.d.

- 5) Removal of prohibited vegetation.
- 6) Land surface modification performed in the normal course of maintaining existing landscaping on a lot associated with an existing building or 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 include tree trimming, tree topping, tree cutting or tree removal, unless the City approves a tree removal under KZC Section 83.370.
 - d) 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.
 - e) Does not result in erosion of the shoreline or undermine stability of neighboring properties.
 - f) Does not result in the compaction of existing soils in a manner that significantly decreases the ability of the soil to absorb rainfall.
 - g) 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) Land surface modification that is necessary to maintain or upgrade the structural safety of an existing structure.
- 8) 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 ordinary high water mark 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;
 - b. In conjunction with the expansion or alteration of transportation facilities of statewide significance currently located on the shoreline and then only upon a demonstration that alternatives to fill are not feasible;

- c. 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 Restoration Plan, as adopted by the City Council on XX, under Ordinance XX.
 - e. Implementation of any project or activity identified in the *Final WRIA 8 Chinook Salmon Conservation Plan* and related documents.

Use Specific Regulations

- 83.180 Shoreline Development Standards
- 83.190 General
- 83.200 Residential Development
- 83.210 Commercial Uses.
- 83.220 Industrial Uses
- 83.230 Recreational Development
- 83.240 Transportation Facilities
- 83.250 Utilities
- 83.260 Land Division

Shoreline Development Standards

83.180 Shoreline Development Standards

1. General - Except as otherwise stated, the long range plan, zoning regulations, critical areas regulations, subdivision regulations, and other adopted regulatory provisions apply within shoreline jurisdiction. In the event the provisions of this Program conflict with provisions of other city regulations, the more protective of shoreline resources shall prevail.
2. Development Standards Chart - The following chart establishes the minimum required dimensional requirements for development. KZC Section 83.170 contains an overview of the activities permitted under each of the use classifications contained in the development standards chart. Additional standards may be established in Sections 83.190 through 83.260. Dimensional standards specified in this Chapter shall not exceed the geographic limit of the shoreline jurisdiction.

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			Shoreline setback may be reduced by 2 ft. if subject to the Historic Preservation		

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
				provisions of KMC 22.28.048.		
Maximum Lot Coverage	n/a	50%	n/a	50%	60%	80% except for the following: <ul style="list-style-type: none"> In the CBD, 100% for properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ³	n/a	25' above ABE ¹	If adjoining the Residential-L Shoreline Environment, then 25' above ABE. Otherwise, 30' above ABE.	25' above ABE	If adjoining the Residential-L Shoreline Environment, then 25' above ABE. Otherwise, 30' above ABE.	30' above ABE
Other Residential Uses (Attached, Stacked, and Detached Dwelling Units; Assisted Living Facility; Convalescent Center or Nursing Home)						
Density ²	n/a	n/a	n/a	n/a	1,800 sq. ft./unit for up to 2 dwelling units if the public access provisions of KZC 83.370 are met; otherwise 3,600 sq. ft./unit	No minimum lot size in CBD; otherwise 1,800 sq. ft./unit
Shoreline Setback	n/a	n/a	n/a	n/a		
Maximum Lot Coverage	n/a	n/a	n/a	n/a	80%	80% except for the following: <ul style="list-style-type: none"> In the CBD, 100% on

¹ Structure height may be increased to 30' above ABE. See KZC 83.180.6.c.1)a).

² 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
						properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ³	n/a	n/a	n/a	n/a	30' above ABE ⁴	30' above ABE, except for the following: <ul style="list-style-type: none"> • In the JBD, 28' above ABE if located on west side of 98th Avenue NE; otherwise 39' above ABE⁷ • In the CBD, 28' above the abutting right-of-way measured at the midpoint of the frontage of the subject property if located on west side of Lake St S and north of 2nd Ave S; 41' above the abutting right-of-way measured at the midpoint of the frontage of the subject property⁷ • In the PLA 15A zone

³ 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).

⁴ Structure height may be increased to 35' above ABE. See KZC 83.180.6.c.1)b).

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
						located south of NE 52 nd Street, structure height may be increased to 40' above ABE. ^{5,7} Otherwise, mixed-use developments approved under a Master Plan shall comply with the Master Plan provisions. ⁶
Commercial Uses						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a	n/a		n/a		
Maximum Lot Coverage	n/a	n/a	50%	n/a	80%	80% except for the following: <ul style="list-style-type: none"> In the CBD, 100% on properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ³	n/a	n/a	If adjoining the Residential-L Shoreline Environment, then 25' above ABE. Otherwise, 30'	n/a	30' above ABE ⁴	30' above ABE, except for the following: <ul style="list-style-type: none"> In the JBD, 28' above ABE if located on west side of 98th Avenue NE;

⁵ See KZC 83.180.6.c.1)c).

⁶ See KZC 83.180.6.c.1)d).

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
			above ABE. ⁴			<p>otherwise 39' above ABE⁷</p> <ul style="list-style-type: none"> • In the CBD, 28' above the abutting right-of-way measured at the midpoint of the frontage of the subject property if located on west side of Lake St S and north of 2nd Ave S; 41' above the abutting right-of-way measured at the midpoint of the frontage of the subject property if located on west side of Lake St S and south of 2nd Ave S⁷; otherwise 55' above the abutting right-of-way⁷ • In the PLA 15A zone located south of NE 52nd Street, structure height may be increased to 40' above ABE.^{5,7} Otherwise, mixed-use developments approved under a Master Plan shall

⁷ Structure heights above 35' above ABE shall comply with the provisions contained in KZC Section 83.180.6.a(4).

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
						comply with the Master Plan provisions. ⁶
Industrial Uses						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a	n/a	n/a	n/a	n/a	
Maximum Lot Coverage	n/a	n/a	n/a	n/a	n/a	80% except for the following: <ul style="list-style-type: none"> In the CBD, 100% on properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ³	n/a	n/a	n/a	n/a	n/a	30' above ABE, except for the following: <ul style="list-style-type: none"> In the JBD, 28' above ABE if located on west side of 98th Avenue NE; otherwise 39' above ABE In the CBD, 28' above the abutting right-of-way measured at the midpoint of the frontage of the subject property if located on west side of Lake St S and north of 2nd Ave S; 41' above the abutting right-of-way measured at

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
						the midpoint of the frontage of the subject property if located on west side of Lake St S and south of 2 nd Ave S ⁷ ; otherwise 55' above the abutting right-of-way ⁷
Recreational Uses						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a					
Maximum Lot Coverage	n/a	10%	30%	30%	80%	80% except for the following: <ul style="list-style-type: none"> In the CBD, 100% on properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ³	n/a	25' above ABE	If adjoining the Residential-L Shoreline Environment, then 25' above ABE. Otherwise, 30' above ABE ⁴	25' above ABE	30' above ABE ⁴	30' above ABE, except for the following: <ul style="list-style-type: none"> In the JBD, 28' above ABE if located on west side of 98th Avenue NE; otherwise 39' above ABE In the CBD, 28' above the abutting right-of-way measured at the midpoint of the frontage of the

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
						subject property if located on west side of Lake St S and north of 2 nd Ave S; 41' above the abutting right-of-way measured at the midpoint of the frontage of the subject property if located on west side of Lake St S and south of 2 nd Ave S ⁷ ; otherwise 55' above the abutting right-of-way ⁷
Institutional Uses						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a	n/a				
Maximum Lot Coverage	n/a	n/a	50%	50%	80%	80% except for the following: <ul style="list-style-type: none"> In the CBD, 100% on properties that do not abut Lake Washington; otherwise 90%
Maximum height of structure ³	n/a	n/a	If adjoining the Residential-L Shoreline Environment, then 25' above ABE.	25' above ABE	30' above ABE ⁴	30' above ABE, except for the following: <ul style="list-style-type: none"> In the JBD, 28' above ABE if located on west

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
			Otherwise, 30' above ABE ⁴			side of 98 th Avenue NE; otherwise 39' above ABE ⁷ <ul style="list-style-type: none"> In the CBD, 28' above the abutting right-of-way measured at the midpoint of the frontage of the subject property if located on west side of Lake St S and north of 2nd Ave S; 41' above the abutting right-of-way measured at the midpoint of the frontage of the subject property if located on west side of Lake St S and south of 2nd Ave S⁷; otherwise 55' above the abutting right-of-way⁷
Transportation						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a					
Maximum Lot Coverage	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Height of Structure ³	n/a	n/a	n/a	n/a	n/a	n/a

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
Utilities						
Minimum Lot Size	n/a	n/a	n/a	n/a	n/a	n/a
Shoreline Setback	n/a					
Maximum Lot Coverage	n/a	5%	30%	50%	80%	80% except for the following: <ul style="list-style-type: none"> In the CBD, 100% on properties that do not abut Lake Washington; otherwise 90%
Maximum Height of Structure ³	n/a	25' above ABE	If adjoining the Residential-L Shoreline Environment, then 25' above ABE. Otherwise, 30' above ABE ⁴	25' above ABE	30' above ABE ⁴	30' above ABE, except for the following: <ul style="list-style-type: none"> In the JBD, 28' above ABE if located on west side of 98th Avenue NE; otherwise 39' above ABE⁷ In the CBD, 28' above the abutting right-of-way measured at the midpoint of the frontage of the subject property if located on west side of Lake St S and north of 2nd Ave S; 41' above the abutting right-of-way measured at

DEVELOPMENT STANDARDS	SHORELINE ENVIRONMENT					
	Aquatic	Natural	Urban Conservancy	Residential - L	Residential – M/H	Urban Mixed
						the midpoint of the frontage of the subject property if located on west side of Lake St S and south of 2 nd Ave S ⁷ ; otherwise 55' above the abutting right-of-way ⁷

3. Calculation of Minimum Lot Size or Density –

- a. May not use lands waterward of the ordinary high watermark to determine lot size or to calculate allowable 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 would only be partially located within the shoreline jurisdiction, the City may approve an increase in the actual number of units in the shoreline jurisdiction, as permitted under the density standards established in subsection b) above, provided that the equivalent square footage of all of the units within the shoreline jurisdiction, based upon the average unit size in the proposed on the subject property, is no greater than could be achieved under the maximum permitted density.
- 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 0.66.
- 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.

4. 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 ordinary high water mark (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 or 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 minimizes adverse impacts on shoreline functions and processes:
 - 1) Walkways, benches, and similar features, as determined by the Planning Official, which are part of the public pedestrian access required under KZC 83.370.
 - 2) Walkways within the shoreline setback that provide private access to the shoreline are permitted, subject to the following standards:
 - a) The maximum width of the walkway corridor may be no more than 25 percent of the property's lake frontage, except in no case is the corridor required to be less than 15 feet in width (see Plate XX).
 - b) The shoreline access shall be located to avoid areas of greater ecological and habitat value.

- c) The walkway 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 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 walkways and any view corridor requirements under KZC Section 83.360. Light fixtures approved under this subsection shall comply with the provisions contained in KZC 83.240.
- 3) Those portions of water-dependent development that require improvements adjacent to the water's edge.
 - 4) Public access facilities or other similar public water-enjoyment recreational uses.
 - 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) In the Urban Mixed shoreline environment, balconies at least 15 feet above finished grade may extend up to 4 feet into the shoreline setback.
 - 10) Bridges and other essential public facilities that must cross shorelines.
 - 11) Parking as authorized by the Planning Official under the provisions of KZC 83.400.3.
 - 12) Shoreline stabilization measures approved under the provisions of KZC 83.280.
5. Maximum Lot Coverage –
- a. General –
 - 1) The area of all structures and pavement and any other impervious surface on the subject property will be calculated as a percentage of the lot area located within the shoreline jurisdiction.
 - 2) If the subject property contains more than one use, the maximum lot coverage requirements for the predominant use will apply.
 - 3) 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, or 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.
6. Height Regulations –

a. General–

- 1) KZC 83.180.3, Development Standards Chart, establishes the maximum allowed building height for all primary and accessory structures.
- 2) If the subject property contains more than one use contained within a building, the maximum height standard for the predominant use will apply to the building.
- 3) 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. In the CBD, maximum building height shall be measured from the midpoint of the abutting right-of-. For purposes of measuring building height, if the subject property abuts more than one right-of-way, the applicant may choose which right-of-way shall be used to measure the allowed height of structure, except that alleys shall be excluded.
- 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 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 of 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 B as described in KZC 115.59 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 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.
 - c) Decorative parapets or peaked roofs approved through design review pursuant to Chapter [142](#) KZC, except that these height exceptions shall not result in a structure that exceeds 28 feet above the abutting right-of-way on the west side of Lake St S and north of 2nd Ave S.

c. Permitted Increases in Height – The following permitted increases in 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 83.180.3, 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, when approved with a shoreline conditional use permit, by a maximum of 5 feet over average building elevation in order to reduce the footprint of the building which lessens the impact on a sensitive area and 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 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 83.360; or
 - iii) The increase is offset by maintaining comparable portions of the structure lower than 30 feet above average building elevation.
- c) In the Urban Mixed shoreline environment south of NE 52nd Street, the structure height of attached or stacked dwelling units or office use may be increased to 40 feet above average building elevation if:
 - i) Obstruction of views from existing development lying east of Lake Washington Boulevard is minimized. The applicant shall be responsible for providing sufficient information to the City to evaluate potential impacts to views; and
 - ii) Maximum lot coverage is 80 percent, but shall not include any structure allowed within the required front yard under the General Regulations in KZC 60.170; and
 - iii) Maximum building coverage is 50 percent, but shall not include any structure allowed within the required front yard under the General Regulations in KZC 60.170 or any structure below finished grade; and
 - iv) A waterfront area developed and open for public use shall be provided with the location and design specifically approved by the City. Public amenities shall be provided, such as non-motorized watercraft access or a public pier. A public use easement document shall be provided to the City for the public use area, in a form acceptable to the City. The City shall require signs designating the public use area; and
 - v) No rooftop appurtenances, including elevator shafts, roof decks or plantings, with the exception of ground cover material on the roof not to exceed four inches in height, shall be on the roof of the building or within the required view corridors.
- d) Properties in the PLA 15A zone in the UM Shoreline Environment which contain mixed 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.
- e) 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.

General Use Standards

83.190 General Use Standards

1. Uses in the shoreline shall be designed, located, sized, and constructed to achieve no net loss of shoreline ecological functions. Where adverse impacts to ecological functions cannot be avoided, mitigation shall be provided to achieve no net loss of shoreline ecological functions. Failure to meet this standard will result in permit denial. The City may request necessary studies by qualified professionals to determine compliance with this standard.
2. All work at or waterward of the ordinary high water mark 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. 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. Uses in the shoreline shall be sited, designed, and configured in a manner that avoids the need for new shoreline stabilization or flood hazard reduction measures.
4. Uses in the shoreline shall be designed, located and managed to prevent significant adverse impacts on water quality, fish and wildlife habitat, and the environment.
5. Buildings located in the Urban Mixed Shoreline environment shall incorporate architectural features that reduce scale and apparent mass such as setbacks, pitched roofs, recesses, variety in materials, textures, pattern or color and other techniques and may be subject to the City's adopted Design Guidelines contained in Chapter 92 KZC.
6. Minimum required setbacks from shorelines, maximum height limits and lot coverage requirements are contained in KZC 83.180.
7. Special use standards are contained as notes to the Shoreline Environments, Permitted Uses and Activities Chart contained in KZC Section 83.170 as well as in the standards contained in KZC Section 83.190 through 83.270.
8. Harming, harassing, or otherwise endangering any native wildlife species within critical areas or shoreline setbacks, other than fishing under WDFW license or treaty, is prohibited, unless otherwise approved by the City.

Residential Development

83.200 Residential Development

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 - Not more than one dwelling unit may be on each lot, regardless of the size of each lot.
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.

Commercial Uses

83.210 Commercial Uses

1. Float plane landing and mooring facilities –

- a. Use of piers 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) Fuel spill and oil spill clean-up materials and firefighting equipment commensurate with the size of the facility and use by float planes; and
 - 3) The hours of operation. Hours of operation may be limited as necessary to limit impacts on area residents.
 - c. 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.
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 83.400.
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.
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 are provided, boats shall be removed from the water and debris shall be captured and properly disposed of.
 - 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. 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.

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

Industrial Uses

83.220 Industrial Uses

1. In addition to the perimeter buffering and fencing provisions established in KZC Chapter 95, the applicant shall screen all outdoor storage and activity areas from required public pedestrian pathways or public use areas with a minimum six-foot-high solid screening fence and perimeter buffer landscaping or other appropriate screening approved by the City.
2. Storage of industrial equipment or materials shall not be located within the shoreline setback.
3. Disposal or storage of solid or other industrial wastes is not permitted.
4. Hazardous materials or liquid materials shall be properly stored and contained in conformance with all applicable City, state and federal standards.

Recreational Uses

83.230 Recreational Development

1. Motorized Boats -
 - a. Power-operated boats and jet skis are prohibited within restricted areas designated in Juanita and Yarrow Bays, as delineated by buoys and signage.
 - b. Power-operated boats and jet skis on Lake Washington operated within 100 yards of the any shoreline, pier, restricted area or shore installation shall not exceed the speed limits established in KMC Chapter 14.24, Operation of Watercraft.
2. Marina – See standards contained in KZC Section 83.270.
3. Piers – See standards contained in KZC Section 83.270.
4. Boatlifts – See standards contained in KZC Section 83.270.
5. Canopies – See standards contained in KZC Section 83.270.
6. 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.
 - 2) The ability of the land landward of the high waterline to accommodate the necessary support facilities.
 - b. Moorage structures supporting a tour boat facility shall comply with the moorage structure location standards and design standards for Marinas in KZC Section 83.270.
 - c. 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.
 - d. Buildings and structures which house passengers, employees and equipment storage shall not be permitted over water.

- e. 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.
 - f. Tour boat facilities operated accessory to public parks shall comply with the standards in Chapter 14.36 KMC.
7. Moorage Buoy or Pilings – See standards contained in KZC Section 83.270.
8. Public Access Pier or Boardwalk –
- a. Public Access Piers or Boardwalks shall be designed to prevent significant impacts to sensitive natural systems and shall prevent the net loss of ecological functions.
 - b. No accessory uses, buildings, or activities are permitted as part of this use.
 - c. If a structure will extend waterward of the Inner Harbor Line, the applicant must obtain an aquatic use authorization from Washington State Department of Natural Resources prior to submittal of a building permit for this use.
 - d. Must provide at least one 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 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.
9. 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.
10. Boat Launch (for motorized boats) -
- a. Location Standards –
 - 1) Boat launches may not be approved in cases when it can be reasonably foreseeable 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) Boat launches shall be separated from existing swimming areas.
 - b) They shall not damage fish and wildlife habitats.
 - c) They shall be located only at sites with suitable transportation and access. The applicant must demonstrate that traffic generated by such a facility can be safely handled by the streets serving the boat launch.
 - 3) A boat launch may not be located within 25' 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 six (6) feet below the OHWM.
 - 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.
11. Public Park - Recreation developments that support high-intensity activities as a primary use, such as sporting events, shall be located outside of shoreline jurisdiction to the extent feasible.
12. 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 and designed to prevent significant impacts to sensitive natural systems and the net loss of shoreline ecological functions.

Transportation Facilities

83.240 Transportation Facilities

- 1. General -
 - a. Transportation facilities shall utilize existing transportation corridors whenever possible; provided, that facility additions and modifications will not adversely impact shoreline resources and are otherwise consistent with this program. If expansion of the existing corridor will result in significant adverse impacts, then a less disruptive alternative shall be utilized.
 - b. 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.
 - c. 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.
 - d. 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 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.
 - d. Maintenance activities shall be conducted in a manner that minimizes impacts to fish, wildlife, and their associated habitat and utilizes best management practices.
3. Bridges –
- a. Bridges shall meet the standards for arterials, collectors, and neighborhood access streets in subsection 6 below.
4. Passenger-only Ferry Terminal –
- a. Ferry terminals and their related parking areas shall be located, designed, constructed and operated to minimize their impacts on shoreline natural resources and systems.
 - b. Buildings and structures that house pedestrian passengers, employees and equipment storage 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. Ferry terminals shall provide parking commensurate with projected demand. The Planning Official may permit the parking to be located off-site if the applicant demonstrates on submitted plans and/or in writing that the following criteria have been met:
 - 1) It is reasonable to expect that the proposed parking area will be used by the subject use.
 - 2) A safe pedestrian and/or shuttle connection exists, or will be created, between the subject use and the proposed parking area.
 - 3) Where the lot is not owned by the same person who owns the lot containing the ferry terminal, the owner of the lot containing the parking must sign a statement in a form acceptable to the City Attorney, stating that the lot is devoted in whole or in part to required parking for the ferry terminal. The applicant must file this statement with the King County Bureau of Elections and Records to run with the property.
 - f. 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 ferry and the extent of the abutting right-of-way improvements.
5. Water Taxi –
- a. Water-taxis shall be located, designed, constructed, and operated to minimize their impacts on shoreline natural resources and systems.
 - 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.
6. Arterials, Collectors, and Neighborhood Access Streets –

- 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.

Utilities

83.250 Utilities

1. General –

- a. 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.
- b. Utilities shall be located in existing rights-of-way and utility corridors wherever feasible.
- c. New utilities may not be located waterward or the ordinary high water mark or in the Natural shoreline environment unless it is demonstrated that no feasible alternative exists
- d. 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.
- e. 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. Proposals for new water crossings must fully substantiate the infeasibility of existing routes or alternative locations.

- f. Utilities which are accessory and incidental to a shoreline use shall be reviewed under the provisions of the use to which they are accessory.
 - g. Utilities shall provide screening of facilities from water bodies and adjacent properties in a manner that is compatible with the surrounding environment. Type of screening required shall be determined by the City on a case-by-case basis.
 - h. 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.
 - i. Property owners possessing legal rights to water in the Lake shall be allowed to retain those water-intake valves or structures existing on the date of adoption of this Master Program which are necessary to maintain those rights.
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. Maintenance activities shall be conducted in a manner that minimizes impacts to fish, wildlife, and their associated habitat and utilizes best management practices.
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 equipment from the lake and public pedestrian pathways or public use areas.

Existing Zoning Code Bulk and Dimensional Standards

Shoreline Environment	Zoning District	High Waterline Yard	Lot Coverage	Height	Minimum Lot Size
Urban Mixed	PR 3.6	Not applicable	70%	If adjoining a low density zone other than RSX, then 25' above average building elevation. Otherwise, 30' above average building elevation.	3,600 sq. ft./unit
	JBD 2	Not applicable	80%	26' to 39' if 30% view corridor provided	None
	JBD 3	Not applicable	80%	26' to 39' if 30% view corridor provided	3,600 sq. ft., with 2,400 sq. ft./unit
	JBD 4	?	80%	26' to 39' if 30% view corridor provided	3,600 sq. ft., with 1,800 sq. ft./unit
	JBD5	15' or 15% of average parcel depth, whichever is greater	80%	26'	3,600 sq. ft., with 1,800 sq. ft./unit
	CBD 1	Not applicable	100%	2-5 stories for Hotel/Motel, Stacked and Attached Dwelling Unit, and Assisted Living; otherwise 2-4 stories	None
	CBD 2	?	100%	2 stories ¹	None
	BN	Not applicable	80%	If adjoining a low density zone other than RSX, then 25' above	None

¹ Along Lake Street South, north of Kirkland Avenue, buildings exceeding one story above Lake Street South shall demonstrate compliance with the Design Regulations of Chapter 92 KZC and all provisions of the Downtown Plan. Through Design Review (D.R.) the City shall find that any allowance for additional height is clearly outweighed by identified public benefits such as through-block public pedestrian access or through-block view corridors. In no case shall the height exceptions identified in KZC [50.62](#) and [115.60\(2\)\(d\)](#) result in a structure which exceeds 28 feet above the abutting right-of-way. South of Second Avenue South, maximum height of structure is three stories above Lake Street South as measured at the midpoint of the frontage of the subject property on Lake Street South. Buildings exceeding two stories shall demonstrate compliance with the design regulations of Chapter [92](#) KZC and all provisions of the Downtown Plan.

Shoreline Environment	Zoning District	High Waterline Yard	Lot Coverage	Height	Minimum Lot Size
				average building elevation. Otherwise, 30' above average building elevation.	
	PLA 15A	15' or 15% of average parcel depth, whichever is greater	80%	30' for detached dwelling unit; 30-40' for office and attached or stacked dwelling units ² ; case-by-case for mixed use	5,000 for detached dwelling unit; 3,600 sq. ft./unit for attached and stacked du; Lot area/3,100 square feet for mixed use
	P	Case-by-Case			
Urban Residential	RM 1.8	15' or 15% of average parcel depth, whichever is greater	60 – 70% (depending on use)	If adjoining a low density zone other than RSX, then 25' above average building elevation. Otherwise, 30' above average building elevation.	3,600 sq. ft., with 1,800 sq. ft./unit
	RM 3.6	Not applicable	60 – 70% (depending on use)	If adjoining a low density zone other than RSX, then 25' above average building elevation.	3,600 sq. ft./unit

² Structure height may be increased to 40 feet above average building elevation if:

- a. Obstruction of views from existing development lying east of Lake Washington Boulevard is minimized; and
 - b. Maximum lot coverage is 80 percent, but shall not include any structure allowed within the required front yard under the General Regulations in KZC 60.170; and
 - c. Maximum building coverage is 50 percent, but shall not include any structure allowed within the required front yard under the General Regulations in KZC 60.170 or any structure below finished grade; and
- A waterfront area developed and open for public use shall be provided with the location and design specifically approved by the City. Public amenities shall be provided, such as non-motorized watercraft access or a public pier. A public use easement document shall be provided to the City for the public use area, in a form acceptable to the City. The City shall require signs designating the public use area; and
- e. The required public pedestrian access trail from Lake Washington Boulevard to the shoreline shall have a trail width of at least six feet and shall have a grade separation from the access driveway; and
 - f. No roof top appurtenances, including elevator shafts, roof decks or plantings, with the exception of ground cover material on the roof not to exceed four inches in height, shall be on the roof of the building or within the required view corridors.

Shoreline Environment	Zoning District	High Waterline Yard	Lot Coverage	Height	Minimum Lot Size
				Otherwise, 30' above average building elevation.	
	WD I	15' or 15% of average parcel depth, whichever is greater	80%	30' for detached dwelling unit; otherwise 30-35' ³	3,600 sq. ft./unit
	WD III	15' or 15% of average parcel depth, whichever is greater	80%	30' for detached dwelling unit; otherwise 30-35' ⁴	3,600 sq. ft./unit
	PLA 6A	Not applicable	60 – 70% (depending on use)	If adjoining a low density zone other than RSX, then 25' above average building elevation. Otherwise, 30' above average building elevation.	3,600 sq. ft., with 1,800 sq. ft./unit
	PLA 6I	Not applicable	60 – 70% (depending on use)	30'	3,600 sq. ft., with 2,400 sq. ft./unit
	PLA 6H	Not applicable	60 – 70% (depending on use)	25'	5,000 square feet for detached dwelling unit; 2 acres with 3,600 sq. ft./unit
	PLA 3B	15' or 15% of	80%	30' for detached dwelling unit;	3,600 sq. ft./unit

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

- 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 feet above average building elevation.

⁴ 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

- 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 feet above average building elevation.

Shoreline Environment	Zoning District	High Waterline Yard	Lot Coverage	Height	Minimum Lot Size
		average parcel depth, whichever is greater		otherwise 30-35' ⁵	
Low Density Residential	WD II	15', 15% of average parcel depth, or average of adjoining lots, whichever is greater	50%	25'	12,500 sq. ft.
	RS 5.0	Not applicable	50%	25'	5,000 sq. ft.
	RS 12.5	Not applicable	50%	25'	12,500 sq. ft.
Urban Conservancy	P	Case-by-Case			
	RM 1.8	15' or 15% of average parcel depth, whichever is greater	60 – 70% (depending on use)	If adjoining a low density zone other than RSX, then 25' above average building elevation. Otherwise, 30' above average building elevation.	3,600 sq. ft., with 1,800 sq. ft./unit
Natural	P	Case-by-Case			
	PLA 3A				
	PLA 2				
	RS 12.5	Not applicable	50%	25'	12,500 sq. ft.

⁵ 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

- 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 feet above average building elevation.

Existing SMP Bulk and Dimensional Standards

Shoreline Environment	Existing SED	High Waterline Yard	Lot Coverage	Height	Minimum Lot Size
Urban Mixed	Urban Mixed 1	15' or 15% of average parcel depth, whichever is greater ⁶	N/A	35' above average grade level for detached dwelling unit; otherwise 41' above average grade level	3,600 sq. ft. for detached dwelling unit; 7,200 sq. ft., with 1,800 sq. ft./unit
	Urban Mixed 2	15' or 15% of average parcel depth, whichever is greater; or for mixed-use developments determined on a case-by-case basis based on the compatibility of the development with adjacent uses and the degree to which public access, use and views are provided.	N/A	35' above average grade level for detached dwelling unit; 30-35' for attached/stacked dwelling units ⁷ ; or for mixed-use developments determined on a case-by-case basis based on the compatibility of the development with adjacent uses and the degree to which public access, use and views are provided.	3,600 sq. ft for detached dwelling unit; 7,200 sq. ft., with 3,600 sq. ft./unit
Urban Residential	Urban Residential 1	15' or 15% of average parcel depth, whichever is greater	N/A	35' above average grade level for detached dwelling unit; otherwise 30-35' ⁸	3,600 sq. ft for detached dwelling unit; 3,600 sq. ft., with 3,600 sq. ft./unit

⁶ For attached or stacked dwelling units, balconies at least 15' above finished grade may extend up to 4' into the high waterline yard

⁷ Height may be increased from 30 to 35' if the increase does not impair the views of the lake from properties east of Lake St S or Lake Washington Blvd.

⁸ Height may be increased from 30 to 35' if the increase does not impair the views of the lake from properties east of Lake St S or Lake Washington Blvd.

Shoreline Environment	Existing SED	High Waterline Yard	Lot Coverage	Height	Minimum Lot Size
	Urban Residential 2	15' or 15% of average parcel depth, whichever is greater	N/A	35' above average grade level for detached dwelling unit; 30-35' for attached/stacked dwelling units ⁹	3,600 sq. ft for detached dwelling unit; 3,600 sq. ft., with 3,600 sq. ft./unit
Low Density Residential	Suburban Residential	15', 15% of average parcel depth, or average of adjoining lots, whichever is greater	N/A	25' above average grade level	12,500 sq. ft.
Urban Conservancy	Suburban Residential; Urban Residential 1 and Urban Mixed 1	Case-by-case	Case-by-case	Public parks in SR – structures may not exceed a height of 25' above average grade level Public parks in UM 1 – structures shall not exceed a height of 41' above average parcel grade level Otherwise, 35' above average parcel grade level	Case-by-case
Natural	Conservancy 1	15' or 15% of average parcel depth, whichever is greater	N/A	25' above average grade level	35,000 sq. ft. per unit
	Conservancy 2	100' and 50' from the canal	N/A	35' above average grade level for detached dwelling unit; 25' above average grade level for attached/stacked	35,000 sq. ft. per unit

⁹ Height may be increased from 30 to 35' if the increase does not impair the views of the lake from properties east of Lake St S or Lake Washington Blvd.

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Commenter	Identifier	Subject	Sub-Topic	Summary of Comment	Follow-up/ Response	Context
Citizen/NGO (SPOCA) ¹	3.3	Shoreline Redevelopment/ Restoration	Shoreline Stabilization	The Shoreline Master Plan's restoration component should include criteria regarding the installation of shoreline bulkheads, as well as the net-benefits of removing bulkheads.	Emphasis that the City was not attempting to return Lake Washington to predevelopment conditions, but rather limit the negative impacts of future development on Lake Washington.	<i>Correspondence (5-17 November 2007)</i>
Citizen/NGO (SPOCA)	3.3	Species/Habitat	Invasive Species	Urged the city to continue its current emphasis on removing and controlling invasive species		<i>Correspondence (5-17 November 2007)</i>
Citizen/NGO (SPOCA)	3.3	Shoreline Regulation	Storm Water	Advocated expanding the Shoreline Master Plan study area to include additional sources of non-point pollution for Lake Washington.	Regarding the issue of run-off, the City was engaged in on-going efforts, including education and incentives, to help shoreline property owners address these concerns.	<i>Correspondence (5-17 November 2007)</i>
Citizen/NGO (SPOCA)	3.3	Shoreline Regulation	Boating practices	Expressed concern over Appendix F of the Shoreline Master Plan Draft Inventory, stating that it misrepresented the negative impacts of marina and recreational boats on the shoreline, since the causes of these impacts were already illegal.	Marina regulations references use of Best Management Practices.	<i>Correspondence (5-17 November 2007)</i>
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Research	Best Available Science	Requesting careful consideration be placed on changes made to local SMP. Science being used to drive changes are inconclusive and do not provide a clear determination of impacts on water quality of fish life.		<i>Correspondence (2-28-2008 and May 1, 2008)</i>
Citizen/NGO (SPOCA)	2.6; 2.8; 3.3	Shoreline Regulation	Boating practices	Power/pump-out stations could be offered boaters to encourage them from dumping raw sewage (such as Marina Park).	Comment forwarded to Parks and Community Services Dept.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006) ; Correspondence (5-17 November 2007)</i>
Citizen/NGO (SPOCA)	3.3	Shoreline Regulation	Storm Water	Referred the City to a recent study concerning efforts by the Denny Park Neighborhood Assoc. to address storm water run-off.	These suggestions and references are being considered.	<i>Correspondence (5-17 November 2007)</i>
Citizen/Shoreline Permitting and Contractor	4.6, 3.6	Shoreline Regulation	Storm Water	City needs to consider impact of surface runoff from upland development on water quality and fish life.	Impacts from Surface Water are addressed through the City's Surface Water Master Plan, as well as through implementation of the NPDES Phase II Municipal Stormwater permit requirements. The jurisdiction of the Shoreline Master Program is limited to areas within 200 feet of the ordinary high water mark and associated wetlands.	<i>Official Correspondence and Houghton Community Council Meeting and letter dated May 1, 2008</i>
Citizens/ Property Owners	4.8	Shoreline Master Program Process		Appreciated the City of Kirkland's recent shoreline presentation, and stated that they will attempt to involve other homeowners in future meetings.	The City continues to provide notice of public meetings and encourages the active involvement of citizens in this process.	<i>Correspondence (25 September 2007)</i>
Citizens/ Property Owners	4.8	Shoreline Master Program Process	Growth	Expressed concern that Kirkland was changing "rapidly".		<i>Correspondence (25 September 2007)</i>
Citizens/ Property Owners	4.8	Shoreline Redevelopment/ Restoration	Storm Water	Encouraged use of sand filters (e.g., treat run-off).	Proposed water quality regulations require use of low-impact development practices within the shoreline.	<i>Kirkland Public Forum: Updating Shoreline Master Program (September 2006)</i>
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Piers and Docks	Warned of the dangers inherent in incorporating the Army Corps' of Engineers design standards into a critical area ordinance (which could cause a backlash from affected property owners).	The respondent's suggestions would be forwarded to the City of Kirkland Deputy Director of Planning and Community Dev.	<i>Official Correspondence (7-10 September 2007)</i>

1 - NGO = Nongovernmental Organization
SPOCA = Shoreline Property Owners and Contractor's Association

Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation		Lauded the efforts of the Senior Planner within whom he was communicating, stating that the Planner was effective in listening to the concerns of private property owners, and was not unduly burdening them with federal and state shoreline and ecological requirements.	Although the WA State Dept. of Ecology's guidelines for local Shoreline Master Plan updates are ambiguous, they do provide considerable flexibility for how local governments respond	<i>Official Correspondence (7-10 September 2007)</i>
Local Gov. (Kirkland)	4.5	Shoreline Regulation		Person commented on specific language in Sections 4.2.1 and 4.2.2 regarding land uses and the presence of condominium piers. Also suggested changes to Figure 8.	The specific comments and suggestions had been implemented.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	2.6; 4.4	Shoreline Redevelopment/ Restoration	Shoreline Vegetation	Expressed concern over the removal of trees from Heritage Park.	Referred to <i>City of Kirkland Natural Resource Management Plan</i> . Document identifies criteria for retaining trees.	Report on the Tour of Innovative Shoreline Design (30 September 2006); Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	4.4, 5.0	Shoreline Redevelopment/ Restoration	Storm Water	Alarmed about recent street flooding that had resulted from breakdowns within the municipal water pipe system. Concern about water quality.		Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006); Planning Commission Meeting (March 13, 2008)
Citizen	2.4; 3.1; 3.3; 3.6; 4.4;	Shoreline Redevelopment/ Restoration	Storm Water	Concerned over the amount of storm water run-off that empties into Lake Washington from non-point pollution sources.	Storm water being addressed in Section 3.3.2 (<i>Storm water Utilities</i>) and the <i>Surface Water Master Plan</i> .	Report on the Tour of Innovative Shoreline Design (30 September 2006); Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	4.4	Shoreline Redevelopment/ Restoration		Dismayed that on a recent public tour of de-armored shoreline homes, no examples from Kirkland were used, and was doubtful whether the examples that were used were applicable to Kirkland shoreline property owners.	Either completely removing or softening the portion of Kirkland's shoreline located along private property is unlikely to be accomplished on a grand scale. As a result, the Shoreline Master Plan is designed to be site-specific.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)

1 - NGO = Nongovernmental Organization
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Citizen	3.3; 4.4	Shoreline Regulation	Public access	How is public access being addressed in Shoreline Master Plan? Also, will city require public access through waterfront single-family properties?	City has no intention of requiring or promoting access through single-family neighborhoods. For more information of existing possible future public access sites, refer to Juanita Beach Park Master Plan.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	4.4	Shoreline Regulation	Boating practices	What are the established speed limits within Lake Washington?	King County only limits boating speeds within 100 yards of shoreline. Otherwise, a boat operator allowed to exercise judgment, but must be able to bring a "watercraft to a stop within the assured clear distance ahead."	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	4.4	Shoreline Regulation	Piers and Docks	What new regulations may be developed concerning docks?	City considering requiring consistency with state/federal regulations. Also, would likely allow some flexibility in enforcement.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	3.6	Shoreline Redevelopment/Restoration		Asked whether Lake Washington's historic pre-development condition was considered in the recent Draft Shoreline Master Program Inventory?	Although historic conditions were considered, the present conditions constituted the baseline from which all potential impacts are assessed.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	3.3; 3.6	Shoreline Master Program Process		How do the shoreline inventories specifically related to shoreline habitat restoration and specie health, and what measures were being used to address this issue?	Inventories would serve as indicators for addressing habitat restoration and specie health, particularly as a result of piers, bulkheads, and storm water discharges. City departments will coordinate to address these issues.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	3.6	Shoreline Master Program Process	Best Available Science	Questioned the accuracy and best available science regarding statements in the report.	Some statements based on conjecture removed from the report. Other speculative statements remain since they are supported by best available science.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	3.3; 3.6	Shoreline Master Program Process		What positive changes had occurred since the adoption of the original Shoreline Master Plan? What about future improvements to shoreline ecological conditions?	Text has been added to the document that addresses past positive shoreline changes. Specifically, refer to sections 2.1 and 3.3.1. Future improvements will be addressed in the future Restoration Plan.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Local Gov. (Kirkland)	4.5	Shoreline Regulation		Commented on specific language in Sections 4.2.1 and 4.2.2 regarding land uses and the presence of condominium piers. Also suggested changes to Figure 8.	The specific comments and suggestions had been implemented.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)

Citizen/NGO (SPOCA)	3.3	Shoreline Redevelopment/Restoration	Sedimentation	How is the Shoreline Master Plan addressing sediment flow into Juanita Creek and Juanita Bay?	City has added a section to the Shoreline Master Plan that addresses Juanita Creek: Section 4.2.4.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen/NGO (SPOCA)	3.3	Shoreline Redevelopment/Restoration		What specific opportunities exist for improving the shoreline's ecological functions?	Potential for replacing solid decking with grating on boardwalk over Forbes Creek; in Denny Creek, Also, further discussion of ecological improvements on residential properties. Refer to sections 3.11; 4.3.4; and 4.4.4.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	4.2	Species/Habitat		Expressed concern over maintaining wildlife habitat (especially for birds) in Juanita Bay.	Shoreline wildlife habitat was being addressed in the <i>Final Shoreline Analysis Report</i>	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	4.1	Shoreline Regulation	Piers and Docks	Asked that inhabitants of Lake Washington (e.g. their dwelling is a boat) be allowed to temporarily use boat moorage covers.	Proposed regulations would not permit the use of a boat as a dwelling unit.	<i>Correspondence (8 February 1999)</i>
Citizen	4.3	Shoreline Regulation		Referenced 'Figure 7a' concerning boatlifts	Two additional boatlifts were included in Figure 7a.	Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Citizen	3.2; 3.3; 4.3	Species/Habitat	Invasive Species	Inquired about invasive species along the shoreline. For example, how severe are invasive species?	Referred to the Final Shoreline Analysis Report section 3.10.3 and 4.2.5, where the subject of invasive species is discussed in-depth. Invasive species include water lily and milfoil. However, unsure as to the full extent to which invasive species impact shoreline (but will be addressed in future reports).	Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006); Public Comments provided on the <i>Draft Shoreline Master Program Inventory and Characterization for the City of Kirkland's Lake Washington Shoreline</i> (August 2006)
Local Gov. (Kirkland)	3.8	Shoreline Master Program Process	Public participation	How do we communicate this process to more people, in order to get them involved?	Staff has developed a Public Participation Plan for this project. Staff is continuing to conduct public outreach through various outlets, including list-servs, e-mail, web-sites, notice boards, newspapers, and the City's cable station.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	3.6	Shoreline Master Program Process		Since Port Townsend's Shoreline Master Plan close to completion, has it been analyzed as a comparison?	State Dept. of Ecology official answered: Not yet, but it may inform Kirkland's future process.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	3.7	Shoreline Master Program Process	Public participation	Will the city use advisory committees to help inform the Shoreline Master Program process?	City of Kirkland Senior Planner responded: Because of the restrictive timeline, advisory committees are not feasible. Instead, public meetings will be used as substitutes.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	3.1	Shoreline Permitting		Although most property owners would be open to changes that improve Lake Washington, felt that the permitting process needs to be more conducive toward accommodating residents/property owners.		<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>

Citizen	3.6	Shoreline Research	Storm Water	Are there any studies on storm water runoff (within the Watershed Co. report)?	A representative from the Watershed Co. answered: Storm water runoff is addressed in their report, and will continue to be addressed. However, most storm water-related issues are outside of the Shoreline Master Program's jurisdiction.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	3.1	Shoreline Redevelopment/Restoration/Regulation	Shoreline Stabilization	Property owners should be able to push shoreline portion of their property farther into the Lake as an incentive to remove bulkheads.	To enable shoreline property owners to implement soft shoreline stabilization approaches in Kirkland, the proposed regulations allow placement of fill material for purposes of habitat enhancement waterward of the ordinary high water mark. This will allow property owners who are not able to remove their hard structural stabilization to improve shoreline function, and increases design flexibility for those who can remove their hard structural stabilization.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen/NGO (SPOCA)	3.3	Shoreline Regulation	Shoreline Stabilization	Felt that the city had made many improvements to the shoreline as a result of the Shoreline Management Act. These included a low number of bulkheads (relative to its urban setting) and a high amount of access.	Draft regulations continue practice of requiring public access. Regulations also address construction of new bulkheads, limiting those where possible.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	3.2; 4.6	Species/Habitat		In favor of improving environment for both wildlife and humans. However, emphasis may vary (i.e. favor human activities if sustainable; encourage environmental stewardship).		<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
NGO	3.4	Shoreline Master Program Process		Stated that central goal of the tour was for neighbors to learn from each other.		<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	3.5	Shoreline Regulation	Incentives	Inquired whether any incentive existed for restoring commercial/mixed uses along the shoreline.	City of Kirkland Senior Planner responded: No incentives currently exist, but the idea is being explored.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	3.1	Shoreline Redevelopment/Restoration	Incentives	City could streamline/mitigate permitting process for private property owners by creating local improvement districts and partnering with private owners to Redevelopment large swath of shoreline at once.		<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	2.3; 3.1	Shoreline Pollution/Trash		Concerned over garbage dumped into the Lake by boaters.	Unfortunately, because boaters may come from outside Kirkland, it is a regional issue. However, an effort is needed to educate boaters on this issue.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006) ; Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	3.1	Shoreline Pollution/Trash		Raccoons using nearby storm water pipe		<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen/NGO (SPOCA)	3.3	Shoreline Recreation		Valued the water quality of and access to Lake Washington. Also felt that the City offered particularly good shoreline access.	The update to the SMP contains regulations addressing public access and water quality.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>

Citizen	3.1	Shoreline Regulation		What constitutes the near shore zone?	Generally, the near shore comprises the first 30' of shoreline at a depth of 9'. However, recent research may change these benchmarks.	<i>Kirkland Public Forum: Updating Kirkland's Shoreline Master Plan (18 September, 2006)</i>
Citizen	2.13	Shoreline Master Program Process	Public participation	The city should engage the press, in order to highlight positive changes that have occurred with Kirkland's shoreline.	The City has been sending notification to the local newspapers of public events associated with the SMP update process. There have been several special stories appearing in the Kirkland Reporter about the SMP.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.14	Shoreline Master Program Process		(Regarding the tour component) will the bus tour be videotaped?	City of Kirkland Senior Planner responded: The bus tour will be videotaped, and made available to the public.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.15	Shoreline Master Program Process		How can one give further input after the meeting?	Any additional comments should be made by e-mail, mail, or writing.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.11; 2.12	Shoreline Redevelopment/Restoration		City should be as site-specific as possible when addressing shoreline conditions on private property.		<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Local Gov. (Kirkland)	2.9	Shoreline Regulation		How can the permit process be streamlined for applicants that use the correct approach?	Opportunities exist, but it requires coordination.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.10	Shoreline Regulation	Consistency	Do all Lake Washington cities require the same criteria for permits?	Jurisdictions do have the same permit criteria, and there is an effort to bring these criteria more closely in-line.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen/ Property Owner	1.1	Shoreline Redevelopment/Restoration	Shoreline Stabilization	How much did it cost to Redevelopment and de-armor a double lot located along the shoreline?	The cost was \$ 200,000-250,000. Meeting attendees felt that this was "a very good deal."	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	1.2	Shoreline Redevelopment/Restoration	Shoreline Stabilization	How well did a double-lot along the shoreline that had recently been de-armored survive storm/erosion damage?	Property owner responded: So far no evidence of any weather-related damage.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen/Property Owner	1.3	Shoreline Redevelopment/Restoration	Shoreline Stabilization	Regarding a recently de-armored shoreline property, would the owners have done anything differently (concerning the de-armoring process)?	Only change would have been to orient the fireplace differently	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Federal Gov. (NOAA)	1.4	Shoreline Redevelopment/Restoration	Shoreline Stabilization	Would the owners of a recently de-armored shoreline property have preferred a contiguous beach (than what was built)?	Initially the owners would have preferred a contiguous beach, but this would have required sacrificing trees.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen/NGO (SPOCA)	1.5	Shoreline Redevelopment/Restoration	Shoreline Stabilization	Regarding a recently de-armored shoreline property, how are the environmental benefits of de-armoring a shoreline property quantified?	Tour coordinators answered: The benefits are realized through the increase or restoration of endangered species habitat.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	1.6	Shoreline Redevelopment/Restoration	Shoreline Stabilization	How does one go about planning for shoreline design?	One must decide upfront what the needs and priorities are, and clearly articulate goals.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	1.6	Shoreline Master Program Process	Piers and Docks	How does one avoid being overwhelmed by the extant of decisions required for planning Kirkland's shoreline?	One must decide upfront what the needs and priorities are, and clearly articulate goals.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	1.7	Shoreline Redevelopment/Restoration	Piers and Docks	Should docks be constructed of aluminum (in order to minimize impact)?	Not per se. Rather how the material will impact species habitat should be main concern.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>

Citizen	1.7	Shoreline Redevelopment/Restoration		When importing new soils (as part of shoreline restoration), do the supporting geotextile fabrics prevent sinkholes? Are they muskrat proof?	Usually fabrics are, but they may require an additional metal mesh	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	1.8	Shoreline Redevelopment/Restoration		Does a property owner need permits for property redevelopments below the ordinary high water mark?	Yes, an owner would need to obtain a permit.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	1.9	Shoreline Redevelopment/Restoration	Shoreline Stabilization	Should property owners' use large boulders/stones when redeveloping shoreline property? If so, do they need to obtain a permit for this?	Property owners should always consult with the city first (as some boulder/stones may not be beneficial). Permits would be required.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen/NGO (SPOCA)	1.10	Shoreline Redevelopment/Restoration		(Referring to the tour's overall comments) Why is there so much emphasis on salmon, rather than other species?	The salmon are officially listed as threatened; as such, governments are required to protect them.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	1.11	Species/Habitat	Invasive Species	Do invasive predators (e.g. bass) prefer non-native plant species?	Yes, non-native predators do associate with non-native plants.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.1	Shoreline Research		Regarding shoreline restoration efforts, how much study had gone into offshore areas (of Lake Washington), and its topography, and water depth (as well as the best available science to account for these factors)?	Restoration will likely be constrained by what can be done, and will be informed by other local efforts.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.2	Shoreline Master Program Process		Asked to have the Shoreline Master Program's timeline clarified?	The City is farther along in the process than other Lake Washington jurisdictions.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizens	2.3; 2.4	Species/Habitat	Invasive Species	Milfoil is an issue--there was too much of it and it smelled foul.	Best way to remove it is by pulling it from the roots. Moreover, milfoil removal is addressed in a recent Dept. of Fish and Wildlife publication.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.5	Species/Habitat		A comment was made about the balance between salmon (a native species) and bass and sculpin (non-native)		<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.6	Shoreline Regulation	Incentives	Reduce street setbacks for new homes, so as to keep homes farther away from the shoreline.		<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.6	Shoreline Regulation	Boating practices	Could moorage rates be increased?		<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.6	Shoreline Redevelopment/Restoration	Shoreline Vegetation	Could native trees be planted that support eagles and osprey?		<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.7	Shoreline Recreation	Boating practices	Could boaters could be directed toward the free pump station (at Yarrow Bay)?		<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>
Citizen	2.8	Shoreline Redevelopment/Restoration	Shoreline Stabilization	How can the shoreline be softened (i.e. remove bulkheads)--particularly since most of the shoreline is privately owned?	Cost-effective opportunities exist, such as through official certification courses, which in turn can be used for community outreach/education.	<i>Report on the Tour of Innovative Shoreline Design (30 September 2006)</i>

Shoreline Permit Coordinator and Contractor	4.6	Shoreline Permitting		There are regulations in place to address impacts through both the state and federal processes. It is important that local governments are careful not to impose overly rigid restrictions that force property owners to pursue Shoreline Variances or Conditional Use Permits. Local communities should retain their autonomy while cooperating with state and federal agencies in order to make decisions that best serve their own citizens and do not weaken their responsibility to local interests.		Official correspondence and Houghton Community Council Meeting (February 25, 2008 and May 1, 2008)
Citizen/Shoreline Permit Coordinator and Contractor	4.6, 5.1	Shoreline Permitting		Need to ensure that SMP regulations for overwater structures are flexible, practical and reasonable to enable property owners to meet their needs while exercising responsible stewardship toward the valuable resources of our region.		Official correspondence and Houghton Community Council Meeting (February 25, 2008)
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Shoreline Stabilization	Carefully consider regulations addressing bulkheads. Restoring natural shorelines will not work in all locations and in many cases depending on the water depth at the face of the existing bulkhead a property owner will need to shift their shoreline landward quite a bit, which can impact setback and the amount of impervious area.	Encourage to attend meetings and review draft regulations.	Official correspondence and Houghton Community Council Meeting (February 25, 2008)
Citizen/NGO (SPOCA)	3.6, 5.1	Shoreline Master Program Process	Public participation	Need for public participation. Make property owners understand implications of changes early on in process.	Staff has developed a Public Participation Plan for this project. Staff is continuing to conduct public outreach through various outlets, including list-servs, e-mail, web-sites, notice boards, newspapers, and the City's cable station.	Houghton Community Council Meeting (February 25, 2008)
Citizen	3.6	Shoreline Regulation		Kirkland, as largest property owner along shoreline, has biggest impact and needs to consider how regulations would impact their activities as well as those of private property owners.		Houghton Community Council Meeting (February 25, 2008)
Citizen/NGO (SPOCA)	3.6, 5.1	Shoreline Regulation		Need for clarity and consistency in shoreline regulations.		Houghton Community Council Meeting (February 25, 2008)
Citizen	4.9	Shoreline Recreation		Would like to see more big toys, and other recreational facilities available (e.g. waterslides, diving boards, big inflatable)	Comment forwarded to Parks and Community Services Dept.	Web comment (March 14, 2008)
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Piers and Docks	Kirkland needs to revise regulations to allow for greater height above Ordinary High Water in order to be consistent with state and federal requirements for pier height above the water		Planning Commission Meeting (March 13, 2008)
Citizen	5	Shoreline Goals and Policies		Include language protecting rights of private property owners.	See Goal SMP-5	Planning Commission Meeting (March 13, 2008)
Citizen	5	Shoreline Regulation	Public access	Concerned about public access and pathways along the shoreline. Want to ensure that these are not required for single family lots.	Proposed regulations do not require dedication and development of public access for detached dwelling units.	Planning Commission Meeting (March 13, 2008)
Citizen	5	Shoreline Regulation	Piers and Docks	Concerned that minimum width for docks as required by RGP-3 is too narrow		Planning Commission Meeting (March 13, 2008)
Citizen	5	Shoreline Regulation	Shoreline Stabilization	Concerned that removal of existing bulkheads may adversely impact neighboring properties.	Proposed regulations allow bulkheads to be tied into existing bulkheads on other side to minimize impacts.	Planning Commission Meeting (March 13, 2008)
Citizen	5	Shoreline Regulation	Shoreline Stabilization	Concerned that removal of existing bulkheads will affect lot area.	Proposed regulations permit the applicant to identify the previous location of ordinary high water mark and use the pre-restoration location for purposes of calculating lot coverage and setbacks.	Planning Commission Meeting (March 13, 2008)

Citizen	3.3	Shoreline Goals and Policies	Storm Water	Linking the SMP to the implementation of the City's Surface Water Master Plan provides an opportunity for a systematic comprehensive approach to deal with the pollution impacts of storm water on Lake Washington.	Regulations addressing water quality are contained in the updated SMP. City-wide impacts from Surface Water are addressed through the City's Surface Water Master Plan, as well as through implementation of the NPDES Phase II Municipal Stormwater permit requirements. The jurisdiction of the Shoreline Master Program is limited to areas within 200 feet of the ordinary high water mark and associated wetlands.	Letter (March 24, 2008)
Citizen	3.3	Shoreline Goals and Policies	Shoreline Vegetation	Getting to a position depicted in the shoreline vegetation goal - stumps, root wads, overhanging vegetation, beaches - is not going to happen. A realistic and implementable approach is one that should be identified in this goal.		Letter (March 24, 2008)
Citizen	3.3	Shoreline Goals and Policies	Invasive Species	Change policies to reflect the reality of safe and effective use of herbicides to control invasive weeds.	Proposed regulations would generally prohibit use of herbicides, except where other alternatives are not successful.	Letter (March 24, 2008)
Citizen	3.3	Shoreline Goals and Policies	Shoreline Stabilization	Have not experienced scouring of shoreline area as a result of bulkhead. Policies for retrofitting should incorporate several factors: 1) reasons for their installation, unintended consequences, cost benefit analysis. Need to address practicality of bulkhead retrofitting. Bulkhead removal when meeting specific and well-founded criteria could best be attained when redevelopment occurs with property consolidation and structure knockdowns.		Letter (March 24, 2008)
Citizen	3.3	Shoreline Goals and Policies	Shoreline Stabilization	Appears to be conflict between desire to eliminate bulkheads and provide overhanging vegetation, which is most effectively planted on a bulkhead.		Letter (March 24, 2008)
Citizen	3.3	Shoreline Goals and Policies	Boating practices	Many of the impacts depicted in this policy are either illegal or prohibited.		Letter (March 24, 2008)
Citizen	3.3	Shoreline Goals and Policies	Shoreline Vegetation	Policies addressing shoreline vegetation are not feasible or practicable. Shoreline vegetation will not provide shading on the water because of the direction of the sun. Planting of vegetation would not last due to impact of winter waves and boat wakes. Wildlife will not likely inhabit shoreline because of urban setting of Kirkland, which has human and pet activity.	Section III of memorandum for May 8, 2008 Planning Commission meeting	Letter (April 10 2008)
Citizen	3.3	Shoreline Goals and Policies	Best Available Science	Subjective conclusions appear in a number of policies. Scientific basis for policy recommendations should be referenced so that the Planning Commission, City Council, and the public know if personal viewpoints or scientific basis drive the policies.	Revisions to policies now contain references to scientific studies.	Letter (April 10 2008)
Citizen	3.3	Shoreline Goals and Policies	Shoreline Stabilization	Concern about expectations for shoreline restoration activities. Public should be made ware of the exact description of restoration projects so as to ensure understanding and acceptance of these policies before adoption.	Section III of memorandum for May 8, 2008 Planning Commission meeting	Letter (April 10 2008)
Citizen	3.3	Shoreline Goals and Policies	Invasive Species	Concern about policies addressing control of aquatic noxious weeds. Permitted and controlled use of herbicides has been the only effective method with no adverse environmental impacts as document by soil samples and laboratory tests. Clear and cooler water has resulted and schools of native fish have returned.	Proposed regulations would still permit use of herbicides if other removal techniques are not successful.	Letter (April 10 2008)

Citizen	3.3	Shoreline Goals and Policies		When comparisons are made with other cities, all jurisdictions on Lake Washington should be included for comparison.	Jurisdictions are in different stages of their SMP update process and some have addressed SMP issues in their CAO updates. Staff will try to incorporate as many other pertinent examples as it can.	<i>Letter (April 10 2008)</i>
Citizen	3.3	Shoreline Goals and Policies	Shoreline Stabilization	Examples of bioengineered shoreline stabilization and restoration provided in response to comments in Attachment 16, Enclosure 1 of the May 8, 2008 Planning Commission package are not representative of Kirkland's shoreline. Still believes that removal of bulkheads is not a viable option.		<i>Letter (May 8, 2008)</i>
Citizen	3.3	Shoreline Goals and Policies	Shoreline Vegetation	Geometry of Kirkland's shoreline is such that vegetation does not provide shading.	Section III of memorandum for May 8, 2008 Planning Commission meeting	<i>Letter (May 8, 2008)</i>
Citizen	3.3	Shoreline Goals and Policies	Invasive Species	The impacts of harvesting and cutting milfoil should include that of fragments re-growing and spreading, negating the intended control. Herbicide use has proven to be effectively and safe. Example: 10-year program in Portage Bay which has utilized all known methods of invasive weed control and have found that the use of herbicides under a DOE permit to be the only effective method.	Staff concurs that mechanical means of removal can have impacts and has therefore limited removal of aquatic vegetation in the proposed regulations. Proposed regulations would still permit use of herbicides if other removal techniques are not successful.	<i>Letter (May 8, 2008)</i>
Citizen	3.3	Shoreline Master Program Process	Public Involvement	Public process has not been well attended. Policies will set forth extensive expenditures of public and private money in the coming years as implementation occurs. Urge that city taxpayers and city park users have input on whether they would support the level of expenditures necessary or the changes to City parks contemplated. Urge the public event to provide complete information on the transformation of the shoreline that the policies will dictate, the cost associated with that, and with a depiction of the real environmental benefits. Information should also be provided about the implementation status of the City's Surface Water Master Plan, its estimated costs, and the resulting environmental benefits.	Staff has developed a Public Participation Plan for this project. Staff is continuing to conduct public outreach through various outlets, including list-servs, e-mail, web-sites, notice boards, newspapers, and the City's cable station.	<i>Letter (May 8, 2008)</i>
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Piers and Docks	Advocates that the City not adopt the Regional General Permit 3 guidelines into our regulations for piers and docks. Advocates for a separate process for redevelopment of existing structures to be adopted which allows property owners making improvements without complying with the RGP-3 guidelines. Include a process to evaluate the properties that have existing structures being replaced or modified differently than those who have undeveloped shorelines. Encouraging property owners to decrease the size or modify the configuration of their current structure by proposing a more environmentally pier or bulkhead, even if it does not align with newly proposed structures, will benefit everyone and the environment. Having a single standard and process for everyone will deter many property owners from even considering changes if there are no incentives to respect and recognize their good faith efforts.		<i>Letter (May 1, 2008)</i>
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Best Available Science	Encourage policy makers to research and review the White Papers and scientific studies used to regulate and implement rules and guidelines for piers and bulkheads.		<i>Letter (may 1, 2008)</i>

Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Shoreline Stabilization	It is vital that local councils and commissions review all available information on the push to have waterfront property owners remove and/or replace/repair existing bulkheads with bioengineered solutions. Restoring natural shorelines will not work in all locations and in many cases depending on the water depth at the face of the existing bulkhead a property owner will need to shift their shoreline landward quite a bit. Changes in the location of the Ordinary High Water Mark can impact both the shoreline setback and amount of impervious surface for the parcel and push the upland development into a nonconforming status impacting existing and future development for property owners.	Staff concurs that removal of bulkheads is not a viable solution in all circumstances. The individual site characteristics need to be evaluated in determining the appropriate method of shoreline stabilization.	Letter (May 1, 2008)
Citizen	4.3	Species/Habitat	Invasive Species	Continuing concerns with Eurasian Milfoil. Questions whether there are any plans for City to do anything about this.		On-line comment (May 21, 2008)
Citizen	5.3		Dredging	Requests City dredge Juanita Bay because it is too shallow.	The City has CIP projects to address upstream erosion and sediment along Juanita Creek that is going into Juanita Bay. The Parks Department is addressing water flow at Juanita Beach Park with the City's park master plan. No current plans to dredge the bay.	On-line comment (May 21, 2008)
Citizen	5.4	Shoreline Regulation	Shoreline Stabilization	Should include provisions for property owners to protect their properties from storm damage and/or erosion, as ruled by federal courts. Property owners should be allowed to reduce the wave action in order to protect their property.		E-mail (May 23, 2008)
Citizen	5.4	Shoreline Regulation	Piers and Docks	Inconsistencies between public and private applications in what fish need to be protected and how to do it. Conveyed concerns with previous permitting for dock extension (time, cost, requirements, effectiveness of requirements, etc.)		E-mail (May 23, 2008)
Citizen	5.4	Shoreline Redevelopment/Restoration	Shoreline Vegetation	Restoring vegetation on residential shorelines should not be a requirement and would be inconsistent with residential land use.		E-mail (May 23, 2008)
Citizen	5.4	Shoreline Regulation	Public access	Suggest limiting public access in order to protect shorelines. If access is to be regulated by Kirkland, it should be done to protect the interest of the citizens who live in Kirkland. Public use of the shoreline should require mitigation measures on upland development and multifamily units. Fees should be required for non-residents to help pay for the impacts of people who use regional parks and shoreline facilities.	Proposed regulations allow modification to public access standards if it would impact critical areas. New standards also contain a setback from the ordinary high water mark to provide additional separation from this improvement and the shoreline edge.	E-mail (May 23, 2008)
Citizen	5.5	Shoreline Regulation		Recognize the recreational aspect of the lake. Regulations must provide for the needs of homeowners to allow reasonable installation and repair of bulkheads, docks, and covered moorages without excessive costs and difficulty. Simplify permitting process.		E-mail (May 23, 2008)
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation		Implementing the RGP-3 Guidelines as requirements in a SMP would damage the progress made toward decreasing the size of new and replacement piers and the planting of native vegetation. The RGP "requirements" have been used merely as flexible guidelines by the Corps and the federal services.		E-mail (June 20, 2008)

Shoreline Permit Coordinator and Contractor	4.6	Shoreline Master Program Process		All information on the SMP update process should be easily accessible and readable on all local websites. Spell things out clearly on your government website and do not busy it up with needless reports that people will not read. Place the information in a clear, easy-to-read, honest and understandable format so people know what is going on. Encourage involvement from waterfront property owners and others within the 200 foot shoreline areas.	Staff has developed a Public Participation Plan for this project. Staff is continuing to conduct public outreach through various outlets, including list-servs, e-mail, web-sites, notice boards, newspapers, and the City's cable station.	<i>E-mail (July 2, 2008)</i>
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Piers and Docks	Requests that City rejects adopting the Corps of Engineers RGP-3 guidelines in part or whole into the SMP and allows less restrictive but reasonable and responsible standards for new development and redevelopment of piers, dock and bulkheads. If local governments yield to pressure from DOE to adopt the RGP-3 guidelines as development standards, it may result in people not replacing older, larger piers with smaller and better environmental structures.		<i>E-mail (July 2, 2008)</i>
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Piers and Docks	This is a follow up of ongoing issues regarding the SMP Update process. DOE and Biological Consultants are clearly presenting or at least strongly impressing upon local planning staffs, councils, commissions and meeting attendees that the restrictive RGP-3 "guidelines" as "requirements" to achieve a "no net loss of ecological functions" is a misleading characterization and unattainable goal in the case of new piers and some redevelopment projects. If believed and embraced, this misleading characterization and unattainable goal in the case of new piers and some redevelopment projects may lead local governments on Lakes Washington and Sammamish to place overly restrictive, "everyone fit inside the box" type of regulations or standards in their updated SMP. Even if this position were to apply only to new structures it is problematic. Local governments who adopt the Corps RGP-3 guidelines or any overly restrictive development standards for piers under their SMP will complicate their review process, refer more projects for shoreline variances to DOE that will likely be disapproved, face unnecessary criticism from residents who are impacted by the changes, and cause an undue burden and greatly restrict or take		<i>E-mail (July 31, 2008)</i>
Shoreline Permit Coordinator and Contractor	4.6			completed by UW Keystone Project team. Challenges many of the conclusions drawn by the team as a result of their interviews with permitting agencies, who don't have the level of "working on the street" experience as those heavily involved with the system day in and day out at all levels. The report and the information relayed at the symposium reflect a lack of knowledge and real life experience that a marine permitting agency or contractor has from years of working within the system.		<i>E-mail (August 7, 2008)</i>
Shoreline Permit Coordinator and Contractor	4.6	Shoreline Regulation	Private property owner rights	Forwarded copy of letter concerning shoreline property owners experiences in Bainbridge Island. States that one of the main goals should be to assure that the SMP Updates protect individual property rights (a priority of the legislature) so no property owner has a legal basis to challenge and win subsequently overturning all local government SMP's on which you have worked so diligently.		<i>Letter (August 22, 2008)</i>

Citizen	4.3	Species/Habitat	Invasive Species	Eurasian Milfoil continues to be a problem in Yarrow Bay. When the lake lowers and the Milfoil is cut by power boats, it floats to the surface and is blown to shore by the prevailing winds. This collects on the shore and can promote the growth of algae and other problems including smell as it rots. Is there any plan by the City to try and do anything about this? We are told that communities in the other finger bays have been able to obtain grants to try and rid or reduce the growth of Milfoil. This subject deserves the attention of studies and activities within the Master Program.		<i>On-Line Comment (May 21, 2008)</i>
Shoreline Permit Coordinator and Contractor	4.6			Asks to be notified of when future meetings about SMP development standards are going to be held		<i>E-mail (September 3, 2008)</i>
Citizen	5.4			Expresses concern about the vague terms and expressions being used in the SMP, like "desire", "should seek", and "should encourage". Questions whether waterfront parks provide environmental protection as stated in SMP 1.1. Says that SMP 5, which states "ensure property owner rights are <u>respected</u> ", should instead say "ensure property owner rights are <u>protected</u> ." The language in SMP 1.3 should be strengthened to ensure that docks serving private property remain. The SMP as presented is invasive of property rights, and assumes that public interest is greater than private interest, which is probably constitutionally wrong.		<i>E-mail (September 8, 2008)</i>
Shoreline Permit Coordinator and Contractor	4.6			Forwards address of Bainbridge Shoreline Homeowners website		<i>E-mail (September 8, 2008)</i>
Citizen	3.3	Shoreline Goals and Policies	Cost Benefit	Cost and benefit needs to be studied. Implementation of goals and policies will be costly to the public and private. The City, as largest shoreline property owner, must also finance projects to meet the new regulations even though facing deficits. Shoreline property values would be reduced when purchasers take into account removal of bulkhead, lawn removal and shoreline landscaping costs.		<i>Letter (September 15, 2008)</i>
Citizen	3.3	Shoreline Goals and Policies	Public access	Shoreline landscaping and removal of lawn will alter access and use of parks.		<i>Letter (September 15, 2008)</i>
Citizen	3.3	Shoreline Regulation	Shoreline Stabilization	Shoreline in Market Street Neighborhood has shallow lots and exposure to wind and boat wake that make removal of bulkhead not practical. Shoreline vegetation will not provide shade and will reduce the recreational use of lots. Shoreline erosion is a major concern, including for the City's sewer interceptors. The City's examples of shoreline restoration shown at an earlier open house were in other cities and do not reflect the restricted conditions along Kirkland's shoreline.		<i>Letter (September 15, 2008)</i>
Citizen	3.3	Shoreline Pollution/Trash	Lake Contamination	Stopping contamination of the lake from increased storm runoff is as significant as bulkhead removal for improved shoreline habitat and should be addressed. Shoreline property owners are unfairly targeted while upland sources of pollution are not being addressed.		<i>Letter (September 15, 2008)</i>
Citizen	3.3	Shoreline Goals and Policies	Consistency	City's goals and policies do not reflect State requirement to protect single family homes from damage and loss due to shoreline erosion.		<i>Letter (September 15, 2008)</i>

Citizen	3.3	Shoreline Regulation	Shoreline Stabilization	Regulation requiring removal of bulkhead and re-landscaping shoreline setback back will cause significant financial burden and change to configuration and use of shoreline yard.		<i>Letter (September 15, 2008)</i>
Citizen	3.3	Shoreline Regulation	Invasive Species	Herbicides have been demonstrated to be effective, but would be prohibited under the proposed policies. Washington Toxic Coalition literature against herbicides is misleading. Harvesting milfoil caused increased growth of milfoil.		<i>Letter (September 15, 2008)</i>
Citizen	3.3	Shoreline Regulation	Environmental Designations	Conservancy Environment and Natural Environment apply to Kirkland's urban shoreline.		<i>Letter (September 15, 2008)</i>
Citizen	3.3	Shoreline Master Program Process	Public participation	Shoreline property owners have not been well represented in the SMP process. A workshop should be provided for them along with more time to speak at the public meetings.		<i>Letter (September 15, 2008)</i>
Citizen	5.6		Dredging	Juanita Bay is less than 10 feet deep now allowing sunlight to penetrate to the bottom of the bay and stimulating growth of aquatic plants and noxious weeds. Juanita Bay is turning into a stagnant fish and wildlife zone. What are the plans to remove the sand and gravel and restore water flow and depth for the bay?	The City has CIP projects to address upstream erosion and sediment along Juanita Creek that is going into Juanita Bay. The Parks Department is addressing water flow at Juanita Beach Park with the City's park master plan. No current plans to dredge the bay.	<i>Email (September 18, 2008)</i>

Richard K. Sandaas
12453 Holmes Point Drive
Kirkland, WA 98034
425 823 2145

September 15, 2008

Planning Commission
City of Kirkland
123 Fifth Avenue
Kirkland, WA 98033

Reference: Kirkland's Shoreline Master Program Update

This is the fifth comment letter I have prepared on materials being considered by the Planning Commission in the update process for Kirkland's Shoreline Master Program.

The most recent materials posted on the SMP update web site pose some serious issues for shoreline property owners as well as citizens and taxpayers of Kirkland. Attached are a set of comments on these specific issues.

I am submitting these comments from a perspective as a long time shoreline property owner and as the Chair of the Shoreline Property Owners and Contractors Association, SPOCA, of which membership and supporters include a number of Market Neighborhood and Lake Street South shoreline property owners.

Shoreline property owners have a vital interest in the protection and enhancement of our shorelines and the ecology of our waters. We want to work toward feasible, flexible, and effective goals and policies that can achieve those ends.

Very truly yours,

Richard K. Sandaas
Chair, SPOCA
Shoreline property owner

cc: Planning Department Staff

KIRKLAND SMP UPDATE PROCESS

**COMMENTS FOR
SEPTEMBER 11, 2008 PLANNING COMMISSION MEETING**

Materials have recently been posted on Kirkland's SMP web site in preparation for the September 11, 2008 Planning Commission Meeting, a total of 359 pages. Numerous documents have been released previously including draft Policies and Goals. I have submitted four separate comment letters on these materials beginning in 2006. The comments that follow raise issues that continue to be of concern and have not been addressed or resolved to date.

COST AND BENEFITS

The implementation of these policies and related regulations will trigger millions of dollars of public and private expenditures for shoreline changes including bulkhead removal, lawn removal, extensive landscaping, and pier removal and modifications.

No cost estimates or cost benefit analyses are provided which is contrary to what is stated in Goal SMP-5. This goal, ENSURE PROPERTY RIGHTS ARE RESPECTED states, "...the City should be careful to consider the public and private interests as well as the long term costs and benefits." I have raised this point in all my previous comment letters but to date none of the documents deal with this important issue.

HOW WILL THE CITY'S RESPONSES TO THESE POLICIES AND REGULATIONS BE FINANCED FOR CITY OWNED SHORELINE?

The City of Kirkland is the largest shoreline property owner. These policies and regulations will require extensive shoreline restoration including removing of bulkheads, removal of lawns, installation of shoreline vegetation, and modification of piers. The city is facing deficits in carrying out its existing responsibilities. How will these additional costs be financed?

IMPLEMENTATION OF THESE POLICIES AND REGULATIONS WILL RESTRICT ACCESS AND ALTER USABILITY OF CITY SHORELINE PARKS.

Shoreline landscaping and removal of lawns in city parks will significantly alter the access and use of shoreline parks. Will park users accept these changes and will they support additional taxes to fund them?

Page 2

THERE CONTINUES TO BE A LACK OF RECOGNITION OF THE UNIQUE GEOGRAPHICAL CONDITION OF KIRKLAND'S SHORELINE

The Market Neighborhood and Lake Street South shoreline cannot accommodate these policies and resultant regulations. Shallow lots, exposure to wind waves and boat wakes, and the western exposure will make the intended objectives of bulkhead removal and shoreline restoration impossible to achieve. The available area of shoreline yards will be reduced to a size that would significantly reduce their usefulness for recreation. Shoreline landscaping will not provide shade. Shoreline erosion will become a major concern, reducing land area and threatening the City-owned sewer interceptors along the shoreline.

THE GRAPHIC EXAMPLES DO NOT APPLY TO THE MARKET NEIGHBORHOOD SHORELINE

The Watershed Company has developed a number of graphics showing shoreline vegetation and alternatives to shoreline armoring. The examples show photos of shoreline modifications in Bellevue where the depth of the property far exceeds that of the Market Neighborhood and Lake Street South shoreline and does not experience the exposure to storm waves and boat wakes. This was pointed out at an earlier Planning Commission meeting prior to the June open house. However these graphics were used at that open house which erroneously portrays the applicability of these modifications to the Market Neighborhood shoreline. The Market Neighborhood and Lake Street South shoreline and the shoreline shown in The Watershed Company's graphics are affected very differently by the raising and lowering of Lake Washington each year and the wind wave and boat wake action.

STORMWATER RUNOFF AND NON-POINT POLLUTION ARE THE MAJOR THREATS TO WATER QUALITY AND SHORELINE HABITAT.

The WRIA8 strategy states: ..."softening or removal of bulkheads is the most important action to improve shoreline habitat". This is incorrect. Storm water runoff and non-point pollution are the major threats and should be addressed as the highest priority. SMP 15-2 states ..."Lake Washington is considered at risk from chemical contamination from hydrocarbon input from the urbanized watershed." Significantly greater impervious surfaces are a result of the higher densities coming out of the Growth Management Act. Where one home formerly existed now several are built on the same lot. This has occurred in many locations in the upland Market Neighborhood and their runoff discharges into Juanita

Page 3

Bay wetlands. Two examples of these developments are found half a block up the hill from Forbes Creek Drive on Market Street. Additionally,

the recent decision by the State Pollution Control Board to require Low Impact Development techniques puts a much higher priority on dealing with this issue.

THE POLICIES AND GOALS DO NOT REFLECT THE REQUIREMENTS OF RCW 90.58.100 FOR INSURING AGAINST UNNECESSARY HARDSHIPS OR FOR PROTECTION OF SINGLE FAMILY RESIDENCES.

RCW 90.58.100 states the following:

(1)(h)(5) Each master program shall contain provisions...to ensure that strict implementation of a program will not create unnecessary hardships.

(1)(h)(6) Each master program shall contain standards governing the protection of single family residences and appurtenant structures against damage or loss due to shoreline erosion.

The policies and goals leading to the revised SMP do not reflect these requirements.

THE “SIGNIFICANT REDEVELOPMENT TRIGGER” COULD RESULT IN REQUIRING SHORELINE RESTORATION AS A CONDITION FOR ALL BUILDING PERMITS FOR UPLAND DEVELOPMENT.

These policies call for bulkhead removal with a permit application constituting 50% of the replacement cost of the upland development. Minor additions are also mentioned as a trigger. Additional requirements are lawn removal and installation of shoreline landscaping on half of the shore side yard. Not only does this impose a significant financial burden on the homeowner, it also radically changes the configuration and use of the shore side yard.

THE REDUCTION OF LAND ASSESSMENTS THROUGH THE PUBLIC BENEFIT RATING SYSTEM AS AN INCENTIVE IS QUESTIONABLE.

A financial incentive through the use of the PBRS is questionable. None of the 20 qualifying resources appear to be relevant to Kirkland’s urban shoreline. The intent of this system is for open space resources and the shoreline designations are either “conservancy environment” or “natural environments”, neither of which apply to Kirkland’s urban shoreline.

Page 4

THESE POLICIES AND REGULATIONS HAVE THE POTENTIAL FOR REDUCING SHORELINE PROPERTY VALUE.

When facing \$100,000 and more in costs for bulkhead removal, lawn removal, and shoreline landscaping as a requirement for an upland building permit, a

purchaser would likely factor that into a reduced purchase offer. An additional discount could come from the reduced usability of the shore side yard and from the potential impacts from erosion.

SHORELINE PROPERTY OWNERS ARE BEING UNFAIRLY TARGETED IN THESE POLICIES.

Storm water runoff and pollution from upland sources are not being addressed as compared to the restrictions placed on shoreline owners. Upland impacts are far greater in aggregate.

THE POLICIES PROHIBIT HERBICIDE TREATMENT OF AQUATIC NOXIOUS WEEDS.

Despite demonstrated effectiveness, herbicide treatment is prohibited in these policies (pages 29 and 30). They call for proof that no reasonable alternative exists, despite documentation of various treatments attempted in Portage Bay over the last ten years. Kirkland would require a vegetation and management plan and an extensive and expensive bureaucratic process precedent to allowing herbicide treatment. This policy is apparently based on emotional reaction by uninformed public comments, not a scientific basis, as evidenced by the statement, “some people may have strong feelings against using chemicals in water”.

THE WASHINGTON TOXICS COALITION PAMPHLET (ATTACHMENT 24) IS MISLEADING AND ERRONEOUS

The Washington Toxics Coalition (WTC) was unsuccessful in its appeal of the Department of Ecology’s permitting of herbicide control of invasive aquatic plants. WTC provided no scientific basis to support their appeal. This pamphlet continues that approach. Its graphics show three stacks emitting smoke and next to it a person in a moonsuit holding a spraying device. The text then goes on to confuse pesticides with herbicides. All this in their effort to discredit the permitted use of herbicides. WTC presents no solution to the problem, they only propose more discussion to find options. The options are well known. Many options such as

Page 5

harvesting cause increased growth of milfoil. The DOE permitted herbicide applications are known to be effective and safe.

THE PUBLIC INVOLVEMENT APPROACH LACKS PARTICIPATION BY SHORELINE PROPERTY OWNERS AND THE TIME LIMITS THWART PUBLIC TESTIMONY.

Shoreline property owners have not been well represented in the SMP process to date. Those who have been involved have been trumped by the interests of others. The resulting policies, goals and other documents do not reflect a concern for property rights. As written, they will impose significant burdens on shoreline property owners. An extra effort should be made to hold a workshop for Kirkland shoreline property owners with an in-depth explanation of the policies and regulations. Next a follow up meeting should be held for responses and comments, unconstrained by time limits for testimony.

The facilitated public meetings using the "Post-It Process" has not provided a forum for public testimony nor has the three minute time limit imposed by the Planning Commission.

Prepared by:
Richard K. Sandaas
12453 Holmes Point Drive
Kirkland, WA 98034
September 15, 2008

From: Daved [mailto:Daved@waterfrontconstruction.com]
Sent: Thursday, September 18, 2008 11:09 AM
To: Stacy Clauson
Subject: RE: Notice of Planning Commission Meeting - City of Kirkland Shoreline Master Program Update

Thanks Stacy,

The most important thing is that the city does not forbid new, replacement or major and minor repair to bulkheads outright. If there is a single family residence on the property they are categorically exempt under the WAC if it can be proven it is needed for protection. It is also important to understand that not every property qualifies for bulkhead removal and no one can remove an existing bulkhead without causing problems for neighboring bulkheads. Property owners must be allowed to keep or replace bulkheads at each end in order to avoid erosion. We do a lot of this by installing coves and upland rockeries in the middle of the property. The deeper the water at the face of the bulkhead the less likely it can be replaced. It is also important that nearshore fill be allowed up to the OHWL (21.80') so the OHWL is not shifted landward resulting in decreased land area which could trigger other problems with the residence including but not limited to Maximum Impervious Surface.

Making people pay to have a geotechnical engineer conduct a survey to allow them to retain, replace, or repair an existing bulkhead seems very extreme although it may be unavoidable. If property owners were to have local, state or federal regulators evaluate whether or not it is needed it is more than likely they would make it more difficult. A geotechnical report will most likely require borings to evaluate soils and predict erosion rates and could cost 3K to 5K. If people do provide a geotechnical report that supports a bulkhead it is vital that it be accepted and supported. For new bulkheads, maybe an experienced planner could make the call on erosion problems at a site but that would be a hit or miss depending on the planner's qualifications.

None of these issues are as cut and dry as they are being presented by the state and feds. There is a lot of controversial and conflicting information out there on bulkheads and whether or not they have the substantial impact on fish that agencies would like everyone to think.

Thanks,
Dave Douglas

Teresa Swan

From: WWassmer@aol.com
Sent: Thursday, September 18, 2008 9:17 AM
To: Teresa Swan
Subject: Shoeline Master Plan - Juanita Bay
Follow Up Flag: Follow up
Flag Status: Red

Ms Teresa Swan

I have read the October 9th meeting schedule and the three part Master Shoreline report on line but I do not see anything about the increased shoaling in Juanita Bay and the Juanita Bay Beach Park.

The entire Juanita Bay is now less than 10 feet deep all the way across from north to south (you can walk across the bay in winter when Lake Washington water level is lowered). This is allowing sunlight to penetrate to the bottom of the bay and stimulating the growth of aquatic plants and noxious weeds are turning Juanita Bay into a stagnant fish and wildlife DEAD ZONE. Sunlight does not reach the bottom in over 15 feet of water. We are now looking at acres of raised bay bottom that is perfect for growing aquatic plants.

Over the last 15 to 20 years there has been continual development up Juanita Creek (in King County) and the sediment, sand, and mud from that development has been washing into the Juanita Bay basin Spring, Summer, Fall and Winter for over 2 decades...

What are the plans to remove the sand and gravel from the bottom of Juanita Bay and the Juanita Creek Basin that these developments have been allowed to wash into Juanita Beach Park and Juanita Bay? They are never mentioned in the reports?

What is the plan to restore Juanita Bay to its historic depths so that fish and wildlife are not swimming in a choked off stagnant arm of Lake Washington?

I fail to see where, in any of these prepared reports this problem is addressed? What is the BIG picture of Juanita Bay water quality?

As I recall the levels of fecal chloroform are exceeded every summer for the past 10 to 15 years closing the Juanita Beach Park to public swimming in August and or September and the swamp like conditions are continually expanding in Juanita Bay making the bay an unusable shallow, mud pit.

Just looking at the shoreline from when the original walk around dock (promenade) around the Juanita Beach Park swimming area was build you can accurately measure the amount of sand and mud that has been added just to the Juanita Beach Park shoreline! I would estimate it is a good 100 feet of added sediment.

What are the plans for resorting water flow and depth and water quality for Juanita Bay? When will this be addressed?

Bill Wassmer
206-898-2999
9025 N. E. Juanita Drive
Kirkland, WA 98034
Resident since 1989

Psssst...Have you heard the news? [There's a new fashion blog, plus the latest fall trends and hair styles at StyleList.com.](#)

Teresa Swan

From: WWassmer@aol.com
Sent: Thursday, September 25, 2008 8:12 AM
To: Teresa Swan
Subject: Shoreline Master Plan - Juanita Bay Sediment

Dear Ms. Swan

Thank you for the return email and the copies of pages 34 and 35 of the City's Final Shoreline Analysis Report section 4.2.4

I am in a 100% in agreement with you that KING COUNTY allowed all of the upstream development that allowed all this sediment to enter Juanita Creek and be washed down into Juanita Bay.

Maybe the City of Kirkland should formally hold KING COUNTY responsible with the threat of a lawsuit against KING COUNTY and ask for cash or in kind labor/equipment reimbursement to the City of Kirkland so the City could get the entire job done.

I have copied the six bullet points of the report with regards to Juanita Bay sedimentation below:

- "dredge the delta to a depth of 3-5 feet;
- dredge up fine sediment at the beach;
- implement maintenance dredging at delta to remove sediment every few years;
- remove the planking on the piers to allow natural sediment movement in the bay;
- implement sediment detention and removal in the creek basin to reduce sediment load into the lake; [and]
- reduce sources of sediment into the basin."

Successful management of the sedimentation problem will require implementation of several of the remedies. However, the potential short-term effects of the various in-lake sediment removal options need to be evaluated before action is taken. Funding is not yet available to implement the first four elements of the *Juanita Beach Park Master Plan*. The City of Kirkland has several projects planned for 2007 in its Capital Improvement Program that address the last two bullets.

Please take note that the first three bullet points all contain the word DREDGE.....

No amount of Master Shoreline Plan rules for home owners along Juanita Bay is going to fix the current sedimentation in Juanita Bay.

The complete choking of water flow in Juanita Bay with over grown aquatic plants is allowing predators of juvenile salmon fry to be eaten immediately upon entering Juanita Bay after hatching and leaving Juanita Creek. It is being directly caused by the shallow bay bottom that allows sunlight to reach the bottom and milfoil and other noxious weeds are overgrown on the bottom of the bay. The report attempts to suggest that changes to the decking of the Juanita Beach Park Boardwalk will fix this is just plain foolish.

We are talking about acres and acres of sediment here that has substantially changed the entire character of Juanita Bay's water fowl, fish and water flow.

Here is an idea....In January and February of every year (just 4 or 5 months away) the Army Corps of Engineers drops the water level of the Lake Washington to its lowest level of the year. Why not use this lowered level as an opportunity?

Here is an idea.....Use bulldozers backing into the lake and pushing up the sedimentation onto the shore of the Juanita Beach Park beach and then using City of Kirkland dump trucks or better yet KING COUNTY equipment to remove the sediment that has been pushed up on the shore in a much cheaper fix then trying to get a complete dredge operation going.

Doing this every January and/or February would cause a low point to be established near the Juanita Beach Park beach and the sedimentation in the bay would naturally flow to fill that low point every Spring and Fall storm season. Over the period of several years tons and tons of sedimentation could be removed from Juanita Bay with NO formal dredging. Problem solved at 25% of the cost.

Just how does the City of Kirkland plan on getting the Juanita Bay sedimentation removed and restoring Juanita Bay to its historic depths before KING COUNTY started giving out building and development permits? Is there any plan?

If this is a major problem why is it not addressed in the Shoreline Master Program? This is going to have to be fixed in the near future and how to fix this sedimentation must be a written part of any Shoreline Master Program. Otherwise the fecal chloroform and pollution will only build with the coming years and Juanita Bay will turn into a weed filled swamp.

Bill Wassmer
9025 N. E. Juanita Drive
Kirkland, WA 98034

In a message dated 9/22/2008 4:12:06 P.M. Eastern Daylight Time, TSwan@ci.kirkland.wa.us writes:

Hello Mr. Wassmer:

Thank you for your email and your involvement in the Shoreline Master Program update. The City agrees with your concerns about water quality and the fish habitat in Juanita Bay.

Attached are pages 34 and 35 of the City's **Final Shoreline Analysis Report**, dated December 1, 2006 that contains a discussion about sedimentation in Juanita Bay. The entire report is available on the City's website in the Planning Department page under updates to codes and plans, Shoreline Master Program update.

As explained in the report, the City has planned projects to do improvements along Juanita Creek to reduce erosion from going into Juanita Creek. For more information about these projects, contact Noel Schoneman in the Public Works Department at 425-587-3870.

In addition, the City is in the process of preparing a Surface Water Master Plan to address the overall

condition of the City's drainage basins, including storm water runoff and erosion. Questions on this master plan can be addressed to Jenny Gaus in Public Works at 425-587-3850.

However, from what I understand much of the sediment going into Juanita Bay is coming from development in King County.

Teresa Sollitto in the Parks Department can give you information about the Juanita Beach Park Master Plan that involves improvement to water flow at the beach. Teresa can be reached at 425-587-3312.

At this time, the City does not plan to dredge Juanita Bay.

Let me know if I can be of any further assistance.

Teresa Swan
Senior Planner
(425) 587-3258 Fax (425) 587-3232
tswan@ci.kirkland.wa.us
City of Kirkland
123-5th Ave
Kirkland, WA 98033



Please don't print this e-mail unless you really need to. Reduce, Reuse, Recycle.

From: WWassmer@aol.com [mailto:WWassmer@aol.com]
Sent: Thursday, September 18, 2008 9:17 AM
To: Teresa Swan
Subject: Shoeline Master Plan - Juanita Bay

Ms Teresa Swan

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Bill Wassmer

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Teresa Swan

From: Barry Powell [bjpow6@gte.net]
Sent: Friday, September 26, 2008 3:34 PM
To: Teresa Swan
Subject: Shoreline Management Master Guidelines for Kirkland Waterfront

Dear Teresa:

I own the waterfront properties located at 191 and 195 Lake Avenue West in Kirkland, just north of the downtown area. I am concerned about the potential negative effect that the proposed new Shoreline Master guidelines might have on our waterfront properties and on other parcels on our street as well.

Each of our parcels has a home improvement on it. Both were built before 1965, and the 195 parcel, our home, is actually within 10 feet of the water's edge. Both properties have substantial rock bulkheads protecting them on the water's edge.

There were virtually no restrictions upon how close a home could be built near the water's edge back in the 1950s and 1960s.

From what I understand, the proposed new Shoreline guidelines that the City of Kirkland would follow would require deeper setbacks for new construction, and that for new construction or remodeling of an existing home that the existing rock bulkheads be removed.

I feel that these new stringent restrictions would be unfair for the following reasons:

1. These improvements have been in place for many years, and therefore should be protected under the doctrine of vested rights.
2. Requiring the removal of existing improvements with any new remodeling or structure modification would constitute a taking of our property without just compensation.
3. The existing rockeries are now the home of marine wildlife, which are provided a safe haven and shelter from the elements and predators. For example we have a family of lake otters currently living in our rockeries. Removing the rockeries would destroy their marine habitat.
4. The existing rockeries provide protection from soil erosion from the many winter storms that churn up large waves that pound our shores. Without them, we would lose a substantial amount of our shoreline to the water, analogous to what would happen in the Netherlands if their dikes were removed.
5. Like a number of waterfront lots on Lake Avenue, our lot depth is not great--- our home at 195 Lake Avenue West, for example, is only 76 feet deep on our north side, and 90 feet deep on the south side. Requiring a new home on the lot to be set back nearer the street would leave relatively little room left to build a decent sized home. That limitation would severely diminish the value of the subject properties.

For these reasons, special consideration should be given to lakefront properties in Kirkland such as ours. The proposed new Shoreline guidelines should not be applied blindly without due regard to the topography, lot size, and existing improvements that are already in place there. There should be some form of vesting as to these existing improvements for those that have already built there. Rules as to new construction should not be so stringent as to severely limit new homes that might in the future be built there. In fact, many new large homes have been built on our street in the last few years that are much larger than the ones that we currently have. Everyone should have a right to be treated fairly and equally in this regard.

Respectfully submitted,
Barry Powell

Richard K. Sandaas
12453 Holmes Point Drive
Kirkland, WA 98034
425 823 2145

September 26, 2008

Mr. Paul Stewart
City of Kirkland
123 Fifth Avenue
Kirkland WA 98033

Reference: Kirkland's Shoreline Master Program Update

Dear Paul:

Mark Nelson and I appreciate the opportunity to meet last Monday with you, Teresa Swan and Stacy Clauson, and Amy Myers and Dan Nickel of the Watershed Company.

Here is a summary of some key points:

- *Long term costs and benefits should be identified and considered*
- *The City should be careful to consider the public and private interests*

We discussed these points only briefly and urge that costs and benefits be fully examined, described, and quantified in future work products. Currently they are only mentioned, but not elaborated on, in Goal SMP-5: Ensure that private property rights are respected.

- *The SMP updates should contain provisions to insure that strict implementation will not create unnecessary hardships.*
- *The SMP updates shall contain standards governing the protection of single family residences and appurtenant structures against damage or loss due to shoreline erosion.*

These are stated in RCW 90.58.100. The approaches beginning on page 22 of the September 11, 2008 materials should reflect these statutory requirements.

Page 2

- *Identify unintended consequences and strategies to avoid or mitigate them*

Bulkhead replacement is a major component of the work to date. Unintended consequences could include erosion jeopardizing or damaging sewer lines and structures. Other issues may exist as well. A comprehensive technical review should be conducted to identify issues and determine their impacts

- *Bulkhead removal and redevelopment requirements, native plant requirements, and limitation on lawn areas need clarity. The “trigger” for their implementation should be reexamined.*

These requirements are found in Approaches 1, 2, and 3 on pages 22 and 23 of the September 11, 2008 materials. As written it would result in significant reduction of shoreline yards as well as their function and use by the property owner. The Staff Discussion and Recommendation under Approach 1 accurately states: “It should be noted that shoreline property owners will likely be concerned about this approach, due to potential costs, concerns about beach erosion and structure safety, and City-imposed requirements to remove existing features on the property.” The key to this concern is what is truly envisioned and what the “trigger” is.

At our meeting we learned that the intent would be to allow fill in the water to provide for a less extensive intrusion by a sloping beach. Also it was explained that the vegetation requirement was not as extensive as the 50% requirement described in Approach 2 under Staff Discussion and Recommendation. These approaches need to be revised to provide a clear understanding of their intent and outcome.

The consultants provided information on bulkhead removal projects and locations. Since the meeting I have toured the sites where these have been installed. Two are located in Juanita Bay and were constructed this summer. It would be very instructive to monitor these during the upcoming winter months to see how they perform, particularly if the fill remains in place.

Up to this point it has been my understanding that the intent for requiring bulkhead removal would be upon new development or significant redevelopment and would constitute subdivision or consolidation of properties, or removal and replacement of structures. The “trigger” of 50% of the replacement cost of the original upland

development as stated in these Approaches would have a far different impact and needs to be reexamined because it does not meet the original intent. “Minor modifications” are also mentioned as a trigger which clearly is not consistent with the original intent.

We also discussed City owned shoreline parks and the impacts these requirements would have, both in function as well as cost. Clear descriptions of changes to shoreline parks, implementation triggers, and cost should be provided.

- *Viable incentives should be provided*

Possible incentives are mentioned in Approaches 8, 9, and 11. Approach 8 outlines coupling reduced setbacks with the removal of bulkheads and installation of native plants. This should be examined to determine whether it meets planning objectives and consistency within a neighborhood. Adjacent structures could be significantly impacted by visual intrusion due to reduced setbacks.

All permit reviews should be as efficient and straight forward as possible and the special treatment Approach 9 describes is counter to that.

The Public Benefit Rating System has been identified in Approach 11 as an incentive in providing a reduction in land assessments. This program is intended for open space classification and identifies twenty open space resources for accumulating points leading to a property tax reduction. It appears that only number 19, Urban Open Space, could be relevant. However the enrolling area must be at least one half acre to qualify. The shallow lots along the shoreline vary at about 100 feet in depth meaning that the shoreline frontage would need to be in excess of 200 feet to meet the qualifying area. Few, if any, properties are of this configuration. There are additional questions as to whether the footprint of structures could be included in the qualifying area. The viability of the PBRS as an incentive needs to be examined further.

- *Private property owners must be more involved in the SMP update process*

In spite of the efforts made by the City to date, knowledge of the process and involvement of private property owners has been minimal. An extra effort should be made to convey the key points and impacts on these owners. We stand ready to assist in making that happen.

Page 4

- *Invasive Aquatic Weeds*

Invasive weeds do not recognize political jurisdictions or property parcels and a piecemeal approach in their control and eradication is not realistic. The most logical approach seems to be to have the Department of Ecology establish and manage an effective program.

Thank you for the opportunity to meet. We look forward to a continuing dialogue as the update processes continues.

Very truly yours

Richard K. Sandaas

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