City of Kenmore

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City of Kenmore
Planning Commission Meeting Agenda

Tuesday, December 18, 2018 @ 7:00 p.m.
Kenmore City Hall
18120 68th Ave. NE, Kenmore, WA 98028

If you have any questions or to confirm agenda items prior to the meeting, or if you require special accommodations, please call Bridgit Baker at 425-398-8900. You may also stop by City Hall at 18120 68th Avenue NE, Kenmore. Planning Commission agendas are also available on our website at www.kenmorewa.gov.

1. **CALL TO ORDER**

2. **CITIZEN COMMENTS**

3. **APPROVAL OF MINUTES**

   November 20, 2018 Planning Commission Meeting Minutes

4. **AGENDA ITEMS**

   Critical Areas & Shoreline Master Program Amendments Memo
   Attachment 1 - Part 3 Shoreline Edits
   Attachment 2 - Map of Recommended Shoreline Setbacks-Samm River
   Attachment 3 - Follow-up Info and Recommendations
   For Your Information - Groundwater Susceptiblity Memo - Final

5. **ADJOURNMENT**

6. **UPCOMING MEETINGS:**
   January 15, 2019, 7:00 p.m.
   January 29, 2019, 7:00 p.m.

City of Kenmore
Planning Commission Meeting
November 20, 2018 @ 7:00 p.m.

Planning Commission Members – In Attendance

Douglas Nugent, Chair
Mark Ohrenschall, Vice Chair
Carol Baker
Scott McDonald
Mike Mulcare
Dennis Olson

Consultants & Staff

Debbie Bent, Community Development Director
Lauri Anderson, Senior Planner
Bridgit Baker, Administrative Assistant
Amy Summe, Shannon & Wilson
Bill Laprade, Shannon & Wilson

1. CALL TO ORDER

The meeting was called to order by Chair Nugent at 7:02 p.m.

2. CITIZEN COMMENTS

No citizens rendered comment.

3. AGENDA ITEMS

Lauri Anderson explained the agenda is a continuation of the critical areas and shoreline amendments review. The first amendments are revisions to frequently flooded and flood hazard area regulations which consolidate 2 existing chapters (16.90 and 18.55). The Planning Commission had no objections or additional questions on the regulations.

The second set of proposed amendments address groundwater regulations. Previously the Planning Commission had asked that a map for groundwater susceptibility (groundwater contamination) be developed, however, the map is still being drafted. The Planning Commission had no additional comments or concerns.

The third proposed amendments address the Comprehensive Plan Shoreline Sub-element. Some highlights in these proposed amendments consist of revisions to the urban conservancy environment, public trails information, eliminating excessive regulatory text and clearly making heavy manufacturing/industrial uses prohibited. The Planning Commission had no additional comments or concerns.

The fourth set of proposed amendments are the first sections of the shoreline regulations. Most of the changes pertain to definitions. Commissioner Mulcare suggested adding “launch” where docks, ramps and floats are defined. The Planning Commission had no objections to this addition. Commissioner Olson raised a concern about the standards of live-aboards only in marinas vs private docks. The Planning Commission would like staff to look at other city tolerances for live-aboards outside of marinas.

The City Council’s responses to changing the Planning Commission standards are as follows: amend the representation section to include demographic representation; do not impose term limits; impose a time restriction for service as the Chair; and confirm that only Kenmore residents are eligible to serve.

4. ADJOURNMENT

Chair Nugent adjourned the meeting at 8:26 p.m.

_____
Planning Commission
Approved by Planning Commission on: _____

18120 68TH AVENUE NE
KENMORE, WASHINGTON 98028

MEMO

TO: Planning Commission

FROM: Debbie Bent, Community Development Director
Lauri Anderson, Senior Planner LWA

DATE: December 12, 2018

SUBJECT: Critical Areas and Shoreline Master Program Amendments

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The agenda for your December 18 discussion on the critical areas and Shoreline Master Program amendments is focused on two items: (1) the third and last set of shoreline regulations and (2) follow-up information, including answers to questions and some revised recommendations.

Significant sections in the draft shoreline regulations (see Attachment 1) address buffers and building setbacks. Attachment 2 shows the general extent of the revised buffers recommended for the Sammamish River.

Attachment 3 is a compilation to date of questions, issues and revised recommendations resulting from previous discussions with the Commission and others.

Staff recommends that you review these amendments and discuss concerns "by exception." If you have questions prior to the meeting, please don't hesitate to contact us.

Attachments
Attachment 1: Third set of shoreline regulation amendments
Attachment 2: Map of recommended shoreline setbacks – Sammamish River
Attachment 3: Follow-up information and revised recommendations

ATTACHMENT 1

Title 16
~~ENVIRONMENT~~SHORELINE MANAGEMENT

Chapters:

16.60 Vegetation Conservation in Buffers (Revised from 12/04/18 packet)

16.65 Shoreline Density and Dimensions

16.68 Signs

16.70 Subdivisions

16.75 Procedures

Chapter 16.60

VEGETATION CONSERVATION IN BUFFERS

Sections:

16.60.010 Vegetation conservation areas.

~~**16.60.020 Vegetation management within critical areas.**~~

~~**16.60.030 Vegetation management within Lake Washington shoreline buffers.**~~

16.60.010 Vegetation conservation areas.

A. *Shoreline buffers* shall be considered vegetation conservation areas in which existing native vegetation is retained, except in the following circumstances:

1. The activity is part of a permitted shoreline *restoration* or enhancement project;

2. The activity is an allowed *water-dependent* or *water-enjoyment use* or modification;

3. The activity implements a *public access* or recreation maintenance plan; or

4. The vegetation removal is otherwise specifically allowed under Chapter 16.50, 16.55, or 18.55 KMC.

Vegetation clearing shall occur only in the minimum shoreline area that is necessary to support the permitted use and shall be mitigated. ~~unless removal is specifically allowed in this chapter or it can be~~

~~demonstrated that another management approach would provide equal or better protection for shoreline ecological processes and functions.~~ Nonnative vegetation may be retained unless otherwise required to be replaced as part of an enhancement associated with *development* or expansion of *development* on the property.

B. The vegetation management standards established in KMC Chapter 18.55 for *critical areas* and their buffers shall apply within all shorelines.

C~~B~~. Retention of forest communities along stream and river channels provides shade and a source of woody debris to the aquatic habitat. Only~~Native and nonnative~~ trees determined by the City to be hazardous or diseased may be removed, unless authorized under subsection A of this section. Selective pruning for safety and view protection is allowed, provided pruning is conducted in a manner that minimizes harm to the health of the trees being pruned.

D~~C~~. Nonnative vegetation may be removed as part of a *restoration* or enhancement project if replacement plantings will provide greater benefit to shoreline ecological processes than would be provided by strict application of this chapter.

E~~D~~. Landscaping plans for *shoreline buffers* associated with shoreline *development* regulated under the shoreline code must be prepared by a landscape architect or certified professional wetland scientist. Landscaping plans are not required for normal maintenance, including maintenance of existing nonconforming landscaping that complies with KMC 16.75.050.

F~~E~~. Landscaping plans for *shoreline buffers* should avoid adverse impacts on existing public views of the shoreline.

G~~F~~. Vegetation management in *shorelines* shall be consistent with the requirements for *grading* permits under Chapter 15.25 KMC. If there is a conflict between this chapter and Chapter 15.25 KMC, the more restrictive standards shall apply.

H~~G~~. When considering compensatory habitat enhancement as mitigation for impacts from new structures, such as when a reduced buffer or a non-*water-dependent use* is requested, the enhancement should:

1. B~~b~~e proportional to the degree of impact of the new structure on shoreline *ecological functions*~~,~~;
2. ~~and t~~Take into account the degree to which the existing buffer has already been compromised~~.~~;

3. Offset changes in surface water runoff rates and water quality (such as through increased impervious area), habitat structure (such as loss or alteration of vegetation), and habitat quality (such as from lighting, noise or activities) that are a result of the project; and

4. ~~Enhancement should f~~Focus on restoring *ecological functions* that are most critical and that have been most diminished in the Kenmore shoreline.

~~In approving any compensatory habitat enhancement plan, the director shall consider the changes in surface water runoff rates and water quality (such as through increased impervious area), habitat structure (such as loss or alteration of vegetation), and habitat quality (such as from lighting, noise, or activities) that the project would cause.~~ Enhancements ~~should generally focus on offsetting these impacts but~~ may also focus on restoring other critical *ecological functions* in the shoreline that have been lost or diminished over time (such as placement of large woody debris in water or restoring shallow water habitat) at a sub-basin or watershed scale. The ~~director~~*city manager* may determine whether an enhancement that provides a broader ecological benefit may be substituted for one that would offset the impacts of an individual project.

The ~~director~~*city manager* may deny a request to allow intrusion into a buffer or for *development* of a non-*water-dependent use* if the enhancement proposed does not fully mitigate the impacts of the project or provide a sufficient broader benefit.

~~16.60.020 Vegetation management within critical areas.~~

~~A. Vegetation management standards established in KMC 18.55.150(A)(5), 18.55.320(F)(5) and (6), 18.55.520(A)(2)(d) and (G), 18.55.530 and 18.55.650(A)(5) for *critical areas* and their buffers shall apply within all *shorelines*.~~

~~B. Vegetation management standards established in KMC 18.55.420 for streams and their buffers shall apply within Sammamish River and Swamp Creek shorelines. In addition to provisions for recreational uses in KMC 16.65.020 allowing limited modifications to critical area buffers for the purposes of public access improvements, the following standards shall apply in shorelines:~~

~~1. In Swamp Creek Park, public access trails may be located within critical areas and required buffers, when planned along with a habitat restoration project and it is demonstrated that the ecological functions of the overall standard stream buffer area would be substantially improved. Trails in Swamp Creek Park roughly paralleling the shoreline of the Sammamish River or Swamp Creek shall generally be located at least 50 feet from the ordinary high water mark, but trails may extend closer to the water if necessary to reduce impacts on critical areas or adjacent properties, or~~

access a pedestrian bridge across Swamp Creek. Spur trails may be extended to the water's edge but such access areas should be limited in order to protect ecological functions of the stream buffer and wetlands.

2. When public access is being provided as a part of mixed use development allowed in the Urban Conservancy Environment under KMC 16.50.030(B)(2)(a)(2), the director may allow public access trail development within the buffer in order to link with adjacent shoreline access, provided any new trail is farther from the shoreline than the waterward extent of existing development on the site and the proposed trail plan is accompanied by a plan demonstrating that the ecological functions of the overall required buffer area on a project site would be substantially improved. [Ord. 12-0334 § 3 (Exh. 1).]

16.60.030 Vegetation management within Lake Washington shoreline buffers.

A. Vegetation removal within lake *shoreline buffers* is prohibited in the Shoreline Residential, Urban Conservancy, and Natural Shoreline Environments along Lake Washington unless the activity is part of a shoreline *restoration* or enhancement project or the vegetation removal is otherwise specifically allowed under Chapter 16.50 or 16.55 KMC.

B. Vegetation clearing for permitted water-dependent uses is allowed in the Downtown Waterfront Environment. Such vegetation clearing must occur only in the minimum shoreline area that is necessary to support the permitted water-dependent use.

Chapter 16.65

SHORELINE DENSITY AND DIMENSIONS

Sections:

16.65.010 Interpretation of shoreline density and dimensions table.

16.65.020 Shoreline density and dimensions table and development conditions.

16.65.010 Interpretation of shoreline density and dimensions table.

A. The shoreline density and dimensions table in KMC 16.65.020.A establishes the shoreline standards within each of the *shoreline environments*. The *shoreline environment* is located on the vertical column and the density and dimensions standard is located on the horizontal row of the table. The table should be interpreted as follows:

~~1. If the cell is marked with a "Z" in the box at the intersection of the column and the row, the shoreline does not impose a specific buffer requirement on that use, although the standards for the underlying zoning apply. In some cases, no standard is provided because the use is prohibited under Chapter 16.50 KMC.~~

~~2~~1. If the cell has a number in the box at the intersection of the column and the row, that number is the density or dimension standard for that *shoreline environment*.

~~3~~2. If the cell has a parenthetical number in the box at the intersection of the column and the row, that parenthetical number identifies specific conditions listed in KMC 16.65.020(B) that are related to the density and dimension standard for that environment.

B. The density and dimensions enumerated in this section apply to any lot within the shoreline jurisdiction. If there is a conflict between the density and dimension standards in this section and the underlying zoning regulations, the more restrictive standard shall apply.

~~C. For development in critical areas and critical area buffers, the applicable provisions of Chapter 18.55 KMC apply unless a specific exception is provided in the shoreline code.~~

~~1. Because Lake Washington, the Sammamish River, and Swamp Creek are all fish and wildlife habitats of importance, a habitat management plan is required for any in-water or overwater development or activity, per KMC 18.55.520.~~

~~2. Within the shoreline jurisdiction, the required acreage replacement ratios for wetlands shall be as follows:~~

~~**Wetland Mitigation Ratios**~~

~~**Category and Type of Wetland**~~	~~**Creation or Reestablishment (C/R)**~~	~~**Creation (C) or Reestablishment (R) plus Enhancement (E)**~~	~~**Enhancement (E) Only**~~
~~Class 1~~	~~3:1~~	~~1:1 C/R plus 6:1 E~~	~~Not Allowed~~
~~Class 1 (Mature Forested)~~	~~6:1~~	~~1:1 C/R plus 20:1 E~~	~~Not Allowed~~
~~Class 2~~	~~2:1~~	~~1:1 C/R plus 4:1 E~~	~~Not Allowed~~
~~Class 3~~	~~1.5:1~~	~~1:1 C/R plus 2:1 E~~	~~6:1~~

16.65.020 Shoreline density and dimensions table and development conditions.

A. Shoreline Density and Dimensions Table.

Shoreline Density and Dimensions Table

	DOWNTOWN WATERFRONT	SHORELINE RESIDENTIAL	URBAN CONSERVANCY	NATURAL	AQUATIC
Standards					
Shoreline Buffers from OHWM on Lake Washington					
Residential development[1] Single-family Other	 NA 50 ft	 25 ft 75 ft	 115 ft 115 ft	 150 ft NA	--
Water-oriented parks and outdoor recreational facilities	(3)	(3)	(3)	(3)	--
Non-*water-oriented* parks and outdoor recreational facilities	50 ft (1)	75 ft	100 ft	150 ft	--
Other *water-oriented uses*	20 ft	100 ft	150 ft	150 ft	--
All other non-*water-oriented uses*	50 ft (1)	150 ft	150 ft	150 ft	--
~~Water-dependent commercial development~~	~~20 ft (1)~~	~~Z~~	~~115 ft (1)~~	~~Z~~	~~0~~
~~Water-related commercial development~~	~~20 ft (1)~~	~~Z~~	~~115 ft (1)~~	~~Z~~	~~0~~
~~Non-water-dependent and non-water-related commercial development~~	~~50 ft (1)~~	~~Z~~	~~150 ft~~	~~Z~~	~~Z~~
~~Government services~~	~~20 ft (6)~~	~~20 ft (6)~~	~~20 ft (6)~~	~~20 ft (6)~~	~~0~~
~~Single-family residential development~~	~~Z~~	~~25 ft (2)~~	~~115 ft (2)~~	~~150 ft (2)~~	~~Z~~
~~Multifamily residential development~~	~~50 ft~~	~~75 ft~~	~~115 ft~~	~~Z~~	~~Z~~
~~Water-dependent and water-related manufacturing and industrial use~~	~~20 ft (1) (3)~~	~~Z~~	~~115 ft (1) (3)~~	~~Z~~	~~0~~

Shoreline Density and Dimensions Table

	DOWNTOWN WATERFRONT	SHORELINE RESIDENTIAL	URBAN CONSERVANCY	NATURAL	AQUATIC
~~Non-water-related manufacturing and industrial use~~	~~50 ft~~	~~Z~~	~~Z~~	~~Z~~	~~Z~~
~~Parks and recreation~~	~~50 ft (4)~~	~~75 ft (4)~~	~~115 ft (4)~~	~~115 ft (4)~~	~~0~~
~~Accessory surface parking~~	~~100 ft~~	~~100 ft~~	~~115 ft~~	~~150 ft~~	~~0~~
~~Utilities and regional land uses~~	~~50 ft (5)~~	~~75 ft (5)~~	~~115 ft (5)~~	~~115 ft (5)~~	~~Z~~
Shoreline Buffers from OHWM on the Sammamish River					
Residential development[1]	75 ft	Reach[2]: B1 - 150 ft B2 - 100 ft B3 - (4) B4 - 15	150 ft	150 ft	--
Water-oriented parks and outdoor recreational facilities	(3)	(3)	(3)	(3)	--
Non-*water-oriented* parks and outdoor recreational facilities	100 ft	75 ft	100 ft	150 ft	--
Other *water-oriented uses*	75 ft	50 ft	100 ft	150 ft	--
All other non-*water-oriented uses*	100 ft	150 ft	150 ft	150 ft	--
Shoreline Buffers from OHWM on Swamp Creek					
Residential development[1]	NA	50 ft	150 ft	150 ft	--
Water-oriented parks and outdoor recreational facilities	NA	(3)	(3)	(3)	--
Non-*water-oriented* parks and outdoor recreational facilities	NA	75 ft	100 ft	150 ft	--
Other *water-oriented uses*	NA	50 ft	100 ft	150 ft	--
All other non-*water-oriented uses*	NA	150 ft	150 ft	150 ft	--

Shoreline Density and Dimensions Table

	DOWNTOWN WATERFRONT	SHORELINE RESIDENTIAL	URBAN CONSERVANCY	NATURAL	AQUATIC
Building Setback from the Shoreline Buffer					
~~Single-family uses~~All uses	15 ft (2)	~~25~~15 ft (2)	15 ft (2)	15 ft (2)	~~Z~~ –
~~All uses except single-family uses~~	~~15 ft~~	~~15 ft~~	~~15 ft~~	~~15 ft~~	~~Z~~
Building Height					
Base *height*	35 ft	35 ft	35 ft	30 ft	35 ft
Additional *height* allowed when permitted in underlying zoning	Yes (~~5~~7)	Yes (~~5~~7)	Yes (~~5~~7)	No	No

[1]Residential development means community residential facility, family child-care home, manufactured housing community, multiple-family dwelling, single detached dwelling unit, supportive living facility, and temporary lodging.

[2]Sammamish River reaches are shown on Map 1, Shoreline Environment Designations.

B. Development Conditions (Footnotes to Shoreline Density and Dimensions Table in Subsection A of This Section).

~~1. New *water-dependent uses* may be allowed within a *shoreline buffer* only if impacts are mitigated consistent with the requirements in KMC 18.55.190 through 18.55.220, 18.55.330 and 18.55.430 such that there is *no net loss* of shoreline ecological processes or functions.~~

1. The buffer associated with *water-oriented uses* may be applied to *non-water-oriented uses* ~~director may allow non-*water-dependent uses* within the *shoreline buffer*~~ along the inner harbor portion of the Downtown Waterfront area at the northeast end of Lake Washington, only if:

a. The uses are developed in conjunction with a *public access* promenade adjacent to the water; and

b. The uses do not interfere with *public access* or preclude the use of the shoreline for *water-dependent uses*; and

c. Mitigation is provided consistent with the requirements in KMC 18.55.190 through 18.55.220, 18.55.330 and 18.55.430 such that there is *no net loss* of shoreline ecological processes or functions.

2. ~~Single-family residential development shall provide buffers and b~~Building setbacks ~~as follows:~~

~~a. On Lake Washington in Shoreline Residential areas:~~,

~~(1) A minimum *shoreline buffer* of 25 feet from the *ordinary high water mark* shall be provided as a vegetation conservation area.~~

~~(2) T~~the minimum building setback of ~~25 feet from the *shoreline buffer*~~ may be reduced to five feet if vegetation in the required buffer is reestablished or enhanced, according to the standards in KMC 16.60.010(~~G~~H).

~~b. On Lake Washington in Urban Conservancy areas:~~

~~(1) A minimum buffer of 115 feet from the *ordinary high water mark* shall be provided as a vegetation conservation area.~~

~~(2) A minimum building setback of 15 feet from the *shoreline buffer* shall be provided.~~

~~c. On Lake Washington in Natural areas:~~

~~(1) A minimum buffer of 150 feet from the *ordinary high water mark* shall be provided as a vegetation conservation area.~~

~~(2) A minimum building setback of 15 feet from the *shoreline buffer* shall be provided.~~

~~d. On all other *shorelines*, single-family development shall provide a buffer as required by the provisions of Chapter 18.55 KMC. Buffers may be reduced to the specified minimum setbacks in this table only if the reduced buffers are allowed by the provisions of Chapter 18.55 KMC.~~

~~3. Outdoor storage for *water-dependent* manufacturing and industrial uses must be at least 20 feet from the *ordinary high water mark* in the Downtown Waterfront Environment and is prohibited in all other environments.~~

3. Public trails in *critical areas* and buffers are specifically addressed in Chapter 18.55 KMC. In recognition of the existing conditions of current and planned City shoreline parks and public or private outdoor recreational facilities, the following standards shall guide new development and

4.

redevelopment of *water-oriented* park and outdoor recreational facilities in lieu of shoreline buffers. Applicants shall submit a plan that addresses compliance with each of the following applicable standards and principles. The City may review and condition the project to more fully implement the principles below:~~New *public access* improvements shall comply with the requirements of Chapter 18.55 KMC; provided,~~

a. ~~that new *public access* improvements may be allowed within *critical areas*, or shoreline or *critical area* buffers, if~~ New or expanded *water-oriented* development shall follow mitigation sequencing to protect existing riparian areas and other critical areas. Unavoidable impacts ~~are~~shall be mitigated consistent with the requirements in KMC 18.55.190 through 18.55.220, 18.55.330 and 18.55.430 such that there is *no net loss* of shoreline ecological processes or functions.~~, and the public access improvements meet the following standards:~~

~~a. In order to encourage public access improvements and improved shoreline habitat in the Downtown Waterfront shoreline, a public access trail may be located within the stream buffer required in KMC 18.55.420, when accompanied by a plan demonstrating that the ecological functions of the overall required buffer area on a project site would be substantially improved. Trails paralleling the shoreline of the Sammamish River in the Downtown Waterfront Environment shall be located at least 50 feet from the ordinary high water mark. Spur trails may be extended to the water's edge but such access areas should be limited in order to protect ecological functions of the buffer.~~

b. To the extent feasible, non-*water-oriented* park and outdoor recreational uses and modifications should be upland of *water-oriented uses* and modifications.

c. New or expanded pollution-generating impervious surfaces within 50 feet of the ordinary high-water mark or within already disturbed areas shall be limited to those necessary to provide vehicle access to boat launches, to improve existing informal parking areas, to expand existing parking, or to provide ADA parking. Such impervious surfaces must provide water quality treatment consistent with the City's adopted Surface Water Design Manual. All parking should be located as far from the ordinary high-water mark as feasible.

d. New and expanded park and outdoor recreational uses in shoreline jurisdiction shall avoid tree and shrub removal. Necessary tree removal shall be mitigated at a 2:1 ratio, with an emphasis on use of native conifers placed to maximize ecological benefits to the shoreline waterbody.~~, and the public access improvements meet the following standards:~~

e. A vegetation management strategy for any allowed uses in shoreline jurisdiction shall be developed that incorporates a site-specific plan for use of integrated pest management techniques, if applicable, identifying anticipated use of fertilizers, herbicides and pesticides. The strategy shall include methods of application that ensure that these materials will not enter the water.

~~b. In order to allow for a waterfront promenade area along the inner harbor area of the Downtown Waterfront Environment, *public access* improvements may extend to the water's edge when accompanied by a plan demonstrating that the *ecological functions* of the overall required buffer area on a project site would be substantially improved.~~

4. The shoreline buffer for residential development in the area designated on Map 1, Shoreline Environment Designations, as Reach B-3 shall be as follows:

a. On lots with an average depth of less than 100 feet measured upland from the *ordinary high-water mark*, the buffer shall be 25 feet.

b. On lots with an average depth of greater than 100 feet measured upland from the *ordinary high-water mark*, the buffer shall be the lesser of 50 feet or 30 percent of the average lot depth.

~~5. Underground utilities are allowed in the *shoreline buffer*.~~

~~6. Only water-dependent government service uses are allowed and such uses may require *development* in the buffer. If, through mitigation sequencing per KMC 18.55.210, impacts to the buffer are found to be unavoidable, the buffer may be reduced, provided there is *no net loss* of *ecological functions*.~~

~~7~~5. Additional *height* may be permitted in the Downtown Waterfront, Shoreline Residential and Urban Conservancy environments under the following conditions:

a. The structures would not obstruct the view of a substantial number of residences; and

b. The structures are located in an area designated on Map 1, Shoreline Environment Designations (attached to Ord. 12-0334 as Exhibit 2, and incorporated by reference), as allowing these additional *heights*; and

c. The structure *height* complies with the allowable *height* of the underlying zone and the following additional *height* limits within the shoreline; and

d. The additional *height* of the structures would not impair the *ecological functions* of the stream, lake, wetland, or the required buffer. In particular, the effects of shading and light impacts on the viability of vegetation in the buffer shall be considered when making this determination; and

e. ~~Be~~The structures are outside of the *floodway* in effect at the time of permit application; and

f. The structures would ~~N~~not be within a wetland or wetland buffer as regulated by Chapter 18.55 KMC.

Additional Height Allowances

Distance from Structure to Ordinary High Water Mark	**Maximum Height Allowed Area H-1**	**Maximum Height Allowed Area H-2**	**Maximum Height Allowed Areas H-3 and H-4**
Less than 50 feet	35 feet	35 feet	35 feet
50 to 100 feet	50 feet	45 feet	35 feet
100 to 112.5 feet	50 feet	75 feet	35 feet
112.5 to 200 feet	50 feet	75 feet	65 feet

The burden to demonstrate that the proposal meets the criteria of this section is on the *applicant*. The ~~director~~*city manager* may require technical studies as necessary to demonstrate compliance.

C. Additional Shoreline Buffer Standards.

1. New *water-dependent uses* may be allowed within a *shoreline buffer* ~~only~~ if the use is allowed per KMC 16.50.020 and if impacts are mitigated consistent with the requirements in KMC ~~18.55.190 through~~ 18.55.220, 18.55.330 ~~and~~ 18.55.430Chapter 18.55 such that there is *no net loss* of shoreline ecological processes or functions.

2. Underground utilities are allowed in the *shoreline buffer*.

Chapter 16.68

SIGNS

Sections:

16.65.010 Signs in the shoreline.

16.65.010 Signs in the shoreline.

Signs may be permitted subject to the provisions of the underlying zoning and provided:

A. *Signs* shall not be erected nor painted on trees, rocks or other natural features.

B. Glare from artificial lighting of *signs* shall be shielded or directed away from adjacent properties and the water.

C. *Signs* waterward of the *ordinary high-water mark* adjacent to the Downtown Waterfront Environment shall be permitted only to the extent necessary for the operation of a permitted *water-dependent use*, provided no such *sign* shall be larger than five square feet.

D. In the Shoreline Residential, Urban Conservancy and Natural Environments, *signs* are not allowed except for *signs* of not more than nine square feet within public parks or trails.

E. *Signs* to protect public safety or prevent trespass may be allowed and should be limited in size and number to the maximum extent practical.

Chapter 16.70

SUBDIVISIONS

Sections:

16.70.010 Subdivisions.

16.70.010 Subdivisions.

A. Any legally created, existing lot that does not comply with the density and dimensions standards of Chapter 16.65 KMC and KMC Title 18 and that is located wholly or partially within the *shorelines of the State* shall be subject to the following provisions:

1. If the adjoining property is not under the same ownership as such lot, then the lot shall be considered a separate building site; and

2. If the adjoining property is under the same ownership as such lot, then the lot shall not be considered a separate building site until the lot is combined with adjoining property under the same ownership in such a way as to comply with the density and dimensions standards of Chapter 16.65 KMC and KMC Title 18.

B. Submerged land within the boundaries of any waterfront parcel shall not be used to compute lot area, lot dimensions, yards, recreation space or other similar required conditions of land subdivision or development, except, where specifically authorized by ordinance, such lands may be used in area computations as an incentive to encourage common open space waterfront areas.

C. All newly created lots wholly or partially within the shoreline shall be of uniform size and dimension, whenever possible.

D. Subdivision of more than four lots shall provide an improved and maintained pedestrian easement to the shoreline that is of sufficient width to ensure usable *public access*. The *public access* to the shoreline shall be in conformance with the standards in KMC 16.50.060.

E. Subdivisions should be designed to locate structures outside the shoreline jurisdiction whenever *feasible*. When lots are located within the shoreline jurisdiction, the size and shape of the lots should allow for the construction of residential units that are outside of required buffers and setbacks and that do not require *shoreline stabilization*.

F. Subdivision of a waterfront lot for the purposes of creating a lot for a non-*water-dependent use* that would not otherwise be allowed is prohibited.

Chapter 16.75

PROCEDURES

Sections:

16.75.003 Interpretation

16.75.005 Additional administrative procedures.

16.75.010 Substantial development – Permit required – Exemption.

16.75.015 Developments not requiring shoreline permits or local reviews

16.75.020 Permits – Prerequisite to other permits.

16.75.025 Permits – Reasonable accommodation.
16.75.030 Permits – Variance.
16.75.040 Permits – Conditional use.
16.75.050 Alteration or reconstruction of nonconforming use or development.
16.75.060 Permits – Combined hearing authority.
16.75.070 Permits – Approval or disapproval – Notification – Additional conditions – Limitations.
16.75.080 Appeals.
16.75.090 Rules of ~~director~~*city manager*.
16.75.100 Enforcement.
16.75.110 Shoreline environment redesignation.
16.75.120 Redesignation applications.
16.75.130 Redesignation initiated by motion.
16.75.140 Frequency of consideration of shoreline redesignations.
16.75.150 Shoreline redesignation and site-specific land use map amendment or zone reclassification.
16.75.160 Criteria for hearing examiner review.

16.75.003 Interpretation.

The *city manager* shall make administrative interpretations of this *Shoreline Master Program* and the Shoreline Management Act in accordance with Chapter 18.10 KMC. The *city manager* shall consult with the Washington State Department of Ecology to ensure that any formal written interpretations are consistent with the purpose and intent of RCW Chapter 90.58 and WAC 173-26.

16.75.005 Additional administrative procedures.

In addition to the requirements of Chapter 19.25 KMC, the following administrative procedures apply to *development* in the shoreline jurisdiction.

16.75.010 Substantial development – Permit required – Exemption.

A. No *development* shall be undertaken by any person within the shoreline jurisdiction unless such *development* is consistent with the policies of RCW 90.58.020 and the *Shoreline Master Program*. *Development* within the shoreline jurisdiction shall conform to the *Shoreline Master Program* whether or not the *development* requires a permit from the City of Kenmore.

B. A *substantial development* permit shall be required for all proposed uses and modifications unless the proposal is specifically exempt from the definition of *substantial development* in RCW 90.58.030 and WAC 173-27-040 or is exempted by RCW 90.58.140~~.~~, WAC 173-27-044 or WAC 173-27-045.

C. Any person claiming exception from the permit requirements of this chapter as a result of the exemptions described in subsection B of this section may be required to submit an application to the ~~director~~*city manager* for such an exemption in the manner prescribed by the ~~director~~*city manager*. A person requesting an exemption shall provide a written statement of exemption for activities that are exempt from the *substantial development* permit requirement in subsection B of this section when:

1. WAC 173-27-0~~5~~40 applies; or

2. The activity will occur waterward of the *ordinary high-water mark*.

D. Whether or not a written statement of exemption under WAC 173-27-050 is required, all permits and approvals issued for *development* activities within the shoreline jurisdiction shall include a record of review indicating compliance with the City of Kenmore *Shoreline Master Program*.

E. Conditions of approval may be attached to the approval of *substantial development* permits, statements of exemptions, or exempted developments as necessary to ensure consistency of the project with the City of Kenmore *Shoreline Master Program*.

16.75.015 - Developments not requiring shoreline permits or local reviews

A. Requirements to obtain a substantial development permit, conditional use permit, variance, letter of exemption, or other review to implement the Shoreline Management Act do not apply to the following:

1. Remedial actions. Pursuant to RCW 90.58.355, any person conducting a remedial action at a facility pursuant to a consent decree, order, or agreed order issued pursuant to chapter 70.105D RCW, or to the department of ecology when it conducts a remedial action under chapter 70.105D RCW.

2. Boatyard improvements to meet NPDES permit requirements. Pursuant to RCW 90.58.355, any person installing site improvements for storm water treatment in an existing boatyard facility to meet requirements of a national pollutant discharge elimination system storm water general permit.

3. WSDOT facility maintenance and safety improvements. Pursuant to RCW 90.58.356, Washington State Department of Transportation projects and activities meeting the conditions of RCW 90.58.356

are not required to obtain a substantial development permit, conditional use permit, variance, letter of exemption, or other local review.

4. Projects consistent with an environmental excellence program agreement pursuant to RCW 90.58.045.

5. Projects authorized through the Energy Facility Site Evaluation Council process, pursuant to chapter 80.50 RCW.

16.75.020 Permits – Prerequisite to other permits.

In the case of *development* subject to the permit requirements of this title, Kenmore shall not issue any other permit for such *development* until such time as approval has been granted pursuant to this title. Any *development* subsequently authorized by Kenmore shall be subject to the same terms and conditions which apply to the *development* authorized pursuant to this title, in addition to any other terms or conditions required for the subsequent authorization.

16.75.025 Permits – Reasonable accommodation.

The Federal Fair Housing Act requires that reasonable accommodations be made in rules, policies, practices, or services, when such accommodations may be necessary to afford handicapped people equal opportunity to use and enjoy a dwelling. The ~~director~~*city manager* is therefore authorized to make accommodations in the provisions of this title as applied to dwellings occupied or to be occupied by handicapped persons as defined in the Federal Fair Housing Act, when the ~~director~~*city manager* determines that such accommodations reasonably may be necessary in order to comply with such Act.

16.75.030 Permits – Variance.

A. The ~~director~~*city manager* is authorized to grant a variance from the performance standards of the City of Kenmore *Shoreline Master Program* only under the conditions enumerated in WAC 173-27-170 (Review Criteria for Variance Permits) and using the procedures outlined in KMC 19.25. Shoreline variance permits are also subject to review and approval by the Washington Department of Ecology (RCW 90.58.140(10)). The purpose of a variance permit is limited to granting relief from development standards set forth in the City of Kenmore *Shoreline Master Program* where there are extraordinary circumstances relating to the physical character or configuration of property such that the strict implementation of the City of Kenmore *Shoreline Master Program* will impose unnecessary hardships on the *applicant* or thwart the policies set forth in RCW 90.58.020.

B. A variance from City zoning code requirements shall not be construed to mean a variance from the City of Kenmore *Shoreline Master Program* use or development regulations and vice versa.

C. Shoreline variances may not be used to permit a use that is specifically prohibited in Chapter 16.50 KMC.

D. The burden of proving that a proposed variance meets the requirements of subsections A through C of this section shall be on the *applicant*; absence of such proof shall be grounds for denial of the application.

E. The fee which shall accompany an application for a shoreline variance shall be as adopted by resolution.

16.75.040 Permits – Conditional use.

A. The ~~director~~*city manager* is authorized to issue shoreline conditional use permits only under the conditions enumerated in RCW 90.58.140 and 90.58.143 and WAC 173-27-160 and using the procedures outlined in KMC 19.25. Conditional use permits are also subject to review and approval by the Washington Department of Ecology (RCW 90.58.140(10)).

B. The burden of proving that a proposed shoreline conditional use meets the criteria enumerated in WAC 173-27-160 shall be on the *applicant*. Absence of such proof shall be grounds for denial of the application; provided, however, that the ~~director~~*city manager* is authorized to determine and impose, on a case-by-case basis, those conditions and standards which may be required to enable any proposed shoreline conditional use to satisfy the criteria established in WAC 173-27-160.

16.75.050 Alteration or reconstruction of nonconforming use or development.

A. The review of applications for the modification of a *nonconforming use* or *development* shall be subject to the regulations enumerated in KMC 18.100.020 through 18.100.060, and 18.100.080 through 18.100.087, except that a nonconforming *bulkhead* may be replaced with a new *bulkhead*; provided, that:

1. The reconstructed *bulkhead* does not create new dry land; and

2. At least 40 percent of the *bulkhead* is replaced with a pocket cove or beach; and

3. The proposed reconstruction would substantially reduce the impacts of the existing structure on shoreline *ecological functions*; and

4. The project would not cause adverse impacts on adjacent shoreline uses.

B. Existing legal uses as defined under KMC 18.20.965 are considered existing legal uses within the shoreline jurisdiction.

C. Expansion of a *nonconforming use* or structure may be approved through the provisions of KMC 16.75.040 when the *applicant* demonstrates the following:

1. The project would substantially reduce the impacts of the existing use or structure on shoreline *ecological functions*; and

2. The proposed expansion would not cause adverse impacts on adjacent shoreline uses.

3. For a *nonconforming structure* located on land, any waterward expansion of the structure into the required setback would be offset by removal of another *nonconforming structure* of equal or greater footprint area in the shoreline setback, and the shoreline setback area would be restored with native riparian vegetation.

D. Expansion of a nonconforming *dock* or *pier* may be allowed by the ~~director~~*city manager* when the *applicant* demonstrates the following:

1. The existing nonconformance results from noncompliance with the standards in KMC 16.55.050(B)~~(6), (B)(8), (B)(9) or (B)(15)~~; and

2. The proposed expansion meets all other applicable standards in KMC 16.55.050; and

3. The proposed expansion would not increase the ~~existing~~ overwater coverage of the *dock* or *pier* to more than the existing condition or ~~by~~above the limits established in KMC 16.55.050(B)~~(8)~~, whichever is greater; and

4. The project would reduce the impacts of the existing *dock* or *pier* on critical fish habitat as demonstrated through the habitat management plan for the *development*; and

5. The proposed expansion would not cause adverse impacts on adjacent shoreline uses.

16.75.060 Permits – Combined hearing authority.

A. In those cases when proposed *development* under the jurisdiction of this title also requires a Type 3 or Type 4 decision and a public hearing before the hearing examiner is required, the *department* shall issue a recommendation on the proposal, and the examiner shall conduct a public hearing to receive evidence relating to the issuance of a *substantial development* permit or exemption therefrom, a shoreline management conditional use permit and/or a shoreline management variance, if applicable.

B. The examiner shall conduct the hearing in accordance with the provisions of Chapter 19.30 KMC and shall exercise the powers therein.

C. The decision of the examiner shall be the decision of the ~~director~~*city manager* and shall be the final decision of the City with regard to shoreline management.

16.75.070 Permits – Approval or disapproval – Notification – Additional conditions – Limitations.

A. In granting or extending a permit, the ~~director~~*city manager* may attach thereto conditions, modifications, or restrictions regarding the location, character and other features of the proposed *development* and related development and activity outside of the shoreline as necessary to make the permit compatible with the criteria set forth in KMC 16.05.030 and 16.75.010. Such conditions may include a requirement to post a performance bond assuring compliance with permit requirements, terms and conditions.

B. Issuance of a *substantial development* permit does not constitute approval pursuant to any other federal, State or City laws or regulations.

16.75.080 Appeals.

A. Appeals from the final decision of the City with regard to shoreline management shall be governed solely by the provisions of RCW 90.58.180, which shall prevail over any conflicting appeal procedures set forth in Chapter 19.25 KMC.

B. After all local permit decisions are complete and the permit documents are amended to incorporate any resulting changes, the *city manager* shall mail the permit using return receipt requested mail to the Department of Ecology regional office and the Office of the Attorney General. Projects that require both conditional use permits and or variances shall be mailed simultaneously with any substantial development permits for the project.

1. The permit and documentation of the final local decision will be mailed together with the complete permit application; a findings and conclusions letter; a permit data form (cover sheet); and applicable SEPA documents.

2. Consistent with RCW 90.58.140(6), the state's Shorelines Hearings Board twenty-one day appeal period starts with the date of filing, which is defined below:

a. For projects that only require a substantial development permit (SDP): the date that Ecology receives the city decision.

b. For a conditional use permit (CUP) or variance: the date that Ecology's decision on the CUP or variance is transmitted to the applicant and city.

c. For SDPs simultaneously mailed with a CUP or variance to Ecology: the date that Ecology's decision on the CUP or variance is transmitted to the applicant and the city.

~~B~~C. The effective date of the City's decision shall be the date of ~~receipt~~filing with the Department of Ecology as defined in RCW 90.58.140.

~~C~~D. When a hearing and decision have occurred pursuant to KMC 16.75.060 and the examiner's recommendation with regard to disposition of a proposed *development* pursuant to KMC Titles 18 and 19 requires city council action, the final decision of the City pursuant to this title shall be effective on the date of ~~receipt~~filing as defined in RCW 90.58.140 for the purposes of appeal as provided in RCW 90.50.140. However, no *development* may occur until the city council has taken final action on the examiner's recommendation required by KMC Titles 18 and/or 19.

16.75.090 Rules of ~~director~~city manager.

The ~~director~~*city manager* is authorized to adopt such rules as are necessary and appropriate to implement this chapter. The ~~director~~*city manager* may prepare and require the use of such forms as are necessary to its administration.

16.75.100 Enforcement.

A. The ~~director~~*city manager* is authorized to enforce the provisions of this title, the ordinances and resolutions codified in it, and any rules and regulations promulgated thereunder pursuant to the enforcement and penalty provisions of Chapter 1.20 KMC.

~~B. Any person found to have willfully engaged in activities on the *shorelines of the State* in violation of this title or Chapter 90.58 RCW or in violation of the Kenmore *Shoreline Master Program*, or rules or regulations adopted pursuant thereto, is guilty of a gross misdemeanor, and shall be punished by a fine of not less than $25.00 nor more than $1,000, or by imprisonment for not more than 90 days, or by both fines and imprisonment; provided, that the fine for the third and all subsequent violations in any five-year period shall be not less than $500.00 nor more than $10,000.~~

~~C~~B. The ~~director~~*city manager* shall bring such injunctive, declaratory, or other actions as are necessary to ensure that no uses are made of the *shorelines of the State* in conflict with the provisions of this title or

Chapter 90.58 RCW or in conflict with the *Shoreline Master Program*, or rules or regulations adopted pursuant thereto, and to otherwise enforce the provisions of this chapter and Chapter 90.58 RCW.

~~D~~C. Any person subject to the regulatory provisions of this title who violates any provision of this title or the provisions of a permit issued pursuant thereto shall be liable for all damage to public or private property arising from such violation, including the cost of restoring the affected area, within a reasonable time, to its condition prior to such violation. The ~~director~~*city manager* shall bring suit for damages under this subsection on behalf of the City. Private persons shall have the right to bring suit for damages under this subsection on their own behalf and on behalf of all persons similarly situated. The court on its discretion may award attorney's fees and costs of the suit to the prevailing party.

16.75.110 Shoreline environment redesignation.

A. *Shoreline environments* designated by the *Shoreline Master Program* may be redesignated by the city council upon finding that such a *redesignation* will be consistent with the standards in KMC 16.75.160 and the requirements of WAC 173-26-100 and 173-26-110. A shoreline *redesignation* may be initiated by an *applicant* or by motion of the city council and requires Department of Ecology approval.

B. A *redesignation* initiated by an *applicant* shall be made on forms and processed in a manner prescribed in KMC 16.75.120. A *redesignation* initiated by the city council shall follow the process in KMC 16.75.130.

C. The fee which shall accompany an application for a shoreline *redesignation* shall be as adopted by resolution.

~~D. The departmental report and recommendation regarding an application for a site specific *redesignation* initiated by council motion shall be forwarded to the hearing examiner for consideration together with all relevant testimony at a public hearing to be held consistent with the procedures for a zone reclassification as provided in Chapter 19.30 KMC.~~

16.75.120 Redesignation applications.

A. A *redesignation* initiated by an *applicant*, as described in KMC 16.75.110(B), must follow the procedures in Chapters 19.25 and 19.30 KMC for *shorelines redesignations* and must include the following information in addition to the requirements in Chapter 19.25 KMC:

1. *Applicant* information, including signature, telephone number and address;

2. The *applicant*'s interest in the property, such as owner, buyer or consultant;

3. Property owner concurrence, including signature, telephone number and address;

4. A property description, including parcel number, property street address and nearest cross street;

5. A county assessor's map outlining the subject property;

6. Related or previous permit activity;

7. A description of the proposed *shorelines redesignation*;

8. A mitigation plan providing for significant enhancement of the first 100 feet adjacent to the shoreline and improved habitat for species declared as endangered or threatened under the Endangered Species Act, to the extent that the impacts of *development* can be determined at the time of the proposed shoreline *redesignation*; and

9. A discussion of how the proposed shoreline *redesignation* meets the criteria in KMC 16.75.160.

B. The hearing examiner shall make a recommendation to the city council based on the criteria for review in KMC 16.75.160.

16.75.130 Redesignation initiated by motion.

A. A city council motion initiating a shoreline *redesignation*, as described in KMC 16.75.110(B), must be accompanied by the following information:

1. A description of the shoreline and a property description, including parcel numbers, property street addresses and nearest cross streets, for all properties that the shoreline runs through or is adjacent to;

2. A county assessor's map outlining the subject property or properties; and

3. A description of the proposed *shorelines redesignation*.

B. If the motion proposes site-specific *redesignation*, as "site" is defined in KMC Title 18, the *redesignation* shall be referred to the hearing examiner for consideration following the procedures of KMC 16.75.120 for consideration of *redesignation* applications. Any other *redesignation* proposal initiated by motion shall be referred to the *city manager* for consideration as part of the process for amendment of comprehensive plan or development regulations as outlined in Chapter 19.20 KMC.

C. A motion initiating a site-specific *redesignation* must identify the resources and the work program required to provide the same level of review accorded to an *applicant*-generated shoreline *redesignation*. Before adoption of the motion, the *city manager* shall have the opportunity to provide an analysis of the motion's fiscal impact. If the *city manager* determines that additional funds are necessary to complete the work program, the *city manager* may transmit an ordinance requesting the appropriation of supplemental funds. The city council may consider the supplemental appropriation ordinance concurrently with the proposed motion referring the *shorelines redesignation* proposal to the hearing examiner.

D. The departmental report and recommendation regarding an application for a site-specific *redesignation* initiated by city council motion shall be forwarded to the hearing examiner for consideration.

~~D~~E. A site-specific *redesignation* initiated by motion shall follow the procedures in Chapters 19.25 and 19.30 KMC for *shorelines redesignations* with regard to the information to be provided and the notice and hearing processes, and shall meet the submittal requirements of KMC 16.75.120. The hearing examiner shall make a recommendation to the city council based on the criteria for review in KMC 16.75.160.

16.75.140 Frequency of consideration of shoreline redesignations.

A *shorelines redesignation* may not be initiated unless at least three years have elapsed since the city council's prior consideration of the current designation for the property. The *city manager* or the city council may waive this time limit if the proponent establishes that there exists either an obvious technical error or a change in circumstances justifying the need for earlier consideration of the *shorelines redesignation*.

16.75.150 Shoreline redesignation and site-specific land use map amendment or zone reclassification.

A site-specific *shorelines redesignation* may be accompanied by a related proposal for a site-specific land use map amendment or zone reclassification, or both, in which case City review of the two applications must be consolidated to the extent practical, consistent with this division and Chapter 19.25 KMC. The city council's consideration of a subarea or comprehensive plan *shorelines redesignation* is a legislative decision that must be determined before and separate from the city council's final consideration of a zone reclassification or site-specific *shorelines redesignation*, which is a quasi-judicial decision.

16.75.160 Criteria for hearing examiner review.

A *shorelines redesignation* referred to the hearing examiner for a public hearing shall be reviewed based upon the requirements of comprehensive plan policies and City *shorelines* management goals and objectives and the following additional standards:

A. The proposed change implements and supports the goals of the State Shorelines Management Act and City of Kenmore *Shoreline Master Program* requested;

B. The impacts of *development* allowed by the proposed change will not permanently impair any habitat critical to endangered or threatened species; and

C. The impacts of *development* allowed by the proposed change are adequately addressed in a mitigation plan providing significant enhancement of the first 100 feet adjacent to the stream and improved habitat for species declared as endangered or threatened under the Endangered Species Act, to the extent those impacts may be determinable at the time of the *shorelines redesignation*. A full mitigation plan shall accompany each application, as provided in KMC 16.75.120 and 16.75.130.

POTENTIAL SAMMAMISH RIVER BUFFERS IN THE SHORELINE RESIDENTIAL ENVIRONMENT.

During the Planning Commission's critical area regulations and shoreline master program (CARSMP) review, a number of questions and concerns have been raised—some by the Commission and some by others (Karen Walter with the Muckleshoot Tribe, other Kenmore staff members, etc.). Research and responses to these questions and concerns have, in some cases, resulted in new staff recommendations.

Following are the questions/concerns to date, the staff response and, if appropriate, staff's revised amendment recommendations.

WETLANDS

1. How does the Department of Ecology handle wetlands less than 1000 sq.ft. in size?

Staff response: The wetland code section that prompted this question (based on Ecology's *Wetland Guidance for CAO Updates Western Washington Version*) reads as follows:

D. Limited Exemption. The following wetlands may be exempt from the requirement to avoid impacts (KMC 18.55.210.A), and they may be filled if the impacts are fully mitigated based on the remaining actions in Chapter 18.55.210.B through F. If available, impacts should be mitigated through the purchase of credits from an in-lieu fee program or mitigation bank, consistent with the terms and conditions of the program or bank. In order to verify the following conditions, a critical area report for wetlands meeting the requirements in KMC 18.55.310 must be submitted:

1. All isolated Category IV wetlands less than 4,000 square feet that:

a. Are not associated with riparian areas or their buffers;

b. Are not associated with shorelines of the state or their associated buffers;

c. Are not part of a wetland mosaic;

d. Do not score 5 or more points for habitat function based on the 2014 update to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Ecology Publication #14-06-029, or as revised and approved by Ecology); and

e. Do not contain a Fish and Wildlife Habitat of Importance as identified in 18.55.500.

2. Wetlands less than 1,000 square feet that meet the above criteria and do not contain federally listed species or their critical habitat are exempt from the buffer provisions contained in this Chapter.

This language seems to suggest that very small wetlands must have buffers, even though larger wetlands (4,000 sq.ft.) may be filled and, presumably, have no buffers.

After developing clarifying wording, our consultant contacted the Department of Ecology for their review. Following is the suggested revision approved by Ecology:

D. Limited Exemption.

1. ~~The following wetlands~~All isolated Category IV wetlands meeting certain criteria that are less than 4,000 square feet may be exempt from the requirement to avoid wetland and buffer impacts (KMC 18.55.210.A), and they may be altered or filled if the impacts are fully mitigated based on the

remaining actions in Chapter 18.55.210.B through F. If available, impacts should be mitigated through the purchase of credits from an in-lieu fee program or mitigation bank, consistent with the terms and conditions of the program or bank. ~~In order to verify the following conditions, a~~A critical area report for wetlands meeting the requirements in KMC 18.55.310 must be submitted that demonstrates that the wetland is eligible for this exemption by confirming that the following criteria are met:

~~1. All isolated Category IV wetlands less than 4,000 square feet that:~~

a. Are not associated with riparian areas or their buffers;

b. Are not associated with shorelines of the state or their associated buffers;

c. Are not part of a wetland mosaic;

d. Do not score ~~5~~6 or more points for habitat function based on the 2014 update to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Ecology Publication #14-06-029, or as revised and approved by Ecology); and

e. Do not contain a Fish and Wildlife Habitat of Importance as identified in 18.55.500.

2. ~~Wetlands~~All isolated Category IV wetlands meeting certain criteria that are less than 1,000 square feet ~~that meet the above criteria and do not contain federally listed species or their critical habitat are~~may be exempt from the buffer provisions contained in this Chapter . A critical area report for wetlands meeting the requirements in KMC 18.55.310 must be submitted that demonstrates that the wetland is eligible for this exemption by confirming that the following criteria are met:

a. Criteria 1.a through 1.e of this subsection, and

b. Do not contain federally listed species or their critical habitat.

2. Could the time period for in-lieu mitigation completion be extended?

Staff response: Acting Public Works Director John Vicente had asked whether the time period for land acquisition and improvement of a wetland mitigation site addressed through an in-lieu fee program could be extended beyond 3 years (KMC 18.55.330.4). After discussing this with the consulting biologist, this seems an appropriate request with some caveats. Proposed new language parallels that in the stream regulations and would read as follows:

In Lieu Fee Programs. To aid in the implementation of off-site mitigation, the City may develop an in-lieu fee (ILF) program or allow participation in an ILF program, such as King County's Mitigation Reserves Program. ILF programs shall be developed and approved through a public process and be consistent with federal rules, state policy on in-lieu fee mitigation, and state water quality regulations. An approved ILF program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor, a governmental or non-profit natural resource management entity. Credits from an approved in-lieu-fee program may be used when paragraphs 1-6 below apply:
1. The city manager determines that it would provide environmentally appropriate compensation for the proposed impacts.
2. The mitigation will occur on a site identified using the site selection and prioritization process in the approved ILF program instrument.
3. The proposed use of credits is consistent with the terms and conditions of the approved ILF program instrument.

4. Land acquisition and initial physical and biological improvements of the mitigation site must be completed within three years of the credit sale. A one-year extension to this requirement may be granted by the city manager if the need for additional mitigation because of possible temporal loss is evaluated and addressed.
5. Projects using ILF credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland scientist using the method consistent with the credit assessment method specified in the approved instrument for the ILF program.
6. Credits from an approved ILF program may be used to compensate for impacts located within the service area specified in the approved ILF instrument.

STREAMS

3. Bankfull width and several other stream-typing characteristics should be defined.

Staff response: Karen Walter, representing the Muckleshoot Tribe, suggested adding definitions to make stream-typing easier. Here are the proposed definitions adapted from WAC 222-16-030:

"Bankfull width" means:
(a) For streams - The measurement of the lateral extent of the water surface elevation perpendicular to the channel at bankfull depth. In cases where multiple channels exist, bankfull width is the sum of the individual channel widths along the cross-section.
(b) For lakes, ponds, and impoundments - Line of mean high water.
(c) For periodically inundated areas of associated wetlands - Line of periodic inundation, which will be found by examining the edge of inundation to ascertain where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland.

"Channel width and gradient" means a measurement over a representative section of at least 500 linear feet with at least 10 evenly spaced measurement points along the normal stream channel but excluding unusually wide areas of negligible gradient such as marshy or swampy areas, beaver ponds and impoundments. Channel gradient may be determined utilizing stream profiles plotted from United States geological survey topographic maps.

"Fish habitat" means habitat which is used by any fish at any life stage at any time of the year, including potential habitat likely to be used by fish which could be recovered by restoration or management and includes off-channel habitat.

"Natural waters" only excludes water conveyance systems which are artificially constructed and actively maintained for irrigation.

"Seasonal low flow" and "seasonal low water" mean the conditions of the 7-day, 2-year low water situation, as measured or estimated by accepted hydrologic techniques.

4. Should the stream-typing regulations assume that everything is "fish suitable" unless proven otherwise?

Staff response: Karen Walter, representing the Muckleshoot Tribe, has suggested that the standards for stream typing are complicated enough that applicants may wish to presume fish use rather than go through the process of providing a fish use study. Staff recommends the following addition to 18.55.400 (adapted from WAC 222-16-031(3)(b)(1)).

B. Presumption of fish use: Waters having any of the following characteristics are presumed to contain suitable *fish habitat*, and therefore are a Type F water:

1. Stream segments having a defined *channel width* of 2 feet or greater within the *bankfull width* and having a *channel gradient* of 16 percent or less;
2. Stream segments having a defined *channel width* of 2 feet or greater within the *bankfull width* and having a *channel gradient* greater than 16 percent and less than or equal to 20 percent, and having greater than 50 acres in contributing basin size based on hydrographic boundaries;
3. Ponds or impoundments having a surface area of less than 1 acre at *seasonal low water* and having an outlet to a fish stream;
4. Ponds or impoundments having a surface area greater than 0.5 acre at *seasonal low water*.

GEOLOGICALLY HAZARDOUS AREAS

5. What is the process for review of a geotechnical report?

Staff response: At the last Planning Commission meeting, several Commissioners asked for additional information on the process for review of a geotechnical report. According to Development Services, an applicant must submit a critical areas report prepared by a geotechnical professional with their project application. Staff reviews the report, and if the proposal is for a challenging site or something in the report doesn't make sense, the City's on-call geotechnical reviewer is contacted. That person's review is covered by the permit fees paid by the applicant as if the on-call were a member of City staff.

The new third-party review opportunity in the revised standards would allow the City to hire a third geotechnical professional if the applicant does not agree with the City's on-call engineer's assessment. If a third-party report is required, the applicant would pay for the report. The third-party reviewer, however, should not need to repeat the expensive site explorations (borings or soil test pits) documented in the original report unless the original work was inadequate.

SHORELINE MASTER PROGRAM

6. Revise language about channel migration zones

Staff response: The consulting biologist has suggested we amend the definition of channel migration zone as follows, consistent with WAC 173-26-020(7):

16.10.105 Channel migration zone.

"Channel migration zone" means the area within which a river channel ~~is likely~~can be reasonably predicted to move over a period of time as a result of natural and normally-occurring hydrological and related processes when considered with the characteristics of the river and its surroundings. ~~and T~~he channel migration zone is ~~therefore~~ subject to risk due to stream bank destabilization, rapid stream incision, stream bank erosion, and shifts in the location of stream channels. ~~Channel relocation and stream meander areas as defined at KMC 18.55.750 are channel migration zones.~~

7. Where are the public bridges crossing the Sammamish River and Swamp Creek?

Staff response: Two bridges (same location) cross the Sammamish River at 68th Avenue NE (northbound and southbound). The bridge that crosses the river farther to the east is private, serving a small area of houses.

Public bridges cross Swamp Creek at NE 175th Street and at SR-522.

8. Are the shoreline regulations compatible with plans for Lakepointe?

Staff response: The Development Services Director is the project manager for the Lakepointe project. He has been reviewing the regulations and has not alerted us to any concerns.

9. How are ADA concerns handled?

Staff response: Section 16.75.025 Permits – Reasonable accommodation addresses this issue. Additionally, a new State shoreline exemption reads, "The external or internal retrofitting of an existing structure with the exclusive purpose of compliance with the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12101 et seq.) or to otherwise provide physical access to the structure by individuals with disabilities."

10. Clarify the definition of boat launch, motorized and non-motorized.

Staff response: The Planning Commission requested this change after discussion on December 4. Staff recommends the following amendments:

"Boat launch" means an inclined slab, set of pads, rails, planks, or graded slope which extends waterward of the OHWM, and is used for transferring watercraft between uplands and the water by means of a trailer, hand, or mechanical device.

11. Define "water access structure."

Staff response: At the request of Maria Sandercock, Department of Ecology, and others, staff recommends adding the following definition:

"Water access structure" collectively means piers, docks, buoys, floats, boat launches, watercraft lifts or other improvements that facilitate physical access to the water.

12. Would the new shoreline standards impact an expansion of SR-522?

Staff response: For the most part, SR-522 is located outside of the shoreline jurisdiction. One exception is where the highway crosses Swamp Creek. SR-522 has been improved in that area, so expansion seems unlikely.

Farther to the east, the City's shoreline rules apply on the south side of the SR-522 right-of-way. (The right-of-way, itself, is in Bothell.) The City of Bothell has already received permits for an expansion of SR-522 in that area and existing regulations have been addressed.

At the west end of the City (west of 61st Avenue NE), the SR-522 right-of-way may be partially inside the shoreline jurisdiction. In all environment designations, new highway and street is a conditional use. Expansion may be permitted without a conditional use permit if criteria are met. The specific language addressing expansion follows:

F. Expansion of existing highways and streets in the *shoreline jurisdiction* shall be permitted only if the following criteria are met:

1. The expansion is included in the Transportation Element of the Comprehensive Plan, Neighborhood Transportation Plan, Transportation Improvement Program, ADA Compliance Plan, or Target Zero strategy implementation.

2. The expansion does not require acquisition of private property that was unanticipated in the plans under a., above.

3. The expansion is located within existing rights-of-way or other City-managed land.

4. Minimum alteration and/or *fill* is needed to construct such facilities to meet established safety standards and all applicable SMP standards can be met.

5. Disturbed areas are restored immediately after the use of construction equipment.

If these criteria cannot be satisfied, expansion may only be permitted after approval of a conditional use permit.

Improvements to SR-522 between Lake Forest Park and 61st Avenue NE are included in the City's Transportation Element and it is anticipated that easements, rather than property acquisition, will be required. Too, the expansion would be located in the existing right-of-way.

Staff recommends an amendment to criterion 4 as new walls will be required along this stretch of SR-522:

4. ~~Minimum a~~Alteration and/or *fill* is the minimum necessary~~needed~~ to construct such facilities to meet established safety standards and all applicable SMP standards can be met.

13. How should liveaboards outside of a marina be handled?

Staff response: A liveaboard is a boat that serves as a primary residence. Under the proposed regulations, liveaboards would only be permitted in marinas. A Commissioner had asked how liveaboards that might temporarily dock at another location in Kenmore would be handled.

The City's Municipal Code contains a section on moorage and anchorage regulations (Chapter 8.20). This chapter prohibits moorage or anchorage for purposes of residential use. A temporary exception to this rule allows moorage or anchorage provided that the vessel or watercraft does not remain within a one-mile radius of the original anchorage or moorage for a period longer than 72 hours (3 days) out of any 120-hour (5 days) period.

14. Move the standards for compensatory habitat enhancement in the Shoreline Sub-Element into the regulations.

Staff response: Staff eliminated from the Shoreline Sub-Element text related to compensatory habitat enhancement. This text would more appropriately be located in the

shoreline or critical area rules. Here is the original text in the Shoreline Sub-Element with the proposed deletions:

Policy LU-21.2.7 Some uses or activities may be allowed only when compensatory habitat enhancement is provided as mitigation. When considering compensatory habitat enhancement as mitigation for impacts from new structures, such as when a reduced buffer or a non-water-dependent use is requested, the enhancement should be proportional to the degree of impact of the new structure, and take into account the degree to which the existing buffer has already been compromised. Enhancement should focus on restoring shoreline ecological functions that are most critical and that have been most diminished in the Kenmore shoreline. ~~In approving any compensatory habitat enhancement plan, the Director shall consider the changes in surface water runoff rates and water quality (such as through increased impervious area), habitat structure (such as loss or alteration of vegetation), and habitat quality (such as from lighting, noise, or activities) that the project would cause. Enhancements should generally focus on reducing or offsetting project impacts but may focus on restoring other critical ecological functions in the shoreline that have been lost or diminished (such as placement of large woody debris in water or restoring shallow water habitat). The Director may determine whether an enhancement that provides a broader benefit may be substituted for one that would offset the impacts of an individual project. The Director may deny a request to allow intrusion into a buffer or for development of a non-water-dependent use if the enhancement proposed does not fully mitigate the impacts of the project and provide a sufficient broader benefit.~~

This language is already paralleled in the shoreline regulations so staff recommends no change:

16.60.010 Vegetation conservation areas.

H. When considering compensatory habitat enhancement as mitigation for impacts from new structures, such as when a reduced buffer or a non-*water-dependent use* is requested, the enhancement should:

1. Be proportional to the degree of impact of the new structure on shoreline *ecological functions*;

2. Take into account the degree to which the existing buffer has already been compromised;

3. Offset changes in surface water runoff rates and water quality (such as through increased impervious area), habitat structure (such as loss or alteration of vegetation), and habitat quality (such as from lighting, noise or activities) that are a result of the project; and

4. Focus on restoring *ecological functions* that are most critical and that have been most diminished in the Kenmore shoreline.

Enhancements may also focus on restoring other critical *ecological functions* in the shoreline that have been lost or diminished over time (such as placement of large woody debris in water or restoring shallow water habitat) at a sub-basin or watershed scale. The *city manager* may determine whether an enhancement that provides a broader ecological benefit may be substituted for one that would offset the impacts of an individual project.

The *city manager* may deny a request to allow intrusion into a buffer or for *development* of a non-*water-dependent use* if the enhancement proposed does not fully mitigate the impacts of the project or provide a sufficient broader benefit.

15. Move the standards for shoreline stabilization in the Shoreline Sub-Element into the regulations.

Staff response: Staff eliminated from the Shoreline Sub-Element text related to shoreline stabilization. This text would more appropriately be located in the shoreline rules. Here is the original text with the proposed deletions:

~~Policy LU-24.2.19 Replacement walls or bulkheads protecting a residence shall not encroach waterward of the ordinary high water mark, unless the residence was occupied prior to January 21, 1992, and there are overriding safety and environmental concerns. In cases where there are overriding safety and environmental concerns, the replacement wall or bulkhead structure shall abut the existing shoreline stabilization structure and may be located on the waterward side of the existing wall or bulkhead structure.~~

Policy LU-24.2.19 When shoreline stabilization is proposed, Kenmore shall require a geotechnical report to address the need to prevent potential damage to a primary structure. ~~The report shall estimate time frames and rates of erosion and the urgency associated with the specific situation. Kenmore should not allow hard armoring solutions, unless a geotechnical report confirms that there is a significant possibility that the structure will be damaged within three years as a result of shoreline erosion in the absence of such hard armoring measures, or where waiting until the need is immediate would foreclose the opportunity to use measures that avoid adverse impacts to ecological processes and functions. If the geotechnical report confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as the three years, the report may still be used to justify more immediate authorization to protect against erosion using soft measures.~~

Here is staff's proposed revised regulatory language:

16.55.040 Shoreline stabilization.

Shoreline stabilization may be permitted subject to the standards in this chapter, provided:

A. The *applicant* has demonstrated the following in order to construct new *shoreline stabilization*, *including additions to, or increases in size of, existing shoreline stabilization measures*:

1. A *geotechnical analysis* demonstrates that erosion from waves or currents is imminently threatening a primary structure, including residences~~and that damage is expected to occur within three years if the *shoreline stabilization* is not constructed~~;

2. The erosion rate exceeds that which would normally occur in a natural condition;

3. The erosion is not caused by upland conditions, such as the loss of vegetation and drainage, on the project site;

4. The proposed *shoreline stabilization* is the least hardened solution that is *feasible* to protect the structures or improvements, including consideration of nonstructural alternatives such as slope drainage systems, vegetative growth stabilization, and gravel *berms*;

5. The proposal is the minimum necessary to protect existing legally established primary structures, new non-*water-dependent* development, existing *water-dependent* development or projects for the *restoration* of *ecological functions* or hazardous substance remediation;

6. The proposed *shoreline stabilization* does not interfere with fluvial hydrological and geomorphological processes normally acting in natural conditions; and

7. Adequate mitigation measures that maintain existing shoreline processes and critical fish and wildlife habitat will be provided that ensure *no net loss* or function of riparian habitat.

B. *Shoreline stabilization* to replace existing *shoreline stabilization* shall be placed landward of any existing *shoreline stabilization*, except that it may be placed waterward directly abutting the old structure only in cases where the existing *bulkhead* is protecting a residence that was ~~installed~~ occupied prior to January 1, 1992, and ~~removal of the old structure would result in greater impact on ecological functions~~and there are overriding safety or environmental concerns.

C. Geotechnical reports pursuant to this section that address the need to prevent potential damage to a primary structure shall address the necessity for shoreline stabilization by estimating time frames and rates of erosion and report on the urgency associated with the specific situation. As a general matter, hard armoring solutions should not be authorized except when a report confirms that there is a significant possibility that such a structure will be damaged within three years as a result of shoreline erosion in the absence of such hard armoring measures, or where waiting until the need is that immediate, would foreclose the opportunity to use measures that avoid impacts on ecological functions. Thus, where the geotechnical report confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as the three years, that report may still be used to justify more immediate authorization to protect against erosion using soft measures.

~~C. The maximum height of the proposed *shoreline stabilization* shall be no more than four feet in height on Lake Washington.~~

D. *Shoreline stabilization* shall minimize the adverse impact on the property of others to the maximum extent practical.

E. *Shoreline stabilization* shall not be used to create new lands. However, soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be permitted waterward of the ordinary high-water mark.

F. *Shoreline stabilization* shall not interfere with surface or subsurface drainage into the water body.

G. Automobile bodies, tires or other junk or waste material which may release hazardous substances shall not be used for *shoreline stabilization*.

H. *Shoreline stabilization* shall be designed so as not to constitute a hazard to navigation and shall not substantially interfere with visual access to the water.

I. *Shoreline stabilization* shall be designed so as not to create a need for *shoreline stabilization* elsewhere.

J. *Shoreline stabilization* shall comply with the Integrated Stream Protection Guidelines (Washington Departments of Fish and Wildlife, Ecology, and Transportation, 2003) and shall be designed to allow for appropriate *public access* to the shoreline.

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

December 5, 2018

City of Kenmore
18120 68th Avenue NE
Kenmore, WA 98028

Attn: Ms. Lauri Anderson

RE: GROUNDWATER SUSCEPTIBILITY MAP METHODOLOGY, KENMORE, WASHINGTON

This letter describes the Groundwater Susceptibility Map (Figure 1) produced by Shannon & Wilson for the City of Kenmore's (the City's) critical areas code update.

BACKGROUND

Shannon & Wilson provided a gap analysis and recommendations report (Report) for the City's critical areas regulations and shoreline master program update (Shannon & Wilson, Inc., 2018). The Report discussed Critical Aquifer Recharge Areas and groundwater resources within the City and neighboring communities. The Report concluded that:

- The City does not use groundwater as a potable water source,
- The City does not have any designated critical aquifer recharge areas, and
- Activities within the City would not affect groundwater conditions in surrounding communities.

Recommendations from the Report included:

- The City should provide a groundwater resources section within their Municipal Code, and
- The City should consider the development of a groundwater susceptibility map to help identify when a hydrogeologic assessment is necessary.

Based on the conclusions and recommendations outlined above, the City retained Shannon & Wilson to develop a groundwater susceptibility map.

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206-632-8020 FAX: 206-695-6777
www.shannonwilson.com

METHODOLOGY

Shannon & Wilson developed the groundwater susceptibility map in general accordance with the *Guidance Document for the Establishment of Critical Aquifer Recharge Area Ordinances* (Washington State Department of Ecology [Ecology], 1998[1]). This guidance document provides a methodology for rating groundwater areas of low, moderate, and high susceptibility.

We rated areas throughout the City based on three parameters:

- Soil permeability from the soil survey (where available) (Figure 2),
- Surficial geology (Figure 3), and
- Depth to groundwater (Figure 4).

Soil permeability is the rate at which water can move through the soil. The ratings provided in the Ecology guidance document for soil permeability range from a value of zero (very slow permeability) to three (rapid permeability) and are derived from the soil survey and surficial geology type. Typically, values of zero would include soil types such as silts and clays and geologic units such as lacustrine deposits, and values of three would include soil types such as clean sands and gravel and geologic units such as glacial outwash and some other non-glacial alluvial sediments. The ratings for depth to groundwater range from a value of zero (very low (greater than 50-foot depth) to three (high (0 to 10-foot depth). It should be noted that portions of the northwest area of the City did not have a soil survey. In these areas, the geologic map was used to estimate the soil permeability and provide a rating as shown in Figure 2.

The depth to groundwater map was developed using a combination of methods. Appendix 6-B, Geology and Groundwater, of the King County Brightwater System Report (2003) provides groundwater elevation contours for areas of the City to the north of the Sammamish River. These groundwater elevations were for the Qva (advance outwash) aquifer, which is generally the shallowest relatively widespread aquifer in the area. The groundwater elevation was subtracted from the ground surface elevation at a particular point and the result was a depth to groundwater value. The depth to groundwater values were then placed into the ranges and

[1] Washington State Department of Ecology (Ecology), 1998, Guidance Document for the Establishment of Critical Aquifer Recharge Area Ordinances. Publication # 97-30. Available: http://www.swanlakepreservation.org/Images/Guidance%20on%20Critical%20Aquifer%20Recharge%20Area%20Ordinances%2012-1998.pdf

ratings, noted previously, and the depth to groundwater map was produced for the northern portion of the City.

For the southern portion of the City, south of the Sammamish River, no groundwater elevation maps were identified. To develop a depth to groundwater value in the southern portion of the City, we reviewed the geologic map of the area and determined the location and elevations of the contact between the advance outwash (Qva) and the overlying glacial till (Qvt) outcrops at the ground surface. Using the resulting elevations, we projected the Qva/Qvt contact as a surface with specific elevations in areas overlain by Qvt. The elevation of the Qva/Qvt projected surface was then subtracted from the ground surface elevation at a particular point to produce a depth to groundwater or depth to top of Qva aquifer value. The depth to groundwater/Qva aquifer values were then placed into the ranges and ratings, noted previously, and the depth to groundwater map was produced for the southern portion of the City.

The groundwater susceptibility map (Figure 1) is the result of combining the ratings for the three parameters, discussed previously, into one final rating. A combined score from zero to three yielded a low susceptibility, from four to seven a moderate susceptibility, and from 8 to 12 a high susceptibility.

CONCLUSION

The City Groundwater Susceptibility Map (Figure 1) was developed based on the 1998 Ecology Guidance Document. In general, the map indicates groundwater susceptibility is relatively high along stream and river valleys where sand and gravels have been exposed through erosion or deposited by alluvial processes. Areas of relatively low susceptibility typically occur in upland areas away from the stream and river valleys where glacial till, which has a relatively low permeability, is observed. The percentage of area within the City that has a low, moderate, or high groundwater susceptibility is 16, 56, and 28%, respectively.

The City Groundwater Susceptibility Map was developed as a high-level tool to assist the City with identifying areas of potential concern regarding groundwater resources. If required, Level I

and Level II Hydrogeologic Assessments, as outlined in the City Code, will provide a finer level of detail at specific sites within the City.

Sincerely,

SHANNON & WILSON, INC.

Chris W. Allen, LHG
Senior Hydrogeologist

CWA:AJS/cwa

Enc: Figure 1 –Groundwater Susceptibility Map
Figure 2 – Soil Permeability from the Soil Survey Map
Figure 3 – Surficial Geology
Figure 4 – Depth to Groundwater

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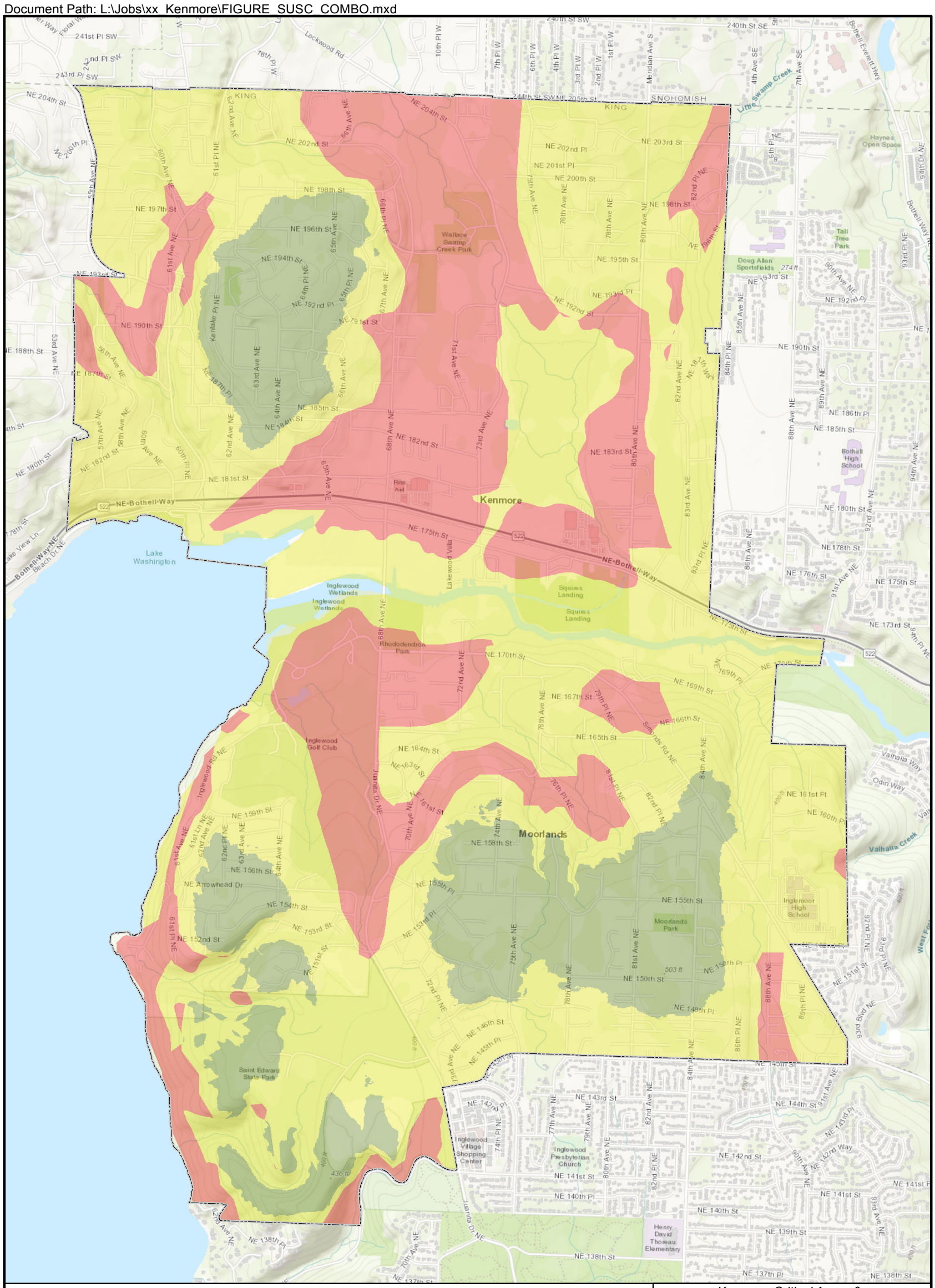

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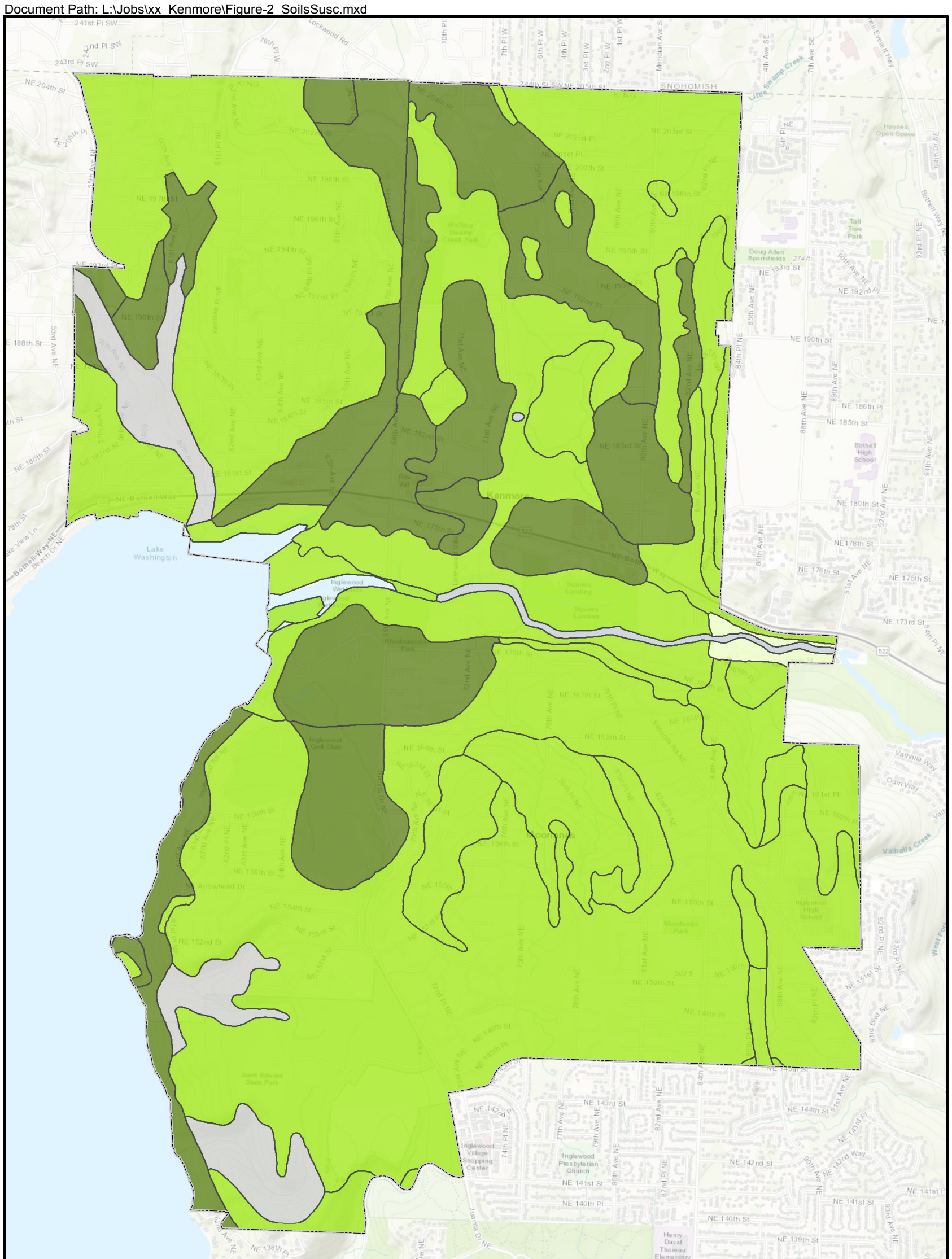

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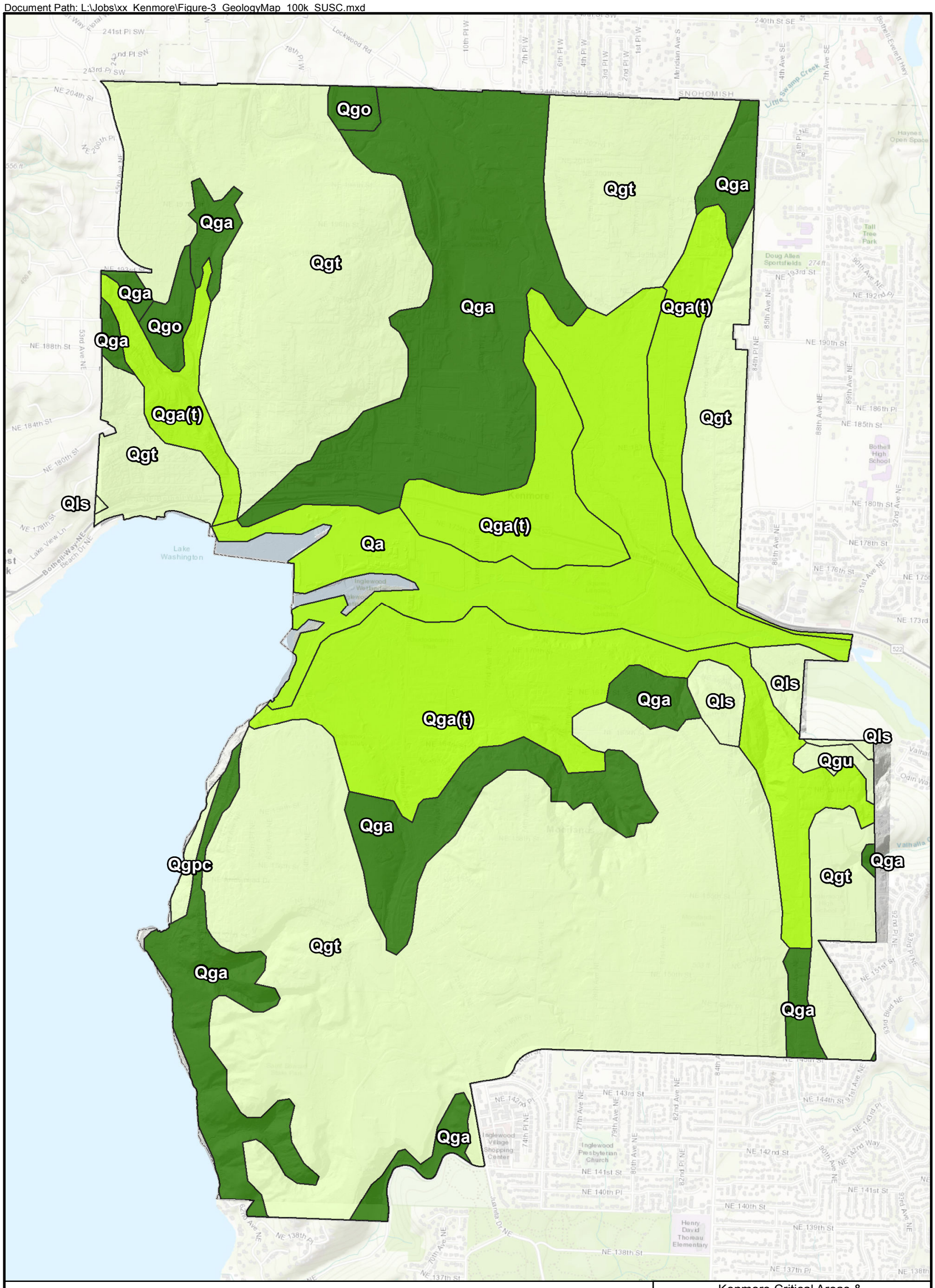
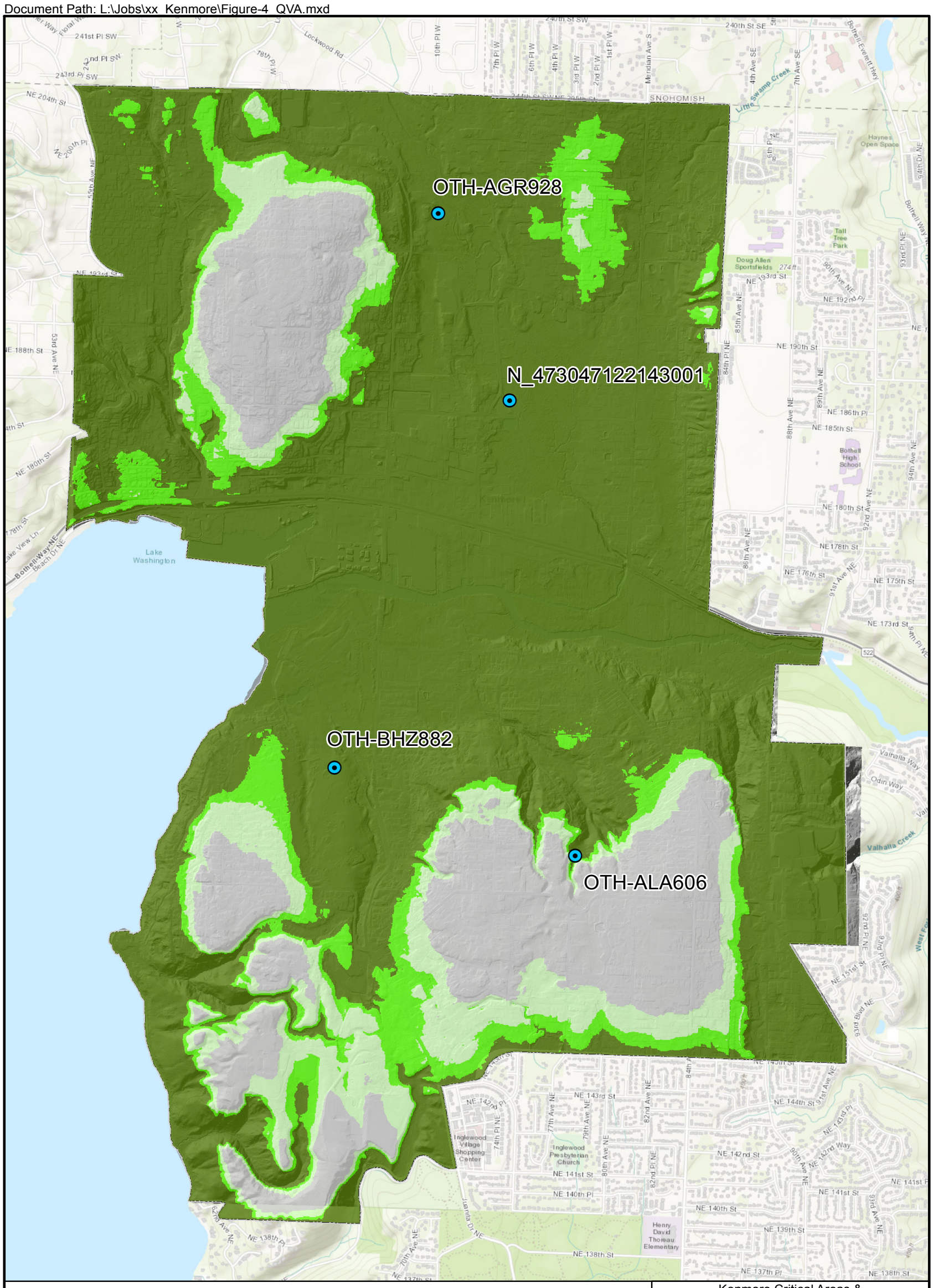


Kenmore Critical Areas &
Shoreline Master Program Update
Kenmore, WA

SUSCEPTIBILITY - GEOLOGY

November 2018 21-1-30128-005

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 3

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