DEVELOPMENT SERVICES
ENVIRONMENTAL COORDINATOR
450 110th Ave NE., P.O. BOX 90012
BELLEVUE, WA 98009-9012

## OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS

The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

| | |
|---|---|
| File No. | 11-110931-LO |
| Project Name/Address: | Lee Buffer Landscaping<br>2 Crescent Key |
| Planner: | Reilly Pittman |
| Phone Number: | 425-452-4350 |
| **Minimum Comment Period:** | **May 19, 2011** |

Materials included in this Notice:

- ☒ Blue Bulletin
- ☒ Checklist
- ☒ Vicinity Map
- ☒ Plans
- ☐ Other:

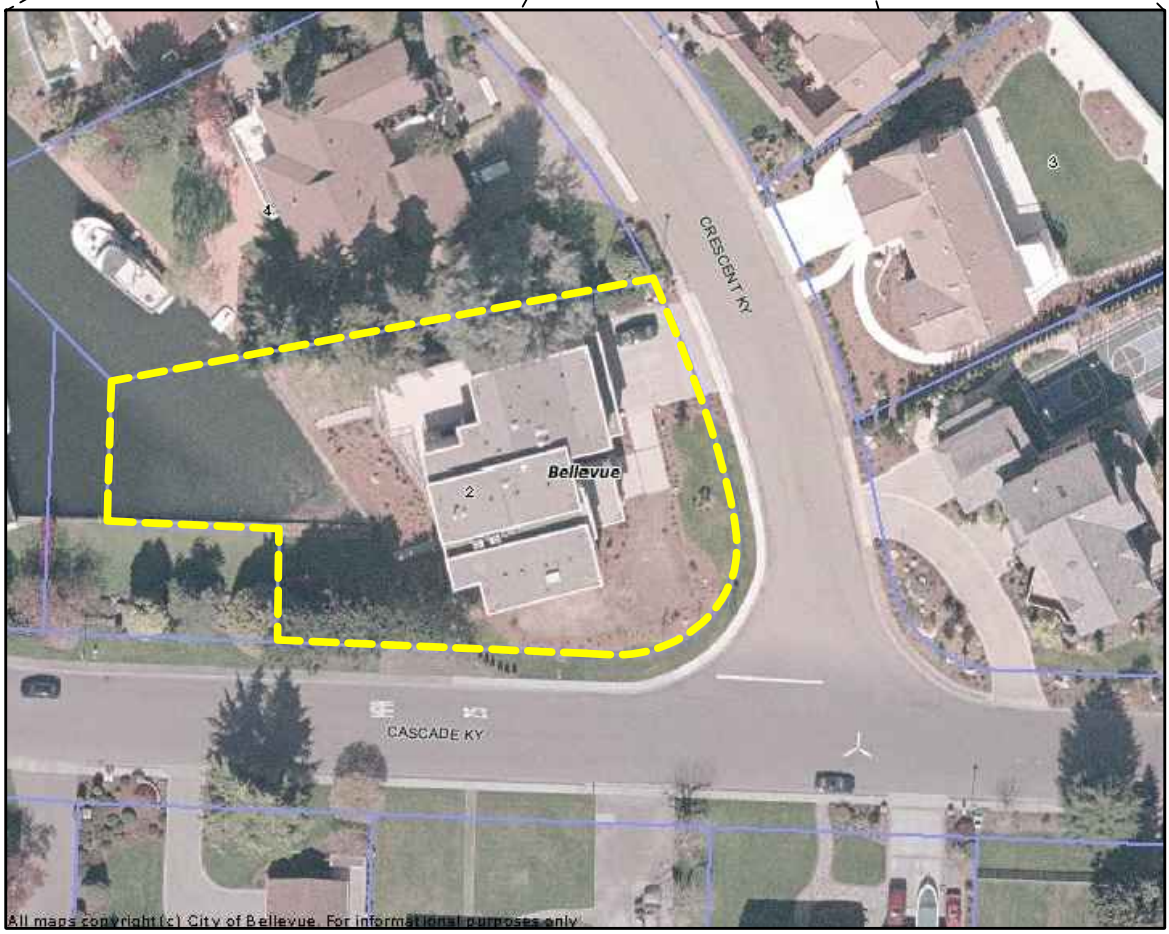
Project Site Address:

2 Crescent Key
Bellevue, Washington 98006.

A portion of the northeast quarter section of Section 17, Township 24 North, Range 5 E W.M.

Approximate center of project site -

Lat: 47.56749
Long: -122.18929




0 Varies Varies
Scale in Feet

Photo Reference: www.nwmaps.net.

Prepared by: Evergreen Aquatic Resource Consultants, LLC - PO Box 1721, Issaquah - Washington 98027 (425) 677-7166

Evergreen Aquatic Resource Consultants, LLC
Wetland Delineation • Mitigation Design • Compliance Monitoring

| Vicinity Map | 4/12/2011 |
|---|---|
| 2 Crescent Key - Bellevue, Washington<br>Prepared for: Mia Lee | Figure 1 |

**SEPA Checklist Reviewed by Reilly Pittman on 4/29/11**

City of Bellevue Submittal Requirements | **27a**

## ENVIRONMENTAL CHECKLIST

4/11/11

If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.

### BACKGROUND INFORMATION

Property Owner: **Jason and Myungja (Mia) Lee**

Proponent: **Myungja (Mia) Lee**

Contact Person: **Peter Super – Evergreen Aquatic Resource Consultants, LLC**
(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: **PO Box 1721**
**Issaquah, Washington 98027**

Phone: **(425) 677-7166**

Proposal Title: **Lee Shoreline Buffer Landscaping, Pier, and PWC lift**

Proposal Location:
(Street address and nearest cross street or intersection) Provide a legal description if available.

**2 Crescent Key – Bellevue, Washington 98006**

**Nearest street intersection – Crescent Key and Cascade Key**

**Lot 49, Newport Revised Division No. 1, according to the plat thereof recorded in volume 61 of plats, page(s) 25, 26, and 27 in King County, Washington, except the western 62 feet of the southerly 40 feet thereof.**

Please attach an 8 ½" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

1. General description:

   **Project includes modification to on-site shoreline buffer to accommodate various proposed landscape improvements and shoreline buffer enhancement. Project also includes "after-the-fact" permits for an existing small pier and personal watercraft (PWC) lift previously constructed during the winter of 2008/2009.**

   **City of Bellevue Project # 11-104302-EA.**

2. Acreage of site: **0.48 acres**

3. Number of dwelling units/buildings to be demolished: **Does not apply.**

4. Number of dwelling units/buildings to be constructed: **Does not apply.**

5. Square footage of buildings to be demolished: **Does not apply.**
6. Square footage of buildings to be constructed: **Does not apply.**

7. Quantity of earth movement (in cubic yards): **approximately 50 to 60 CY.**

8. Proposed land use: **Residential shoreline dependent recreation.**

9. Design features, including building height, number of stories and proposed exterior materials:

**Shoreline Buffer Modification:**

**The proposed project includes reducing the standard width 25-foot shoreline buffer within the central portion of the project site to provide reasonable and appropriate use of on-site shoreline environments by the underlying landowner for recreation. The project results in consolidated landscape improvements within the central portion of the site and enhancement of the remaining portions of the on-site shoreline buffer.**

**Proposed landscape improvements include the following:**

- **A wheelchair accessible ramp from the existing residence to the on-site shoreline frontage.**
- **A circular sand-set concrete paver patio.**
- **Various other steps and pathways to connect the existing residence and other side yard areas to the paver patio, wheelchair accessible ramp, and existing concrete bulkhead.**
- **Limited lawn and plantings within formally landscaped areas.**

**Proposed shoreline buffer enhancement includes site preparation work as well as the installation of 210 native plantings to provide high-functioning buffer habitat at a ratio of one-to-one (1:1). Included with the shoreline enhancement is the expansion of the standard width shoreline buffer by 211 sf to achieve the required mitigation ratio.**

**Currently, shoreline buffer within the project site comprises formally landscaped areas comprising non-native shrub and small tree species, lawn, limited paver surfaces adjacent to an existing concrete bulkhead, and two stairways from the existing residence to the bulkheaded shoreline. Existing shoreline buffer provides limited function and value. The proposed landscape improvements do not represent a significant change in use when compared to existing conditions. The proposed project is consistent with other similar uses on adjoining properties and results a net increase in on-site shoreline buffer functions and values per applicable City of Bellevue decisional criteria and performance standards.**

**Existing Pier and PWC Lift:**

**The proposed project also includes "after-the-fact" permits for an existing small pier and PWC lift installed during the winter of 2008/2009. The small pier measures 52 sf and is a wood framed structure located in the corner formed by the on-site concrete bulkhead. The pier is attached directly to the existing concrete bulkhead in a manner that does not require piling or other in-water supports. The PWC lift measures 123 sf and is a pre-manufactured drive-on/push-off float designed specifically to hold two PWCs. The lift is secured in place using two galvanized steel posts installed within the lakebed. Total overwater coverage provided by the existing pier and PWC lift is 175 sf. Mitigation for the overwater coverage provided by the pier and PWC lift is shoreline buffer enhancement at a ratio of one-to-one (1:1). Mitigation is incorporated with the other shoreline buffer enhancement proposed as part of the landscape improvements.**

10. Other

**Does not apply.**

Estimated date of completion of the proposal or timing of phasing:

**The proposed landscape improvements are currently under construction. After applicable permits have been issued by the City of Bellevue, no more than approximately one month will be required to finalized the landscape improvements. The existing pier and PWC lift were constructed during the winter of 2008/2009. The proposed shoreline buffer enhancement will occur concurrently with or immediately after the landscape improvements are complete or as otherwise warranted based on weather or site conditions.**

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

**No.**

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

**Critical Area Report, dated 4/12/2011 – prepared by Evergreen Aquatic Resource Consultants, LLC**
**Lee Shoreline Buffer Enhancement Plan, dated 4/12/2011 – Prepared by Evergreen Aquatic Resource Consultants, LLC**

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

**None known.**

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

**Shoreline Exemption with SEPA – City of Bellevue**
**Critical Areas Land Use Permit – City of Bellevue**

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal):

☐ Land Use Reclassification (rezone) Map of existing and proposed zoning

☐ Preliminary Plat or Planned Unit Development
Preliminary plat map

☐ Clearing & Grading Permit
Plan of existing and proposed grading
Development plans

☐ Building Permit (or Design Review)
Site plan
Clearing & grading plan

**X** Shoreline Management Permit
Site plan

A. ENVIRONMENTAL ELEMENTS

**1. Earth**

a. General description of the site: ☐ Flat ☐ Rolling ☐ Hilly ☐ Steep slopes ☐ Mountains **X** Other

**Topography within the site is generally flat with a localized transition to an existing shoreline bulkhead in the west-central portion of the site. Vertical relief does not exceed approximately 7 feet.**

b. What is the steepest slope on the site (approximate percent slope)?

**Prior to the start of the recent site preparation work, slopes ranged to a maximum of approximately 20%. Currently, near vertical cuts ranging to a maximum of 4 feet exist within shoreline buffer areas that are under construction.**

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

**Soils are sandy topsoils to clayey subsoils typical of developed residential parcels within the Puget Sound area. Prime farmland is not known to exist within the project site.**

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

**None known.**

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

**Limited filling and grading will be required to establish finished grades for the various landscape improvements. Total excavation/filling will be approximately 50 to 60 CY.**

**No filling and/or grading is required for the existing pier and PWC lift.**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

**Under wet weather conditions, the potential exists for the off-site migration of soil during construction of the various landscape improvements and buffer enhancement. After construction, the site will be fully stabilized using either pavers and/or landscaping.**

**No erosion can result from the existing pier and PWC lift.**

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

**Prior to the start of the recent site preparation work, approximately 17 percent of the on-site shoreline buffer was impervious surfacing comprising paver surfacing and concrete/timber stairs. After construction, approximately 23 percent of the on-site shoreline buffer will be impervious surfacing comprising primarily concrete paver surfacing.**

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

**All temporary erosion and sediment control will be per City of Bellevue requirements.**

## 2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

**Dust and standard emissions from construction equipment may be locally and temporarily present during construction of the proposed landscape improvements and shoreline buffer enhancement. The type and quantities of emissions will depend on the specific equipment used, but may include standard emissions such as gasoline and diesel exhaust fumes, carbon dioxide ($CO_2$), and carbon monoxide (CO) from small combustion engines as well as dust on roadways. Any emissions are expected to be minor, short-term, and limited in duration.**

**The completed landscape improvements will not result in adverse emissions to the air.**

**The existing pier and PWC lift do not result in temporary or permanent adverse emissions to the air.**

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

**None known.**

c. Proposed measures to reduce or control emissions or other impacts to the air, if any:

**Construction equipment will utilize standard emission control devices. As needed, dust control will be per City of Bellevue standards.**

## 3. WATER

a. Surface

(1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

**Yes - Lake Washington. The project site has shoreline frontage on the canals or "keys" that connect properties located in the Newport Shores neighborhood directly to Lake Washington. Within the project site, a concrete bulkhead exists along the entire shoreline frontage. The concrete bulkhead extends off-site to adjacent properties.**

(2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If Yes, please describe and attach available plans.

**Yes – The proposed landscape improvements and shoreline buffer enhancement will occur within 200 feet of Lake Washington. The existing pier and PWC lift are located over Lake Washington. Installation of the PWC float previously required in water work; however as the pier and PWC lift are currently installed no further in-water work is proposed at this time. The pier has been constructed above the OHWM of Lake Washington.**

(3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

**None.**

(4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

**No.**

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

**No. FEMA FIRM maps for the local area do not map a 100-year floodplain within the project site.**

(6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

**No. The pier and PWC float are already installed.**

b. Ground

(1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description.

**No.**

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

**Does not apply.**

c. Water Runoff (Including storm water)

(1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

**Runoff consisting of storm water may be generated by the hardscape surfaces included with the landscape improvements.**

(2) Could waste materials enter ground or surface waters? If so, generally describe.

**No.**

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

**Runoff will be controlled per City of Bellevue standards.**

## 4. Plants

a. Check or circle types of vegetation found on the site:

- ☐ deciduous tree: alder, maple, aspen, other
- **X** evergreen tree: fir, cedar, pine, other
- **X** shrubs
- **X** grass
- ☐ pasture
- ☐ crop or grain
- ☐ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- ☐ water plants: water lily, eelgrass, milfoil, other
- ☐ other types of vegetation

**Other than a few small to medium diameter Douglas-fir (*Pseudotsuga menziesii*) and western redcedar (*Thuja plicata*) trees located along property lines, native vegetation is generally absent within the project site. Landscape species present prior to the recent site preparation work included Japanese maple (*Acer palmatum*), kinnikinnick (*Arctostaphylos uva-ursi*), heather (*Calluna* sp.), hydrangea (*Hydrangea* spp.), juniper (*Juniperus* spp.), lily-of-the-valley shrub (*Pieris* sp.), rhododendron/azalea (*Rhododendron* spp.), rose (*Rosa* spp.), and periwinkle (*Vinca* sp.).**

b. What kind and amount of vegetation will be removed or altered?

**The proposed landscape improvements and shoreline enhancement will remove 3,201 sf of existing landscaping comprising lawn as well as ornamental shrub and groundcover species. The existing pier and PWC lift will not remove or alter any vegetation.**

c. List threatened or endangered species known to be on or near the site.

**None known.**

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

**Limited formally landscaped areas are included with the proposed landscape improvements. Proposed shoreline buffer enhancement will include 210 native trees, shrubs, and groundcover species comprising a total of 12 different species. Total shoreline buffer enhancement is 1,688 sf and will occur adjacent to the proposed landscape improvements. The southern shoreline enhancement area in combination with the adjacent private park provides for a continuous corridor of native vegetation that currently does not exist within the local area.**

## 5. ANIMALS

a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

X Birds: hawk, heron, eagle, songbirds, other:

X Mammals: deer, bear, elk, beaver, other: misc. small mammals

X Fish: bass, salmon, trout, herring, shellfish, other:

**Wildlife use of the project site is unknown. Upland portions of the project site may be utilized by small mammals and passerine birds accustomed to urbanized environments. Because of surrounding land use, the potential for large mammal use within the project site is likely very low. Lake Washington is known as "priority habitat" or "critical habitat" for various populations freshwater fish species, including various native salmonids.**

b. List any threatened or endangered species known to be on or near the site.

**Lake Washington supports populations Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*), Coastal/Puget Sound bull trout (*Salvelinus confluentus*), and Puget Sound steelhead (*O. mykiss)*.**

c. Is the site part of a migration route? If so, explain.

**Freshwater fish species, including native salmonids, may utilize the portion of Lake Washington located within the project site for adult migration and forage; however, general fisheries habitat within the project site is limited. The site lacks unique fisheries habitat, suitable salmonid spawning habitat, and/or the shallow water preferentially used by juvenile salmonids along lake shorelines for rearing and migration.**

d. Proposed measures to preserve or enhance wildlife, if any:

**The shoreline buffer enhancement work results in the conversion of existing landscaped areas to native plant communities. Proposed work includes the amendment and de-compaction of soils as well as the installation of site-specific native trees, shrubs, and groundcover species. The resulting buffer will provide high-functioning forage and escape habitat for small mammals and passerine birds. The southern buffer enhancement area, in combination with the shoreline buffer enhancement work recently completed in the adjacent private park, provides for a continuous corridor of native vegetation that currently does not exist within the local area.**

**Shoreline environments within the project site are highly modified. Waters within the vicinity of the**

**project site are frequently used for recreation and high-density pleasure craft use. Bulkheads, small piers, PWC lifts, and other various overwater structures are frequent within the local area. Because of the intensive use of the keys within the Newport Shores area, fish present within the key will likely be habituated to anthropogenic structures. While the existing pier and PWC lift presents an additional anthropogenic structure, it is extremely limited in overwater coverage and can be readily avoided by foraging and/or migrating fish. The presence of the existing small pier and PWC lift do not appreciably change the overall character of the key, do not present a structure to which fish within the key would not be accustomed to, and/or will not result in or contributed to cumulative impacts to fisheries resources present within the local area.**

**6. Energy and Natural Resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy need? Describe whether it will be used for heating, manufacturing, etc.

**Low voltage yard lighting may be installed as part of the proposed landscape improvements to highlight specific aspects of the landscaping. Lighting will not be directed towards water areas or adjacent properties. The proposed water feature will require electricity to run the circulation pumps. A 220-volt outlet will be provided within landscaped areas to supply power for watercraft while docked along the existing bulkhead.**

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

**No.**

c. What kinds of energy conservation features are included in the plans of the proposal? List other proposed measures to reduce or control energy impacts, if any:

**Timers and/or sensors will be installed with the proposed yard lighting.**

**7. Environmental Health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

**While minor, there is a potential risk from the hazards associated with power machinery and general construction practices during construction of the landscape improvements. Spills of machine fluids, risk of fire or explosion, and other similar and normal hazards will exists during construction of the landscape improvements. After construction, environmental health hazards will not be present.**

(1) Describe special emergency services that might be required.

**In the event of a construction emergency, local fire, aid, or rescue services or personnel may be required.**

(2) Proposed measures to reduce or control environmental health hazards, if any.

**Sound construction techniques, equipment maintenance, and safety best management practices will be utilized during construction phases.**

b. Noise

(1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)?

**None known.**

(2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site.

**In the short-term, the landscape improvements and shoreline buffer enhancement may result in a temporary and localized noise increase resulting from the operation of various powered equipment during normal business hours. The completed landscape improvements will not result in a long-term noise increase. The existing pier and PWC lift does not generate noise.**

(3) Proposed measures to reduce or control noise impacts, if any:

**Construction will occur only between the hours of 7 am to 6 pm Monday through Friday and 9 am to 6 pm on Saturdays, except for federal holidays or as otherwise authorized by the City of Bellevue.**

**8. Land and Shoreline Use**

a. What is the current use of the site and adjacent properties?

**Residential**

b. Has the site been used for agriculture? If so, describe.

**Not known.**

c. Describe any structures on the site.

**Two-story single-family residence.**

d. Will any structures be demolished? If so, what?

**No.**

e. What is the current zoning classification of the site?

**R-2.5**

f. What is the current comprehensive plan designation of the site?

**SF-M**

g. If applicable, what is the current shoreline master program designation of the site?

**Not known.**

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

**Yes – Site is located within Bellevue's "Shoreline Overlay District" and "Critical Areas Overlay District".**

I. Approximately how many people would reside or work in the completed project?

**None.**

j. Approximately how many people would the completed project displace?

**None.**

k. Proposed measures to avoid or reduce displacement impacts, if any:

**Does not apply.**

i. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

**A critical area report has been prepared to address conformance to the applicable City of Bellevue critical area and shoreline decisional criteria and performance standards.**

**9. Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

**None.**

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

**None.**

c. Proposed measures to reduce or control housing impacts, if any:

**Does not apply.**

**10. Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

**The landscape improvements will be located at the finished grade. Low retaining walls will be required to support hardscape structures and planting areas. The maximum height of the retaining walls is 4 feet. The existing pier is constructed above the OHWM of Lake Washington, but below the finished height of the concrete bulkhead.**

b. What views in the immediate vicinity would be altered or obstructed?

**None.**

c. Proposed measures to reduce or control aesthetic impacts, if any:

**None.**

**11. Light and Glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

**Landscaping may include low voltage yard night lighting to highlight specific aspects of the landscaping. Lighting will not be directed towards water areas or adjacent properties. The existing pier and PWC lift do not produce light or glare.**

b. Could light or glare from the finished project be a safety hazard or interfere with views?

**No.**

c. What existing off-site sources of light or glare may affect your proposal?

**None known.**

d. Proposed measures to reduce or control light or glare impacts, if any:

**None.**

**12. Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

**The portion of Lake Washington within the project site is used for water-dependent recreation such as swimming, boating, etc.**

b. Would the proposed project displace any existing recreational uses? If so, describe.

**No. The project has been designed to support water-dependent recreation. As currently constructed, the existing pier and PWC lift do not present a barrier to navigation.**

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

**The existing pier was designed fit the unique configuration of the key to limit hazards to navigation.**

**13. Historic and Cultural Preservation**

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

**None known.**

b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

**None known.**

c. Proposed measures to reduce or control impacts, if any:

**Does not apply.**

**14. Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

**The project site is served by Crescent Key, an improved right-of-way. No change is proposed to the existing access configuration.**

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

**No. 0.5 miles.**

c. How many parking spaces would be completed project have? How many would the project eliminate?

**Does not apply.**

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not

Including driveways? If so, generally describe (indicate whether public or private).

**No.**

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

**Pleasure watercraft frequently utilize the portion of Lake Washington located within the project site.**

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

**None.**

g. Proposed measures to reduce or control transportation impacts, if any:

**None proposed.**

## 15. Public Services

a. Would the project result in an increased need for the public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

**No.**

b. Proposed measures to reduce or control direct impacts on public services, if any.

**None proposed.**

## 16. Utilities

a. Circle utilities currently available at the site: (electricity), (natural gas), (water), (refuse service), (telephone), (sanitary sewer), septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

**None proposed.**

## Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature.....

Date Submitted..... 4-12-2011 .....

**Evergreen Aquatic Resource Consultants, LLC**
PO Box 1721 – Issaquah, Washington 98027
425.677.7166 (t) | 866.584.2750 (f) | www.evergreenarc.com

# Critical Area Report:

## Lee Shoreline Buffer Landscaping, Pier, and PWC Lift

2 Crescent Key
Bellevue, Washington


**Project Number 11008**
**April 12, 2011**

# Critical Area Report:
# Lee Shoreline Buffer Landscaping, Pier, and PWC Lift

**2 Crescent Key**
**Bellevue, Washington**

April 12, 2011

Prepared for:

**Mia Lee**
2 Crescent Key
Bellevue, Washington 98006

Prepared by:

**Evergreen Aquatic Resource Consultants, LLC**
PO Box 1721 – Issaquah, Washington 98027
425.677.7166 (t) | 866.584.2750 (f) | www.evergreenarc.com

# Executive Summary

This report has been prepared per Bellevue Land Use Code (LUC) 20.25H.230 to demonstrate that the proposed project, including modifications to the standards established in LUC 20.25E and LUC 20.25H, provides for a net improvement in on-site shoreline critical area buffer functions and values when compared to the standard application of the requirements contained within LUC 20.25E and LUC 20.25H.

The proposed project requires modification to portion of the 25-foot shoreline critical area buffer located within a 0.48 acre residentially zoned parcel at 2 Crescent Key in the Newport Shores neighborhood of Bellevue, Washington. The purpose of the shoreline buffer modification is to accommodate proposed landscape improvements within the central portion of the site. In addition, the project includes modification to the design standards included within LUC 20.25E for purposes of obtaining "after-the-fact" permits for a pier and personal watercraft (PWC) lift previously installed during the winter of 2008/2009. Mitigation provided by the project includes the enhancement of degraded shoreline critical area buffers within the project site at a ratio of one-to-one (1:1).

By enhancing 1,621 square feet (sf) of existing landscaped areas, the proposed project provides for in a net improvement in the following shoreline critical area buffer functions and values:

- sediment and pollutant retention;
- general wildlife habitat;
- large woody debris recruitment; and
- insect and nutrient export (general food chain support).

In the absence of the proposed project, on-site shoreline critical area buffers will continue to provide limited to no ecological function and value.

We trust that this report meets your present needs. If you have any questions regarding the findings included in this report and/or require additional assistance with this project, please do not hesitate to call me at (425) 677-7166 or email me at psuper@evergreenarc.com.

This critical area study was prepared by the undersigned.

Peter P. Super
Professional Wetland Scientist

# Report Limitations

This critical area report represents an analysis of information provided by Ms. Mia Lee together with information independently gathered by Evergreen Aquatic Resource Consultants, LLC during the course of our study and analysis. We warrant that our work conforms to the standards generally accepted in our industry for critical area identification, delineation, and classification and that this report has been prepared substantially in accordance with all known technical guidelines and criteria in place at the time of report preparation. No other warranty, express or implied, is made.

The determination of shoreline limits, classifications, and ecological functions is an inexact science requiring subjective determinations. The results and conclusions presented in this report represent a best professional opinion based the best available science as well as applicable regulatory requirements known to be in effect at the time that our work was completed. All opinions presented in this report should be considered preliminary until confirmed and/or otherwise approved by the City of Bellevue.

This critical area report may incorporate information provided by others. While this information is believed to be reliable, in some cases Evergreen Aquatic Resource Consultants, LLC could not verify the accuracy of such information and thus is not responsible for any errors and/or omissions, which have been incorporated into our work as a result of its use.

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# 1.0 Introduction

Evergreen Aquatic Resource Consultants, LLC is pleased to present this report summarizing our recent critical area assessment work conducted within a 0.48-acre residentially zoned parcel located at 2 Crescent Key in the Newport Shores neighborhood of Bellevue, Washington. This report has been prepared to demonstrate that the proposed project, including modification to the standards established in Bellevue Land Use Code (LUC) 20.25E and LUC 20.25H, provides for a net improvement in on-site shoreline critical area buffer functions and values when compared to the standard application of the requirements contained within LUC 20.25E and LUC 20.25H. In the absence of the proposed project, on-site shoreline critical area buffers will continue to provide limited to no ecological function and value.

This report should be reviewed with the various site plans and the shoreline buffer enhancement plan prepared by Evergreen Aquatic Resource Consultants, LLC for the proposed project.

# 2.0 Project Narrative

## 2.1 Project Site Description

The project site is a developed 0.48 acre residentially zone parcel located in the northwest corner of the intersection of Crescent Key and Cascade Key in Bellevue, Washington (Figure 1 – next page). A two story single-family residence exists within the central portion of the site. Surrounding the residence are formally landscaped areas, which include paver paths and stairs as well as low rockeries and ornamental shrubs, trees, and various groundcover species.

The project site has shoreline frontage on the constructed canals or "keys" that connect properties located in the Newport Shores neighborhood directly to Lake Washington. A concrete bulkhead exists along the entire shoreline frontage within the project site. The concrete bulkhead extends off-site to the west and north onto adjacent properties.

Land use surrounding the project site is residential in nature and includes developed parcels similar in character to the project site. A small private park is located immediately west of the project site and is accessed directly from Cascade Key.

Photos showing the project site is included in Appendix A of this report.

## 2.2 Critical Areas, Critical Area Buffers, and Structure Setbacks

Lake Washington is classified as a "shoreline critical" area by Bellevue Land Use Code (LUC) 20.25E.017D. Development activities that occur either in whole or part within and/or adjacent to Lake Washington are regulated by Bellevue's "Shoreline Overlay District" (LUC 20.25E) and Bellevue's "Critical Areas Overlay District" (LUC 20.25H).

Because the project site is considered "developed", a 25-foot standard width shoreline critical area buffer is required from the ordinary high water mark (OHWM) of Lake Washington (LUC 20.25H.115.B.1.a.ii). The OHWM of Lake Washington within the project site occurs at an elevation of 18.59' (NAVD 88) and is limited horizontally by the concrete bulkhead located along the entire on-site shoreline frontage. The required 25-foot shoreline buffer extends east and south from the concrete bulkhead.

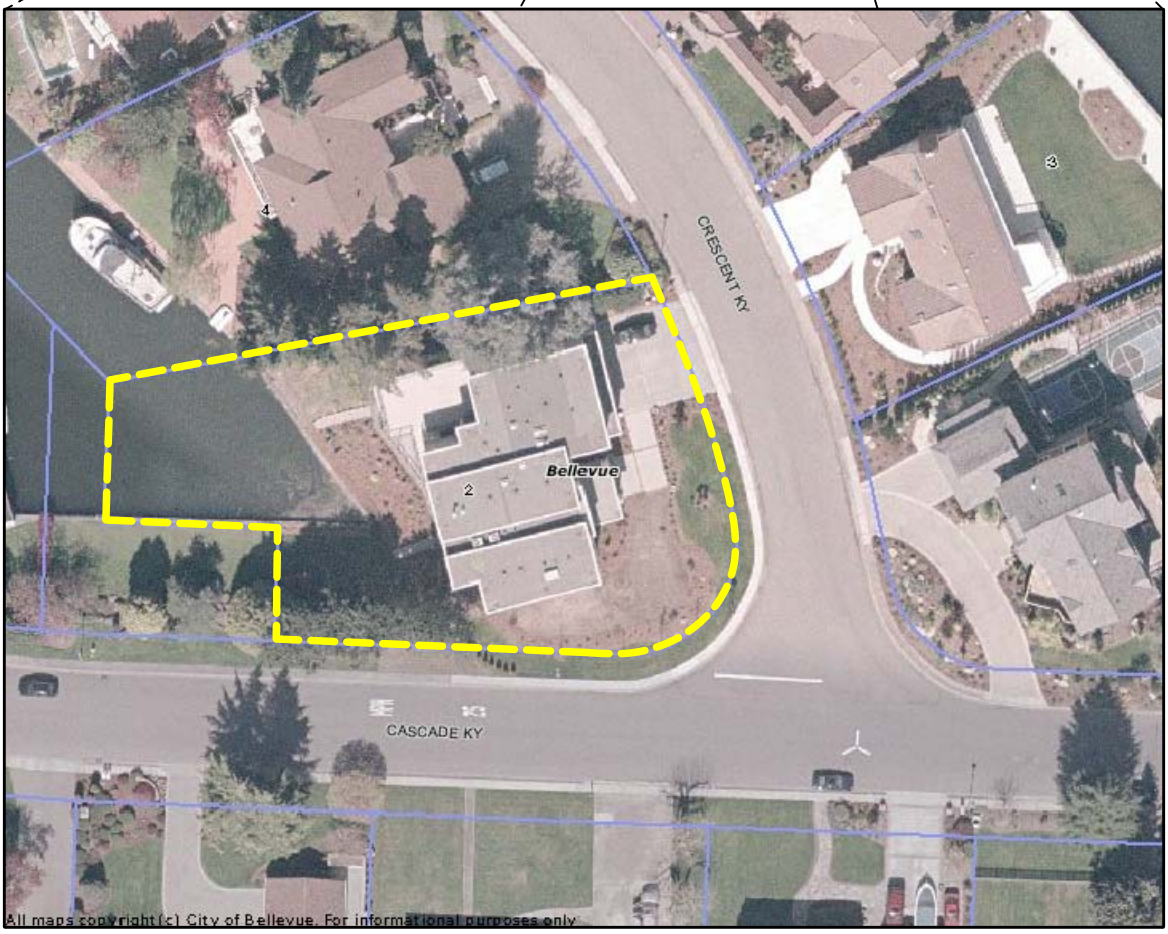
Project Site Address:

2 Crescent Key
Bellevue, Washington 98006.

A portion of the northeast quarter section of Section 17, Township 24 North, Range 5 E W.M.

Approximate center of project site -

Lat: 47.56749
Long: -122.18929




0 Varies Varies
Scale in Feet

Photo Reference: www.nwmaps.net.

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Evergreen Aquatic Resource Consultants, LLC
Wetland Delineation • Mitigation Design • Compliance Monitoring

| Vicinity Map | 4/12/2011 |
|---|---|
| 2 Crescent Key - Bellevue, Washington<br>Prepared for: Mia Lee | Figure 1 |

In addition to the standard width shoreline critical area buffer, a 25-foot standard width structure setback extends east and south from the outer limits shoreline critical area buffer (LUC 20.25H.115.C.2.b). The entire western portion as well as part of the central portion of the project site exists as either shoreline critical area buffer or related structure setback.

## 2.3 Project History

A pre-application meeting was held with the City of Bellevue in July 2009 to determine if the City's Land Use Division could approve various landscape improvements proposed by the landowner. These improvements included significant hardscape and softscape upgrades within the on-site 25-foot shoreline critical area buffer. In a subsequent follow-up letter regarding the pre-application meeting findings, the City of Bellevue provided specific recommendations to modify the proposed landscape improvements to ensure conformance with applicable LUC requirements. Figure 2 (below) summarizes the general changes recommended by the City of Bellevue.

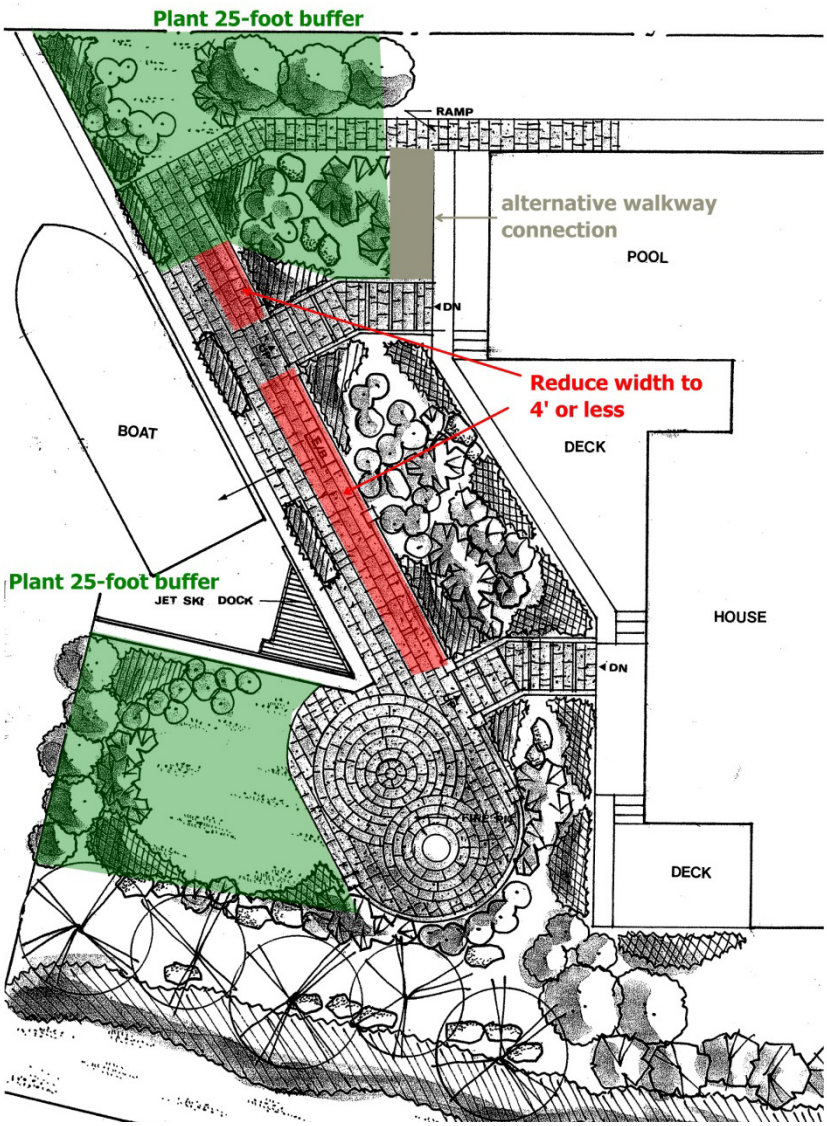



**Figure 2 – City of Bellevue Recommended Changes to Original Landscape Plan**

In addition to the revisions recommended in Figure 2, the City of Bellevue required obtaining "after-the-fact" permits for a small pier and personal watercraft (PWC) lift installed within the project site in the corner formed by the existing concrete bulkhead. The small pier platform and PWC lift were installed during the winter of 2008/2009.

On February 26, 2011, the City of Bellevue issued a stop work order (reference #11-104302-EA) for among other things "work in critical area without permit", which was ongoing within the project site at that time. When the stop work order was issued, site preparation work was underway in an effort to install various hardscape features within the central portion of the project site, including the 25-foot shoreline critical area buffer. A February 23, 2011 email from the City of Bellevue described the necessary steps to resolve the stop work order. Among the various requirements was the need to obtain a Critical Area Land Use Permit (CALUP) for the shoreline improvements under construction as well as a Shoreline Permit for the existing pier and PWC lift.

Following this direction, Evergreen Aquatic Resource Consultants, LLC was contracted by the landowner to provide this critical area report, a shoreline critical are buffer enhancement plan, and the permitting support services needed to obtain both the CALUP and Shoreline Permit necessary to resolve the stop work order.

## 2.4 Proposed Project

This section describes the major design components of the proposed project.

### 2.4.1 Landscape Improvements

Proposed landscape improvements include the following key design elements:

1. Removal of existing lawn and ornamental plant species.
2. Construction of a wheelchair accessible ramp from the existing residence to the on-site shoreline frontage. Ramp surface will be concrete pavers.
3. Construction of a circular sand-set paver patio adjacent to the existing concrete bulkhead. The proposed wheelchair accessible ramp will terminate at the patio.
4. Replacement of and/or improvement to various other steps and pathways necessary to connect the existing residence and side yard areas to the paver patio, wheelchair accessible ramp, and concrete bulkhead.
5. A constructed water feature.

The proposed landscape improvements provide for reasonable and appropriate recreational use of on-site shoreline environments by the underlying landowner, including water-dependent uses such as watercraft moorage and use. Existing shoreline critical area buffer within the project site comprises formally landscaped areas, limited paver surfaces, and two stairways from the existing residence to the bullheaded shoreline of Lake Washington. Photo 1 (Appendix A) shows existing conditions within on-site shoreline buffer areas prior to and after the recent site preparation work. The proposed landscape modifications are consistent with existing use of on-site shoreline critical areas buffer as well as other similar uses on adjoining properties and do not present a substantial change in use when compared to existing conditions.

The proposed landscape improvements comprise 1,513 square feet (sf) or 47 percent of the on-site shoreline critical area buffer area.

### 2.4.2 Small Pier and PWC Lift

In addition to the landscape improvements described in Section 2.4.1, the proposed project also includes obtaing "after-the-fact" permits for the existing small pier and PWC lift. Photo 2 (Appendix A) shows the installed small pier and PWC lift.

The existing small pier is a wood framed structure located in the corner formed by the on-site concrete bulkhead and constructed in late 2008. Total overwater coverage is 52 sf. The small pier is attached to and supported by the existing concrete bulkhead. No piling or inwater support is needed.

The PWC lift is a pre-manufactured plastic drive-on/push-off float designed specifically to hold two PWC. The lift measures approximately 123 sf and is held in place using two small diameter galvanized steel posts, which have been driven into the lakebed.

### 2.4.3 Shoreline Buffer Enhancement

The proposed project includes 1,688 sf of shoreline critical area buffer enhancement. The enhancement work consists of the conversion of two existing landscaped areas located within the project site to high functioning native plant communities. Existing lawn and landscaping will be removed, existing soils will be de-compacted and amended, and 210 native plantings will be installed. Photos 3 and 4 (Appendix A) show existing site conditions within the two proposed enhancement areas.

Per LUC 20.25H.118(A), 1,513 sf shoreline critical area enhancement is provided at a ratio of one-to-one (1:1) for the portion of the proposed landscape improvements that occur within the standard width 25-foot shoreline critical area buffer. In addition, 175 sf of shoreline critical area buffer enhancement is provided at a ratio of 1:1 for the overwater coverage provided by the existing pier and PWC lift. To accommodate the required enhancement, the standard width shoreline critical area buffer has been expanded in the southern enhancement area from 25 feet to approximately 29.5 feet. In addition, the standard width shoreline critical area buffer limits located in the northern enhancement area have been reconfigured to provide approximately 10 feet of horizontal separation between the existing residence and the buffer limits. This requires reducing the standard width shoreline critical area buffer by 19 sf and expansion of the standard width shoreline critical area buffer by 50 sf.

In the southern portion of the site, the proposed shoreline critical area buffer enhancement in combination with other recently enhanced shoreline buffer areas located in the adjoining private park will provide for a locally significant and continuous corridor of restored shoreline critical area buffer that currently does not exist within the local area.

## 2.5 Minimum Necessary Impact

Because shoreline frontage provides both important ecological functions as well as valuable recreational uses, the primary goal of the proposed project is to achieve a balance between the landowner's responsible use of on-site shoreline areas and the specific environmental protection objectives established by LUC 20.25E and 20.25H. The proposed project results in a consolidated shoreline development envelope and provides for locally significant enhancement of existing degraded shoreline buffer environments. This section describes how the proposed project is the minimum necessary impact to achieve reasonable and appropriate use of on-site shoreline environments.

### 2.5.1 Shoreline Buffer Modification

The proposed shoreline buffer modification has undergone significant evolution from the original design concept. The original design included:

1. Removal of most existing landscape species from within on-site shoreline critical area buffers.
2. The construction of a wheelchair accessible ramp from the northern portion of the site to a 6 foot wide paver path designed to parallel the existing concrete bulkhead.
3. Two stairways from the existing residence to the paver path located along the concrete bulkhead.
4. A large sand-set paver patio comprising the majority of the southwest corner of the project site.
5. The installation of extensive landscaping comprising various lawn and non-native shrub and groundcover species throughout the on-site shoreline critical area buffers.

The design reviewed by the City of Bellevue in 2009 was largely the same as the original design, though the paver patio located in the southwest portion of the site had been reduced somewhat in total area from the original design.

Shoreline critical area buffer enhancement was not included with the original design and/or the design reviewed by the City of Bellevue in 2009.

The current design incorporates the City of Bellevue's 2009 review recommendations and provides the following modifications to further reduce the proposed project to the minimum necessary impact:

- Reconfiguring the wheelchair accessible ramp to the southern portion of the site to consolidate site development activities.
- Reducing the width of the paver path paralleling the concrete bulkhead from six feet to four feet – essentially replacing the pre-existing pavers present along the majority of the bulkhead.
- Reconfiguring the proposed sand-set paver patio area to a circular shape measuring 14 feet in diameter.
- Reconfiguring the southern stairway to connect with shoreline frontage via the wheelchair accessible ramp.
- Connection of the existing walkway located along the northern portion of the residence to the paver path paralleling the bulkhead via a stairwell to be replaced in a location similar to that currently exists.
- 1,688 sf of shoreline critical area buffer enhancement.

The elevation change between the existing residence and the on-site shoreline frontage combined with the need to make the proposed ramp wheelchair accessible requires a switchback design for the proposed ramp. The current ramp design is the minimum necessary to achieve a safe and accessible grade in the ramp configuration. The switchback design compresses the ramp into smallest footprint possible given the vertical transition from the residence to the on-site shoreline frontage.

### 2.5.2 Small Pier and PWC Lift

The unique configuration of the existing concrete bulkhead within the project site allowed for the construction of a pier that was both minimal in overwater coverage and eliminated the need for piling or similar in-water structures to support the pier. As the existing small pier and PWC lift are the smallest possible configuration given site conditions, no change is proposed for these features.

### 2.6 Alternatives Analysis

The proposed project represents a significant evolution of the original design concept. Due to the unique nature of shoreline use, there are no feasible alternatives to the current design that provide similar use of shoreline areas, with less impact. The project scope has been significantly reduced from the original design concept and currently includes significant shoreline enhancement, which was not included in the previous designs.

## 3.0 Purpose and Need for Critical Area Report

The proposed project requires modification to the following LUC sections:

- **LUC 20.25H.115**

  Limited portions of the standard width 25-shorline buffer will be reduced to zero feet to accommodate the proposed landscape improvements. Reductions in the standard width shoreline critical area buffer will be mitigated for at a ratio of (1:1).

- **LUC 20.25E.080.N**

  The width of the existing small pier exceeds the maximum allowed width of four feet, the pier surface is solid wood rather than the required grated surface, and the standard 10-foot wide shoreline critical area planting strip will not be provided along the entire shoreline. Due to the proposed landscape improvements and mitigating measures inherent to the existing pier design itself, deviations from the developments standards established in LUC 20.25E.080.N will be mitigated at a ratio of 1:1 for the overwater coverage provided by the pier and PWC lift.

In the absence of the proposed project, on-site shoreline critical area buffers will continue to provide limited to no ecological function and value.

## 4.0 Impact Assessment

This section describes existing shoreline buffer conditions, anticipated future buffer conditions, and the "functional lift" provided by the proposed project.

### 4.1 Existing Buffer Conditions

Currently, shoreline critical area buffer within the project site comprises formally landscaped areas including various non-native shrub and small tree species, lawn, and two stairways from the existing residence to the concrete bullheaded shoreline of Lake Washington (Photos 1, 3, and 4 – Appendix A).

Other than a few small to medium diameter Douglas-fir (*Pseudotsuga menziesii*) and western redcedar (*Thuja plicata*) trees located along property lines, native vegetation is generally absent. Shrub or groundcover species present prior to the recent site preparation work or that otherwise currently exist within the project site were typical of that found within mature landscaping in the Pacific Northwest. Species included: Japanese maple (*Acer palmatum*), kinnikinnick (*Arctostaphylos uva-ursi*), heather (*Calluna* sp.), hydrangea (*Hydrangea* spp.), juniper (*Juniperus* spp.), lily-of-the-valley shrub (*Pieris* sp.),

rhododendron/azalea (*Rhododendron* spp.), arborvitae (*Thuja* spp.), rose (*Rosa* spp.), and periwinkle (*Vinca* sp.).

Topography within on-site shoreline critical area buffer transitions quickly from the existing residence to the shoreline bulkhead. Total elevation change is approximately 7 feet.

Buffer aspect is generally to the west, though trees located along Cascade Key provide significant shade when sun angle is low to moderate relative to the horizon such as during the winter months. Central and northern portions of buffer areas are characterized by sunny and generally well exposed conditions during the summer months.

Soil conditions within buffer areas include a mix of topsoil and subsoil typical of landscaped areas in the lower Puget Sound area. Soil hydrologic conditions are variable ranging from apparently well drained in the northern portion of the site to moist in the southern portions of the site. Lawn areas appear to be well compacted.

Existing shoreline critical area buffers within the project site currently provide low ecological function and value due to a lack of native vegetation, a lack of complex multi-layered plant communities, and limited native forage or cover for wildlife. The portion Lake Washington within and adjacent to the project site comprises a constructed canal (e.g., key) that lacks unique fisheries habitat, suitable spawning habitat, and the shallow water preferentially used by salmonids along lakeshores for rearing and migration. Water depths within the canal along the on-site bulkhead range seasonally from approximately 7.5 feet to 9 feet depending on location.

Land use surrounding the project site is relatively dense residential development and would be considered fully developed under existing zoning regulations or plat conditions. The portion of the key within the project site is frequently used for swimming and pleasure craft use. Small piers, PWC lifts, and various other overwater structures are frequent within the local area.

## 4.2 Proposed Buffer Conditions

The proposed project consolidates landscape improvements into the smallest configuration necessary to achieve the intended recreational use of on-site shoreline areas. On-site shoreline critical area buffers located adjacent to the proposed landscape improvements will be enhanced. Proposed enhancement work focuses on improving the general wildlife habitat suitability of the on-site buffer by installing site-specific native trees, shrubs, and groundcovers. Given the existing conditions of on-site shoreline critical area buffers as well as surrounding land use, general wildlife habitat suitability is the single most important function that the on-site buffer can provide within the local environment.

Historic undisturbed shoreline conditions along Lake Washington are described as dominated by willow (*Salix* sp.) and hardstem bulrush (*Schoenoplectus acutus*) (Herrera Environmental Consultants, Inc. 2005). Because removal of the existing concrete bulkhead is not feasible and shallow water environments are not present within the project site, plant species selection and distribution within the enhancement areas is designed to provide conditions similar to the upland habitats described by Franklin and Dyrness (1973) for the Puget Sound region of Washington State. To integrate the enhancement work into the broader landscape, plant species selection considered the wildlife improvement capabilities of each species as well as the aesthetic of each selected species.

The enhanced buffers will increase habitat capabilities within the local area by providing opportunities

for wildlife forage and cover that are currently limited by the existing plant community. Installed plant species will result in a multilayered plant community with high species richness and complex vertical structure with locally significant edge habitat. Because of the proximity to lake environments, the proposed native plants will also increase native leaf litter, vegetative matter, and corresponding terrestrial insect contributions to the portion of Lake Washington located within the project site.

De-compaction and amendment of the soils within the enhancement areas will improve soil nutrient, water-holding capacity, and overall fertility within the local area. Resultant soil conditions will slow water runoff and filter pollutants, while the installed plant species will bind soil particles by establishing the deep root systems typical of native plant species.

### 4.3 Function and Value Assessment

The function and value assessment presented in this section is qualitative in nature using the best available science for shoreline buffers summarized within the *2005 Best Available Science Review: City of Bellevue's Critical Areas Update* (Herrera Environmental Consultants, Inc. 2005). Table 1 (next page) provides an assessment of the "functional lift" or improvement in on-site shoreline critical area functions provided by the proposed project.

Although degraded to varying degrees by urbanization, Lake Washington shoreline areas within the City of Bellevue are described as capable of providing multiple site-specific ecological functions and values (Herrera Environmental Consultants, Inc. 2005). By their nature, shoreline critical area buffer ecological functions and values are complex, but can be described as generally including:

- pollutant retention (water purification)
- sediment delivery
- water temperature moderation through shade
- general wildlife habitat
- large woody debris recruitment
- insects and nutrient export for food chain support

The shoreline buffer enhancement work included with the proposed project results in the conversion of existing landscaped areas to native plant communities. The greatest improvement in shoreline buffer function resulting from the proposed project is in general wildlife habitat. Other improvements include food chain support in the form of substantially increasing native leaf litter, vegetative matter, and corresponding terrestrial insect contributions.

## 5.0 Mitigation: Shoreline Critical Area Buffer Enhancement

The proposed project includes mitigation to provide for a net improvement in shoreline critical area buffer functions and values when compared to standard application of LUC 20.25E and LUC 20.25H requirements. The proposed mitigation includes 1,688 sf of shoreline critical area buffer enhancement at a ratio of 1:1. This section should be reviewed in conjunction with the mitigation plans prepared for the proposed project.

**Table 1 – Buffer Function and Value Lift Analysis**

| Function | Existing Conditions | Proposed Modification | Functional Lift |
|---|---|---|---|
| **Sediment and pollutant retention** | Lawn present; Low potential to provide function – stormwater directed towards buffer is limited to sheet flow from adjacent yard areas. | Lawn will be removed; 1,688 sf of shoreline buffer enhancement – includes soil de-compaction and amendment as well as deep rooting native plants. | **Somewhat Improved** Limited by opportunity to provide function within the local area. |
| **Water temperature through shade** | Limited trees present. Low potential to provide function – site aspect is to west and lake temperature moderation is provided by macroclimate controls such as air temperature, surface water inputs. | Install six native conifer trees comprising two species. | **No change** Aspect is to west. Water temperature moderation provided by air and surface water inputs. |
| **General wildlife habitat** | Vegetation comprises lawn and non-native shrubs and groundcovers. Lacks species richness and vertical complexity. Provides little forage or escape habitat. | Provide 1,688 sf of high functioning forage and escape habitat characterized by high species diversity and complex vertical structure with valuable locally significant edge habitat. | **Significantly improved** |
| **LWD recruitment** | Limited large trees present. Low potential and opportunity based on normal use and maintenance of keys. | Install six native conifer trees comprising two species. | **Somewhat Improved** Limited opportunity based on normal use and maintenance of keys. |
| **Insect and nutrient export (gen. food chain support)** | Vegetation present is largely non-native. | Provide 1,688 sf of buffer habitat having high native plant species richness. | **Improved** |

## 5.1 Mitigation Sequencing

LUC 20.25H.215 requires that proposed modifications to critical areas and/or their respective buffers be reviewed to ensure that all reasonable efforts have been examined to ensure that the proposed modification avoids, minimizes, mitigates, and monitors impacts to critical areas and/or their respective buffers. Table 2 (below) summarizes how the proposed project demonstrates compliance with the requirements of LUC 20.25H.125.

**Table 2 – Mitigation Sequencing**

| LUC 20.25H.125 Requirement | How Proposed Project Complies with Requirement |
|---|---|
| **Avoidance** | The proposed landscape improvements avoid 1,733 sf (53%) of existing shoreline critical area buffer. |
| **Minimization** | The proposed project has been significantly re-configured from the original design. Project elements have been reduced to consolidate development activities into the smallest configuration possible, which still provides for beneficial use of shoreline environments for the underlying landowner. Section 2.5 of this report describes how the proposed project has been minimized by limiting the degree or magnitude of the proposed project. |
| **Mitigation** | The proposed project includes 1,688 sf of shoreline critical area buffer enhancement at a ratio of one-to-one. Mitigation will be provided on-site adjacent to the proposed shoreline modifications. The enhancement plan prepared for this project describes the proposed mitigation in detail. |
| **Monitoring** | The proposed project includes three years of post-construction compliance monitoring. Section 5.6 describes the monitoring program included with the mitigation. |

## 5.2 Plan Phases

Because of the narrow scope of the proposed mitigation work, the proposed mitigation will completed as a single phase. A conceptual mitigation plan has not been prepared for the project. The submitted shoreline buffer enhancement plan should be considered a "detailed plan" for purposes of the phasing allowances included in LUC 20.25H.220A.

## 5.3 Goals/Objectives/Performance Standards

The goals, objectives, and performance standards for the proposed mitigation work are detailed on the submitted shoreline buffer enhancement plan. They include providing high functioning shoreline buffer habitat within two areas. Shoreline buffer enhancement utilizes best management practices to ensure high plant species diversity and coverage, low occurrences of non-native plant species, and appropriate maintenance and monitoring.

### 5.4 Specifications/Description of the Work to be Performed

The proposed mitigation work includes site preparation (e.g., existing vegetation removal, soil de-compaction, and soil amendment) as well as native plant species installation within two areas. A description of the mitigation work to be performed is included on the prepared shoreline buffer enhancement plan.

### 5.5 Timing of Work

The proposed mitigation work will be completed as soon as possible after permission to proceed is granted by the City of Bellevue and site/weather conditions are suitable for the proposed work.

### 5.6 Compliance Monitoring Program

A three-year compliance monitoring program is included as a critical component of the project. In addition to completing as-built documentation, compliance monitoring will include annual site assessment of the shoreline buffer enhancement areas to ensure that the proposed mitigation work is successful. A detailed compliance monitoring program is described on the prepared shoreline buffer enhancement plan.

### 5.7 Contingency Plan

Should any monitoring review that the success criteria for the respective year is not satisfied and such failure would result in significant impact to the critical area and/or critical area buffer, appropriate contingency plans will be developed to address any deficiency. A detailed contingency plan is detailed on the submitted shoreline buffer enhancement plan.

### 5.8 Assurance Devices

Any approval of the submitted shoreline buffer enhancement plan may be subject to an assurance device in conformance with LUC 20.40.290. If required, a bond or similar assurance device will be provided by the landowner for the proposed shoreline buffer enhancement work.

## 6.0 Decisional Criteria and Performance Standard Assessment

### 6.1 Shoreline Overlay District Performance Standards for Moorage Facilities - LUC 20.25E.080N

An analysis of the existing small pier and PWC lift per the performance standards established in LUC 20.25E.080(N) is presented in this section:

**1. New or Expanded Residential Moorage Facilities:**

**a. When Allowed. Construction of one noncommercial, residential moorage facility per upland residential waterfront lot or one joint-use moorage facility for two or more adjacent waterfront lots is allowed in accordance with this subsection N. Expansion of any legally established existing moorage facility is permitted only to the extent the expansion complies**

**with the development standards of subsection N.1.b below, and does not cause the moorage facility to exceed, or further exceed, any of the limitations in subsection N.1.b.**

**Moorage shall only be permitted within:**

**i. Lots created on or after the effective date of the ordinance codified in this section having water frontage meeting or exceeding the minimum lot width required in the applicable land use district;**

**ii. Lots created prior to the effective date of the ordinance codified in this section; or**

**iii. Nonbuilding tracts platted for the purpose of providing common moorage for a group of contiguous properties.**

**For the purposes of meeting the requirements of subsection N.1.a.i above, adjoining property owners may combine their water frontage by mutual agreement recorded with the King County Records and Elections Division and the Bellevue City Clerk. Only one moorage facility is permitted pursuant to such a combined frontage agreement, which may connect with the property landward of the ordinary high water mark at only one location.**

The project conforms to this standard. The project site is a legally established lot created prior to the effective date of the ordinance codified in LUC 20.25E. Currently, no moorage facilities exist within the project site. The existing small pier and PWC lift provide for one noncommercial, residential moorage facility.

**b. Development Standards**

**i. The only structures permitted in the first 30 feet waterward of the ordinary high water mark are piers and ramps. All floats and ells must be at least 30 feet waterward of the OHWM.**

The project does not conform to this development standard. The PWC lift is a float and is located less than 30 feet from the OHWM. Given the narrow width of the key and unique configuration of the on-site OHWM, a properly located PWC lift would require a pier that extends significantly out into the narrow key. Such a configuration would present a navigation hazard for watercraft using the key and would require a pier with significantly larger overwater coverage as well as numerous pilling to support the pier. The PWC lift location presents the least impact to navigation within the key and takes full advantage of the unique configuration of the existing shoreline bulkhead configuration.

**ii. No skirting is allowed on any structure.**

The project conforms to this development standard. Skirting is not proposed.

**iii. Surface coverage (including all overwater portions of the moorage structure):**

**(1) Moorage facilities serving only one residential waterfront lot shall not exceed 480 square feet.**

**(2) Moorage facilities servicing two residential waterfront lots shall not exceed 700 square feet.**

**(3) Moorage facilities serving three or more residential waterfront lots shall not exceed 1,000 square feet.**

The project conforms to this development standard. The existing small pier and PWC lift measure 175 sf in total overwater coverage and service only the residential waterfront lot located at 2 Crescent Key.

**iv. Location, Width and Length Regulations. Docks with configurations that do not include any or all of the elements below shall be subject to the overall length and square footage limitations of this section. No portion of a dock shall exceed four feet in width, unless allowed in this subsection N.1.b.iv.**

**(1) Piers shall not exceed four feet wide and shall be fully grated.**

**(2) Ramps shall not exceed three feet wide and shall be fully grated.**

**(3) Ells.**

**(a) Ells are allowed only over water with depths of nine feet or greater at the landward end of the ell.**

**(b) Ells may be up to six feet wide by 20 feet long with a two-foot-wide strip of grating down the center; or**

**(c) Ells may be up to six feet wide by 26 feet long with grating over the entire ell.**

**(4) Floats.**

**(a) Floats are allowed only over water with depths of 10 feet or greater at the landward end of the float.**

**(b) Floats may be up to six feet wide by 20 feet long, with a two-foot-wide strip of grating down the center.**

**(5) Total Facility Length. In no case may any moorage facility extend more than 150 feet waterward of the ordinary high water mark.**

The project does not conform to the development standards established by this section.

Because the pier is uniquely located within the corner of the key and is not supported by piling or other inwater support structures, the resultant maximum width of the pier is 14.5 feet. Decking on the pier is currently solid wood. Conformance to the width standards established by this section would result in a significantly narrower pier, but would also require piling to support the outside edge of the pier. Because the surface area of the existing pier has been minimized, the ecological benefit provided by grating on such a small project is negligible.

The PWC lift is a drive on-push off float measuring 9.75 feet by 12.58 feet. When used, the PWC lift is designed to extend minimally beyond the PWC's to provide only safe access to the stored PWC's. The buoyancy of the entire PWC lift is used to support the stored PWC's. If grating was to be provided, a larger float would be required, thereby negating any ecological benefit that grating would provide.

Mitigation provided by the project for the deviations to this development standard include expansion and enhancement of the on-site shoreline critical area buffer by 175 sf, an area equivalent to the overwater coverage provided by both the pier and PWC lift.

**v. Structural Piling Specifications. The first (nearest shore) piling shall be steel, four-inch piling and at least 18 feet waterward of the ordinary high water mark. Piling sets beyond the first are not required to be steel, shall be spaced at least 18 feet apart and shall not be greater than 12 inches in diameter. Piles shall not be treated with pentachlorophenol, creosote, CCA or comparably toxic compounds. If ACZA pilings are proposed, the applicant will meet all of**

**the Best Management Practices, including a post-treatment procedure, as outlined in the amended Best Management Practices of the Western Wood Preservers. Steel piles will be installed using approved sound attenuation measures.**

No piling are used to support the small pier. Two approximately 2-inch diameter galvanized steel pipes are used to secure the PWC lift. Use of larger piling is not necessary or warranted based on the location of the project within a protected key and the PWC lift manufacture's specifications for securing the lift.

**vi. Shoreline Critical Area and Critical Area Buffer Functions.**

**(1) Existing Habitat Features. Existing habitat features (e.g., large and small woody debris, substrate material, etc.) shall be retained and new or expanded moorage facilities placed to avoid disturbance of such features.**

The project conforms to this development standard. An existing concrete bulkhead exists along the entire on-site shoreline. Shallow water environments and/or woody debris are not present. Piling used to secure the PWC lift are the smallest diameter required. As the small pier and PWC lift are currently installed, no lakebed substrate will be disturbed. No specialized avoidance or design considerations are required to protect existing habitat features.

**(2) Invasive weeds (e.g., milfoil) may be removed with nonchemical means only.**

The project conforms to this development standard. No invasive aquatic weed control is necessary or proposed.

**(3) Shoreline Planting. In order to mitigate the impacts of new or expanded moorage facilities, the applicant shall plant emergent vegetation (if site-appropriate) and a buffer of vegetation a minimum of 10 feet wide along the entire length of the lot immediately landward of ordinary high water mark. Planting shall consist of native shrubs and trees and, when possible, emergent vegetation. At least five native trees will be included in a planting plan containing one or more evergreen trees and two or more trees that like wet roots (e.g., willow species). Such planting shall be monitored for a period of five years consistent with a monitoring plan approved pursuant to LUC 20.25H.210. This subsection is not intended to prevent reasonable access through the shoreline critical area buffer to the shoreline, or to prevent beach use of the shoreline critical area.**

The project does not conform to this development standard. The landscape improvement component of the project reduces the on-site shoreline buffer to zero feet within the central portion of the on-site shoreline critical area buffer. The installation of a vegetative strip measuring 10 feet wide along the entire length of the lot immediately landward of the OHWM is not possible where the shoreline critical area buffer has been reduced to zero.

The proposed project includes 1,688 sf of shoreline critical area buffer enhancement on either side of the proposed landscape modifications. The proposed enhancement increases the standard width shoreline buffer from 25 feet to approximately 29.5 feet wide within the southern enhancement area and a maximum of approximately 38 feet wide within the

northern enhancement area. Proposed enhancement includes soil decompaction and amendment as well as the installation of site appropriate native trees, shrubs, and groundcover species.

When compared to a narrow strip along the entire shoreline frontage, two wider shoreline buffer enhancement areas within the project site allow for a greater synergistic connection between wildlife, their habitat, food resources, and escape cover. In addition, the wider planting areas allows for a greater concentration of plant species diversity, which provides significantly more protected interior edge habitat than can be provided by a narrow planting strip configuration. The width of the proposed southern enhancement area is consistent with the width of off-site enhancement areas located within the adjoining private park. This connectively provides for a locally significant and contiguous buffer of native vegetation. A narrow 10-foot wide strip would not provide this scale of continuity.

Because the entire shoreline is bulkheaded, use of emergent vegetation and/or trees that "…like wet roots…" is not appropriate for use on the site**.**

A 3-year compliance monitoring program is included with the shoreline buffer enhancement plan. In addition to completing as-built documentation, compliance monitoring will include annual site assessment to ensure that the proposed enhancement work is successful. The prepared enhancement plan includes contingencies whereas if a major failure of the project is discovered during the 3-year monitoring period, among other things, the monitoring period can be extended.

**vii. Setback. No private moorage or other structure waterward of the ordinary high water mark, including structures attached thereto, shall be closer than 12 feet to any adjacent property line except when a mutual agreement of adjoining property owners is recorded with the King County Records and Elections Division and the Bellevue City Clerk. Excepted from the requirements of this section are boat lifts or portions of boat lifts which do not exceed 30 inches in height measured from ordinary high water mark.**

The project conforms to this development standard. The existing pier is not located within 12 feet of any property line. The PWC lift measures 15 inches in total height.

## 6.2 Critical Areas Overlay District General Performance Standard Assessment LUC 20.25H.055.C.2

Analysis of project actions per the performance standards established in LUC 20.25H.055.C.2 is provided below:

**a. New or expanded [structures and improvements] are allowed within the critical area or critical area buffer only where no technically feasible alternative with less impact on the critical area or critical area buffer exists (LUC 20.25.055.C.2.a).**

The project conforms to this performance standard. Because shoreline frontage can provide both important ecological functions as well as valuable recreational uses, the primary goal of the proposed project is to achieve a balance between the landowner's responsible use of on-site

shoreline areas and the general environmental protection objectives established by LUC 20.25E and LUC 20.25H.

The proposed landscape improvements have undergone significant evolution from the original design concept and have been designed to minimize and consolidate shoreline improvements to no more than 1,513 sf or 47 percent of the standard width shoreline critical area buffer. There is no technically feasible alternative to the proposed project that results in less impact to the on-site critical area buffer that would also provide equivalent or better use of shoreline areas for recreational and water-dependent uses.

There exists no other technically feasible alternative to the current pier and PWC lift configuration. The current configuration takes full advantage of the unique on-site bulkhead and OHWM configuration to provide minimal overwater coverage. In addition, the existing pier and PWC lift configuration does not present a navigation hazard and does not need the piling that may be required as part of alternative designs.

**b. If the applicant demonstrates that no technically feasible alternative with less impact on the critical area or critical area buffer exist, then the applicant shall comply with the following:**

**i. Location and design shall result in the least impacts on the critical area or critical area buffer.**

The project conforms to this performance standard.

The proposed landscape improvements will occur within existing landscaped areas located in the central portion of the site, closest to existing hardscape improvements as well as existing water-dependent recreational uses and residence.

The existing small pier and PWC lift takes full advantage of the unique on-site bulkhead and OHWM configuration to provide minimal overwater coverage. In addition, the existing configuration does not present a navigation hazard to watercraft use within the key and does not require the piling typically used to support larger piers.

**ii. Disturbance of the critical area and critical area buffer, including disturbance of vegetation and soils, shall be minimized.**

The project conforms to this performance standard.

The proposed landscape improvements will occur within existing landscaped areas located in the central portion of the site, closest to existing hardscape improvements as well as existing water-dependent recreational uses and residence. Existing on-site buffer areas comprise formally landscaped areas that provide limited to no ecological function and value. The project has undergone significant design evolution to minimize disturbance to vegetation and soils.

The existing small pier and PWC lift does not disturb vegetation and soils.

**iii. Disturbance shall not occur in habitat used for salmonid rearing or spawning or by any species of local importance unless no other technically feasible location exists.**

The proposed landscape improvements will occur landward of the OHWM of Lake Washington. The portion of Lake Washington located within the project site is a constructed canal that lacks

unique fisheries habitat, suitable salmonid spawning habitat, and the shallow water preferentially used by juvenile salmonids along lake shorelines for rearing and migration. Because of the unique configuration of the existing concrete bulkhead and OHWM, no other technically feasible location exists for the small pier and PWC lift.

**iv. Any crossing over of a wetland or stream shall be designed to minimize critical area and critical area buffer coverage and critical area and critical area buffer disturbance.**

Does not apply.

**v. All work shall be consistent with applicable City of Bellevue codes and standards.**

The project conforms to this performance standard. All applicable permits will be obtained for the proposed work.

**vi. The [structure and improvement] shall not have a significant adverse impact on overall aquatic area flow peaks, duration, volume, or flood storage capacity or hydroperiod.**

Does not apply.

**vii. Associated parking and other support functions….must be located outside critical area or critical area buffer except where no feasible alternative exists.**

Does not apply.

**viii. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.**

The project conforms to this performance standard. 1,688 sf of shoreline critical area buffer enhancement is provided at a ratio of 1:1. Buffer enhancement has been designed using site-specific application of the standards established in the City of Bellevue's *Critical Areas Handbook – Restoring, Enhancing, and Preservation* (The Watershed Company undated) and *Environmental Best Management Practices & Design Standards* (City of Bellevue 2006). Enhancement includes the amendment and de-compaction of soils as well as the installation of site-specific native trees, shrubs, and groundcover species. The southern buffer enhancement area in combination with the shoreline enhancement recently completed within the adjacent private park provides for a continuous corridor of native vegetation that currently does not exist within the local area.

## 6.3 Shoreline Critical Area Performance Standard Assessment – LUC 20.25H.115

An analysis of the proposed project per the performance standards established in LUC 20.25H.118 is provided below:

**A. Mitigation Preference**

Mitigation provided by the proposed project includes the on-site enhancement of shoreline critical area buffer. Because of limited site area and considering the existing developed nature of the project site, on-site replacement of lost critical area buffer is not technically feasible.

**B. Buffer Mitigation Ratio**

The project conforms to this performance standard. Mitigation for the proposed project provides for the enhancement of disturbed shoreline critical area buffer at a ratio of 1:1. The total impact area resulting from the proposed project (landscape improvements plus pier and PWC lift) is 1,688 sf. The total enhancement area is 1,688 sf.

## 6.4 Critical Area Report Decisional Criteria – LUC 20.25H.255

An analysis proposed project per the decisional criteria established in LUC 20.25H.255B is provided below:

1. **The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in OVERALL critical area or critical area buffer functions.**

   The project conforms to this decisional criteria. Existing shoreline critical area buffers within the project site provide low ecological function and value due to a lack of native vegetation, a lack of complex multi-layered plant communities, and limited forage and cover for wildlife. The proposed project results in a net improvement in the following degraded shoreline critical area buffer functions and values: sediment and pollutant retention, general wildlife habitat, large woody debris recruitment, and general food chain support.

2. **The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in the most important critical area or critical area buffer functions to the ecosystem in which they exist.**

   The project conforms to this decisional criteria. General wildlife habitat suitability is the most important ecological function and value provided by the on-site shoreline critical area buffer within the local ecosystem. The project restores general wildlife habitat suitably functions and values by providing a multilayered plant community supporting high species richness and complex vertical structure with valuable edge habitat. Following enhancement, on-site buffers can be used as potential forage habitat and escape cover for small mammals and passerine birds accustomed to urbanized environments. Because of surrounding land use, the potential for large mammal use within the project site is likely very low. The site lacks unique fisheries habitat, suitable salmonid spawning habitat, and the shallow water preferentially used by juvenile salmonids along lake shorelines for rearing and migration.

3. **The proposal includes a net gain in stormwater quality function by the critical area buffer or by elements of the development proposal outside of the reduced critical area buffer.**

   The project conforms to this decisional criteria. The project provides 1,688 sf of shoreline buffer enhancement that increases soil infiltration through soil decompaction and amendment, binding soil particles using the aggressive root systems of native plants, and a net reduction in lawn area. Because stormwater directed to the shoreline critical area buffer is limited to sheet flow from adjoining side yards, the opportunity to provide stormwater functions is extremely limited under existing and/or future conditions.

4. **Adequate resources to ensure completion of any required restoration, mitigation, and monitoring efforts.**

   The project conforms to this decisional criteria. The landowner is committed to the proposed mitigation and, if required, will post a bond or similar assurance device for the full cost of proposed mitigation as well as three years of maintenance and monitoring.

5. **The modification and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site.**

   The project conforms to this decisional criteria. Off-site lake critical areas and shoreline critical area buffers are similar to those found on-site. The proposed shoreline buffer landscaping, pier and PCW lift do not reduced the existing ecological functions and values provided by any off-site lake critical area and/or shoreline critical area buffer. Rather, the southern enhancement area included within the proposed project will have a synergistic effect with the shoreline critical area buffers located within the adjoining private park by creating a continuous corridor of native vegetation that currently does not exist within the local area.

6. **The resulting development is compatible with other uses and development in the same land use district.**

   The project conforms to this decisional criteria. Land use surrounding the project site is residential in nature and similar in character to that as currently exists within project site. The proposed landscape modifications provide reasonable and appropriate use of on-site shoreline environments by the underlying landowner, including water-dependent uses such as watercraft moorage and use. These uses are consistent with and similar in scope and scale to those uses found on neighboring parcels. The proposed landscape modifications do not present a substantial change in use when compared to existing conditions. The adjoining parcel to the north has similar hardscaping to that proposed. Likewise, boat moorage and use, including small pier platforms and PWC lifts, are common within the Newport Shores neighborhood.

## 6.5 Critical Area Land Use Permit Decisional Criteria Analysis – LUC 20.30P.140

An evaluation of the project per the decisional criteria established within LUC 20.30P.140 is provided below:

**A. The proposal obtains all other permits required by the Land Use Code.**

The project conforms to this decisional criteria. All permits and submittal requirements specified by the City of Bellevue in July 30, 2009 pre-application meeting summary letter as well as additional submittal requirements necessary to address the recent “Stop Work” order will be submitted for and comments addressed as required.

**B. The proposal utilizes to the maximum extent possible the best available construction, design, and development techniques, which result in the least impact on the critical area and critical area buffer.**

The project conforms to this decisional criteria.

The proposed project incorporates site-specific application of the standards and requirements for critical area mitigation established in LUC 20.25E and LUC 20.25H as well as in the latest revision of the City of Bellevue's *Critical Areas Handbook – Restoring, Enhancing, and Preservation* (The Watershed Company undated) and *Environmental Best Management Practices & Design Standards* (City of Bellevue 2006).

Specific best available construction, design, and development techniques incorporated into the proposed enhancement plan include:

- Appropriate site preparation work such as soil decompaction, amendment, and mulch application to prepare the enhancement areas for plant installation.
- The installation of native trees, shrubs, and groundcover adapted to soil, aspect, and hydrologic conditions present.
- Three years of post-construction monitoring and maintenance to ensure that the proposed enhancement is a success.

Design considerations incorporated into the proposed enhancement include:

- The nature of anticipated impacts to critical area functions and values due to the proposed shoreline buffer modifications.
- The proximity of enhancement areas to shoreline critical areas.
- The developed nature of the existing shoreline critical area buffer.
- Standard City of Bellevue enhancement requirements for similar projects.

Design options that were analyzed, but were rejected because they would be more detrimental to the critical area and critical area buffer included:

- Removal of the existing concrete bulkhead.

**C. The proposal incorporates the performance standards of Part 20.25H LUC to the maximum extent applicable (LUC 20.30P.140.C).**

The project conforms to this decisional criteria. The proposed project incorporates critical area performance standards established in LUC 20.25H to the maximum extent possible. See Section 6.2 through Section 6.4 of this report for a detailed description of how the proposed has been designed to conform to all LUC 20.25H requirements.

**D. The proposal will be served by adequate public facilities including streets, fire protection, and utilities (LUC 20.30P.140.D).**

The project conforms to this decisional criteria. The proposed project is located on a developed parcel already served by adequate public facilities and does not require additional or specialized public facilities.

**E. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC 20.25H.210; except that proposal to modify or remove vegetation pursuant to an approved Vegetation Management Plan under LUC 20.25H.055.C.3.i shall not require a mitigation or restoration plan (LUC 20.30P.140.E).**

The project conforms to this decisional criteria. The shoreline buffer enhancement plan includes comprehensive goals and objectives, detailed performance standards, written specifications, a schedule and construction sequence, a compliance monitoring plan, a maintenance program, and a contingency plan.

**F. The proposal complies with other applicable requirements of this code (LUC 20.30P.140.F).**

The project conforms to this decisional criteria. The project is required to resolve an existing enforcement action filed by the City of Bellevue and has been prepared per applicable sections of LUC 20.25E and LUC 20.25H as well as the latest revision of the City of Bellevue's *Critical Areas Handbook – Restoring, Enhancing, and Preservation* (The Watershed Company undated). There is nothing known that would prevent the proposed project from being reviewed and approved during subsequent development permits.

# 7.0 References

City of Bellevue. 2006. Environmental Best Management Practices & Design Standards. Parks and Community services Department. Last updated 2006. Accessed September 10, 2009. http://www.ci.bellevue.wa.us/Parks_Env_Best_Mgmt_Practices.htm. 183 p.

Herrera Environmental Consultants, Inc. 2005. City of Bellevue's critical areas update: 2005 best available science (BAS) review. Prepared for the City of Bellevue. March 23, 2005.

Franklin J. F & C.T. Dyrness. 1973. Natural vegetation of Oregon and Washington. Originally published by the United States Forest Service, but reprinted by the Oregon State University Press in 1988. 452 p.

The Watershed Company. undated. Critical areas handbook – Restoring, enhancing, and preserving. Prepared for the City of Bellevue. Obtained from compact disk distributed at June 4, 2009 Critical Areas Training for Professionals. 119 p.

# Appendix A

Photographs


**Photo 1A**
**Existing Conditions Prior to Recent Site Preparation**

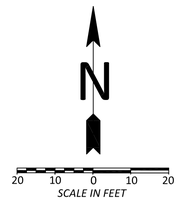

**Photo 1B**
**Existing Conditions After Recent Site Preparation**


**Photo 2**
**Existing Pier and PWC Lift**


**Photo 3**
**Northern Enhancement Area**


**Photo 4**
**Southern Enhancement Area**

# A PORTION OF THE NORTHEAST QUARTER SECTION OF SECTION 17, TOWNSHIP 24 N, RANGE 5 E, W.M.




*BASIS OF BEARINGS:*
*NAD83 (NSRS2007) - WASHINGTON NORTH ZONE*

*VERTICAL DATUM:*
*NAVD 88*

***CRITICAL AREAS:***

- ***LAKE WASHINGTON SHORELINE***
  *25' STANDARD WIDTH BUFFER FROM OHWM*
  *25' STANDARD WIDTH STRUCTURE SETBACK**

** PER LUC 20.25H.115C FOR "DEVELOPED SITES". MEASURED FROM OHWM.*

***SHORELINE BUFFER AFTER MODIFICATION:***

*3,246 SF - SHORELINE BUFFER PRIOR TO MODIFICATION*
*(1,445 SF) - LANDSCAPE IMPROVEMENTS*
*( 68 SF) - WATER FEATURE*
***1,733 SF - TOTAL***

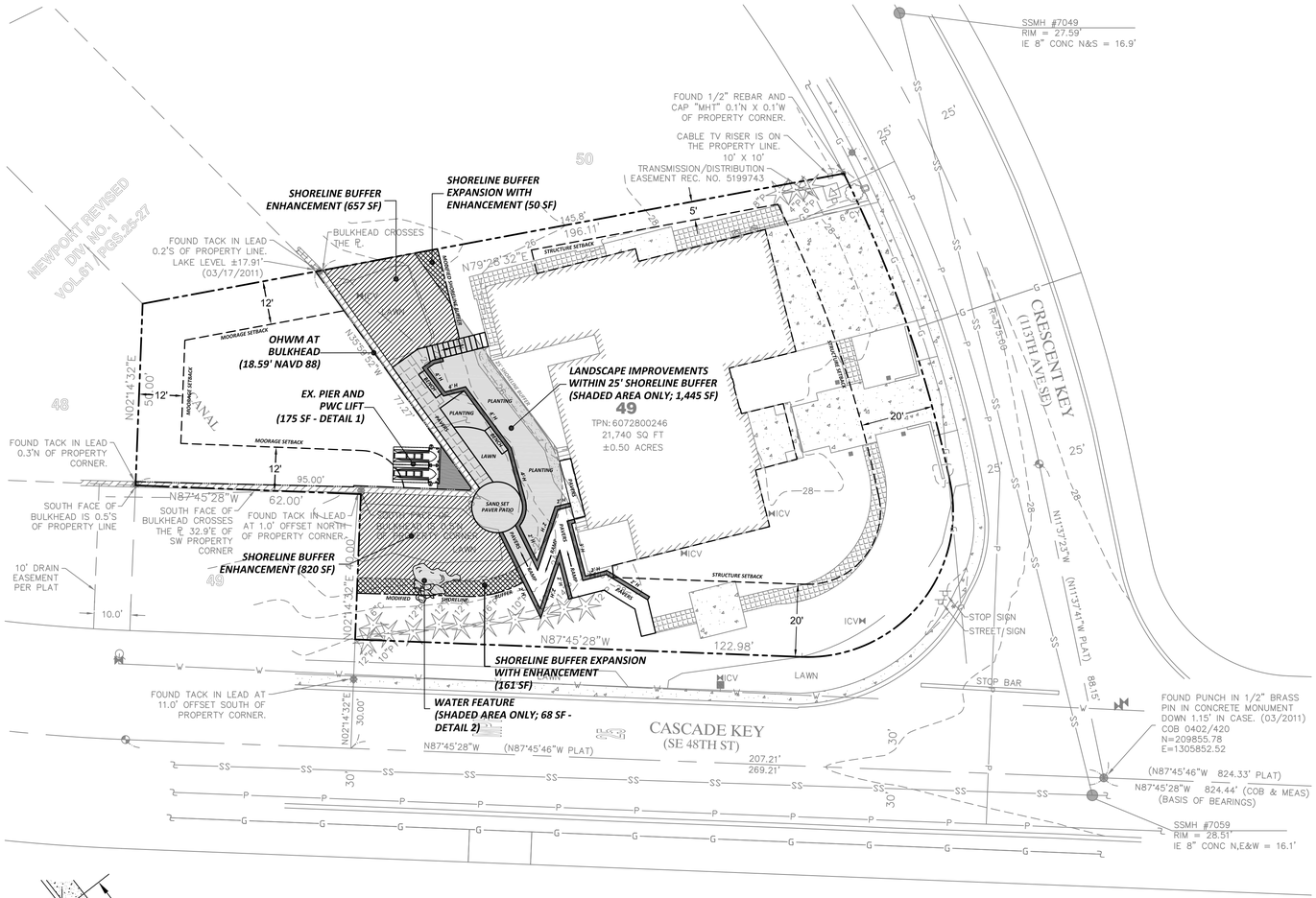
***PROJECT ACTIONS SUBJECT TO MITIGATION:***

*1,445 SF - LANDSCAPE IMPROVEMENTS*
*68 SF - WATER FEATURE*
*175 SF - DOCK AND PWC LIFT OVERWATER COVERAGE*
***1,688 SF - TOTAL***

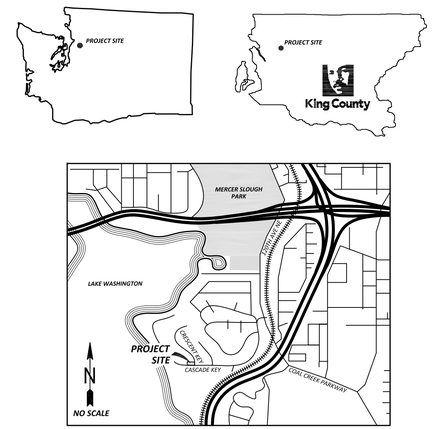
***MITIGATION:***

***1,688 SF** - SHORELINE BUFFER ENHANCEMENT*

*ENHANCEMENT INCLUDES THE REMOVAL OF NON-NATIVE PLANT SPECIES AND LAWN, THE AMENDMENT AND DE-COMPACTION OF EXISTING SOILS, AND THE INSTALLATION OF NATIVE TREE, SHRUB, AND GROUNDCOVER SPECIES.*




## VICINITY MAP




***DIRECTIONS TO PROJECT SITE:***

*SITE ADDRESS: 2 CRESCENT KEY*
*BELLEVUE, WA 98006*

*LATITUDE: 47.56749*
*LONGITUDE: -122.18929*

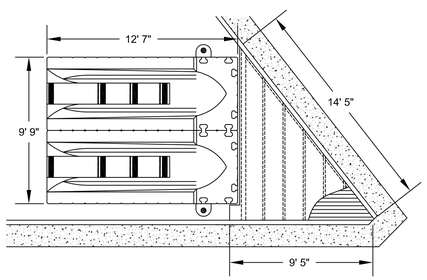
*FROM BELLEVUE CITY HALL (BELLEVUE, WASHINGTON):*

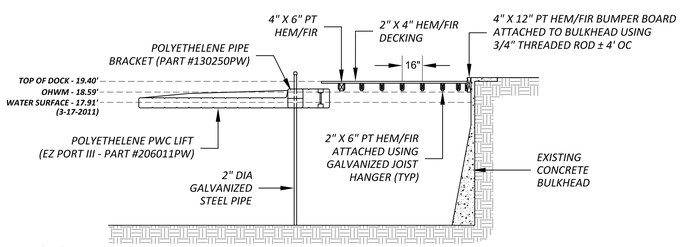
*PROCEED EAST ON NORTHEAST 4TH STREET. TAKE INTERSTATE 405 SOUTH. TAKE EXIT 10 (COAL CREEK PARKWAY). TAKE RIGHT (NORTH) ON COAL CREEK PARKWAY. COAL CREEK PARKWAY BECOMES LAKE WASHINGTON BOULEVARD SOUTHEAST. TURN LEFT (WEST) ONTO CASCADE KEY. TURN LEFT TO STAY ON CASCADE KEY. TURN RIGHT (NORTH) ONTO CRESCENT KEY. PROJECT SITE IS LOCATED IN THE NORTHWEST CORNER OF THE INTERSECTION OF CASCADE KEY AND CRESCENT KEY.*

## LEGAL DESCRIPTION

*LOT 49, NEWPORT REVISED DIVISION NO. 1, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 61 OF PLATS, PAGE(S) 25, 26, AND 27 IN KING COUNTY, WASHINGTON, EXCEPT THE WESTERN 62 FEET OF THE SOUTHERLY 40 FEET THEREOF.*

*OVERWATER COVERAGE:*
*DOCK - 52 SF*
*FLOAT - 123 SF*
***TOTAL - 175 SF***



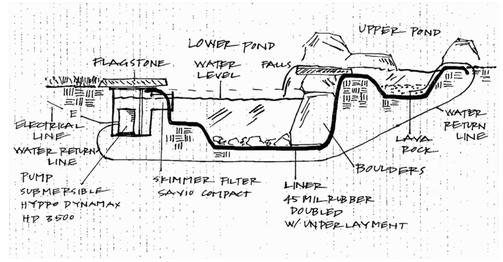




*NOTES:*

1. *WHERE SHOWN, PRESSURE TREATED LUMBER IS MCFARLAND CASCADE "OUTDOOR SELECT" OR "CONSTRUCTION SELECT" TREATED WITH COPPER AZOLE (CA).*
2. *PIER AND PWC LIFT INSTALLED DURING WINTER 2008/2009.*

**1/1** ***PIER AND PWC LIFT DETAIL (AS-BUILT CONDITIONS 3-17-2011)***

*SCALE - 1:5*




*NOTES:*

1. *DESIGN PROVIDED BY OTHERS.*

**2/1** ***WATER FEATURE DETAIL***

*NO SCALE*

*CALL 2 WORKING DAYS BEFORE YOU DIG*
*1-800-424-5555*
*(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)*

## DRAWING NOTES

1. *CAUTION: UTILITY LOCATIONS AND CHARACTERISTICS SHOWN ARE APPROXIMATE. THE UNDERGROUND ROUTING AND CONDITION OF BURIED UTILITIES HAS NOT BEEN VERIFIED OR CONFIRMED. ADDITIONAL UTILITY LOCATION AND MAPPING MAY BE REQUIRED. FIELD LOCATE, VERIFY DEPTH OF, AND ADEQUATELY PROTECT UTILITIES PRIOR TO THE START OF ANY WORK.*
2. *THE BASE TOPOGRAPHIC MAP USED TO PREPARE THIS DRAWING WAS PROVIDED ELECTRONICALLY TO EVERGREEN AQUATIC RESOURCE CONSULTANTS, LLC BY AXIS SURVEY & MAPPING - 13005 NE 126TH PLACE, KIRKLAND WASHINGTON 98034 (425) 823-5700. SOURCE TOPOGRAPHIC DRAWINGS HAVE BEEN MODIFIED FOR VISUAL ENHANCEMENT. ALTHOUGH THE PROVIDED TOPOGRAPHIC INFORMATION IS BELIEVED TO BE RELIABLE, THE ACCURACY OF SUCH INFORMATION COULD NOT BE CONFIRMED.*
3. *THIS DRAWING DEPICTS PROPOSED OR EXISTING SITE DEVELOPMENT ACTIVITIES FOR PERMITTING PURPOSES. ALL WORK SHOWN SHALL CONFORM TO ANY AND ALL APPLICABLE PERMITS AND/OR APPROVED CONSTRUCTION DRAWINGS.*


**Evergreen Aquatic Resource Consultants, LLC**
Wetland Delineation • Mitigation Design • Compliance Monitoring
PO Box 1721
Issaquah, Washington 98027
PH - (425) 677-7166
FX - (866) 584-3244
www.evergreenarc.com


| NO | DATE | DESCRIPTION |
|---|---|---|
| | | |

***PERMIT NO:***

***APPROVED BY:***

***DATE:***

*PROJECT:*

***LEE SHORELINE BUFFER LANDSCAPING, PIER, AND PWC LIFT***

***2 CRESCENT KEY***
***BELLEVUE, WA***

*PREPARED FOR:*

***MIA LEE***
*2 CRESCENT KEY*
*BELLEVUE, WASHINGTON 98006*

*SHEET TITLE:*

***SITE PLAN B***

*PROJECT NO:* ***11008***

*DATE:* ***04/12/2011***

*SHEET NUMBER:*

***1/1***

# LEE SHORELINE BUFFER ENHANCEMENT PLAN

## 2 CRESCENT KEY
## BELLEVUE, WASHINGTON

## PLAN SUMMARY

**OVERVIEW**

THIS SHORELINE BUFFER ENHANCEMENT PLAN HAS BEEN PREPARED PER THE STANDARDS ESTABLISHED IN BELLEVUE LAND USE CODE (LUC) 20.25H (CRITICAL AREAS OVERLAY), THE GENERAL DESIGN STANDARDS DESCRIBED WITHIN THE CITY OF BELLEVUE'S CRITICAL AREAS HANDBOOK (LATEST ED.), AND THE CRITICAL AREA BEST MANAGEMENT PRACTICES OUTLINED IN THE CITY OF BELLEVUE'S ENVIRONMENTAL BEST MANAGEMENT PRACTICES & DESIGN STANDARDS (LATEST ED.).

THE PURPOSE OF THIS PLAN IS TO MITIGATE IMPACTS RELATED TO THE PROPOSED MODIFICATION OF THE STANDARD WIDTH 25-FOOT LAKE WASHINGTON SHORELINE BUFFER AS WELL AS THE OVERWATER COVERAGE PROVIDED BY A PREVIOUSLY INSTALLED PIER AND PWC LIFT. THE PROPOSED SHORELINE BUFFER MODIFICATION PROVIDES REASONABLE AND APPROPRIATE USE OF THE ON-SITE SHORELINE ENVIRONMENTS, INCLUDING WATER DEPENDENT USES SUCH AS WATERCRAFT MOORAGE AND OPERATION.

PRIOR TO THE RECENT SITE PREPARATION WORK, EXISTING SHORELINE CONDITIONS INCLUDE FORMALLY LANDSCAPED AREAS COMPRISING LAWN, VARIOUS ORNAMENTAL LANDSCAPE VARIETIES OF SHRUBS AND GROUNDCOVERS, TIMBER/PAVER STAIRS, AND LIMITED AREAS OF PAVERS ALONG A BULKHEADED SHORELINE. THE PROPOSED BUFFER MODIFICATIONS DO NOT REPRESENT A SUBSTANTIAL CHANGE IN USE WHEN COMPARED TO EXISTING CONDITIONS AND ARE CONSISTENT WITH OTHER SIMILAR USES ON ADJOINING PROPERTIES.

THIS PLAN SHOULD BE REVIEWED IN COMBINATION WITH THE CRITICAL AREA REPORT DATED APRIL 12, 2011, WHICH DESCRIBES THE PROPOSED PROJECT IN DETAIL AS WELL AS CONFORMANCE TO THE PERFORMANCE AND DEVELOPMENT STANDARDS ESTABLISHED BY LUC 20.25E, LUC 20.20H, AND LUC 20.30P.140.

**CRITICAL AREAS PRESENT**

LAKE WASHINGTON SHORELINE AND 25' STANDARD WIDTH BUFFER

**SHORELINE BUFFER ENHANCEMENT PLAN GOALS**

THE GOALS OF THIS SHORELINE BUFFER ENHANCEMENT PLAN ARE:

- TO PROVIDE A NATIVE SHORELINE BUFFER PLANT COMMUNITY WITHIN TWO ON-SITE SHORELINE BUFFER ENHANCEMENT AREAS.
- TO IMPROVE SOIL NUTRIENT, WATER-HOLDING CAPACITY, AND OVERALL FERTILITY WITHIN THE TWO ON-SITE SHORELINE BUFFER ENHANCEMENT AREAS.
- TO MINIMIZE THE GENERAL PRESENCE OF NOXIOUS WEED SPECIES WITHIN THE TWO ON-SITE SHORELINE BUFFER ENHANCEMENT AREAS.

**SHORELINE BUFFER ENHANCEMENT PLAN OBJECTIVES**

SPECIFIC OBJECTIVES OF THIS SHORELINE BUFFER ENHANCEMENT PLAN ARE:

- TO INSTALL AND SUCCESSFULLY ESTABLISH 210 NATIVE PLANTINGS WITHIN TWO ON-SITE SHORELINE BUFFER ENHANCEMENT AREAS.
- TO AMEND SOILS WITHIN TWO ON-SITE SHORELINE BUFFER ENHANCEMENT AREAS USING A COMMERCIAL GRADE ORGANIC COMPOST.
- TO LIMIT NOXIOUS WEED SPECIES PRESENCE WITHIN TWO SHORELINE BUFFER ENHANCEMENT AREAS TO A MAXIMUM OF TEN (10) PERCENT COVERAGE PER SPECIES.

**SHORELINE BUFFER ENHANCEMENT PLAN SUCCESS STANDARDS**

MEASURABLE SUCCESS STANDARDS ESTABLISHED FOR THIS SHORELINE BUFFER ENHANCEMENT PLAN ARE AS FOLLOWS:

- 100 PERCENT SURVIVAL OF INSTALLED PLANT STOCK AFTER THE FIRST GROWING SEASON.
- 80 PERCENT SURVIVAL OF INSTALLED PLANT STOCK AFTER THE THIRD GROWING SEASON.
- THE SUCCESSFUL ESTABLISHMENT OF TWO PLANT SPECIES FOR EACH OF THE FOLLOWING STRATA: TREE, SHRUB, AND GROUNDCOVER.
- 60 PERCENT AVERAGE COVERAGE BY NATIVE WOODY PLANT SPECIES AFTER THE THIRD GROWING SEASON. UP TO 30 PERCENT OF THE NATIVE WOODY PLANT SPECIES COVERAGE MAY BE COMPRISED OF DESIRABLE NATIVE COLONIZING SPECIES.
- LESS THAN 10 PERCENT COVERAGE BY ALL CLASS "A", "B" AND "C" NOXIOUS WEEDS IDENTIFIED ON THE LATEST KING COUNTY NOXIOUS WEED LIST AS WELL AS THE FOLLOWING ADDITIONAL SPECIES: ENGLISH IVY (HEDERA HELIX), ENGLISH HOLLY (ILEX AQUIFOLIUM), KNOTWEED (POLYGONUM SPP.), HIMALAYAN BLACKBERRY (RUBUS ARMENIACUS), AND CUTLEAF (EVERGREEN) BLACKBERRY (R. LACINIATUS).

**COMPLIANCE MONITORING PLAN**

AS-BUILT

FOLLOWING COMPLETION OF THE WORK SHOWN ON THIS PLAN, A QUALIFIED PROFESSIONAL SHALL PREPARE AN AS-BUILT OF THE COMPLETED WORK. THE AS-BUILT SHALL SUMMARIZE THE COMPLETED SHORELINE BUFFER ENHANCEMENT WORK AS WELL AS ANY DEVIATIONS FROM THE FINAL APPROVED PLAN.

IN ADDITION, A MINIMUM OF TWO (2) PERMANENT PHOTO POINTS SHALL BE ESTABLISHED TO PHOTOGRAPHICALLY DOCUMENT REPRESENTATIVE CONDITIONS WITHIN THE ENHANCEMENT AREAS AND A MINIMUM OF TWO (2) PERMANENT COMPLIANCE MONITORING PLOTS OR TRANSECTS SHALL BE ESTABLISHED TO DOCUMENT VEGETATION CHARACTERISTICS. COMPLIANCE MONITORING PLOTS AND TRANSECTS SHALL BE SCALED APPROPRIATELY TO ACCURATELY SAMPLE THE FOLLOWING: NATIVE WOODY PLANT SPECIES (TREES, SHRUBS, AND GROUNDCOVER) AND NOXIOUS WEED SPECIES.

BASELINE COMPLIANCE MONITORING DATA SHALL BE COLLECTED USING THE ESTABLISHED SAMPLE PLOTS OR TRANSECTS AND SUBMITTED WITH THE AS-BUILT FOR THE COMPLETED WORK (SEE ANNUAL COMPLIANCE MONITORING FOR FIELD DATA COLLECTION REQUIREMENTS). THE AS-BUILT AND BASELINE MONITORING DATA SHALL BE SUBMITTED TO THE CITY OF BELLEVUE NO LATER THAN 30 DAYS FROM THE DATE THAT THE WORK SHOWN ON THIS PLAN HAS BEEN COMPLETED.

ANNUAL COMPLIANCE MONITORING

FOLLOWING ACCEPTANCE OF THE AS-BUILT BY THE CITY BELLEVUE, ANNUAL COMPLIANCE MONITORING SHALL BE COMPLETED FOR A PERIOD OF THREE (3) YEARS. ANNUAL COMPLIANCE MONITORING SHALL BE COMPLETED BY A QUALIFIED PROFESSIONAL AND SHALL COMPRISE A SITE INVESTIGATION IN AUGUST OR SEPTEMBER AND REPORTING BY NOVEMBER 30 OF EACH MONITORING YEAR.

MONITORING SHALL COMPRISE A QUANTITATIVE ASSESSMENT OF CONDITIONS WITHIN THE SHORELINE ENHANCEMENT AREAS FOR PURPOSES OF EVALUATING THE CURRENT YEAR'S SUCCESS STANDARDS. AT THE TIME OF EACH MONITORING, THE FOLLOWING INFORMATION SHALL BE COLLECTED AND ASSESSED RELATIVE TO THE SUCCESS STANDARDS ESTABLISHED FOR THE PROJECT:

- THE CONDITION OF INSTALLED PLANT STOCK INCLUDING SURVIVORSHIP, HEALTH, AND VIGOR. THE RATIONALE FOR POOR CONDITIONS, IF PRESENT, WILL BE DETERMINED.
- THE SPECIES COMPOSITION OF AND AREAL COVERAGE PROVIDED BY NATIVE WOODY PLANT SPECIES (TREES, SHRUBS, AND GROUNDCOVER).
- THE SPECIES COMPOSITION OF AND AREAL COVERAGE PROVIDED BY NOXIOUS WEED SPECIES.

A DIRECT COUNT INVENTORY AND ASSESSMENT OF ALL INSTALLED PLANT STOCK SHALL BE USED TO EVALUATE PLANT STOCK CONDITIONS. SPECIES COMPOSITION AND AREAL COVERAGE SHALL BE ASSESSED USING THE SAMPLE PLOTS OR TRANSECTS ESTABLISHED DURING THE AS-BUILT.

IN ADDITION TO FIELD DATA COLLECTION, PHOTOGRAPHS OF EACH SHORELINE BUFFER ENHANCEMENT AREA SHALL BE TAKEN FROM THE PERMANENT PHOTO POINTS ESTABLISHED DURING THE AS-BUILT.

THE RESULTS OF EACH COMPLIANCE MONITORING ASSESSMENT SHALL BE SUMMARIZED IN A WRITTEN REPORT AND SUBMITTED TO THE CITY OF BELLEVUE NO LATER THAN NOVEMBER 30 OF THE RESPECTIVE MONITORING YEAR.

**CONTINGENCY PLAN**

SHOULD ANY COMPLIANCE MONITORING ASSESSMENT REVEAL THAT THE SUCCESS STANDARDS FOR THE RESPECTIVE YEAR ARE NOT SATISFIED, THE PERMITTEE SHALL WORK WITH THE CITY OF BELLEVUE TO DEVELOP A CONTINGENCY PLAN TO ADDRESS THE DEFICIENCY(IES). CONTINGENCY PLANS CAN INCLUDE, BUT ARE NOT LIMITED TO: ADDITIONAL PLANT INSTALLATION, EROSION CONTROL, MODIFICATION TO THE IRRIGATION REGIME, AND PLANT SUBSTITUTIONS OF TYPE, SIZE, QUANTITY, AND LOCATION. SUCH CONTINGENCY PLAN SHALL BE SUBMITTED TO THE CITY OF BELLEVUE BY JANUARY 31 OF ANY YEAR WHEN DEFICIENCIES ARE DISCOVERED. UNLESS OTHERWISE APPROVED BY THE CITY OF BELLEVUE, ACTIONS SPECIFIED ON AN APPROVED CONTINGENCY PLAN MUST BE COMPLETED WITHIN 60 DAYS. IF THE FAILURE IS SUBSTANTIAL, THE CITY OF BELLEVUE MAY EXTEND THE COMPLIANCE MONITORING PERIOD FOR THE SHORELINE BUFFER ENHANCEMENT WORK.

**MAINTENANCE PLAN**

THIS SECTION PROVIDES A GENERAL OVERVIEW OF THE MAINTENANCE PROGRAM NECESSARY TO ENSURE THE SUCCESS STANDARDS ESTABLISHED FOR THIS SHORELINE BUFFER ENHANCEMENT PLAN ARE SATISFIED.

NOXIOUS WEED CONTROL

FOLLOWING PLANT INSTALLATION AND AT REGULAR INTERVALS DURING THE COMPLIANCE MONITORING PERIOD, NOXIOUS WEED CONTROL SHALL OCCUR ON A SPOT TREATMENT BASIS WITHIN THE SHORELINE BUFFER ENHANCEMENT AREAS..

TARGET SPECIES SHALL INCLUDE THE FOLLOWING: ALL CLASS "A", "B" AND "C" NOXIOUS WEEDS IDENTIFIED ON THE LATEST KING COUNTY NOXIOUS WEED LIST AS WELL AS THE FOLLOWING ADDITIONAL SPECIES: ENGLISH IVY (HEDERA HELIX), ENGLISH HOLLY (ILEX AQUIFOLIUM), KNOTWEED (POLYGONUM SPP.), HIMALAYAN BLACKBERRY (RUBUS ARMENIACUS), AND CUTLEAF (EVERGREEN) BLACKBERRY (R. LACINIATUS).

NOXIOUS WEED CONTROL WORK SHALL CONSIST OF THE CUTTING AND REMOVAL FROM THE SITE OF ALL NOXIOUS WEED SPECIES STEMS, CANES, RUNNERS, SHOOTS, SEED PODS, FRUITING BODIES, AND LEAVES PER THE FOLLOWING METHODS:

1. HAND PULLING.
2. MANUALLY CUTTING USING MACHETES, LOPPERS, AND/OR CLIPPERS.

SPOT TREATMENT SHALL OCCUR MONTHLY AND/OR AT A GREATER FREQUENCY, IF NECESSARY, TO CONTROL NOXIOUS WEED SPECIES TO A MAXIMUM OF TEN (10) PERCENT OR LESS COVERAGE WITHIN EACH SHORELINE BUFFER ENHANCEMENT AREA.

DURING ALL NOXIOUS WEED CONTROL WORK, EXISTING OR PLANTING NATIVE VEGETATION SHALL BE PROTECTED FROM DAMAGE.

IRRIGATION

IRRIGATION OF INSTALLED PLANT STOCK SHALL BE PROVIDED FOR A MINIMUM OF TWO GROWING SEASONS FOLLOWING PLANT INSTALLATION. IRRIGATION SHALL OCCUR PER ONE AND/OR A COMBINATION OF THE FOLLOWING METHODS:

1. ABOVE GROUND AUTOMATIC SPRINKLER SYSTEM.
2. AUTOMATIC DRIP IRRIGATION SYSTEM.
3. HAND WATERING BY HOSE.

A MINIMUM RAINFALL EQUIVALENT OF 1 INCH PER WEEK SHALL BE APPLIED TO INSTALLED PLANT STOCK FROM JUNE 1 THROUGH JULY 15 AND 2 INCHES PER WEEK SHALL BE APPLIED TO INSTALLED PLANT STOCK FROM JULY 15 THROUGH OCTOBER 1. IRRIGATION IS NOT NEEDED FROM OCTOBER 1 THROUGH JUNE 1. IRRIGATION SHALL BE APPLIED IN A MANNER THAT MAINTAINS PLANT HEALTH, PREVENTS WILTING, AND PROMOTES DEEP PLANT ROOT SYSTEMS WHILE ENSURING, WHERE APPROPRIATE, BANK STABILITY.

GENERAL MAINTENANCE

INSTALLED PLANTS SHALL BE MAINTAINED AT REGULAR INTERVALS DURING THE COMPLIANCE MONITORING PERIOD TO PROMOTE THE SUCCESSFUL ESTABLISHMENT AND VIGOROUS GROWTH OF THE INSTALLED PLANT STOCK.

GENERAL MAINTENANCE SHALL INCLUDE:

1. WEEDING WITHIN EACH SHORELINE BUFFER ENHANCEMENT AREA.
2. RE-APPLY BARK MULCH TO MAINTAIN A 4" MINIMUM APPLIED THICKNESS.
3. THE PRUNING OF INSTALLED PLANTS TO REMOVE DEAD WOOD AND PROMOTE VIGOROUS GROWTH AND PROPER FORM.
4. THE REPLACEMENT OF PLANTS THAT APPEAR TO BE IN DISTRESS AND/OR DISEASED.
5. THE REMOVAL OF TRASH, LITTER, AND/OR OTHER NON-DECOMPOSING DEBRIS.

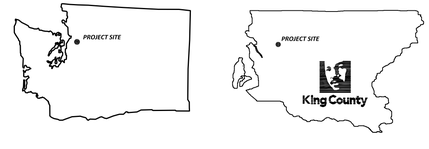
GENERAL MAINTENANCE WORK SHALL OCCUR MONTHLY DURING THE GROWING SEASON AND/OR AT A FREQUENCY OTHERWISE NECESSARY TO ENSURE THE SUCCESSFUL ESTABLISHMENT AND VIGOROUS GROWTH OF THE INSTALLED PLANTS AND/OR THE CONTROL OF NOXIOUS WEEDS.

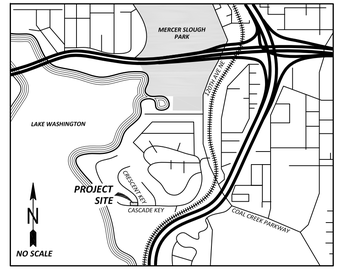
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

## CONSTRUCTION SEQUENCE

1. INSTALL SILT FENCE (SEE SHEET 2 AND SHEET 3)
2. REMOVE AND DISPOSE OF EXISTING LANDSCAPING AND LAWN
3. AMEND SOILS (SEE SHEET 3)
4. INSTALL NATIVE PLANTS (SEE SHEET 2 AND SHEET 3)
5. INSTALL IRRIGATION SYSTEM (SEE SHEET 3)
6. INSTALL MULCH (SEE SHEET 3)
7. INSTALL FENCE (SEE SHEET 2)
8. REMOVE SILT FENCE AND CLEAN-UP.

## VICINITY MAP




**DIRECTIONS TO PROJECT SITE:**

SITE ADDRESS: 2 CRESCENT KEY
BELLEVUE, WA 98006

LATITUDE: 47.56749
LONGITUDE: -122.18929

FROM BELLEVUE CITY HALL (BELLEVUE, WASHINGTON):

PROCEED EAST ON NORTHEAST 4TH STREET. TAKE INTERSTATE 405 SOUTH. TAKE EXIT 10 (COAL CREEK PARKWAY). TAKE RIGHT (NORTH) ON COAL CREEK PARKWAY. COAL CREEK PARKWAY BECOMES LAKE WASHINGTON BOULEVARD SOUTHEAST. TURN LEFT (WEST) ONTO CASCADE KEY. TURN LEFT TO STAY ON CASCADE KEY. TURN RIGHT (NORTH) ONTO CRESCENT KEY. PROJECT SITE IS LOCATED IN THE NORTHWEST CORNER OF THE INTERSECTION OF CASCADE KEY AND CRESCENT KEY.

## LEGAL DESCRIPTION

LOT 49, NEWPORT REVISED DIVISION NO. 1, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 61 OF PLATS, PAGE(S) 25, 26, AND 27 IN KING COUNTY, WASHINGTON, EXCEPT THE WESTERN 62 FEET OF THE SOUTHERLY 40 FEET THEREOF.

## SHEET INDEX




Evergreen Aquatic Resource Consultants, LLC
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Issaquah, Washington 98027
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FX - (866) 584-3244
www.evergreenarc.com


| NO | DATE | DESCRIPTION |
|---|---|---|

PERMIT NO:

APPROVED BY:

DATE:

PROJECT:

**LEE SHORELINE BUFFER ENHANCEMENT PLAN**

**2 CRESCENT KEY**
**BELLEVUE, WA**

PREPARED FOR:

**MIA LEE**
2 CRESCENT KEY
BELLEVUE, WASHINGTON 98006

SHEET TITLE:

**COVERSHEET**

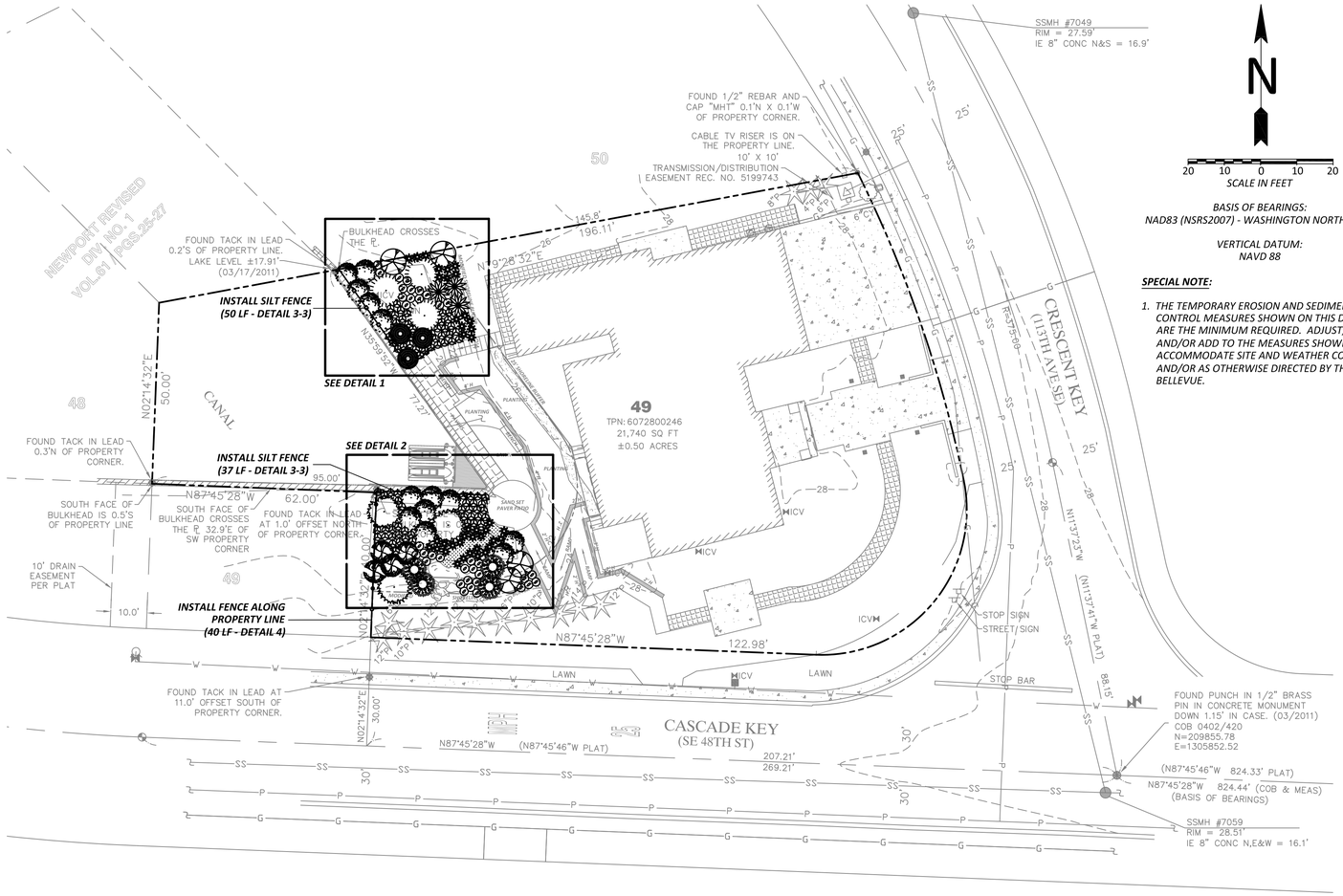
PROJECT NO: **11008**

DATE: **04/12/2011**

SHEET NUMBER:

**1/3**

## A PORTION OF THE NORTHEAST QUARTER SECTION OF SECTION 17, TOWNSHIP 24 N, RANGE 5 E, W.M.





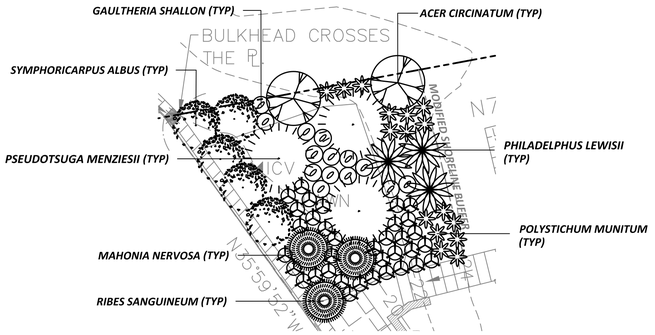


*BASIS OF BEARINGS:*
*NAD83 (NSRS2007) - WASHINGTON NORTH ZONE*

*VERTICAL DATUM:*
*NAVD 88*

***SPECIAL NOTE:***

1. *THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THIS DRAWING ARE THE MINIMUM REQUIRED. ADJUST, AMEND, AND/OR ADD TO THE MEASURES SHOWN TO ACCOMMODATE SITE AND WEATHER CONDITIONS AND/OR AS OTHERWISE DIRECTED BY THE CITY OF BELLEVUE.*

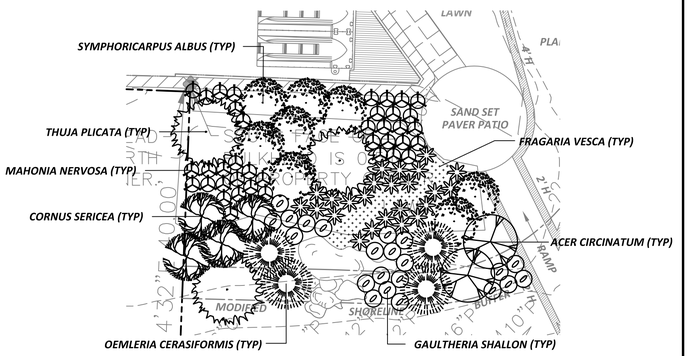



*NOTES:*

1. *SEE DRAWING NOTES (THIS SHEET) FOR SITE PREPARATION REQUIREMENTS AND PLANT INSTALLATION NOTES.*

## 1/2 PLANT INSTALLATION DETAIL 1

0 5 10

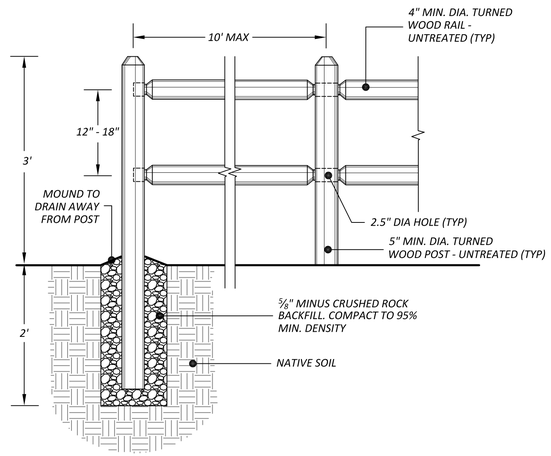



*NOTES:*

1. *SEE DRAWING NOTES (THIS SHEET) FOR SITE PREPARATION REQUIREMENTS AND PLANT INSTALLATION NOTES.*
2. *PROTECT AND DO NOT DISTURB EXISTING 4" CORRUGATED DRAIN PIPE, ROCKERIES, AND MATURE TREES LOCATED WITHIN OR ADJACENT TO PLANTING AREA.*

## 2/2 PLANT INSTALLATION DETAIL 2

0 5 10




***NOTES:***

1. *FENCE SHALL BE COMMERCIALLY AVAILABLE POST AND 2 RAIL SYSTEM PER THE ABOVE MINIMUM SPECIFICATIONS.*
2. *THE PURPOSE OF THE INSTALLED FENCE IS TO VISUALLY DEMARCATE PROPERTY LIMITS.*

## 4/2 FENCE INSTALLATION DETAIL

*NO SCALE*

*CALL 2 WORKING DAYS BEFORE YOU DIG*
*1-800-424-5555*
*(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)*

| COMMON NAME | SCIENTIFIC NAME | SIZE/FORM | QUANTITY | SPACING |
|---|---|---|---|---|
| DOUGLAS-FIR | PSEUDOTSUGA MENZIESII | 4' TO 6', CONTAINERIZED OR B/B | 3 | AS SHOWN |
| WESTERN REDCEDAR | THUJA PLICATA | 4' TO 6', CONTAINERIZED OR B/B | 3 | AS SHOWN |
| VINE MAPLE | ACER CIRCINATUM | 4' MIN., CONTAINERIZED OR B/B | 4 | AS SHOWN |
| REDOSIER DOGWOOD | CORNUS SERICEA | 2 GALLON CONTAINERIZED | 4 | AS SHOWN |
| INDIAN PLUM | OEMLERIA CERASIFORMIS | 2 GALLON CONTAINERIZED | 4 | AS SHOWN |
| MOCK ORANGE | PHILADELPHUS LEWISII | 2 GALLON CONTAINERIZED | 3 | AS SHOWN |
| REDFLOWER CURRANT | RIBES SANGUINEUM | 2 GALLON CONTAINERIZED | 3 | AS SHOWN |
| COMMON SNOWBERRY | SYMPHORICARPUS ALBUS | 2 GALLON CONTAINERIZED | 13 | AS SHOWN |
| SALAL | GAULTHERIA SHALLON | 1 GALLON CONTAINERIZED | 36 | AS SHOWN |
| DULL OREGON GRAPE | MAHONIA NERVOSA | 1 GALLON CONTAINERIZED | 67 | AS SHOWN |
| WESTERN SWORDFERN | POLYSTICHUM MUNITUM | 1 GALLON CONTAINERIZED | 40 | AS SHOWN |
| WOODLAND STRAWBERRY | FRAGARIA VESCA | 4 INCH POT | 30 | 1' O.C. TRIANGULAR SPACING |

## 3/2 PLANT SCHEDULE

*NO SCALE*

## DRAWING NOTES

1. *CAUTION: UTILITY LOCATIONS AND CHARACTERISTICS SHOWN ARE APPROXIMATE. THE UNDERGROUND ROUTING AND CONDITION OF BURIED UTILITIES HAS NOT BEEN VERIFIED OR CONFIRMED. ADDITIONAL UTILITY LOCATION AND MAPPING MAY BE REQUIRED. FIELD LOCATE, VERIFY DEPTH OF, AND ADEQUATELY PROTECT UTILITIES PRIOR TO THE START OF ANY WORK.*
2. *THE BASE TOPOGRAPHIC MAP USED TO PREPARE THIS DRAWING WAS PROVIDED ELECTRONICALLY TO EVERGREEN AQUATIC RESOURCE CONSULTANTS, LLC BY AXIS SURVEY & MAPPING - 13005 NE 126TH PLACE, KIRKLAND WASHINGTON 98034 (425) 823-5700. SOURCE TOPOGRAPHIC DRAWINGS HAVE BEEN MODIFIED FOR VISUAL ENHANCEMENT. ALTHOUGH THE PROVIDED TOPOGRAPHIC INFORMATION IS BELIEVED TO BE RELIABLE, THE ACCURACY OF SUCH INFORMATION COULD NOT BE CONFIRMED.*
3. *ALL WORK SHOWN SHALL CONFORM TO ANY AND ALL APPLICABLE PERMITS AND/OR APPROVED CONSTRUCTION DRAWING.*
4. *PRIOR TO PLANT INSTALLATION, REMOVE EXISTING LAWN AND OTHER VEGETATION. AMEND AND DECOMPACT SOILS (SEE SPECIFICATIONS SHEET 3).*
5. *PLANT LOCATIONS SHOWN ARE APPROXIMATE. ADJUST PLANT LOCATIONS TO ACCOMMODATE SITE CONDITIONS AND/OR PER PLAN DESIGNER.*
7. *PLANT MATERIAL QUALITY AND LOCATIONS SHALL BE INSPECTED BY PLAN DESIGNER PRIOR TO INSTALLATION.*
8. *REFER TO SHEET 3 FOR PLANT INSTALLATION DETAILS.*


**Evergreen Aquatic Resource Consultants, LLC**
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PO Box 1721
Issaquah, Washington 98027
PH - (425) 677-7166
FX - (866) 584-3244
www.evergreenarc.com


| NO | DATE | DESCRIPTION |
|---|---|---|

***PERMIT NO:***

***APPROVED BY:***

***DATE:***

*PROJECT:*

***LEE SHORELINE BUFFER ENHANCEMENT PLAN***

***2 CRESCENT KEY***
***BELLEVUE, WA***

*PREPARED FOR:*

***MIA LEE***
*2 CRESCENT KEY*
*BELLEVUE, WASHINGTON 98006*

*SHEET TITLE:*

***PLANTING PLAN***

*PROJECT NO:* ***11008***

*DATE:* ***04/12/2011***

*SHEET NUMBER:*

***2/3***

**PART 1: GENERAL**

ALL WORK SHALL CONFORM TO THE SPECIFICATIONS AND DETAILS SHOWN ON THESE DRAWINGS.

ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES, LAWS, AND ORDINANCES.

CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, LABOR, AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK SHOWN ON THESE DRAWINGS AND SHALL INCLUDE ALL TOOLS, MATERIALS, PERMITS, INSPECTIONS, TESTS, AND OTHER RELATED ITEMS.

WORK SHALL BE COMPLETED BY PERSONS EXPERIENCED IN THE CRITICAL AREA ENHANCEMENT WORK SHOWN ON THESE DRAWINGS.

CONTRACTOR SHALL RECOGNIZE THAT ACTUAL SITE CONDITIONS MAY VARY BASED ON SEASON AND/OR TIME OF YEAR.

CONTRACTOR SHALL ACCOMMODATE REALIZED AND ANTICIPATED SITE CONDITIONS WHEN COMPLETING THE WORK SHOWN ON THESE DRAWINGS.

TAKE NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY, PERSONS, WORK IN PROGRESS, STRUCTURES, UTILITIES, WALKS, CURBS, AND PAVED SURFACES DURING WORK. FIELD LOCATE, VERIFY DEPTH OF, AND ADEQUATELY PROTECT ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF WORK. DAMAGE TO UTILITIES INCURRED OR ARISING FROM THIS CONTRACT SHALL BE PAID BY CONTRACTOR.

ALL AREAS OF WORK SHALL BE KEPT CLEAN, NEAT, AND ORDERLY AT ALL TIMES. ALL PAVED AREAS ARE TO BE CLEANED DAILY FOLLOWING WORK.

OWNER SHALL BE NOTIFIED IN WRITING OF DEVIATIONS TO OR CONFLICTS WITHIN THESE DRAWINGS AND/OR SITE CONDITIONS. EXTRA WORK ARISING FROM FAILURE TO DO SO SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

PRIOR TO START OF WORK, CONTRACTOR SHALL REQUEST AND ATTEND A PRE-CONSTRUCTION CONFERENCE WITH OWNER.

**PART 2: MATERIALS**

**2. 1 SITE PREPARATION**

2.1.1 TEMPORARY EROSION AND SEDIMENT CONTROL

CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR AND MATERIALS INCLUDING, BUT NOT LIMITED TO EQUIPMENT, ATTACHMENTS, DEVICES, AND ACCESSORIES NECESSARY TO CONTROL EROSION AND THE OFF-SITE MIGRATION OF SEDIMENT AND/OR SEDIMENT LADEN WATER.

2.1.2 SOIL AMENDMENT

CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR AND MATERIALS INCLUDING, BUT NOT LIMITED TO EQUIPMENT, ATTACHMENTS, DEVICES, AND ACCESSORIES NECESSARY TO AMEND SOILS PER THESE DRAWINGS.

SOIL AMENDMENT SHALL COMPRISE CEDAR GROVE COMPOSTING "BUILDERS BLEND" (WWW.CEDAR-GROVE.COM; 1-877-SOILS4U) OR EQUAL.

**2.2 PLANT INSTALLATION**

2.2.1 GENERAL

PLANT MATERIAL SIZE, QUALITY, AND QUANTITY SHALL MEET THE STANDARDS LISTED ON THESE DRAWINGS.

ALL PLANT MATERIAL SHALL BE OF ACCEPTED SIZE STANDARDS AND PROPORTIONS AS SPECIFIED IN AMERICAN STANDARD NURSERY STOCK (LATEST EDITION). ALL PLANTS SHALL BE OF NORMAL HABIT OF GROWTH, AND SHALL BE HEALTHY, VIGOROUS, AND FREE OF DISEASE, INSECT EGGS, ADULTS, AND LARVAE.

SCIENTIFIC NOMENCLATURE SHALL CONFORM TO STANDARD PLANT NAMES, LATEST EDITION. NAMES NOT PRESENT IN THIS LISTING SHALL CONFORM TO ACCEPTED SCIENTIFIC NOMENCLATURE IN THE NURSERY TRADE. FOR TREES AND SHRUBS, NO LESS THAN 10 PERCENT OF EACH VARIETY OR SPECIES SHALL BE ACCURATELY LABELED AT THE TIME OF DELIVERY TO THE SITE. WHERE LABELED, PLANT MATERIALS SHALL HAVE DURABLE, LEGIBLE LABELS STATING THE CORRECT SCIENTIFIC PLANT NAME.

OVERSIZE PLANT MATERIALS ARE ACCEPTABLE WITH APPROVAL OF THE OWNER, BUT WITHOUT AN INCREASE IN THE CONTRACT PRICE. PLANT MATERIALS OF A SIZE REDUCED FROM THOSE SPECIFIED WILL NOT BE PERMITTED.

PLANT MATERIALS SHALL BE PACKAGED WITH CARE FOR TRANSIT TO THE SITE. BRANCHES SHALL BE TIED BACK, AND BARK SHALL BE PROTECTED TO PREVENT DAMAGE FROM CHAFING BY ROPES AND WIRES. PLANT MATERIALS IN STORAGE SHALL BE PROTECTED FROM WEATHER AND PACKED TO PROVIDE PROTECTION.

PLANT MATERIAL DELIVERY SHALL BE TIMED APPROPRIATELY WITH INSTALLATION TO AVOID EXTENDED STORAGE OF LIVE MATERIALS ON-SITE.

A MINIMUM OF SEVEN (7) DAYS NOTICE SHALL BE PROVIDED TO THE OWNER PRIOR TO PLANT MATERIAL DELIVERY TO THE SITE. THE OWNER SHALL INSPECT ALL PLANT MATERIALS AT THE TIME OF DELIVERY. THE OWNER RESERVES THE RIGHT TO REQUIRE SUBSTITUTION OR REPLACEMENT OF PLANT MATERIALS DETERMINED TO BE DAMAGED OR OTHERWISE UNSUITABLE AT THE TIME OF DELIVERY TO THE SITE. ALL REJECTED PLANT MATERIAL SHALL BE REMOVED FROM THE SITE IMMEDIATELY.

ONCE ACCEPTED ON-SITE, PLANT MATERIALS SHALL BE PROTECTED AT ALL TIMES FROM THEFT, VANDALISM, AND DAMAGE, INCLUDING BUT NOT LIMITED TO THAT CAUSED BY ANIMALS, HUMANS, DROUGHT, WATER, FROST OR FREEZING CONDITIONS, AND WIND.

2.2.2 PLANT MATERIAL SOURCE

ACCEPTABLE PLANT MATERIAL SOURCES INCLUDE:

1. LOCAL NURSERIES. PLANTS SHALL BE DERIVED FROM STOCK ACCLIMATED TO WESTERN WASHINGTON ENVIRONMENTAL CONDITIONS, HAVING BEEN CONSISTENTLY CULTIVATED AND GROWN UNDER SIMILAR CONDITIONS. ACCEPTABLE PLANT SUPPLIERS INCLUDE STORM LAKE GROWERS ([360] 794-4842), CLARKS NATIVE TREES AND SHRUBS ([425] 337-3976), OR EQUAL.

2.2.3 PLANT MATERIAL QUALITY

PLANT MATERIAL SHALL BE NORMAL IN PATTERN OF GROWTH, HEALTHY, WELL-BRANCHED AND HAVE ALL LEADERS AND BUDS INTACT. TREES SHALL NOT HAVE SUNSCALDS, DISFIGURING KNOTS, FRESH CUTS OF LIMBS, DAMAGED LEADERS, AND/OR DEFORMED TRUNKS.

WHERE PROVIDED, CONTAINERIZED PLANT STOCK SHALL BE GROWN IN A CONTAINER LONG ENOUGH TO DEVELOP A ROOT SYSTEM THAT REACHES THE EDGES OF THE CONTAINER IN WHICH IT HAS GROWN. TREES AND SHRUBS SHALL BE WELL ROOTED AND SHALL HAVE SUFFICIENT ROOT MASS TO HOLD TOGETHER THE SOIL, IN WHICH PLANT IS GROWING, WHEN REMOVED FROM THE POT.

CONSERVATION GRADE PLANT STOCK IS NOT ACCEPTABLE FOR USE.

SALVAGED PLANTS ARE NOT ACCEPTABLE FOR USE.

**2.3 IRRIGATION**

CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS NECESSARY TO DESIGN AND CONSTRUCT AN IRRIGATION SYSTEM TO OWNER'S SPECIFICATION TO ENSURE A MINIMUM RAINFALL EQUIVALENT OF 1 INCH PER WEEK IS APPLIED TO INSTALLED PLANT STOCK FROM JUNE 1 THROUGH JULY 15 AND 2 INCHES PER WEEK IS APPLIED TO INSTALLED PLANT STOCK FROM JULY 15 THROUGH OCTOBER 1. IRRIGATION IS NOT NEEDED FROM OCTOBER 1 THROUGH JUNE 1.

IRRIGATION SHALL OCCUR PER ONE AND/OR A COMBINATION OF THE FOLLOWING METHODS:

1. ABOVE GROUND AUTOMATIC SPRINKLER SYSTEM.
2. AUTOMATIC DRIP IRRIGATION SYSTEM.
3. HAND WATERING BY HOSE.

**2.4 MULCH**

MULCH SHALL BE APPROVED BY OWNER, BUT SHALL NOT BE DERIVED FROM STUMP GRINDINGS AND SHALL NOT CONTAIN SOIL. HOG FUEL OR EQUAL IS NOT ACCEPTABLE.

**PART 3: EXECUTION**

**3.1 SITE PREPARATION**

3.1.1 TEMPORARY EROSION AND SEDIMENT CONTROL

PRIOR TO THE START OF ANY SITE PREPARATION WORK, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND INSTALLED PER THE SPECIFICATIONS AND DETAILS SHOWN ON THESE DRAWINGS OR AS OTHERWISE DIRECTED BY THE CITY OF BELLEVUE.

THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE PLANS ARE THE MINIMUM NECESSARY. ADJUST, AMEND, OR ADD TO THE MEASURES SHOWN TO ADDRESS SITE CONDITIONS AND/OR AS OTHERWISE DIRECTED BY THE CITY OF BELLEVUE.

INSTALLED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING.

3.1.2 SOIL AMENDMENT

PRIOR TO PLANT INSTALLATION, APPLY SOIL AMENDMENT TO THE PLANTING AREAS SHOWN ON THESE DRAWINGS. ACHIEVE A MINIMUM 2.5 INCH APPLIED DEPTH.

TILL IN SOIL AMENDMENT USING A WALK BEHIND ROTOTILLER TO ACHIEVE A UNIFORM MIXTURE OF NATIVE SOIL AND SOIL AMENDMENT WITHIN THE UPPER 8 INCHES. RAKE FINAL SURFACE TO PROVIDE UNIFORM APPEARANCE.

SOIL AMENDMENT SHALL NOT OCCUR DURING FREEZING WEATHER OR WHEN SOIL IS FROZEN OR EXCESSIVELY WET.

**3.2 PLANT INSTALLATION**

3.2.1 GENERAL

INSTALLATION OF PLANT MATERIALS SHALL OCCUR BETWEEN NOVEMBER 15 AND JANUARY 15. IF SCHEDULE OF PLANT PROCUREMENT OR SITE CONDITIONS REQUIRE INSTALLATION DURING ALTERNATIVE DATES, WRITTEN AUTHORIZATION SHALL BE OBTAINED FROM OWNER PRIOR TO PLANT INSTALLATION.

PLANT MATERIAL INSTALLATION SHALL NOT OCCUR DURING FREEZING WEATHER OR WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET. PLANT MATERIALS HAVING FROZEN ROOTBALLS SHALL NOT BE INSTALLED UNTIL CONDITIONS ARE SUCH THAT PLANTS ARE EASILY REMOVED FROM CONTAINERS.

PLANT MATERIAL THAT CANNOT BE PLANTED WITHIN ONE (1) DAY AFTER DELIVERY TO THE SITE SHALL BE "HEELED-IN" OR OTHERWISE STORED TEMPORARILY IN ACCORDANCE WITH ACCEPTED HORTICULTURAL PRACTICES IN A MANNER THAT DOES NOT COMPROMISE THE HEALTH OF THE PLANT MATERIALS.

PLANT MATERIALS STORED UNDER TEMPORARY CONDITIONS SHALL BE KEPT MOIST AND PROTECTED FROM ADVERSE WEATHER CONDITIONS.

A MINIMUM OF SEVEN (7) DAYS NOTICE SHALL BE PROVIDED TO THE OWNER PRIOR TO PLANT INSTALLATION. THE OWNER SHALL BE KEPT INFORMED AS TO DAILY WORK PROGRESS THROUGHOUT PLANT INSTALLATION.

PLANT LOCATIONS SHALL BE AS DEPICTED ON SHEET 2, SUBJECT TO RELATED DRAWING NOTES. THE OWNER SHALL REVIEW ALL PLANT LOCATIONS PRIOR TO PLANT MATERIAL INSTALLATION. THE OWNER RESERVES THE RIGHT TO ADJUST PLANT MATERIAL LOCATION(S) WITHIN PLANTING AREAS PRIOR TO PLANT MATERIAL INSTALLATION.

PLANT MATERIALS SHALL NOT BE DRAGGED WITHOUT PROPER ROOT AND/OR BRANCH PROTECTION. CONTAINERIZED PLANT MATERIALS SHALL BE LIFTED BY CONTAINER ONLY. PLANT MATERIALS SHALL NOT BE DROPPED OR ROOT SYSTEMS DAMAGED.

PLANT MATERIALS SHALL BE INSTALLED AS PER APPLICABLE NOTES AND DETAILS DEPICTED ON THIS DRAWING SET.

ALL PLANTS ARE TO BE WATERED WITHIN 24 HOURS AFTER PLANTING.

3.2.2 INSTALLATION

THOROUGHLY SOAK THE ROOTBALLS OF ALL CONTAINERIZED PLANTS PRIOR TO PLANTING.

EXCAVATE A PLANTING HOLE PER THE APPLICABLE DETAILS SHOWN ON THIS SHEET.

REMOVE PLANT FROM CONTAINER WITH ROOTBALL COMPLETELY INTACT. IF CONTAINER STOCK IS ROOTBOUND, SLASH ROOTS VERTICALLY WITH A SHARP KNIFE ALONG THE OUTSIDE OF ROOTBALL A MINIMUM OF THREE (3) PLACES BEFORE PLANTING. IF PLANT HAS MINOR ROOT DAMAGE, ROOT-PRUNE AS NECESSARY TO REMOVE BROKEN OR DAMAGED ROOTS.

INSERT ROOTBALL INTO PLANTING HOLE WITHOUT BENDING OR DAMAGING THE ROOTS, AND PLACE ROOT COLLAR AT FINISHED GRADE.

USE MOIST, PULVERIZED, NATIVE SOIL FOR BACKFILLING, ENSURING THAT GOOD CONTACT WITH ROOTBALL IS MADE. FROZEN, MUDDY, AND/OR EXCESSIVELY ROCKY MIXTURES SHALL NOT BE USED FOR BACKFILLING.

MIDWAY THROUGH THE BACKFILL PROCESS, WATER THOROUGHLY TO SETTLE SOIL.

COMPLETE BACKFILL AT FINISHED GRADE AND ENSURE THE PLANT IS AT PROPER ALIGNMENT. WATER AGAIN TO SETTLE SOIL AND ADD ADDITIONAL BACKFILL AS NECESSARY IF ROOTS BECOME EXPOSED.

STAKE PLANTS AS NEEDED.

**3.3 IRRIGATION**

INSTALL IRRIGATION APPROVED BY OWNER.

**3.4 MULCH**

PLACE MULCH THROUGHOUT ALL PLANTING AREAS TO OBTAIN A MINIMUM UNIFORM APPLIED DEPTH OF 4 INCHES, EXCEPT AROUND BASE OF INSTALLED PLANTS INCREASE MULCH DEPTH TO 6 INCHES.

**PART 4: PROVISIONAL ACCEPTANCE**

AFTER COMPLETION OF THE PLANT INSTALLATION WORK COVERED BY THESE DRAWINGS, AN INSPECTION SHALL BE REQUESTED FROM THE OWNER. WHEN WORK COVERED BY THESE DRAWINGS IS COMPLETE AS DETERMINED BY OWNER, PROVISIONAL ACCEPTANCE WILL BE CERTIFIED IN WRITING BY THE OWNER.

**PART 5: MAINTENANCE**

CONTRACTOR SHALL MAINTAIN PLANTED AREAS UNTIL GUARANTEE PERIOD ACCEPTANCE IS GIVEN. MAINTENANCE SHALL INCLUDE, WEEDING AROUND THE BASE OF INSTALLED PLANTS, PRUNING OF INSTALLED PLANTS, AND REPLACEMENT OF PLANTS THAT APPEAR TO BE IN DISTRESS. CONTROL IS REQUIRED OF ALL CLASS "A", "B" AND "C" NOXIOUS WEEDS IDENTIFIED ON THE LATEST KING COUNTY NOXIOUS WEED CONTROL LIST AS WELL AS THE FOLLOWING ADDITIONAL SPECIES: ENGLISH IVY (HEDERA HELIX), ENGLISH HOLLY (ILEX AQUIFOLIUM), HIMALAYAN BLACKBERRY (RUBUS ARMENIACUS), AND CUTLEAF BLACKBERRY (R. LACINIATUS). A MAINTENANCE PLAN SHALL BE PROVIDED BY CONTRACTOR THAT DESCRIBES, IN DETAIL, THE SPECIFIC MAINTENANCE PROGRAM DEVELOPED TO SATISFY THE MAINTENANCE REQUIREMENTS OF THIS PLAN. A MAINTENANCE PLAN SHALL BE APPROVED BY OWNER PRIOR TO ISSUANCE OF PROVISIONAL ACCEPTANCE.

**PART 6: GUARANTEE (CONTRACTOR ONLY) - OWNER: SEE SHEET 1 FOR MONITORING, MAINTENANCE, AND CONTINGENCY PLAN REQUIREMENTS.**

6.1 GENERAL

PLANTS SHALL BE GUARANTEED FOR ONE YEAR AGAINST DEFECTS OF MATERIALS AND WORKMANSHIP. THE GUARANTEE PERIOD BEGINS AT THE DATE OF THE PROVISIONAL ACCEPTANCE AND SHALL EXTEND FOR ONE YEAR.

THE GUARANTEE REQUIREMENTS SHALL BE APPLICABLE TO ANY GROWING CONDITIONS THROUGH WHICH PLANTS OF LIKE KIND COULD BE EXPECTED TO SURVIVE AND ANY DEFORMITY OR CAUSE OF DEATH, WHICH COULD BE ATTRIBUTED TO, OR AFFECTED BY, THE PHYSIOLOGICAL CONDITIONS OF THE INSTALLED PLANT. THIS GUARANTEE SHALL NOT APPLY TO PLANT LOSSES DUE TO ABNORMAL WEATHER CONDITIONS SUCH AS FLOODS, EXCESSIVE WIND DAMAGE, DROUGHT, SEVERE FREEZING, OR ABNORMAL RAINS, AS DETERMINED BY THE OWNER. INSTALLED PLANT MATERIALS SHALL BE MAINTAINED DURING THE GUARANTEE PERIOD IN GENERAL ACCORDANCE WITH THE APPROVED MAINTENANCE PLAN PROVIDED BY THE CONTRACTOR.

THE OWNER MAY REQUIRE REPLACEMENT OF DEAD OR DEFECTIVE PLANTS PRIOR TO THE END OF THE GUARANTEE PERIOD AT NO ADDITIONAL COST. WHERE REQUIRED, PLANTS SHALL BE REPLACED WITH THE SPECIES AND SIZE AS INDICATED IN PLANT SCHEDULE AND ACCORDING TO THE PLANTING SHOWN ON SHEET 4 UNLESS OTHERWISE DIRECTED IN WRITING BY THE OWNER. UNLESS OTHERWISE APPROVED, REPLACEMENT PLANTS SHALL BE MADE WITHIN SEVEN (7) DAYS OF NOTIFICATION FROM OWNER.

THE CONTRACTOR HAS THE RIGHT DURING THE ENTIRE WARRANTY PERIOD TO ENTER UPON THE PROPERTY FOR INSPECTION AND CURATIVE TREATMENT OF ANY MATERIAL NEEDING SUCH AND WHICH ARE STILL UNDER WARRANTY. THE OWNER SHALL BE NOTIFIED IN ADVANCE OF ANY CORRECTIVE TREATMENT MEASURES SO AS TO ARRANGE FOR CONVENIENT ACCESS TO THE AREA. CURATIVE WORK SHALL OCCUR AS SOON AS POSSIBLE AFTER DEFICIENCIES BECOME APPARENT AND WEATHER AND SEASON PERMIT.

AFTER EACH PLANT REPLACEMENT, IF ANY, A MARKED PLANTING PLAN SHOWING THE LOCATION OF EACH ITEM REPLACED AT THAT TIME SHALL BE PROVIDED TO OWNER. REPLACEMENT PLANTS SHALL BE MARKED WITH COLORED SURVEY FLAGGING AND SHALL BE GUARANTEED FOR ONE FULL YEAR FOLLOWING PLANTING.

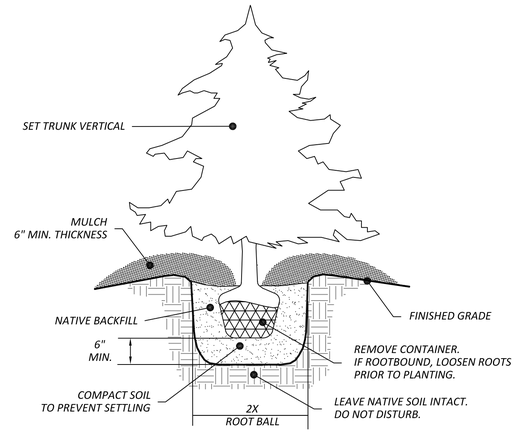
6.2 SURVIVORSHIP

ANY INSTALLED TREE OR SHRUB THAT IS GREATER TO OR EQUAL TO 25 PERCENT DEAD OR DISFIGURED WILL BE CONSIDERED DEAD AND MUST BE REPLACED AT NO ADDITIONAL CHARGE. A TREE WILL BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK OR WHEN A MINIMUM OF 25 PERCENT OF THE CROWN IS DEAD. PLANTS WILL BE CONSIDERED DISFIGURED WHEN EXCESSIVE DEAD WOOD HAS BEEN REMOVED OR WHEN THE SYMMETRY OR TYPICAL HABIT OF GROWTH HAS BEEN IMPAIRED BY THE REMOVAL OF THE DEAD WOOD.

6.3 GUARANTEE PERIOD ACCEPTANCE

ONE YEAR AFTER PROVISIONAL ACCEPTANCE, A FINAL INSPECTION OF THE WORK COVERED BY THIS CONTRACT SHALL BE REQUESTED BY CONTRACTOR FROM OWNER. INSTALLED PLANTS THAT ARE DETERMINED TO BE DEAD OR OTHERWISE NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE OWNER, SHALL BE REMOVED FROM THE SITE AND SHALL BE REPLACED AS SOON AS CONDITIONS PERMIT. UPON COMPLETION OF THESE REQUIREMENTS, GUARANTEE PERIOD ACCEPTANCE WILL BE CERTIFIED IN WRITING BY THE OWNER.

*CALL 2 WORKING DAYS BEFORE YOU DIG*
*1-800-424-5555*
*(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)*

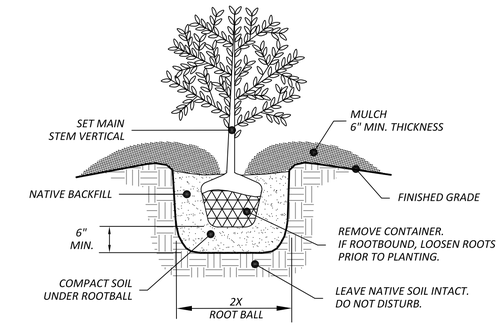



NOTES:

1. ALL TREES SHALL BE APPROPRIATELY STAKED FOR ONE YEAR.

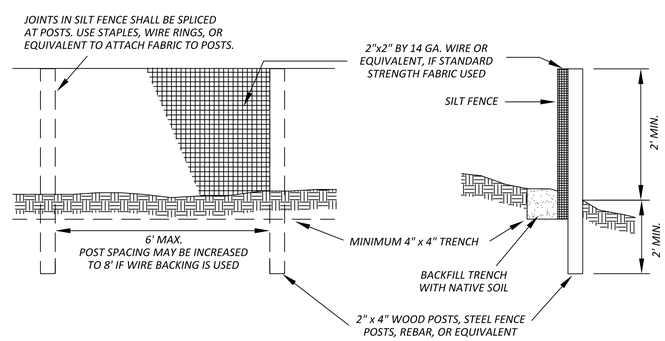
**1/3 TREE INSTALLATION DETAIL (TYP)**

NO SCALE




**2/3 SHRUB INSTALLATION DETAIL (TYP)**

NO SCALE




NOTES:

1. FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE

**3/3 SILT FENCE INSTALLATION DETAIL (TYP)**

NO SCALE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| NO | DATE | DESCRIPTION |
|---|---|---|
| | | |

**PERMIT NO:**

**APPROVED BY:**

**DATE:**

PROJECT:

**LEE SHORELINE BUFFER ENHANCEMENT PLAN**

**2 CRESCENT KEY**
**BELLEVUE, WA**

PREPARED FOR:

**MIA LEE**
2 CRESCENT KEY
BELLEVUE, WASHINGTON 98006

SHEET TITLE:

**SPECIFICATIONS AND DETAILS**

PROJECT NO: **11008**

DATE: **04/12/2011**

SHEET NUMBER:

**3/3**