DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
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.	09-107631-LO
Project Name/Address:	Partovi Single-Family Residence 9655 Lake Washington Boulevard NE
Planner:	Kevin LeClair
Phone Number:	425-452-2928
Minimum Comment Period:	**April 30, 2009**

Materials included in this Notice:

- ☒ Blue Bulletin
- ☒ Checklist
- ☒ Vicinity Map
- ☒ Plans
- ☒ Other: Critical Areas Report

ENVIRONMENTAL CHECKLIST

4/18/02

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: *Hadi Partovi*

REVIEWED
By Kevin LeClair at 10:39 am, Apr 06, 2009

Proponent: *ATEC Homes*

Contact Person: Nate Majlesy
(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: *109 2nd St. S #339 Kirkland, WA 98033*

Critical Areas Land Use Permit
File # 09-107631-LO

Phone: *425-893-8040*

Proposal Title: Partovi SFR

Proposal Location: *9655 lake Washington Blvd. SE of int. of 94th Ave NE/Lake Washington Blvd.*

(Street address and nearest cross street or intersection) Provide a legal description if available.
Legal Description Attached
Please attach an 8 W' 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: *Build patio and associated landscaping in slope setback. Maintain tram and existing trail, utility trench and build small storage building in shoreline setback.*

See attached critical areas report for illustration of proposed modifications. Responses to items 3 & 4 should be transposed. There are to be no buildings demolished and 2 structures to be built.

2. Acreage of site: *1.07*

3. Number of dwelling units/buildings to be demolished: *2*

4. Number of dwelling units/buildings to be constructed: *0*

5. Square footage of buildings to be demolished: 0

6. Square footage of buildings to be constructed: Approximately 657 sf

7. Quantity of earth movement (in cubic yards): Approximately 35 CY

8. Proposed land use: *Single Family Residential*

9. Design features, including building height, number of stories and proposed exterior materials:
Storage facility <12' ht.

10. Other:

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

10/31/09

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, Restoration/Mitigation Plan, Geotechnical report

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.

No.

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.

Critical Areas Land Use Permit

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

- ☐ Shoreline Management Permit
  Site plan

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By Kevin LeClair at 10:47 am, Apr 06, 2009

A. ENVIRONMENTAL ELEMENTS

1. EARTH

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

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

> 40%

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.

Gravelly Sandy Loam – mapped as AgC and AmC

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

No.

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

Proposed grading is to construct patio and associated landscape amenities. The grading is intended to be mostly fill from imported material off-site, with the total of ± 30 cubic yards.

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

TESC Measures will be required by City of Bellevue, BCC 23.76

Erosion is always a possibility during construction, however not likely per Geotechnical report.

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

Approximately 10%.

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

See Geotech report "Erosion and Sediment Control" section, and Sheet L3

REVIEWED
By Kevin LeClair at 10:48 am, Apr 06, 2009

2. AIR

a. What types of emissions to the air would result from the proposal (ie. 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.

None.

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

None.

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

None.

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.

Lake Washington shoreline is on site

(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. See Critical Area Report

TESC Measures will be in place prior to construction and grading activity on upland to protect surface water quality. BCC 23.76

(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.

(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.

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By Kevin LeClair at 10:49 am, Apr 06, 2009

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.

None.

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.

Stormwater runoff will be collected and eventually discharged to Lake Washington.

(2) Could waste materials enter ground or surface waters? If so, generally describe. d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

This would be very unlikely.

4. PLANTS

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

☒ deciduous tree: ☐ alder, ☐ maple, ☐ aspen, ☒ other (Black Locust)

☒ evergreen tree: ☒ fir, ☒ cedar, ☐ pine, ☒ other (Pacific Madrone)

☒ shrubs

☒ grass

☐ pasture

☐ crop or grain

☐ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other D water plants: water lily, eelgrass, milfoil, other

☒ other types of vegetation (blackberry, ivy, knotweed)

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

All invasive and non-native species to be removed, and some seedlings.

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By Kevin LeClair at 10:49 am, Apr 06, 2009

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

None.

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

See attached critical areas report and site plans for description of native plant restoration to be conducted on site as mitigation for proposed critical areas performance standard modifications.

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:

☒ Birds: ☐ hawk, ☐ heron, ☒ eagle, ☒ songbirds, ☐ other:

☐ Mammals: ☐ deer, ☐ bear, ☐ elk, ☐ beaver, ☐ other: None observed or known

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

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

Bald eagle nest one mile south/Chinook salmon and bull trout in Lake Washington

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

Pacific flyway.

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

Removal of non-native vegetation and planting of native species.

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.

Electricity and natural gas will be the primary source of energy used to provide lighting for the storage facility.

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:

The requirements of the applicable Building Code and the State Energy Code will be incorporated into the construction of the storage facility.

REVIEWED
By Kevin LeClair at 10:51 am, Apr 06, 2009

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.

The project will not generate any environmental health hazards.

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

None to our knowledge.

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

None.

b. Noise

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

Typical residential/lake related recreational noise.

(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.

Minor construction and landscaping noise.

Noise control will be required per the City of Bellevue's codes, BCC 9.18.

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

Building construction will be done during the hours prescribed by the City of Bellevue.. Construction equipment will be equipped with muffler devices and idling time should be kept at a minimum.

8. Land and Shoreline Use

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

The site is currently used as single family residence, as well as surrounding properties.

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

No.

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By Kevin LeClair at 10:51 am, Apr 06, 2009

c. Describe any structures on the site.

An existing SFR (under construction), a tram deck shelter and a pump shed.

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

No.

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

The current zoning is R-1.8 per City of Bellevue Zoning Code.

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

The current comprehensive plan designation is Single Family Low.

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

Urban Residential.

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

Yes, steep slope and shoreline..

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:

None

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

None.

9. Housing

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

None.

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By Kevin LeClair at 10:52 am, Apr 06, 2009

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:

None.

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?

< 12' ht. The exterior building materials may include any of the following; wood, hardwood, masonry, cedar shakes and/or asphalt shingles.

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

None; structure at bottom of slope.

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

Landscaping will be placed adjacent to the structure.

11. Light and Glare

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

Light and glare will originate from the storage structure when used at evening hours.

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.

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

None.

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By Kevin LeClair at 10:53 am, Apr 06, 2009

12. Recreation

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

Meydenbauer Park is located east of the property.

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

No.

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

None.

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.

No.

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

None.

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

None.

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.

Lake Washington Blvd. Access via existing SFR driveway.

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

No. The closest transit stop is .located on Bellevue Way.

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By Kevin LeClair at 10:53 am, Apr 06, 2009

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

None/none.

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.

No.

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.

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.

16. Utilities

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

All except septic.

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By Kevin LeClair at 10:53 am, Apr 06, 2009

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.

Electricity will be provided by Puget Sound Energy
Sanitary Sewer will be provided by the City of Bellevue
Storm water connection will be provided by the City of Bellevue

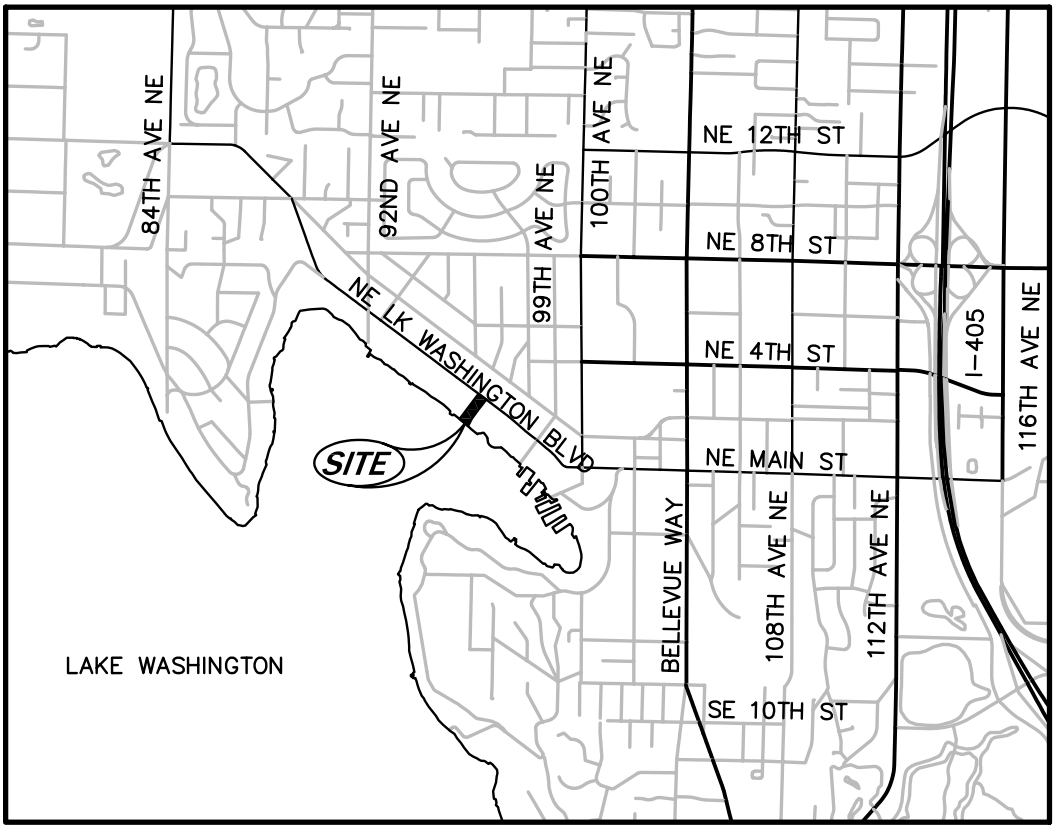
Signature

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 ...03/10/09.....

REVIEWED
By Kevin LeClair at 10:53 am, Apr 06, 2009



VICINITY MAP

SCALE: 1" = 2400'

Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E.
Suite 106
Everett, WA 98208
(425) 337-3174
Fax (425) 337-3045

Critical Area Report/Mitigation Plan

for

Partovi SFR

Wetland Resources, Inc. Project #08246

Prepared By:

Wetland Resources, Inc.
9505 19th Ave. SE
Suite 106
Everett, WA 98208
(425) 337-3174

For:
Atec Homes, Inc.
109 2nd St. S., #339
Kirkland, WA 98033

March 4, 2009

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1. INTRODUCTION

Wetland Resources, Inc. conducted a site visit on December 8, 2008, to evaluate previously identified critical areas located at 9655 Lake Washington Blvd, Bellevue Washington as part of Section 31, Township 25 North, Range 5 East, W.M.

The subject property is bounded on the northeast by Lake Washington Blvd. NE and to the southwest by Meydenbauer Bay on Lake Washington. Vegetation on the site consists primarily of non-maintained landscaping, invasive species such as Japanese knotweed, English Ivy, and Himalayan blackberry and few native Douglas fir, Pacific Madrone, and Oregon grape. Topography of the site is relatively flat in the northeast along Lake Washington Blvd NE, steep in its central portion and flat in the southwest along Meydenbauer Bay. An approximate two to three foot high rock bulkhead is located adjacent to the ordinary high water mark (OHWM) of Lake Washington. A recently renovated dock and boathouse are located waterward of the OHWM. This feature is shared with neighbors to the north. An approved single-family residence (SFR) is currently being constructed on the flat portion of the property adjacent to Lake Washington Blvd. NE. From the SFR, an existing path with stairs meanders down the steep slope to the topographic bench along the lake. An existing tram is also located on the subject property with decked landings at the top and bottom of the slope. In addition, a building permit (08-123561-WB) for a small cove, located in the southern most portion of the property, has been approved. This building permit required mitigation for the construction of the cove along the shoreline. The mitigation required for the cove is independent of this proposal however it is shown with this mitigation plan.

2. CRITICAL AREAS

Two critical areas as defined in BMC LUC 20.25E.017.D (shorelines) and BMC LUC 20.25H.120 (steep slope) are located within the boundary of the subject property. These critical areas generally extend off-site to north and south. The site is currently developed and therefore the shoreline setback (BMC LUC 20.25H. 035) is 25-feet with an additional structure setback of 25-feet. The steep slope area located in the central portion of the property is designated a 50-foot top of slope buffer and a 25-foot toe of slope structure setback.

Figure 1. Existing site conditions. Note large quantities of Japanese knotweed, Himalayan blackberry, and English ivy.

3. PROPOSED MODIFICATION TO BMC LUC

The purpose of this critical area study is to modify the standards identified in BMC LUC 20.25H and LUC 20.25E. The specific standards that are proposed for modification are those related to steep slope top of slope setbacks, steep slope protection requirements and shoreline buffer and setback requirements. The proposed intrusions into these sensitive areas and setbacks are minor and consistent with adjacent properties. Specifically the applicant is proposing to infringe upon these critical areas and their associated setbacks in the following manner:

Zone A - BMC LUC 20.25H.035

- Patio and landscaping associated with the SFR. This will infringe upon 2,169 sq. ft. of buffer

- Rehabilitate/Repair/Maintain the existing tram landing located within the top of slope setback. No new impacts are proposed.

- Temporary disturbance associated with utility lines

Zone B - BMC LUC 20.25H .055

- Maintenance of existing tram system. No additional impact is proposed.
- Maintenance of existing path with stairs extending from the SRF to the dock. No additional impact is proposed.
- Seating area added to trail system. A total of 53 sq. ft. of impact is proposed.
- Temporary disturbance associated with utility lines

Zone C - BMC LUC 20.25 & 20.25H.035

- Maintainance of the tram landing. No additional impact is proposed.
- Construction of a storage structure, path and associated landscaping. A total of 3,018 sq. ft. of impact is proposed.
- Temporary disturbance associated with utility lines

4. Feasibility Alternative Analysis

4.1 Preferred Alternative

The preferred alternative is the action proposed in this critical area study. This included expansion of the patio and landscaping into the top of slope setback, maintaining the existing trail and tram, and construction of a small storage structure within the shoreline setback area. This alternative was chosen due to its limited environmental impacts, consistency with neighboring properties and maintenance of use of the shoreline area.

The total proposed critical area and setback modification under the preferred alternative is 5,240 sq. ft.

4.2 Alternative A

Alternative A is to construct the patio and landscaping in the top of slope setback area, maintain the existing trail and tram, and construct a patio or raised deck (<18" high) within the shoreline setback area. The primary difference with this alternative is to construct a patio or raised deck within the shoreline setback. This proposal has the same general footprint as the preferred alternative and therefore the difference in environmental impact is negligible. The total proposed critical area and setback modification under the alternative A is 5,240 sq. ft.

5. HABITAT ASSESSMENT

5.1 VEGETATION DESCRIPTION

Vegetation on the site consists primarily of non-maintained landscaping, invasive species such as Japanese knotweed (*Polygonum cuspidatum*), English Ivy (*Hedera helix*), black locust (*Robinia pseucacia*) and Himalayan blackberry (*Rubus discolor*) and few native Douglas fir (*Pseudotsuga menziesii*), Pacific Madrone (*Arbutus menziesii*), and Oregon grape (*Berberis nervosa*).

5.2 SPECIES OF LOCAL IMPORTANCE

No terrestrial species of local importance were observed during the site investigation or are identified on the Washington State Department of Fish and Wildlife Priority Habitats and Species (PHS) maps within a primary association area. An individual Bald Eagle (*Haliaeetus* leucocephalus) nest is identified approximately 1 mile south of the subject property and an 800-foot shoreline nest buffer is identified approximately 0.4 miles south of the subject property.

Priority fish presence is noted on the PHS maps within Lake Washington. Individual fish species are not identified on the PHS maps, but present within Lake Washington are Chinook Salmon (*Oncorhynchus tsawytscha*), Coho Salmon (*Oncorhynchus kisutch*), and Bull Trout (*Salvelinus confluentus)*.

5.3 FEDERAL, STATE, OR LOCAL MANAGEMENT RECOMMENDATION

State Management recommendations for Bald Eagle are typically a standard 400-foot no touch zone and an 800-foot seasonal. These recommendations are frequently modified (reduced) based on specific site conditions such as existing intensity of development and the adaptation of nesting pairs. The site is well outside of the typical Bald Eagle nest management area.

There are no specific federal or state management recommendations associated with Chinook Salmon, Coho Salmon, or Bull Trout. Protection of the species is generally handled from local jurisdiction buffer with recommendation and/or establishment of a primary association area. On Lake Washington the City of Bellevue manages fish species of local importance via BMC LUC20.25H.025 and.075.

5.4 POTENTIAL HABITAT IMPACT

No direct or indirect impacts are proposed to any habitats associated with species of local importance.

Figure 2. Existing Condition of Shoreline. Note large quantities of Japanese knotweed.

6. CUMULATIVE IMPACTS

The three critical area and setback zones identified within the subject property have been historically impacted through grading, landscaping, and human activities. As such they are relatively low functioning features that are consistent with the existing Lake Washington shoreline conditions in the city of Bellevue. Nevertheless, if cumulative impacts are assessed starting at the semi-pristine condition of pre-development Bellevue, clear impacts can be observed. This historical analysis does not appear to be the intent of BMC LUC 20.25H.250, rather this analysis will concentrate on observable conditions on-site and in the surrounding residentially zoned areas. This is the only un-maintained yard area observed in an aerial photograph analysis of Meydenbauer Bay. Development intensity has not increased significantly in recent years and it is unlikely that development intensity will increase on any of the adjacent parcels in the near future. Therefore cumulative impacts of the proposed impacts associated with this proposal will be negligible.

7. REQUIRED VS PROPOSED PROTECTION

7.1 EXISTING FUNCTIONS AND VALUES

The critical area zones and their associated buffers will be analyzed as a system rather than individual features.

7.1.1 WATER QUALITY

Stormwater for the SFR will be routed through an existing water quality system and discharged to Lake Washington. Water quality improvement function is limited due to the overall steepness of the existing slope. In order to remove materials that generally reduce water quality, hydrology needs an opportunity to slow and allow suspended solids to settle. On steep slopes this does not occur. The existing dense (non-native) vegetation does provide some soil stability, which reduces the potential for silt entering Lake Washington. Overall the water quality improvement function of the on-site critical areas and their associated setback is low to moderately low. This function has limited importance given the existing condition of the majority of the Lake Washington shoreline particularly in the city.

7.1.2 STORMWATER CONTROL

Stormwater for the SFR will be routed through an existing water quality system and discharged to Lake Washington. Given the steepness of the existing slope, lack of dense forested overstory, and lack of depressional areas that store stormwater, the stormwater control function of the on-site critical areas and their associated setbacks is low. This function is less important in other areas given the site's location in the watershed immediately adjacent to Lake Washington. This function has limited importance, given the existing condition of the majority of the Lake Washington shoreline particularly in the city.

7.1.3 WILDLIFE HABITAT

The site's limited native vegetation and isolation from any movement corridors severely limits its' wildlife function. The large Douglas-firs do provide excellent perch and refuge for avian species. Small urban adapted mammals and avian species may utilize dense vegetation on the slope as for refuge and forage opportunity. The expected wildlife function for the subject property is low. Please see section 4.0 for a detailed habitat assessment and a more detailed analysis of expected wildlife species. The existing large Douglas firs are relatively important for, in particular, large avian species. Many of the surrounding properties have also maintained these larger trees.

7.1.4 AESTHETICS

Vegetation on site is currently dominated by invasive non-native species that will expand if not controlled. This expansion could occur into neighboring properties. A path/stairs, tram with landings, and a small existing structure are located on-site and are in severe need of maintenance. This is very much out of character with the surrounding properties all throughout Meydenbauer Bay. The current aesthetic value of the critical areas and their associated setbacks is low. For surrounding property owners and property values this is likely relatively important to the community.

7.2 FUNCTIONS AND VALUES IF REGULATIONS AND STANDARDS ARE STRICTLY APPLIED

The critical area zones and their associated buffers will be analyzed as a system rather than individual features.

7.2.1 WATER QUALITY

If the City's regulations and standards are strictly applied there will be no change in the existing functions and values for water quality. Overall the water quality improvement function of the on-site critical areas and their associated setbacks would remain low to moderately low.

7.2.2 STORMWATER CONTROL

If the City's regulations and standards are strictly applied there will be no change in the existing functions and values for water quality. Overall the stormwater improvement function of the on-site critical areas and their associated setbacks would remain low.

7.2.3 WILDLIFE HABITAT

If the City's regulations and standards are strictly applied there will be no change in the existing functions and values for wildlife habitat. Overall, wildlife habitat may actually diminish if invasive species are not controlled. The on-site critical areas and their associated setbacks would remain low for wildlife habitat.

7.2.4 AESTHETICS

If the City's regulations and standards are strictly applied there will be no change in the existing value for aesthetics. Overall, aesthetic value may actually diminish if invasive species are not controlled. The on-site critical areas and their associated setbacks would remain low for aesthetics.

7.3 POST MITIGATION FUNCTIONS AND VALUES

The critical area zones and their associated buffers will be analyzed as a system rather than individual features.

7.3.1 WATER QUALITY

Stormwater for the SFR will be routed through an existing water quality system and discharged to Lake Washington. Water quality improvement function is limited due to the overall steepness of the existing slope. In order to remove materials that generally reduce water quality, hydrology needs an opportunity to slow and allow suspended solids to settle. On steep slopes this does not occur. The proposed enhancement plantings will continue to provide some soil stability, which reduces the potential for silt entering Lake Washington. Overall the water quality improvement function of the on-site critical areas and their associated setback will remain low to moderately low. This function has limited importance given the existing condition of the majority of the Lake Washington shoreline particularly in the City.

7.3.2 STORMWATER CONTROL

Stormwater for the SFR will be routed through an existing water quality system and discharged to Lake Washington. Given the steepness of the existing slope, lack of dense forested overstory, and lack of depressional areas that store stormwater, the stormwater control function of the on-site critical areas and their associated setbacks is low. This function is less important in other areas given the site's location in the watershed immediately adjacent to Lake Washington. This function has limited importance given the existing condition of the majority of the Lake Washington shoreline particularly in the city.

7.3.3 WILDLIFE HABITAT

The site's limited native vegetation and isolation from any movement corridors severely limits its wildlife function. The large Douglas-firs do provide excellent perch and refuge for avian species. Small urban adapted mammals and avian species may utilize dense vegetation on the slope for refuge and forage opportunity. The expected wildlife function for the subject property is low. Please see section 4.0 for a detailed habitat assessment and a more detailed analysis of expected wildlife species. The existing large Douglas firs are relatively important for, in particular, large avian species. Many of the surrounding properties have also maintained these larger trees.

7.3.4 AESTHETICS

Vegetation on site is currently dominated by invasive non-native species that will expand if not controlled. This expansion could occur into neighboring properties. A path/stairs, tram with landings, and a small existing structure are located on-site and is in severe need of maintenance. This is very much out of character with the surrounding properties all throughout Meydenbauer Bay. The current aesthetic value of the critical areas and their associated setbacks is low. For surrounding property owners and property values this is likely relatively important to the community.

Table 1. Critical Area and Setback Functions and Values

Function/Value	Existing Condition	Regulated Condition	Post-Mitigation Condition
Water Quality	L/LM	L/LM	L/LM
Stormwater Storage	L	L	L
Wildlife Habitat	L	L	LM/M
Aesthetic Value	L	L	M/MH

L-LOW, M-MEDIUM, H-HIGH

7.4 FUNCTIONS AND VALUES CONCLUSION

An overall improvement in functions and values is expected from the implementation of the mitigation plan. Removal and control of invasive species and planting of diverse native shrubs and emergent species will result in marked improvement in function and values for both wildlife habitat and aesthetics.

8. PERFORMANCE STANDARDS (BMC LUC 20.25H.160)

No habitat associated with species of local importance is present on or in the vicinity of the subject property and therefore the only applicable performance standards will be included in 8.0 Mitigation section of this report.

9. MITIGATION PLAN

9.1 PROJECT DESCRIPTION

The applicant has an approved building permit application for a SFR on the northeastern portion of the subject property. The house is currently under construction and as part of the construction, a deck and spa areas will extend approximately 2,169 sq. ft. into the 50-foot top of slope setback. In order to maintain reasonable access to the waterfront portion of the property and existing dock, the applicant plans to maintain an existing tram system and stair and path system. An additional 53 sq. ft. beyond the existing footprint of these structures is proposed for a resting area along the existing path. In addition to the aforementioned intrusions into the Critical Areas and setback, the applicant is proposing to construct an approximate 3,018 sq. ft. storage structure and associated improvements within the shoreline setback area. A small amount of temporary impact will also occur from the connection of sewer and stowmwater to existing stubs located at the toe of slope. All impact associated with the utility installation will be restored with species recommended in the attached landscaping plans.

Figure 3. Existing Tram. Note maintained condition of adjacent yard

Figure 4. Existing Condition of Shoreline setback. Yard area is currently not maintained. Note cabana/storage building on adjacent property.

MITIGATION SEQUENCING

9..1 Avoidance

The applicant is proposing to avoid impacts to the on-site critical areas to the greatest extent possible. The proposed deck and spa area is an integral part of the structure that is currently under construction and is required to maintain the architectural integrity of the structure. Maintenance of the existing tram and stairs is essential to the preservation of existing access to the waterfront. No new impacts are proposed. Construction of the storage structure within the shoreline setback is essential due to the limited access to storage upslope and outside of the critical areas. This unavoidable impact is also in character with many of the surrounding properties.

9..2 Minimization

The applicant is proposing to minimize impacts to the greatest extent possible by limiting any intrusions in the critical areas and their setbacks to areas that have been historically disturbed. Specifically the proposed deck/spa is located in maintained yard areas adjacent to the demolished residence, the tram and trail are currently in

place and are in need of maintenance (no new disturbance), and the storage structure will be located within a previously maintained yard area adjacent to the shoreline. Native vegetation will not be impacted by any of these proposed modifications.

9..3 Mitigation

As mitigation for all the proposed modifications, invasive and non-native vegetation will be removed and controlled from the shoreline critical area, shoreline setback, slope critical areas, and slope critical area setback. Diverse native species will be planted within these areas and maintained.

9..4 Monitoring

All mitigation areas will be monitored for a period of five years from the point of installation per the approved monitoring plan established in this report.

GOALS , OBJECTIVES, AND PERFORMANCE STANDARDS

9..1 Goal 1 – Improve Wildlife Habitat on-site

Objective 1a – Increase diversity of native species on the slope, shoreline, and shoreline setback area through the planting of native trees and shrubs

Performance Standard 1a1-100 percent survival rate of the planted species within the first year of planting

Performance Standard 1a2 - 80 percent survival rate of the planted species at the end of the five-year monitoring period

Objective 2a – Control invasive species on the slope, shoreline, and shoreline setback area through the planting of native trees and shrubs

Performance Standard 2a1- 0 percent invasive species present at the end of the first year of planting

Performance Standard 2a2- Maximum 10 percent invasive species present at the end of the five-year monitoring period

9..2 Goal 2 – Improve Aesthetic value of the site

Objective 2b – Create multiple layers of vegetation through the planting of native trees and shrubs

Performance Standard 2b1-100 percent survival rate of the shrubs and herbs within the first year of planting

Performance Standard 2b2-80 percent survival rate of the shrubs and herbs within the first year of planting

MITIGATION SPECIFICATIONS

Mitigation for aforementioned 5,240 sq. ft. of total modifications will be in the form of control of invasive species and planting of native shrubs and herbs on the entire steep slope critical area, within the shoreline area and within the shoreline setback area. Please see the attached landscaping plan for a description of plant species and planting details.

Table 2. Mitigation

Zone	Modification	Mitigation
A	Steep Slope Setback 2,169 sq. ft.	2,180 sq. ft.
B	Steep Slope (Tram and Trail Maint) 53 sq. ft	8,765 sq. ft.
C	Shoreline Building setback 3,018 sq. ft.	2,610 sq. ft. (295 outsite of buffer)
Total	**Total Impact 5,240**	**13,555 sq. ft.**

TIMING

Unless a specific time period is established by the director for this project, all work shall be completed prior to final inspection or issuance of a temporary certificate of occupancy or certificate of occupancy , as applicable for the development.

MONITORING

9.5.1 Purpose of monitoring

The purpose of monitoring is to evaluate the success of the proposed enhancement plan. If, at the end of five years post-installation, the criteria for success set forth below are met, then the project will be considered successful. Upon completion of the proposed enhancement project, an inspection by a qualified wetlands specialist will be made to determine plan compliance. A compliance report/as-built will be supplied to the City of Bellevue within 30 days after the completion of planting. The city must approve the as-built document before the monitoring period commences. A qualified wetland specialist shall conduct monitoring of the plant conditions in the spring and fall annually for five years. For each year monitored, a written report describing the progress and condition of the mitigation plan will be submitted to the City of Bellevue after the fall inspection. Final inspection will occur five years after completion of project installation. At that time, the contracted wetland specialist shall prepare a report evaluating the success of the project.

9.5.2 Requirements for monitoring project

1. Initial compliance report
2. Yearly site inspections (twice yearly; once in the spring and fall) for five years
3. Annual reports (one report submitted in the fall of each monitored year), including a final report at the conclusion of the fifth year with an assessment of mitigation success or failure.

9.5.3 Definition of Success

The goal of this enhancement plan shall be to control invasive and non-native species and establish well-vegetated critical and setback areas and wetland areas dominated by native trees and shrubs. Therefore, the criteria for success shall be a minimum 80 percent survival of the planted species at the end of five years. In addition, not more than 10 percent areal cover from non-native, invasive species shall not be present in any buffer area at the end of five years, else that area shall not be considered successful.

9.5.4 Monitoring Protocol

During the initial site as-built site inspection, photo monitoring transects will be established as appropriate. These will be used throughout the five-year monitoring period. Plant survival shall be measured during the first two years of monitoring. A two meter wide transect shall be established and plant mortality shall be recorded. The percentage of plant survival will be derived by subtracting the number of missing or dead plants from the number of plants that were recorded in the transects during the initial visit to assess plan compliance. Plant survival within the transects is assumed to be representative of the entire site. In addition to the transects, a visual inspection of the entire mitigation area shall be conducted to assess any high mortality areas not represented by the transects.

If one or more of the planted species exhibit a high rate of mortality and are deemed inappropriate for the site, the consulting biologist and/or landscape architect may recommend a substitution.

To measure percent cover, two meter wide belt transects shall be established as appropriate. Along these transects, sample plots that are representative of the vegetative community will be chosen. These plots shall be fixed, located using stakes, GPS, or other method and used for the duration of the monitoring period.

CONTINGENCY PLAN

If, during any of the semi-annual inspections, 20 percent of the plants are severely stressed or it appears 20 percent may not survive, additional plants of the same species will be added to the restoration areas. If invasive, non-native species exceed 10 percent of plant populations (as measured by percent cover), manual or chemical control by a licensed applicator may be necessary. If any of these situations persist to the next semi-annual inspection, a meeting with the City of Bellevue, the consulting biologist, and the property owner will be held to decide upon contingency plans. Elements of a contingency plan may include, but will not be limited to: more aggressive weed control, mulching, replanting with larger plant material, species substitution, fertilization, soil amendments, and/or irrigation.

VEGETATION MANAGEMENT PLAN/MAINTENANCE PLAN

This mitigation project will require periodic maintenance to replace mortality of planted species and control invasive, non-native plant species, and other undesirable competing grasses. Only the mitigation areas will be monitored and maintained. The planting areas will be maintained (at a minimimum) in spring and late summer of each year for the five-year monitoring period. Maintenance may include, but will not be limited to, removal of competing grasses and non-native vegetation (by hand if necessary), irrigation, replacement of dead plants, and/or the replacement of mulch during each maintenance period. Chemical control of invasive, non-native species, if necessary, shall be applied only after approval by the City of Bellevue and by a licensed applicator following all label instructions. Chemical control and fertilization within the mitigation areas is strongly discouraged.

Irrigation of plantings during the dry season (generally June through September) is highly recommended for the first two years following installation. If adequate rainfall occurs during the dry season to support the establishment of plants, then irrigation measures may not be necessary.

10. NGPE DESIGNATION

A small portion of Zone A (1,466 sq. ft) and all of Zone B (9,288 sq. ft.) with the exception of the existing trail and tramline will be designated and recorded as a Native Growth Protection Easement. A total of 10,754 sq. ft. of NGPE will be designate on site. Per 20.25H.030B(2)(a) all native vegetation, existing topography, and other natural features will be preserved for the purpose of preventing harm to property and the environment, including, but not limited to, controlling surface water runoff and erosion, maintaining slope stability, buffer and protecting plants and animal habitat.

10. USE OF THIS REPORT

This Critical Area Study and Wetland Mitigation Plan is supplied Atec Homes as a means of determining on-site critical area conditions, as required by the City of Bellevue during the permitting process. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to wetlands are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.

Scott Brainard, PWS
Principal Wetland Ecologist

REFERENCES

National List of Plant Species that Occur in Wetlands, Northwest Region. 1996. U.S. Department of the Interior, Fish and Wildlife Service. Washington, D.C.

City of Bellevue Critical Area Ordinance. Part 20.25H. Bellevue, Washington. October 2007.

Catalog of Washington Streams and Salmon Utilization, Volume 1, Puget Sound Region. Williams, R.W., R.M. Laramie and J.J. Ames. Washington Department of Fisheries. Olympia, WA. 1975.

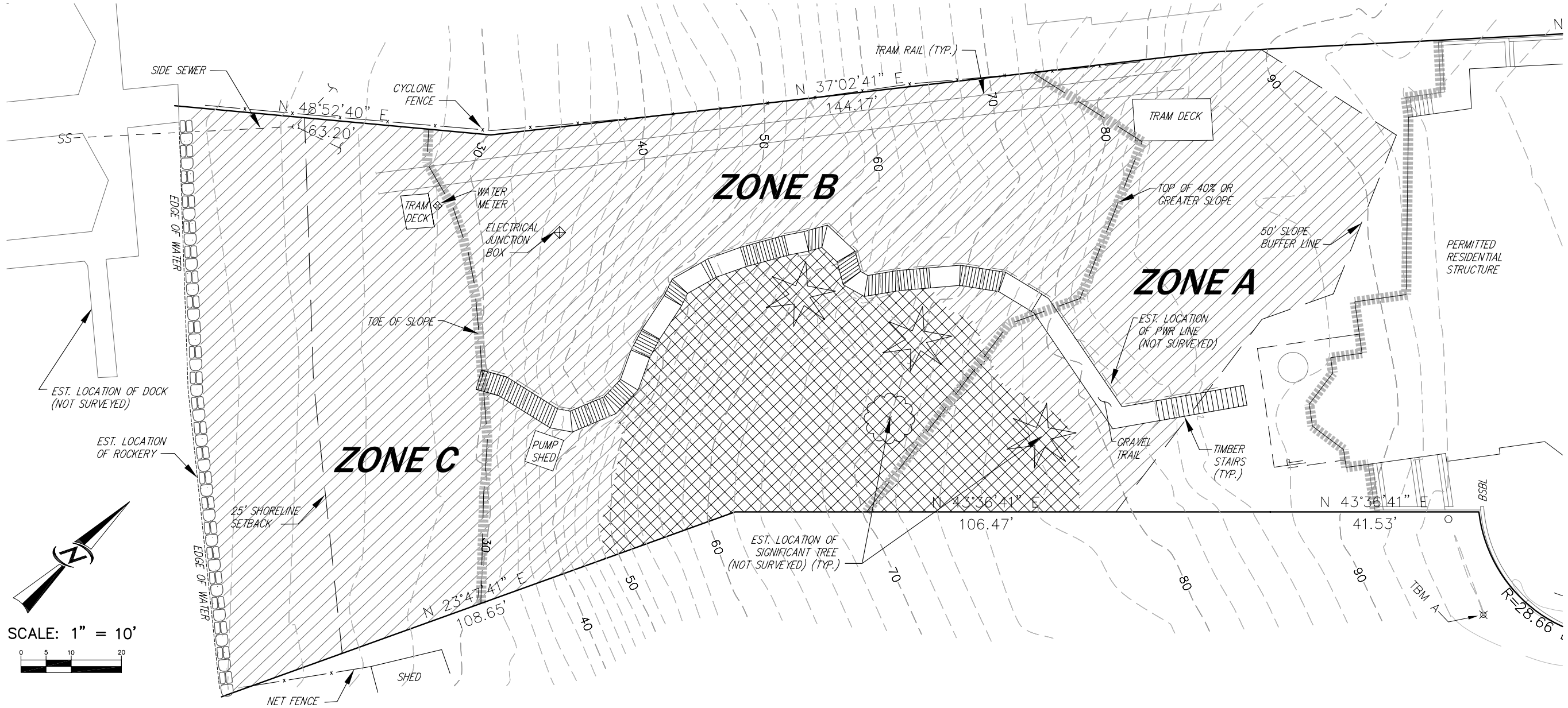
ATTACHMENT 1

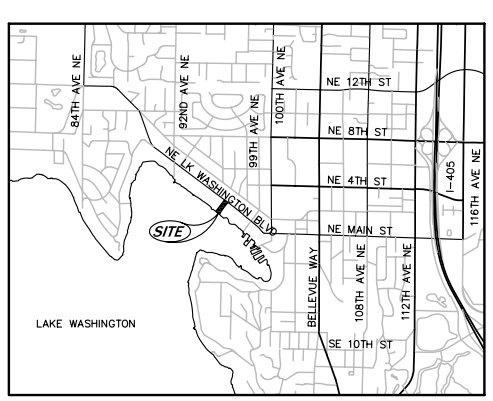
Landscaping Plan

Sheet L1:Existing site conditions

Sheet L2: Restoration/Landscape Plan

Sheet L3: Plant Schedule, Notes and details





VICINITY MAP

SCALE: 1" = 2400'

EXISTING VEGETATION CONDITIONS (WITHIN CRITICAL AREAS AND BUFFER)

SEMI-DEGRADED AREA*: (+/- 3,690 SF)

VEGETATION IN THIS AREA CONSISTS PRIMARILY OF NATIVE SPECIES WITH SOME NON-NATIVE/INVASIVE SPECIES MIXED THROUGHOUT THE AREA

NATIVE SPECIES INCLUDE THE FOLLOWING:
DOUGLAS FIR (PSEUDOTSUGA MENZIESII), PACIFIC MADRONE (ARBUTUS MENZIESII), OREGON GRAPE (MAHONIA AQUIFOLIUM) & SWORD FERN (POLYSTICHUM MUNITUM)

NON-NATIVE/INVASIVE SPECIES INCLUDE THE FOLLOWING:
JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM), ENGLISH IVY (HEDERA HELIX), HIHALAYAN BLACKBERRY (RUBUS DISCOLOR), SCOTCH BROOM (CYTISUS SCOPARIUS), BLACK LOCUST (ROBINIA PSEUDOACACIA)

DEGRADED AREA*: (+/- 15,160 SF)

VEGETATION IN THIS AREA CONSISTS PRIMARILY OF NON-NATIVE/INVASIVE SPECIES WITH A FEW NATIVE SEEDLINGS LOCATED INTERMITTENTLY:

NON-NATIVE/INVASIVE SPECIES INCLUDE THE FOLLOWING:
JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM), ENGLISH IVY (HEDERA HELIX), HIHALAYAN BLACKBERRY (RUBUS DISCOLOR), SCOTCH BROOM (CYTISUS SCOPARIUS), BLACK LOCUST (ROBINIA PSEUDOACACIA), ST. JOHNSWORT (HYPERICUM CALYCINUM), BEARBERRY COTONEASTER (COTONEASTER DAMMERI), ENGLISH LAUREL (PRUNUS LAUROCERASUS) & PASTURE TYPE GRASSES

NATIVE SPECIES INCLUDE THE FOLLOWING:
DOUGLAS FIR (PSEUDOTSUGA MENZIESII), PACIFIC MADRONE (ARBUTUS MENZIESII), OREGON GRAPE (MAHONIA AQUIFOLIUM) SWORD FERN (POLYSTICHUM MUNITUM), RED ALDER (ALNUS RUBRA)

* AREAS DO NOT INCLUDE EXISTING PATH/STAIRS, PUMP HOUSE OR TRAM DECKS (+/- 885 SF)

ZONE DESCRIPTIONS

ZONE A: CONSISTING PRIMARILY OF PASTURE TYPE GRASSES ON THE RELATIVELY FLAT AREAS TO THE WEST AND NATIVE SPECIES ON THE SLOPE AREAS TO THE EAST.

ZONE B: CONSISTING PRIMARILY OF SHRUBY AND GROUNDCOVER NON-NATIVE/INVASIVE SPECIES TO THE WEST OF THE PATH. THERE ARE ALSO SOME PACIFIC MADRONE SEEDLINGS LOCATED NEAR THE TOP OF THE SLOPE TOWARD THE CENTER OF THE PROPERTY. THE NATIVE AREA EAST OF THE PATH CONSISTS PRIMARILY OF NATIVE AND NON-NATIVE/INVASIVE SHRUBY SPECIES WITH FOUR SIGNIFICANT TREES (ONE PACIFIC MADRONE AND THREE DOUGLAS FIRS).

ZONE C: RELATIVELY FLAT AREA CONSISTING PRIMARILY OF PASTURE TYPE GRASSES, JAPANESE KNOTWEED AND HIMALAYAN BLACKBERRY.

PERMIT NO. XX-XXXXXX XX

SEC. 31, TWP. 25, RGE 5 E., W.M.

NO.	REVISIONS	DATE

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
JOSHUA PENNINGTON BEARD
CERTIFICATE NO. 938

CORE DESIGN
14711 NE 29th Place Suite 101
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ENGINEERING · PLANNING · SURVEYING

EXISTING SITE CONDITIONS
PARTOVI RESIDENCE

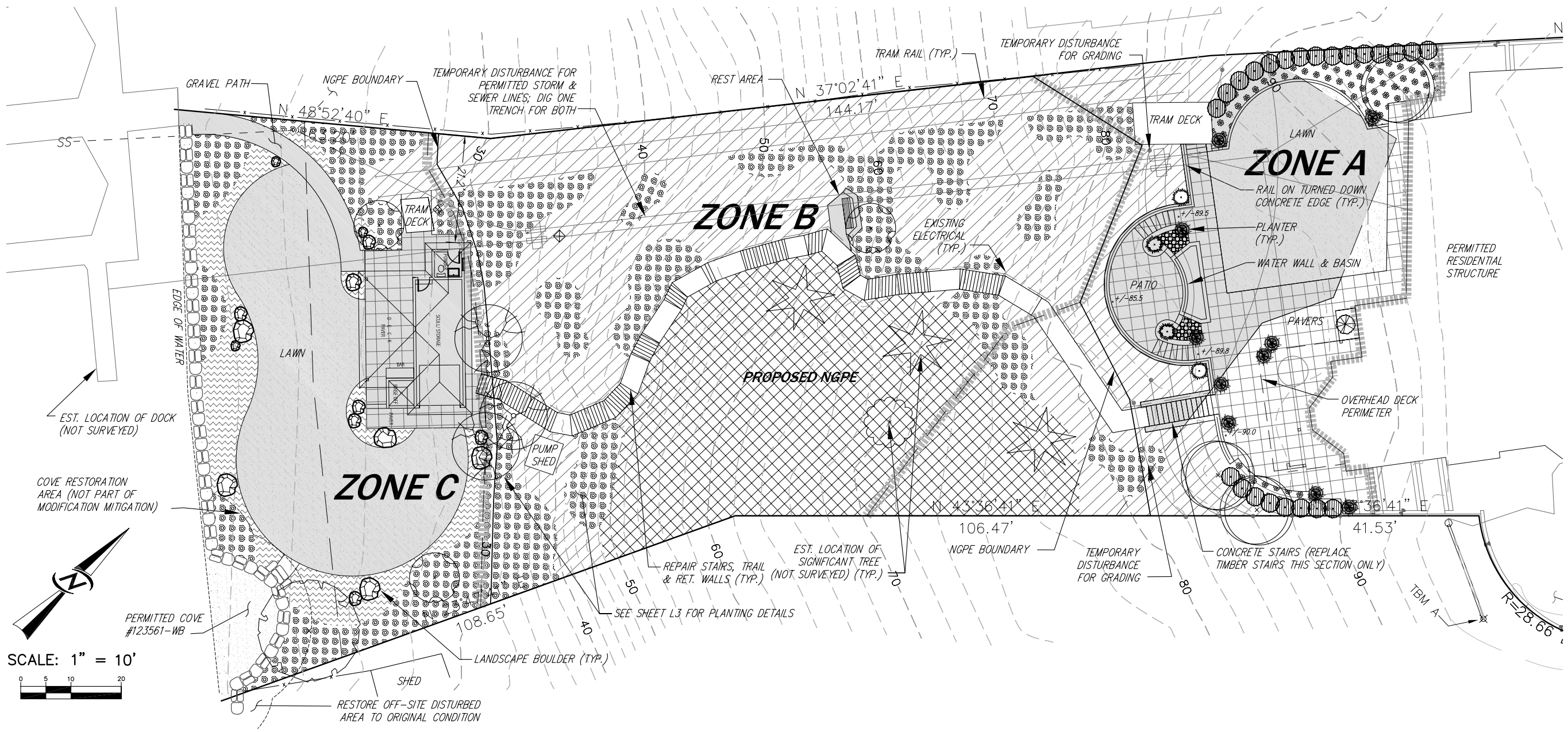
ATEC HOMES
109 2ND STREET S. #339
KIRKLAND, WASHINGTON 98033

DATE	JANUARY 2008
DESIGNED	JPB
DRAWN	JPB
APPROVED	JPB

JOSHUA P. BEARD, R.L.A.
PROJECT MANAGER

SHEET	OF
L1	3

PROJECT NUMBER
08109



RESTORATION/LANDSCAPE NARRATIVE

ZONE A: LANDSCAPE MODIFICATIONS INLCUDE A TERRACED PATIO, A WATER FEATURE, TURNED DOWN EDGE, MODIFIED STAIRS, RAILING, DROUGHT TOLERANT ORNAMENTAL VEGETATION, AND LAWN. THIS AREA IS EQUAL TO APPROXIMATELY +/- 2,169 SF.

TEMPORARY DISTURBANCE INCLUDES TRENCH FOR STORM & SEWER LINES & GRADING FOR PATIO OUTSIDE OF STEEP SLOPE.

LANDSCAPE RESTORATION INCLUDES TRAM DECK, AND PATH & STAIRS.

VEGETATIVE RESTORATION OF DISTURBED AREA INCLUDES THE REMOVAL OF ALL INVASIVE AND NON-NATIVE SPECIES AND SEEDLINGS, AND THE PLANTING OF NATIVE SPECIES IN THEIR PLACE. THIS AREA IS EQUAL TO APPROXIMATELY +/- 1,400 SF

VEGETATIVE RESTORATION OF SEMI-DISTURBED AREA INCLUDES THE REMOVAL OF ALL INVASIVE AND NON-NATIVE SPECIES. THIS AREA IS EQUAL TO APPROXIMATELY +/- 780 SF.

ZONE B: LANDSCAPE MODIFICATIONS INLCUDE A SEATING AREA. THIS AREA IS EQUAL TO APPROXIMATELY +/- 53 SF.

TEMPORARY DISTURBANCE INCLUDES TRENCH FOR STORM & SEWER LINES.

LANDSCAPE RESTORATION INCLUDES PUMP SHED, AND PATH & STAIRS.

VEGETATIVE RESTORATION OF DISTURBED AREA INCLUDES THE REMOVAL OF ALL INVASIVE AND NON-NATIVE SPECIES AND SEEDLINGS, AND THE PLANTING OF NATIVE SPECIES IN THEIR PLACE. THIS AREA IS EQUAL TO APPROXIMATELY +/- 5,855 SF

VEGETATIVE RESTORATION OF SEMI-DISTURBED AREA INCLUDES THE REMOVAL OF ALL INVASIVE AND NON-NATIVE SPECIES. THIS AREA IS EQUAL TO APPROXIMATELY +/- 2,910 SF.

ZONE C: LANDSCAPE MOIDIFICATIONS INLCUDE A STORAGE FACILITY, PATH TO DOCK & LAWN. THIS AREA IS EQUAL TO APPROXIMATELY +/- 3,018 SF.

TEMPORARY DISTURBANCE INCLUDES TRENCH FOR STORM & SEWER LINES.

PERMITTED COVE (NOT PART OF PROOSED MODIFICATION)

LANDSCAPE RESTORATION INCLUDES TRAM DECK.

VEGETATIVE RESTORATION OF DISTURBED AREA INCLUDES THE REMOVAL OF ALL INVASIVE AND NON-NATIVE SPECIES AND SEEDLINGS, AND THE PLANTING OF NATIVE SPECIES IN THEIR PLACE. THIS AREA IS EQUAL TO APPROXIMATELY +/- 2,315 SF

OTHER: ADDITIONAL VEGETATIVE RESTORATION OF DISTURBED AREA OUTSIDE CRITICAL AREAS & BUFFER INCLUDES THE REMOVAL OF ALL INVASIVE AND NON-NATIVE SPECIES AND SEEDLINGS, AND THE PLANTING OF NATIVE SPECIES IN THEIR PLACE. THIS AREA IS EQUAL TO APPROXIMATELY +/- 295 SF

RESTORATION/LANDSCAPE SUMMARY

EXISTING DISTURBED VEGETATIVE AREA WITHIN CRITICAL AREAS & BUFFER:	+/- 18,850 SF
TOTAL PROPOSED LANDSCAPE MODIFICATION AREA:	+/- 5,240 SF
ADDITIONAL MITIGATION AREA ADDED OUTSIDE CRITICAL AREAS & BUFFER:	+/- 295 SF
NET GAIN IN RESTORED (MITIGATED) LANDSCAPE:	**+/- 13,555 SF**
AREA WITHIN PROPOSED NGPA:	+/- 10,754 SF
IMPERVIOUS SURFACE (WITHIN BUFFER AREA):	+/- 2,066 SF

LEGEND

PROPOSED MODIFICATION AREA (+/- 5,240 SF)

RESTORATION TREATMENT A: - REMOVE ALL INVASIVE & NON-NATIVE SPECIES FROM AREA

RESTORATION TREATMENT B: - REMOVE ALL INVASIVE & NON-NATIVE SPECIES FROM AREA; PLANT GROUNDCOVER/LOW - MED. SHRUB MIX (SEE PLANT SCHEDULE ON L3 FOR SPECIES)

RESTORATION TREATMENT C: - REMOVE ALL INVASIVE & NON-NATIVE SPECIES FROM AREA; PLANT TALL SHRUB MIX (SEE PLANT SCHEDULE ON L3 FOR SPECIES)

RESTORATION TREATMENT D: - REMOVE ALL INVASIVE & NON-NATIVE SPECIES FROM AREA; PLANT LOW SHRUB/PERENNIAL MIX (SEE PLANT SCHEDULE ON L3 FOR SPECIES)

ORNAMENTAL SHRUB MIX: - (SEE PLANT SCHEDULE ON L3 FOR SPECIES)

PERENNIAL MIX: - (SEE PLANT SCHEDULE ON SHEET L3 FOR SPECIES)

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SHEET	OF
L2	3

PROJECT NUMBER 08109

PLANT SCHEDULE

QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS
TREES					
3	ACER CIRCINATUM	VINE MAPLE	8–10' HT. MIN.	AS SHOWN	MULTI–STEM, 3 TRUNK MIN.
3	ARBUTUS UNEDO	STRAWBERRY TREE	5–6' HT. MIN.	AS SHOWN	SYMMETRICALLY BRANCHED
3	CORYLUS CORNUTA VAR. CALIFORNICA	WESTERN HAZLENUT	5–6' HT. MIN.	AS SHOWN	SYMMETRICALLY BRANCHED
1	SALIX LASIANDRA	PACIFIC WILLOW	8–10' HT. MIN.	AS SHOWN	SINGLE STEM
SHRUBS					
1	CUPRESSUS SEMPERVIRENS 'TINY TOWERS'	DWARF ITALIAN CYPRESS	5–6' HT.	AS SHOWN	FULL FOLIAGE
4	JUNIPERUS VIRGINIANA 'SKYROCKET'	SKYROCKET JUNIPER	5–6' HT.	AS SHOWN	FULL FOLIAGE
23	THUJA OCCIDENTALIS 'EMERALD'	EMERALD ARBOVITAE	5–6' HT.	3' O.C.	FULL FOLIAGE
SHRUB MIXES					
5710 S.F.*	ARCTOSTAPHYLOS UVA–URSI	KINNIKINNICK	4" POT	2' O.C.	MIX RATIO: KINNIKINNICK 10%, SALAL 50%, MAHONIA 35%, SWORD FERN 5%
	GAULTHERIA SHALLON	SALAL	4" POT	2' O.C.	
	MAHONIA REPENS	CREEPING MAHONIA	4" POT	2' O.C.	PLANT INDIVIDUAL SPECIES IN CLUSTERS WITH CLUSTER SIZE RELATING TO MIX RATIO
	POYSTICHUM MUNITUM	SWORD FERN	1 GAL.	2' O.C.	
3345 S.F.*	CORNUS STOLONIFERA 'BAILEYI'	BAILEYI REDTWIG DOGWOOD	1 GAL.	3' O.C.	MIX RATIO: DOGWOOD 20%, MAHONIA 20%, PACIFIC WAX MYRTLE 10%, FLOWERING CURRENT 10%, NOOTKA ROSE 20%, SNOWBERRY 20%
	MAHONIA AQUIFOLIUM	OREGON GRAPE	1 GAL.	4' O.C.	
	MYRICA CALIFORNICA	PACIFIC WAX MYRTLE	1 GAL.	6' O.C.	
	RIBES SANGUINEUM	FLOWERING CURRENT	1 GAL.	4' O.C.	PLANT INDIVIDUAL SPECIES IN CLUSTERS WITH CLUSTER SIZE RELATING TO MIX RATIO
	ROSA NUTKANA	NOOTKA ROSE	1 GAL.	4' O.C.	
	SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL.	5' O.C.	
810 S.F.*	ARCTOSTAPHYLOS UVA–URSI	KINNIKINNICK	4" POT	2' O.C.	MIX RATIO: KINNIKINNICK 30%, SALAL 50%, TUFTED HAIR GRASS 5%, SWORD FERN 5%, POTENTILLA 10%
	DESCHAMPSIA CAESPITOSA	TUFTED HAIRGRASS	1 GAL.	2' O.C.	
	FRAGARIA CHILOENSIS	SALAL	4" POT	2' O.C.	PLANT INDIVIDUAL SPECIES IN CLUSTERS WITH CLUSTER SIZE RELATING TO MIX RATIO
	POYSTICHUM MUNITUM	SWORD FERN	1 GAL.	2' O.C.	
	POTENTILLA FRUTICOSA 'GOLDFINGER'	GOLDFINGER CINQUEFOIL	1 GAL.	3' O.C.	
300 S.F.	CISTUS X HYBRIDUS	WHITE ROCKROSE	21–24" HT.	3' O.C.	
	ESCALLONIA 'NEWPORT DWARF'	DWARF ESCALLONIA	21–24" HT.	3' O.C.	
	POTENTILLA FRUTICOSA 'GOLDFINGER'	GOLDFINGER CINQUEFOIL	18–21" HT.	3' O.C.	
	ROSMARINUS OFFICINALIS	ROSEMARY	21–24" HT.	4' O.C.	
	ROSA X 'NOALA'	FLOWER CARPET CORAL ROSE	1 GAL.	3' O.C.	
42 S.F.	CISTUS X 'BRILLIANCY'	BRILLIANCY ROCKROSE	15–18" HT.	3' O.C.	
	LAVANDULA ANGUSTIFOLIA 'HIDCOATE'	ENGLISH LAVENDER	15–18" HT.	2' O.C.	
	PENNISETUM ALOPECUROIDES 'HAMELIN'	FOUNTAIN GRASS	1 GAL.	2' O.C.	
	PEROVSKIA 'BLUE SPIRE'	BLUE SPIRE PEROVSKIA	1 GAL.	2' O.C.	
	PHORMIUM TENAX	NEW ZEALAND FLAX	15–18" HT.	2' O.C.	
TURF					
3,342 S.F.	SOD	–	–	–	JB INSTANT LAWN 'SIGNATURE' SOD OR SIMILAR

* VEGETATION AREAS ASSOCIATED WITH THE "VEGETATION MANAGEMENT/MAINTENANCE PLAN" SECTION FOUND WITHIN THE CRITICAL AREAS REPORT

GENERAL LANDSCAPE NOTES

1.) THE LANDSCAPE CONTRACTOR MUST BE LICENSED AND OR BONDED. CONTRACTOR MUST BE EXPERIENCED IN LANDSCAPE WORK OF THE BEST TRADE PRACTICES AND HAVE THE NECESSARY EQUIPMENT AND PERSONNEL TO PERFORM WORK.

2.) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HER/HIMSELF WITH THE SITE AND ALL OTHER SITE IMPROVEMENTS PRIOR TO THE START OF LANDSCAPE WORK.

3.) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND USE CAUTION WHILE EXCAVATING IN ORDER TO AVOID DISTURBING ANY EXISTING UTILITIES. THE LANDSCAPE CONTRACTOR WILL PROMPTLY NOTIFY THE GENERAL CONTRACTOR AND OWNER OF ANY CONFLICTS. IN THE EVENT OBSTRUCTIONS ARE ENCOUNTERED DURING PLANTING ACTIVITIES, ALTERNATIVE LOCATIONS MAY BE SELECTED BY THE OWNER'S REPRESENTATIVE.

4.) THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL WORK RELATED TO OTHER TRADES AS REQUIRED.

5.) THE LANDSCAPE CONTRACTOR SHALL PROVIDE ALL PLANTS OF THE CORRECT SIZE, SPECIES VARIETY, QUANTITY AND QUALITY AS SPECIFIED ON PLANT SCHEDULE AND SYMBOLS ON LANDSCAPE PLAN. IF UNAVAILABLE, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY AND PROVIDE THE NAMES AND TELEPHONE NUMBERS OF THREE NURSERY SUPPLIERS OR PLANT BROKERS THAT HAVE BEEN CONTACTED. SUBSTITUTIONS SHALL ONLY BE MADE UPON THE APPROVAL OF THE OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT.

6.) ALL PLANT MATERIAL SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLANTING. ALL PLANT MATERIAL SHALL CONFORM TO THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANSI Z60.1).

7.) THE LANDSCAPE CONTRACTOR SHALL DELIVER, MAINTAIN AND WATER PLANT MATERIAL UNTIL OWNERS FINAL ACCEPTANCE IS RECEIVED.

8.) THE LANDSCAPE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY, INCLUDING PAVEMENT, WALKWAYS, CURBS, FENCING, STRUCTURES, ETC.. DURING CONSTRUCTION.

9.) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING INFORMED OF ALL EXISTING CODES, LAWS AND ORDINANCES RELATING TO THE WORK REQUIRED ON SITE, AND SHALL COMPLY ACCORDINGLY.

10.) THE LANDSCAPE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ASSURE PROPER SUBGRADES ARE MET. THESE INCLUDE 10–12" BELOW FINISHED GRADE FOR PLANTING BEDS.

11.) THE LANDSCAPE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR THE REMOVAL OF EXISTING TOPSOIL TO OFF–SITE LOCATION TO BE AMENDED.

12.) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING PLANTING BEDS TO FINISHED GRADE USING APPROVED TOPSOIL. TOPSOIL SHALL BE AMENDED WITH COMPOST TO A DEPTH OF 10–12". OR SIMILAR AND SHALL HAVE A PH RANGE OF 5.0 TO 6.5.

13.) THE LANDSCAPE CONTRACTOR SHALL RAKE PREPARED AREAS AND REMOVE ANY ROCK OR DEBRIS OVER 1".

14.) THE LANDSCAPE CONTRACTOR SHALL SET FINISHED GRADES BELOW EDGE OF HARDSCAPE ELEMENTS PRIOR TO MULCH INSTALLATION. GRADES SHALL BE SET 3" BELOW ADJACENT HARDSCAPE SURFACES FOR PLANTING BEDS..

15.) THE LANDSCAPE CONTRACTOR SHALL PROVIDE A 2" DEEP LAYER OF ORGANIC MULCH OVER ALL PLANTING BEDS AND EXPOSED AREAS.

16.) MULCH SHALL BE 100% NATURAL FIR OR HEMLOCK, FINE GROUND, OF UNIFORM COLOR, FREE FROM DYES, WEED SEEDS, SAWDUST & SCRAP LUMBER FIBER, TRASH, INORGANIC MATERIAL OR ANY OTHER COMPOUND DETRIMENTAL TO PLANT GROWTH.

17.) FERTILIZER SHALL BE A SLOW–RELEASE ORGANIC TYPE FERTILIZER (IN ORNAMENTAL PLANTING BEDS ONLY).

18.) WORK AREAS TO BE KEPT NEAT AND ORDERLY AND FREE OF DEBRIS AND RUBBISH AT ALL TIMES DURING PROGRESS OF WORK. RAKE BEDS NEATLY TO AN EVEN FINE GRADE AROUND ALL PLANTS. ALL PAVED AREAS ARE TO BE CLEANED BY BROOM AND/OR WASHED AFTER EACH DAY'S WORK OR MORE FREQUENTLY AS REQUIRED. ALL PLANTING AREAS AND ADJACENT PAVED AREAS SHALL BE LEFT IN A NEAT AND CLEAN CONDITION UPON COMPLETION OF JOB.

19.) IF A DISCREPANCY EXISTS BETWEEN THE PLANT QUANTITIES ON THE PLANT SCHEDULE AND THOSE SHOWN ON THE PLAN THE QUANTITIES ON THE PLAN SHALL GOVERN.

20.) PROPOSALS FOR PLANT SUBSTITUTIONS, LOCATION ADJUSTMENTS, SOIL AMENDMENTS OR ANY VARIATIONS FROM THE APPROVED PLANS SHALL REQUIRE PRIOR APPROVAL BY THE RESPONSIBLE OFFICIAL.

21.) SOILS LOCATED IN PLANTING AREAS THAT HAVE BEEN COMPACTED TO A DENSITY GREATER THAN THAT PENETRABLE WITH A HAND SHOVEL (APPROX.. 85%), SHALL BE LOOSENED TO INCREASE AERATION FOR A MINIMUM DEPTH OF 12 INCHES FOR THE ENTIRE AREA OF THE COMPACTED SOILS UTILIZED FOR LANDSCAPE PURPOSES. VERIFICATION OF THE NEED FOR ADDITIONAL SOIL AMENDMENTS WILL BE MADE AT THIS TIME. RECOMMENDED AMENDMENTS SHALL BE APPLIED PRIOR TO PLANTING.

22.) DRAINAGE: CONTRACTOR SHALL NOTIFY THE OWNER OF ANY LOW POINTS OR FORESEEN POOR DRAINING AREAS EXISTING ON–SITE AND PROVIDE CORRECTIVE DRAINAGE PLANS PRIOR TO COMMENCING LANDSCAPE WORK. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE IN ALL FINISHED LANDSCAPE AREAS THAT ARE PART OF THIS SCOPE OF WORK. ALL POSITIVE DRAINAGE FROM LANDSCAPE AREAS SHALL BE DISCHARGED APPROPRIATELY AND SHALL NOT CREATE DRAINAGE PROBLEMS OFF–SITE OR IN OTHER AREAS OF THE PROJECT. FINISHED LANDSCAPE AREAS WITH PONDING WATER OR OTHER POOR DRAINAGE CONDITIONS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

23.) EXISTING VEGETATION: APPROXIMATELY SEVEN LARGE RHODODENDRON SPECIES SHALL BE SLAVAGED AND REPLANTED ON SITE PER PLAN THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF SAID PLANTS UNTIL PLANTING TIME.

24.) OWNER SHALL APPROVE PLANT MATERIAL & PLANTING BED LOCATION PRIOR TO INSTALLATION. ALLOW 24 HOURS MINIMUM NOTIFICATION FOR INSPECTION REQUEST. PLANT MATERIAL THAT HAS BEEN APPROVED FOR INSTALLATION SHALL BE PLANTED WITHIN 24 HOURS. INSTALLATION SHALL NOT BE CONDUCTED UNDER ADVERSE WEATHER CONDITIONS WITHOUT PRIOR APPROVAL OF THE RESPONSIBLE OFFICIAL. PLANT MATERIAL THAT CANNOT BE PLANTED WITHIN ONE DAY FOLLOWING ARRIVAL SHALL BE HEELED–IN, KEPT MOIST AND PROTECTED AT ALL TIMES FROM EXTREME WEATHER CONDITIONS. PLANTS SHALL BE STORED AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

25.) TREE PITS SHALL BE A MINIMUM OF TWO TIMES (2x) THE DIAMETER OF THE TREE'S ROOT MASS. ADDITIONAL AERATION MAY BE REQUIRED AS DIRECTED BY THE RESPONSIBLE OFFICIAL. ADD WATER TUBES TO THE TREE PLANTINGS IN PAVED AREAS.

26.) TREES SHALL BE SYMMETRICAL AND UNIFORM IN APPEARANCE, SIZE AND STRUCTURE.

R CURBING, OR IN ANY OTHER LOCATION THAT MAY CAUSE A SAFETY CONCERN.

27.) PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS. PLANT MATERIAL THAT HAS LOST MORE THAN 30 PERCENT OF ITS NORMAL FOLIAGE SHALL BE REPLACED AT CONTRACTOR'S EXPENSE AS DIRECTED BY THE RESPONSIBLE OFFICIAL.

IRRIGATION NOTES

1.) A PERMANENT IRRIGATION SYSTEM TO BE INSTALLED WITHIN THE MODIFIED LANDSCAPE AREAS OF ZONE A AND THE LAWN AREA WITHIN ZONE C.

2.) A TEMPORARY IRRIGATION SYSTEM TO BE INSTALLED FOR WATERING OF ALL RESTORATION AREAS FOR THE FIRST TWO YEARS AFTER INSTALLATION..

EROSION CONTROL NOTES

EROSION CONTROL MEASURES (AS APPLICABLE TO SUBJECT SITE AND TO BE DETERMINED DURING CLEARING & GRADING PERMIT PROCESS).

A. CONSTRUCTION ACCESS SHALL BE LIMITED TO ONE ROUTE IF POSSIBLE AND A HARD–SURFACE CONSTRUCTION ACCESS PAD SHALL BE USED. SEDIMENT DEPOSITED ON THE PAVED RIGHT–OF–WAY SHALL BE REMOVED IN A MANNER THAT PREVENTS IT FROM ENTERING THE DRAINAGE SYSTEM.

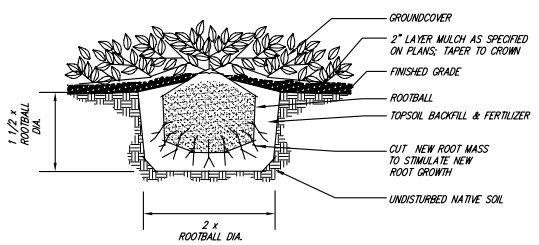
B. EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED USING BMPS DESCRIBED IN THE CLEARING AND GRADING DEVELOPMENT STANDARDS. EXPOSED SOILS SHALL BE COVERED AT THE END OF EACH WORKING DAY WHEN WORKING FROM OCTOBER 1ST THROUGH APRIL 30TH. EXPOSED SOILS SHALL BE COVERED AT THE THREAT OF RAIN, OR, WHEN WORKING FROM MAY 1ST THROUGH SEPTEMBER 30TH, BY THE END OF THE WORK WEEK; EXCEPT THAT A SHORTER TIME PERIOD MAY BE IMPOSED FOR STREET USE PERMITS.C. ADJACENT AND DOWNSTREAM PROPERTIES, STORM DRAIN INLETS, AND THE DOWNSTREAM NATURAL AND BUILT DRAINAGE SYSTEM SHALL BE PROTECTED FROM SEDIMENT DEPOSITION USING BMPS DESCRIBED IN THE CLEARING AND GRADING DEVELOPMENT STANDARDS. IF PROTECTION IS INADEQUATE AND DEPOSITION OCCURS ON ADJOINING PROPERTY OR PUBLIC RIGHT–OF–WAY OR THE DRAINAGE SYSTEM, THE PERMITTEE SHALL IMMEDIATELY REMOVE THE DEPOSITED SEDIMENT AND RESTORE THE AFFECTED AREA TO ORIGINAL CONDITIONS.

D. DEWATERING DEVICES SHALL BE DISCHARGED WHERE SEDIMENT, AND/OR OTHER POLLUTANTS, WILL NOT ENTER THE DRAINAGE SYSTEM (FOR EXAMPLE, DISCHARGE THEM INTO A SEDIMENT POND OR TRAP).

E. DOWNSTREAM PROPERTIES AND WATERWAYS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION DURING CONSTRUCTION DUE TO TEMPORARY INCREASES IN THE VOLUME, VELOCITY, AND PEAK FLOW RATE OF RUNOFF FROM THE SITE. STRAW WATTLES SEDIMENT CONTROL BARRIERS TO BE PLACED AT THE FOLLOWING LOCATIONS: ON THE UP–HILL SIDE AND PARRALEL TO THE NGPE NORTHERN BOUNDARY, AT THE BASE OF TOE OF SLOPE AND TOP OF THE BULKHEAD. WATTLES TO BE INSTALLED PER D.3.2.5 OF THE KING COUNTY 2005 SURFACE WATER DESIGN MANUAL.

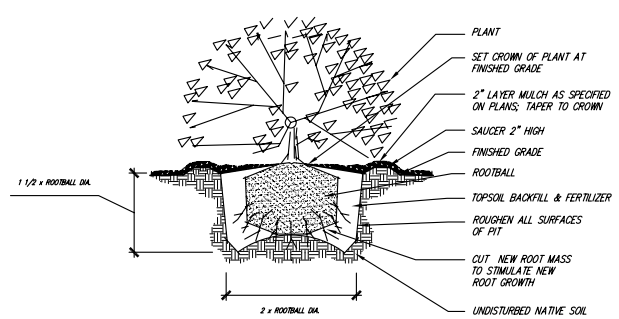
F. WHEN CONSTRUCTING UNDERGROUND UTILITY LINES, NO MORE TRENCH SHALL BE OPENED THAN CAN BE CLOSED IN A SINGLE DAY, OR NO MORE THAN 500 FEET, WHICHEVER IS LESS. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS AND TEMPORARY TRENCH DEWATERING DEVICES SHALL BE DISCHARGED INTO A SEDIMENT TRAP OR POND. TRENCHES SHALL BE CLOSED AT THE END OF EACH DAY UNLESS OTHERWISE ALLOWED BY THE DIRECTOR. FOR UTILITY TRENCHING AND OTHER CLEARING OR GRADING WORK IN STREET RIGHTS–OF–WAY, EROSION AND SEDIMENTATION CONTROL BMPS SPECIFIC TO SUCH WORK SHALL BE APPLIED, AS DESCRIBED IN THE CLEARING AND GRADING DEVELOPMENT STANDARDS, AND THE BMPS SHALL BE MAINTAINED DAILY.

G. PERMANENT EROSION CONTROL SHALL BE PROVIDED PER THE CLEARING AND GRADING DEVELOPMENT STANDARDS. DISTURBED AREAS OF THE SITE THAT ARE NOT COVERED BY PERMANENT IMPROVEMENTS SUCH AS BUILDINGS, PARKING LOTS, AND DECKS SHALL BE VEGETATED.



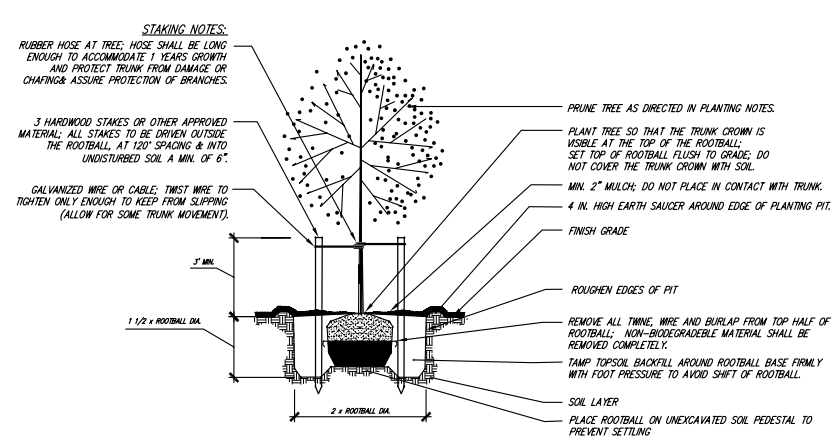
GROUNDCOVER DETAIL

NTS



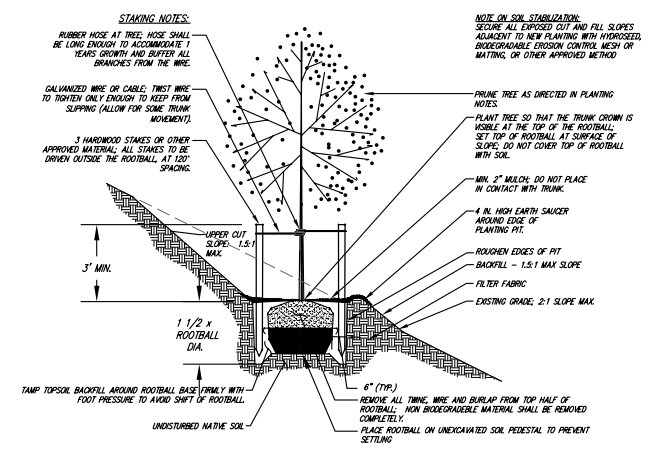
SHRUB PLANTING DETAIL

LEVEL CONDITION NTS



TREE PLANTING DETAIL

NTS



SLOPE PLANTING DETAIL

SLOPE CONDITION – 2:1 MAX. NTS

SEC. 31, TWP. 25, RGE 5 E., W.M.

NO.	REVISIONS	DATE

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT

JOSHUA PENNINGTON BEARD

CERTIFICATE NO. 938

CORE DESIGN
ENGINEERING · PLANNING · SURVEYING
14711 NE 29th Place Suite 101
Bellevue, Washington 98007
425.885.7877 Fax 425.885.7963

PLANT SCHEDULE, NOTES & DETAILS
PARTOVI RESIDENCE

ATEC HOMES
109 2ND STREET S. #339
KIRKLAND, WASHINGTON 98033

PERMIT NO. XX-XXXXXX XX

DATE	JANUARY 2008
DESIGNED	JPB
DRAWN	JPB
APPROVED	JPB

JOSHUA P. BEARD, R.L.A.
PROJECT MANAGER

SHEET	OF
L3	3

PROJECT NUMBER
08109

ATTACHMENT 2

Geotechnical Report

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

February 4, 2009
Revised February 12, 2009
Updated February 26, 2009

KA Project No. 092-07172

ATEC DEVELOPMENT
Attn: Mr. Ali Saber
109 2nd Avenue South
Suite 531
Kirkland, Washington 98033

RE: Critical Areas Report – Geotechnical Section
Proposed Single Family Residence
Parcel No. 04389200953
Northeast Lake Washington Boulevard
Bellevue, Washington

REF: Krazan report, Geotechnical Engineering Investigation, Proposed Single Family Residence, dated May 5, 2008

Dear Mr. Saber:

At your request, we are providing a Critical Areas Report to discuss the geologic hazards at the referenced site. Included are slope stability analyses and additional recommendations for site development within a critical area.

Critical Area Designation

The referenced site has areas greater than 40 percent in slope magnitude and more than 10 feet of vertical relief. This designates that the site is within a Steep Slope hazard area.

The structure is located at the top of the steep slope area, outside of the 50 foot buffer zone. Other improvements (patio/landscaping), partially extend into the 50 foot required buffer zone. A small outbuilding will be located at the base of the slope near the shoreline.

Site Location and Description

The site of the proposed single family residence is located off of Northeast Lake Washington Boulevard on Parcel No. 04389200953 in Bellevue, Washington. The site consists of an approximate 1.07 acre (46,703 ft^2) parcel. The northeastern half of the site gently sloped towards the southwest towards Lake Washington at varying magnitudes of approximately 6 to 30 percent. The southwestern half of the site also slopes towards the southwest towards Lake Washington at varying magnitudes of approximately 5 to greater than 40 percent.

The subject property is located in Section 31, Township 25 North, Range 5 East. The site is bordered to the north-northeast by single family residences and Northeast Lake Washington Boulevard, to the south-southeast by single family residences, and to the south-southwest by Lake Washington.

Geologic Setting

The site lies within the central Puget Lowland. The lowland is part of a regional north-south trending trough that extends from southwestern British Columbia to near Eugene, Oregon. North of Olympia, Washington, this lowland is glacially carved, with a depositional and erosional history including at least four separate glacial advances/retreats. The Puget Lowland is bounded to the west by the Olympic Mountains, and to the east by the Cascade Range. The lowland is filled with glacial and nonglacial sediments consisting of interbedded gravel, sand, silt, till, and peat lenses.

The Geologic map of King County, Washington indicates that the property is underlain by Vashon Glacial Till. The Vashon Glacial Till is typically characterized by an unsorted, nonstratified mixture of clay, silt, sand, gravel, cobbles and boulders in variable quantities. These materials are typically dense and relatively impermeable. The poor sorting reflects the mixing of the materials as these sediments were overridden and incorporated by the glacial ice. The Vashon Glacial Till typically is underlain by Vashon Advance Outwash at variable depths. Vashon Advance Outwash consists of stratified outwash sand and gravel with variable amounts of silt, cobbles, boulders, and silt and clay interbeds, deposited by melt water in front of the advancing Vashon Glacier (glaciofluvial environments).

Field Investigation

The field investigation for our previous geotechnical report consisted of excavating and sampling four exploratory test pits that provided general coverage of the property to be developed with the single family residential structure. The exploratory test pits ranged in depth from approximately 3.5 to approximately 5 feet below the existing site grades. We also excavated two exploratory hand excavations on the level western water front area of the property for a proposed out building. The exploratory hand excavations reached depths of approximately 1.5 to 2 feet below the existing site grades. Atec Development provided the excavation equipment. The test pit and hand excavation work was performed on November 21, 2007. The exploratory test pits were excavated with a Yannar Excavator.

Representative samples of the subsurface soils, encountered in the test pits were collected and sealed in plastic bags. These samples were transported to our laboratory for further examination and verification of the field classifications. The soils encountered in the exploratory test pits were continuously examined and visually classified in accordance with the Unified Soil Classification System (USCS). A more detailed description of the field investigation is presented in Appendix A.

Soil Profile and Subsurface Conditions

The soils encountered in the exploratory test pits were generally typical of those found in the described geologic units. Below the grass and approximately 2 to 4 inches of topsoil, Exploratory Test Pits TP-1, TP-3, and TP-4 encountered approximately 1 to 4 feet of loose to medium dense silty, fine to medium grained sand with variable amounts of gravel (Undocumented Fill). The fill soil is underlain by dense to

very dense, silty, fine to medium grained sand with variable amounts of gravel (Vashon Glacial Till) down to the termination depths of TP-1, TP-3, and TP-4 (approximately 4 to 5 feet below the existing site grades).

Below the grass and approximately 4 inches of topsoil, Exploratory Test Pit TP-2 encountered approximately 1.5 feet of medium dense, silty, fine to medium grained sand with variable amounts of gravel (Weathered Vashon Glacial Till). The weathered glacial till soil is under by dense to very dense, silty, fine to medium grained sand with variable amounts of gravel (Vashon Glacial Till) down to the termination depth of TP-2 (approximately 3.5 feet below the existing site grades).

The soils encountered in the exploratory hand excavations were generally typical of those found in the described geologic units Below the grass and approximately 4 to 6 inches of topsoil, Exploratory Hand Auger HA-1 and HA-2 encountered medium dense to dense, silty, fine to medium grained sand with variable amounts of gravel to fine to medium grained sand with variable amounts of silt and gravel (Vashon Advance Outwash) down to the termination depths of HA-1 and HA-2 (approximately 1.5 to 2 feet below the existing site grades)

Slope Reconnaissance

During our field assessment, we traversed the site slope areas where accessible. As we conducted the slope traverses we looked for any signs that would indicate past (approximately within the past 100 years based on Douglas fir trees present on the slope) slope failures or features indicating possible future instability. We did not observe visible signs of prior large rotational movement or features indicating possible future large rotational instability within the site and adjacent areas.

The site slopes are vegetated with grass, ferns, and other herbaceous plants, blackberry bushes, Oregon grape, and Salal and other shrubbery, as well as Madrona and Douglas fir trees. At the time of our site assessment, no spring (groundwater seepage) activity was observed. Overall, the site slopes appear to be relatively stable, and have been for some time.

It should be understood, that due to natural geologic processes such as weathering and erosion due to precipitation, drying, wind, and other natural weathering processes, that the site slopes will slowly retreat toward the east, however these are typically long term processes that may have a limited affect on the buildings during the design lives of the structures (50 to 75 years maximum), provided proper drainage and erosion control features are implemented. Erosion and retreat of the slopes is typically maintained at an extremely low rate with this type of slope environment, if the natural vegetation is left in place, to the greatest extent possible (outside areas designated for landscaping and structural development) and landscaping and other permanent erosion control features are in place. However, it should be noted that the rate of slope retreat may accelerate if shallow slides and slope movement take place without proper mitigation.

Slope Stability Analyses

We evaluated the slope stability of the site slopes with regard to current conditions and the potential impact of the proposed residence to the designated critical slope area under static and seismic conditions.

The commercially available slope stability computer program (GeoStudio Slope/W©) was used to evaluate the global stability of representative site slopes. The slope stability was analyzed under static and seismic conditions. The GeoStudio Slope/W©computer program calculates factors of safety for potential slope failures and generates the potential failure planes. This software calculates the slope stability under seismic conditions using pseudo-static methods.

The stability of the described configuration was analyzed by comparing observed factors of safety to minimum values as set by standard geotechnical practice. A factor of safety of 1.0 is considered equilibrium and less than 1.0 is considered failure. The recommended minimum factor of safety for global stability is 1.5 for static conditions and 1.15 for seismic conditions (City of Bellevue requirements).

We used a seismic coefficient of 0.15 for the seismic (pseudo-static) analyses, the Morgenstern-Price method, and automatic locate function to determine critical slip surfaces. We applied a 200 psf uniform surcharge load for the proposed structures along with the following estimated soil parameters in our analysis of the subject slope:

Soil Parameters used in Analysis

Soil Description	Density (pcf)	Cohesion (psf)	Angle of Internal Friction (degrees)
Medium Dense to Very Dense Glacial Till	125	200	40
Medium Dense to Very Dense Glacial Outwash	120	100	38

Slope Stability Results for the Current Conditions A-A' (Static)

	Factor –of –Safety Observed	Factor-of-Safety Required
Overall Global Stability	1.99	1.50

Slope Stability Results for the Current Conditions A-A' (Seismic – 0.15g)

	Factor –of –Safety Observed	Factor-of-Safety Required
Overall Global Stability	1.47	1.15

Slope Stability Results with the Proposed Construction A-A' (Static)

	Factor –of –Safety Observed	Factor-of-Safety Recommended
Overall Global Stability	1.99	1.50

Slope Stability Results with the Proposed Construction A-A' (Seismic – 0.15g)

	Factor –of –Safety Observed	Factor-of-Safety Recommended
Overall Global Stability	1.47	1.15

Conclusions and Recommendations

Our analyses indicate that the slope has the required factor of safety in its current configuration and in a post-construction configuration. The proposed construction will have a minimal effect on the slope stability and the limited modification of the critical area (steep slope) will not adversely affect adjacent properties and structures if constructed as proposed and with proper oversight by the geotechnical engineer.

The primary area of concern with steep slope construction is maintaining proper erosion control methods and minimizing the amount of exposed soils. Uncontrolled runoff will channel and can cause surficial landslide activity to occur. There should be provisions to collect and remove runoff as it is created during construction.

Building Setback/Critical Area Buffer

It is our opinion that the single family residence, hardscape, and landscape features may be located as proposed, with the existing setback from the steep slope area. The proposed outbuilding at the base of the slope may be located as proposed; however, it should be known that in the event of a surficial slide, material may cause structural damage. We do not anticipate this to occur if proper erosion control methods are used during construction, and the proposed landscaping plan is in place. A separate catchment wall could be constructed to contain any debris or slide material that could potentially collect at the building. We can provide additional recommendations if requested. Note; it is our opinion that the landslide hazard at the site is very low.

Erosion and Sediment Control

Erosion and sediment control (ESC) is used to minimize the transportation of sediment to wetlands, streams, lakes, drainage systems, and adjacent properties. Erosion and sediment control measures should be taken and these measures should be in accordance with the City of Bellevue requirements. As a minimum, the following basic recommendations should be incorporated in the design of the erosion and sediment control features of the site:

- Phase the grading, utility work, and other work requiring excavation or the disturbance of the site soils during the dry season (generally May through September). If precautions are taken using Best Management Practices (BMP's), grading activities can be undertaken during the wet season (generally October through April), but it should also be known that this may increase the overall cost of the project. All site work should be completed and stabilized as quickly as possible.

- Additional perimeter erosion and sediment control features may be required to reduce the possibility of sediment entering the surface water. This may include additional silt fences, silt fences with a higher Apparent Opening Size (AOS), construction of a berm, or other filtration systems.

- Any runoff generated by dewatering discharge should be treated through construction of a sediment trap if there is sufficient space, and under no circumstances be allowed to drain over the steep slope. If space is limited other filtration methods will need to be incorporated.

- A WSDOT certified Erosion Control Inspector should be assigned to this project to monitor temporary erosion and sedimentation control devices, and make recommendations for ESC repair, or additional ESC installation if needed. Krazan & Associates, Inc. can provide a WSDOT certified inspector, if requested.

The existing, natural vegetation should be left in place to the maximum extent possible (outside areas which require removal of vegetation for construction of the home and adjacent features). This is particularly important along slope surfaces. No slope areas should be left open and exposed to wet weather conditions. Temporary erosion control measures should be in place, during the construction phase, prior to any wet weather conditions. This may include the placement of silt fences, hay bales, straw, plastic sheeting and/or Jute mat or other geofabrics. All areas that are stripped of vegetation should be re-planted with rapid growing vegetation prior to the onset of the next wet weather season.

Specific Details Regarding the Bellevue Municipal Code

The following details responses to applicable portions of the City Code sections listed in the letter from David Pyle of the City of Bellevue, dated December 11, 2008. Our previous geotechnical report and sections from this report also include information pertaining to aspects of the steep slope critical area and proposed construction.

20.25H.125 Performance Standards – Landslide hazards and steep slopes

A. Structures and improvements minimize alterations to the existing topography.

B. Structures and improvements are located outside and away from the steepest portions of the slope system.

C. The proposed development does not result in greater risk or need for increased buffers on neighboring properties.

D. Not applicable.

E. Proposal minimizes impervious surfaces within the Critical Area.

F. Not applicable.

G. Not applicable.

H. Construction is outside of the slope areas with magnitudes greater or equal to 40 percent.

I. Not applicable.

J. By others.

20.25H.135 Mitigation and monitoring – Additional provisions for landslide hazards & steep slopes

The items listed under this heading are being prepared by other consultants. We can provide additional recommendations if necessary.

20.25H.140 Critical areas report – Additional provisions for landslide hazards & steep slopes

A. Not applicable.

B.1. Included.

B.2. Included in this report and our previous geotechnical engineering report.

B.3. Slope stability analyses included in this report.

B.4. Recommendations for structure setbacks included in this report.

20.25H.145 Critical areas report – Approval of modification

It is our opinion that the proposed development will not adversely affect the property, proposed structures, other critical areas, or adjacent properties if constructed as proposed with our oversight. The overall improvements, including proposed plantings and landscape design, will not decrease the stability of the site slopes.

20.25H.250 Critical areas report – Submittal requirements

With regard to geotechnical engineering, the site contains a steep slope critical area as defined by the City of Bellevue Code. The critical area is defined on the site survey by top and bottom of 40 percent slope area lines. The critical area extends onto neighboring properties where slopes greater than or equal to 40 percent in magnitude exist.

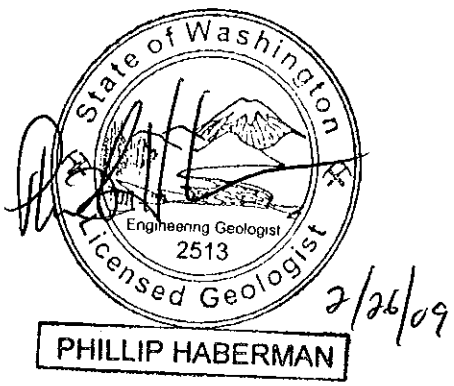
Limitations

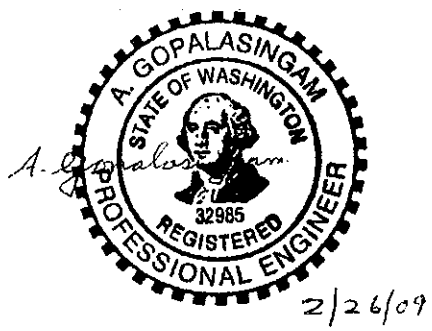
The geotechnical information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical developments. We emphasize that this report is valid for this project as outlined above, and should not be used for any other site.

We hope that this letter provides the information required at this time. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (425) 485-5519.

Respectfully submitted,

KRAZAN & ASSOCIATES, INC.



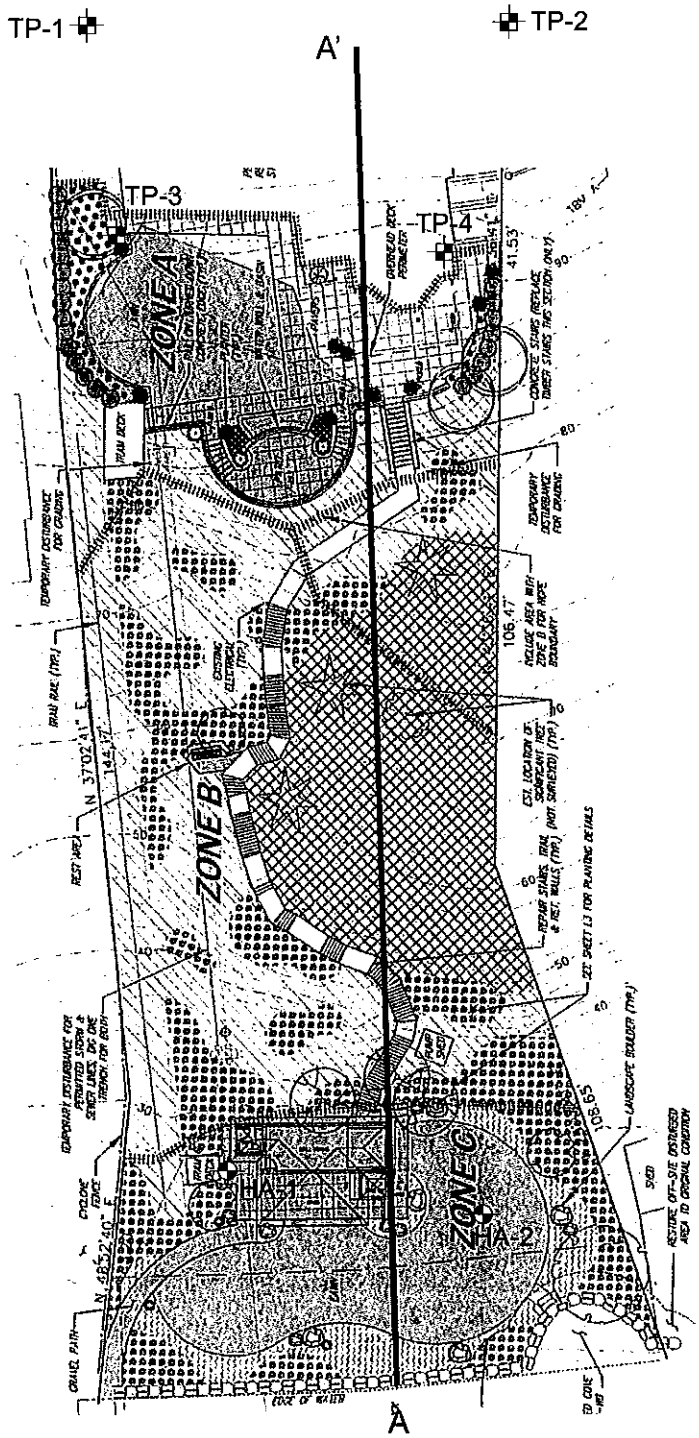


Phil Haberman, P.G., P.E.G.
Senior Engineering Geologist

Gopal A. Singam, P.E.
Geotechnical Division Manager

PH/gs
Attachments

Site Plan



Updated February 26, 2009

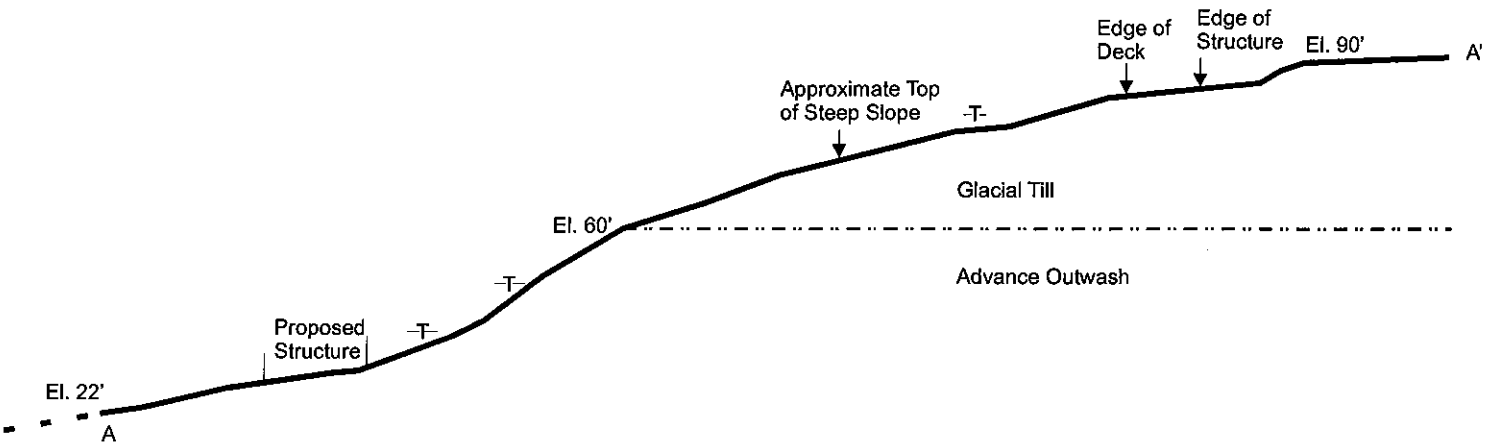
Approximate Graphic Scale

20 0 20 40

(In Feet)
1 inch = 40 feet

Krazan & ASSOCIATES, INC.		
Proposed Single Family Residence		
Date: January 30, 2009	Topographic data provided by client	
Drawn By: PAH	Figure 1	Project Number: 092-07172

Cross Section A - A'



—T— Existing Trail Location

Glacial Till - Advance Outwash Contact (Estimated)

Estimated Topography

Approximate Graphic Scale

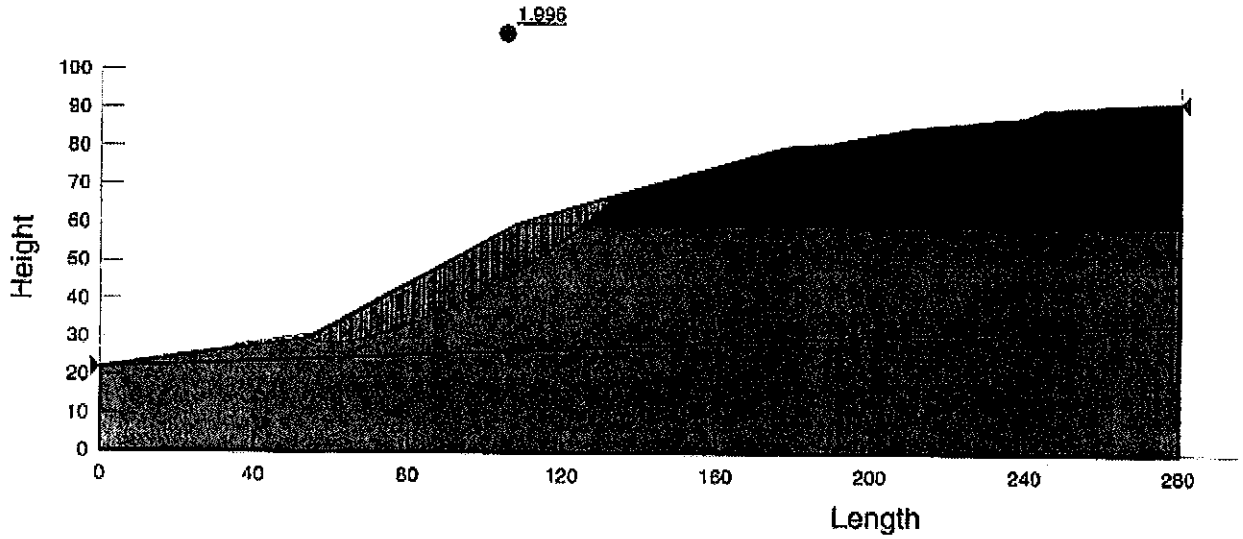
20 0 20 40

(In Feet)
1 inch = 40 feet

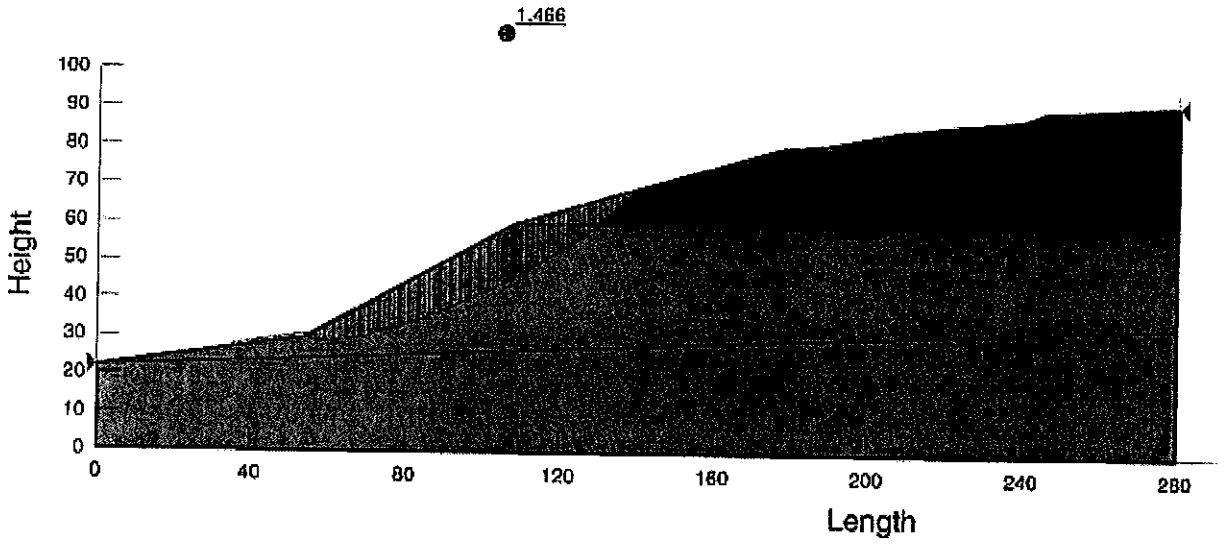
Krazan & ASSOCIATES, INC.

Proposed Single Family Residence		
Date: January 30, 2009	Topographic data provided by client	
Drawn By: PAH	Figure 2	Project Number: 092-07172

Slope Stability Results



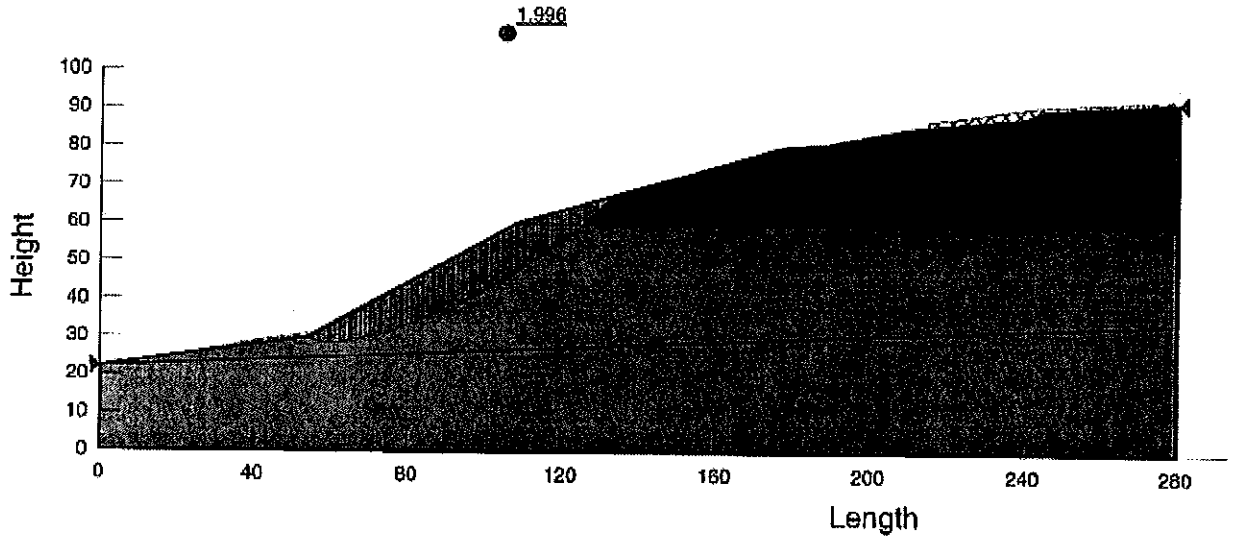
Existing Slope Configuration (Static)



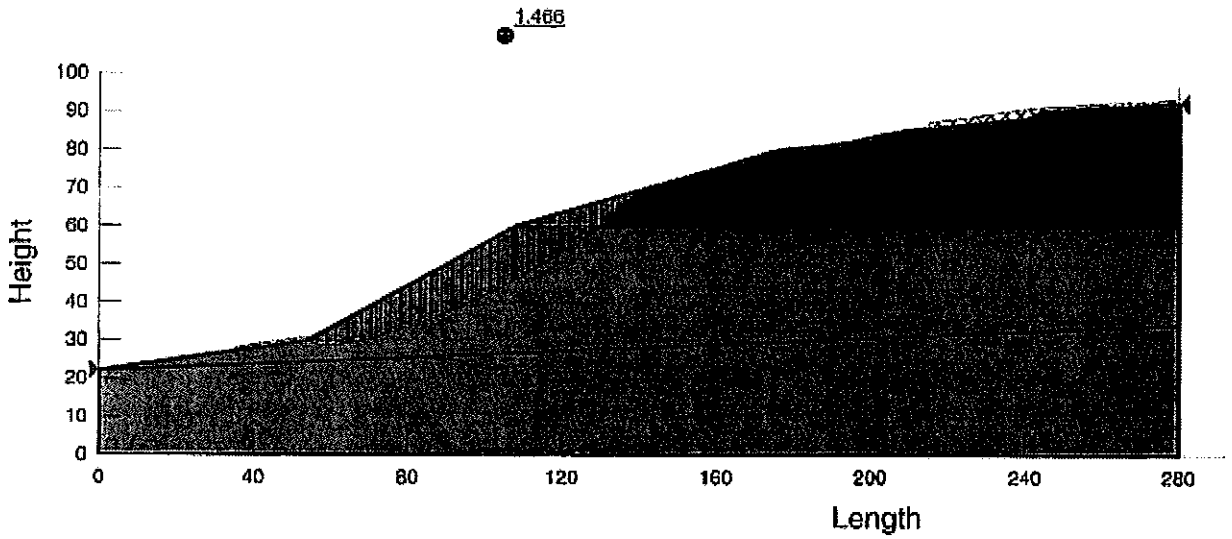
Existing Slope Configuration (0.15g)

Krazan & ASSOCIATES, INC.		
Proposed Partovi Residence		
Date: February 3, 2009	Slope/W Output Files	
Drawn By: PH	Figure 3	Project Number: 092-07172

Slope Stability Results



Existing Slope Configuration with Surcharges (Static)



Existing Slope Configuration with Surcharges (0.15g)

Krazan & ASSOCIATES, INC.		
Proposed Partovi Residence		
Date: February 3, 2009	Slope/W Output Files	
Drawn By: PH	Figure 4	Project Number: 092-07172