

**Sewall Wetland Consulting, Inc.**

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RECEIVED

MAR 16 2015

CITY OF MERCER ISLAND  
DEVELOPMENT SERVICES

March 5, 2015

Bill Summers  
PO Box 261  
Medina, WA 98039

RE: 5637 Mercer Way – *Revised* Critical Areas Report  
SWC Job#14-207

## **1.0 INTRODUCTION**

This report describes our observations of any jurisdictional wetlands, streams and buffers on or within 200' of the proposed single family home located at 5637 East Mercer Way in the City of Mercer Island, Washington (the "site").

The site is an irregular shaped 0.88 acre parcel (Parcel #192405-0312) consisting of an east sloping site located within the SE ¼ of Section 19 Township 24 North, Range 5 East of the W.M.

## **METHODOLOGY**

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site November 6, 2014. The site was reviewed using delineation methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), and the *Western Mountains, Valleys and Coast region Supplement* (Version 2.0) dated June 24, 2010, as required by the US Army Corps of Engineers.

Wetland Ratings were determined using the *Washington State Wetlands Rating System for Western Washington* Publication #04-06-025 dated August 2004 as well as the associated rating forms revised in 2006 & 2008.



*Above and below: Vicinity map of the site.*



Soil colors were identified using the 1990 Edited and Revised Edition of the **Munsell Soil Color Charts** (Kollmorgen Instruments Corp. 1990).

The *Washington State Wetlands Identification and Delineation Manual* and the *Corps of Engineers Wetlands Delineation Manual/Regional Supplement* all require the use of the three-parameter approach in identifying and delineating wetlands. A wetland should support a predominance of hydrophytic vegetation, have hydric soils and display wetland hydrology. To be considered hydrophytic vegetation, over 50% of the dominant species in an area must have an indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL), according to the National List of Plant Species That Occur in Wetlands: Northwest (Region 9) (Reed, 1988). A hydric soil is "a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part". Anaerobic conditions are indicated in the field by soils with low chromas (2 or less), as determined by using the Munsell Soil Color Charts; iron oxide mottles; hydrogen sulfide odor and other indicators. Generally, wetland hydrology is defined by inundation or saturation to the surface for a consecutive period of 12.5% or greater of the growing season. Areas that contain indicators of wetland hydrology between 5%-12.5% of the growing season may or may not be wetlands depending upon other indicators. Field indicators include visual observation of soil inundation, saturation, oxidized rhizospheres, water marks on trees or other fixed objects, drift lines, etc. Under normal circumstances, indicators of all three parameters will be present in wetland areas.

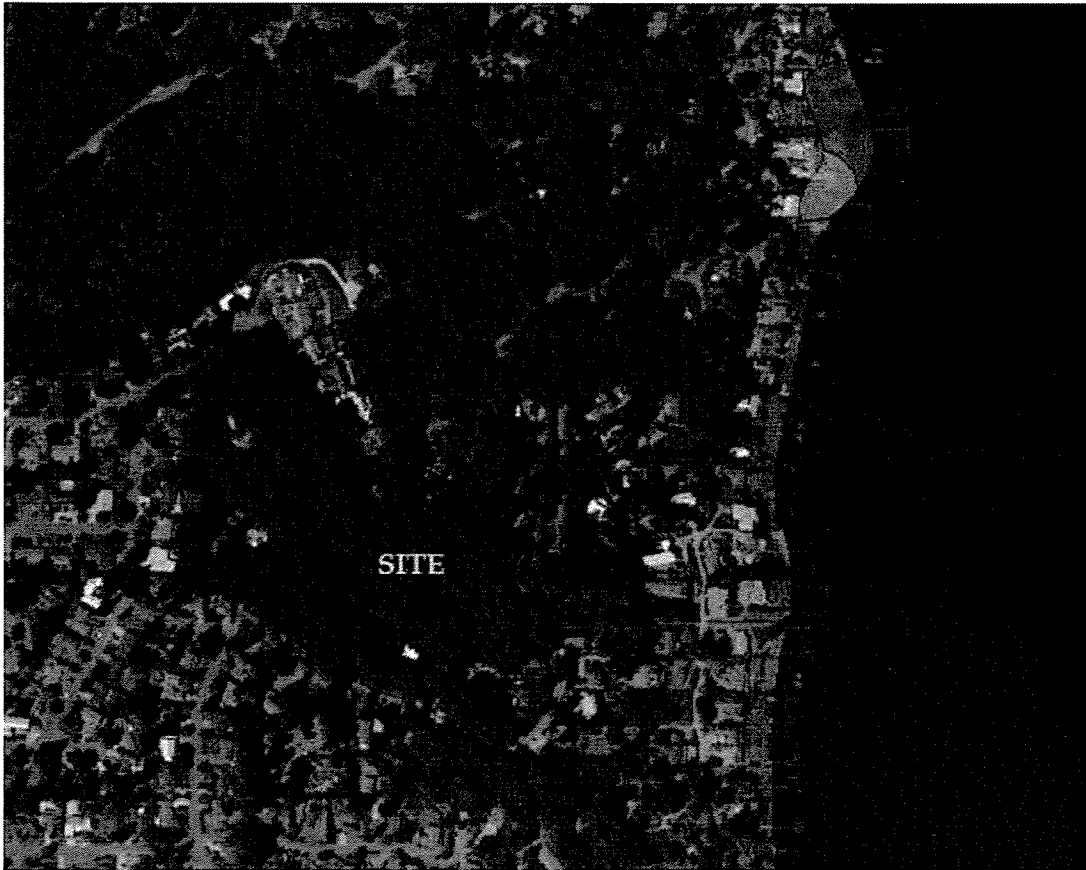
## **OBSERVATIONS**

### *Existing Site Documentation.*

Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the National Wetland Inventory Map and the NRCS Soil Survey online mapping and Data and the King County iMap website with wetland and stream layers activated.

### **National Wetlands Inventory (NWI)**

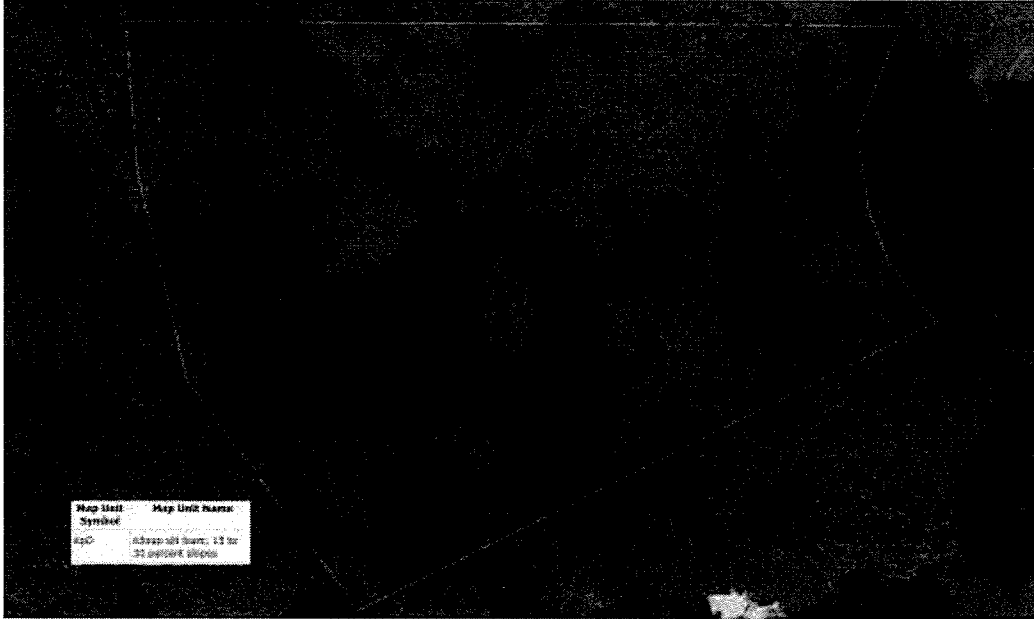
There are no wetlands mapped on or near the site on the NWI mapping for area of the site.



*Above: NWI Map of the study area*

### **Soil Survey**

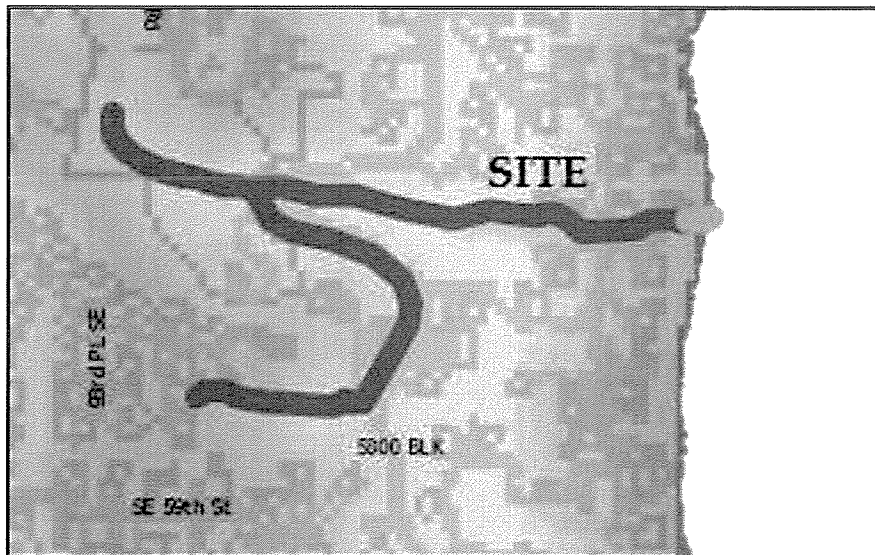
According to data on file with the NRCS Soil Survey, the site as mapped as Kitsap silt loam 15%-30% slopes. Kitsap soils are a moderately well-drained soils formed in lacustrine deposits. Kitsap soils are not considered "hydric" soils according to the publication Hydric Soils of the United States (USDA NTCHS Pub No.1491, 1991).



*Above: NRCS Soil map of the study area.*

### **City of Mercer Island Water Inventoried Watercourses**

The City of Mercer Island stream inventory shows a perennial flowing non-fish bearing stream also known as a Type 2 watercourse with a 50' buffer.



*Above: Mercer Island Stream Inventory of the site*

## **Field observations**

The site consists of a bowl shaped parcel sloping to the east with a stream and associated slope type wetlands associated with the stream. The site is generally forested, although a quarry spall driveway accesses the site off an existing paved driveway which passes through the site.

The site has steep slopes to the south as well as an undulating topography in the vicinity of the stream. The site is covered by a mix of red alder, western hemlock and some big leaf maple. Understory species include sword fern, red huckleberry, salmonberry and some stinging nettle.

Soil pits excavated in the upland portion of the site were found to have dry, gravelly loam soils with soil colors of 10YR 3/3-3/4. Soils were found to be dry within the upper 16" during our wet season observations.

### *Wetlands*

As previously mentioned, a slope type wetland covers most of the site outside the steep slopes. Below is a description of these wetlands;

### **Wetland A**

Wetland A consists of a forested slope type wetland that covers most of the site. This wetland was previously flagged by Wetland resources in 2004 and the delineation was found to still be accurate.

This slope-type wetland is vegetated with a mix of red alder, salmonberry, lady fern, skunk cabbage and some creeping buttercup. red-osier dogwood and lady fern.

Soil pits excavated within the wetland revealed a silt loam with a soil color of 2.5Y 2.5/1 with few, fine faint redoximorphic concentrations. Soils within the wetland were saturated at the surface during our wet season observation period.

Using the US Fish and Wildlife Wetland Classification Method (Cowardin et al. 1979), this wetland contains areas that would be classified as PFO1C.

Using the WADOE Wetland Rating system and rating the wetland as a depressional wetland, this wetland scored a total of 34 points with 18 for habitat. This indicates a Category III wetland. According to City of Mercer Island Municipal Code (MIMC) Chapter 19.07.080.C.1, Category III wetlands have a 50' standard buffer.

### ***Stream A***

As previously mentioned, a small perennial stream flows easterly along the north side of the site. This stream originates in seeps from the bordering slope wetlands and flows somewhat steeply to the east where it cascades over a bank into a catch basin and then a culvert under Mercer Way. The stream flows in a 100' long culvert which is a barrier to any fish migration up through the culvert. As a result, this small channel has been mapped as the City as a Type 2 watercourse. Based upon MIMC Chapter 19.07.070.B.1, Type 2 watercourses have a 50' standard buffer.

### ***Wildlife Habitat Conservation Areas***

A review of the site revealed no state or federally listed species on or near the site. A review of the Washington State Department of Fish and Wildlife Priority Mapping system was conducted for the site. This mapping identifies state listed species as well as areas considered by WDFW to be "priority habitats". The mapping of the area of the site revealed no listed state or federal species utilizing the site. It does show and area to the north of the site as part of a "biodiversity corridor" (*purple shading*), which is a densely forested area with some steep slopes.

### ***Functions and Values***

Wetland A is a forested wetland and as such provides habitat to numerous species that tolerate being within close proximity to humans. The wetland main function is as a groundwater discharge point, which allows groundwater to reach the surface and provide hydrological support to the Type 2 watercourse passing through the site.





*Above: WDFW Priority Habitat mapping of the area of the site.*

## **PROPOSED PROJECT**

The proposed project is the construction of a single family residence as current zoning allows. As previously described, the site is highly encumbered by critical areas including a stream, associated wetland, buffers and steep slopes. There is no part of the site located outside of these critical areas. As a result, in order to build a home on this site the application of MIMC Chapter 19.07.030.B "*Allowed alterations and reasonable use exception*" must be utilized. As described in this section of Code;

### *B. Reasonable Use Exception.*

*1. Application Process. If the application of these regulations deny reasonable use of a subject property, a property owner may apply to the hearing examiner for a reasonable use exception pursuant to permit review, public notice and appeal procedures set forth in Chapter 19.15 MICC.*

*2. Studies Required. An application for a reasonable use exception shall include a critical area study and any other related project documents, such*



*as permit applications to other agencies, and environmental documents prepared pursuant to the State Environmental Policy Act.*

*3. Criteria. The hearing examiner will approve the application if it satisfies all of the following criteria:*

*a. The application of these regulations deny any reasonable use of the property. The hearing examiner will consider the amount and percentage of lost economic value to the property owner;*

The application of the standard regulations regarding wetlands, streams, steep slopes and buffers would not allow construction of a home on the site. The only feasible location to build a home will impact some wetland and buffer.

*b. No other reasonable use of the property has less impact on critical areas. The hearing examiner may consider alternative reasonable uses in considering the application;*

The site is zoned for a single family home use and there is no other alternative reasonable use of the site.

*c. Any alteration to critical areas is the minimum necessary to allow for reasonable use of the property;*

The following mitigation sequencing was conducted to determine the most appropriate impacts and mitigation;

This sequencing requires addressing the following criteria;

*a. Avoid any disturbances to the wetland or buffer;*

The entire site is wetland and buffer. There is no way to develop the site under any reasonable scenario without impacting both wetlands and buffers.

*b. Minimize any wetland or buffer impacts;*

In order to minimize impacts, the site plan has been designed to utilize the existing driveway access point and has pushed the reasonable size

home foot print as far away from the stream as is possible. The site plan also utilizes pin piles, which are not considered wetland fill, to minimize actual wetland impact. Buffer impacts have been minimized by having no lawn or landscaped areas, and having just the bare essentials, being the driveway and the home structure itself.

*c. Restore any wetlands or buffer impacted or lost temporarily; and*

This is not possible as the construction of a home is a permanent impact.

*d. Compensate for any permanent wetland or buffer impacts by one of the following methods:*

*i. Restoring a former wetland and provide buffers at a site once exhibiting wetland characteristics to compensate for wetlands lost;*

This is not possible as there are no “former” wetlands on the site.

*ii. Creating new wetlands and buffers for those lost; and*

This is not possible as there is no room to create new wetlands, or buffers on the site.

*iii. Enhancing wetlands that have reduced function;*

The wetlands on-site are proposed to be enhanced with an under planting of native conifers as well as the removal of weedy species and old trash and abandoned pipes in the wetland and stream. This will restore a conifer dominated component to this wetland and buffer area as well as remove exotic blackberry and English ivy from these critical areas. The addition of a conifer component will restore this wetland to a probable historic condition of being dominated by conifers. Currently the wetland is vegetated primarily with broadleaf species such as red alder which are early successional species. Conifers will provide denser cover and improved habitat for wildlife, as well as more shade to the site keeping surface waters cooler, which ultimately benefit fish species in the receiving water of the Type 2 watercourse.

Other factors to consider in this Reasonable Use review are;

1. Although zoned to permit two single family residences, only one is

proposed.

2. The square footage of the proposed residence is only 2,200 square feet (approx.), which is 51% of the 4,300 square foot average size of a new single family residence built on Mercer Island in 2013-2014 (See the attached single family permit summary attached hereto as Exhibit "A").
3. The house is sited on the most level portion of the property, outside of the applicable 50 foot watercourse buffer.
4. To further minimize the impact of the house's construction, it will be supported by a series of pin piles which both minimizes site disruption and interference with the property's natural drainage.
5. Excavation will be limited to the extent necessary to build the house and related driveway.
6. The property's impervious surfaces have been restricted to a total of Approximately 5,600 square feet, 10% of which are existing.
7. Only 15% of the lot will be covered, which represents less than 42% permitted by code.

In order to reduce impacts to the wetland, the home will be constructed on "pin piles" which are generally not considered a "fill" of wetlands. The home will be elevated above the wetland so no filling other than the driving of the piles through the soil will be needed for the home. A minor amount of fill will occur from the proposed driveway. The driveway will be located over the current location of the quarry spall driveway that exists on the site, further reducing impacts.

*d. Impacts to critical areas are mitigated to the greatest extent reasonably feasible consistent with best available science;*

In order to mitigate for the minimal impacts to the sites wetlands from the project, we are proposing under planting with conifers (sitka spruce and cedar) throughout the wetland in an area equal to the area of coverage by the project within the critical areas, to enhance the plant community within this wetland as well as removal of any blackberry and English ivy in the vicinity of the home. The proposed use of pin piles is the least impactful way to construct on a site like this and leaves all but

the vegetation intact within the area of the home construction, greatly reducing any loss of wetland function.

*e. The proposal does not pose an unreasonable threat to the public health, safety, or welfare; and*

The proposed construction of a home on the site will not impact public health or safety and will utilize the latest construction techniques to minimize impacts to critical areas.

*f. The inability of the applicant to derive reasonable use of the property is not the result of actions by the applicant after the effective date of this chapter.*

The ability of the owner to derive reasonable use of the property is not the result of any action at any time by the owner, and solely the fact that the site is covered by critical areas.

### **Stormwater**

Stormwater from the new impervious surfaces on-site will be collected in a stormwater vault under the driveway and discharged to an existing culvert along the east end of the driveway. This water will then drain through the existing roadside ditch to the stream. This should mimic existing drainage patterns on the site.

Once approval of the proposed conceptual mitigation is received, a final detailed mitigation plan will be provided to the city for review and approval.

If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515 or at [esewall@sewallwc.com](mailto:esewall@sewallwc.com) .

Sincerely,  
Sewall Wetland Consulting, Inc.



Ed Sewall  
Senior Wetlands Ecologist PWS #212

## **REFERENCES**

City of Mercer Island Municipal Code

Cowardin, L., V. Carter, F. Golet, and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79-31, Washington, D. C.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. U. S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.

Muller-Dombois, D. and H. Ellenberg. 1974. Aims and Methods of Vegetation Ecology. John Wiley & Sons, Inc. New York, New York.

Munsell Color. 1988. Munsell Soil Color Charts. Kollmorgen Instruments Corp., Baltimore, Maryland.

National Technical Committee for Hydric Soils. 1991. Hydric Soils of the United States. USDA Misc. Publ. No. 1491.

Reed, P., Jr. 1988. National List of Plant Species that Occur in Wetlands: Northwest (Region 9). 1988. U. S. Fish and Wildlife Service, Inland Freshwater Ecology Section, St. Petersburg, Florida.

Reed, P.B. Jr. 1993. 1993 Supplement to the list of plant species that occur in wetlands: Northwest (Region 9). USFWS supplement to Biol. Rpt. 88(26.9) May 1988.

USDA NRCS & National Technical Committee for Hydric Soils, September 1995. Field Indicators of Hydric Soils in the United States - Version 2.1

Western Mountains, Valleys and Coast Regional Supplement (Version 2.0) dated June 24, 2010. USACOE

Washington State Wetlands Rating System for Western Washington Publication #04-06-025 dated August 2004, Revised 2008.



**Above: Site as viewed from Mercer Way**

**Below: looking north across site near existing driveway entrance**



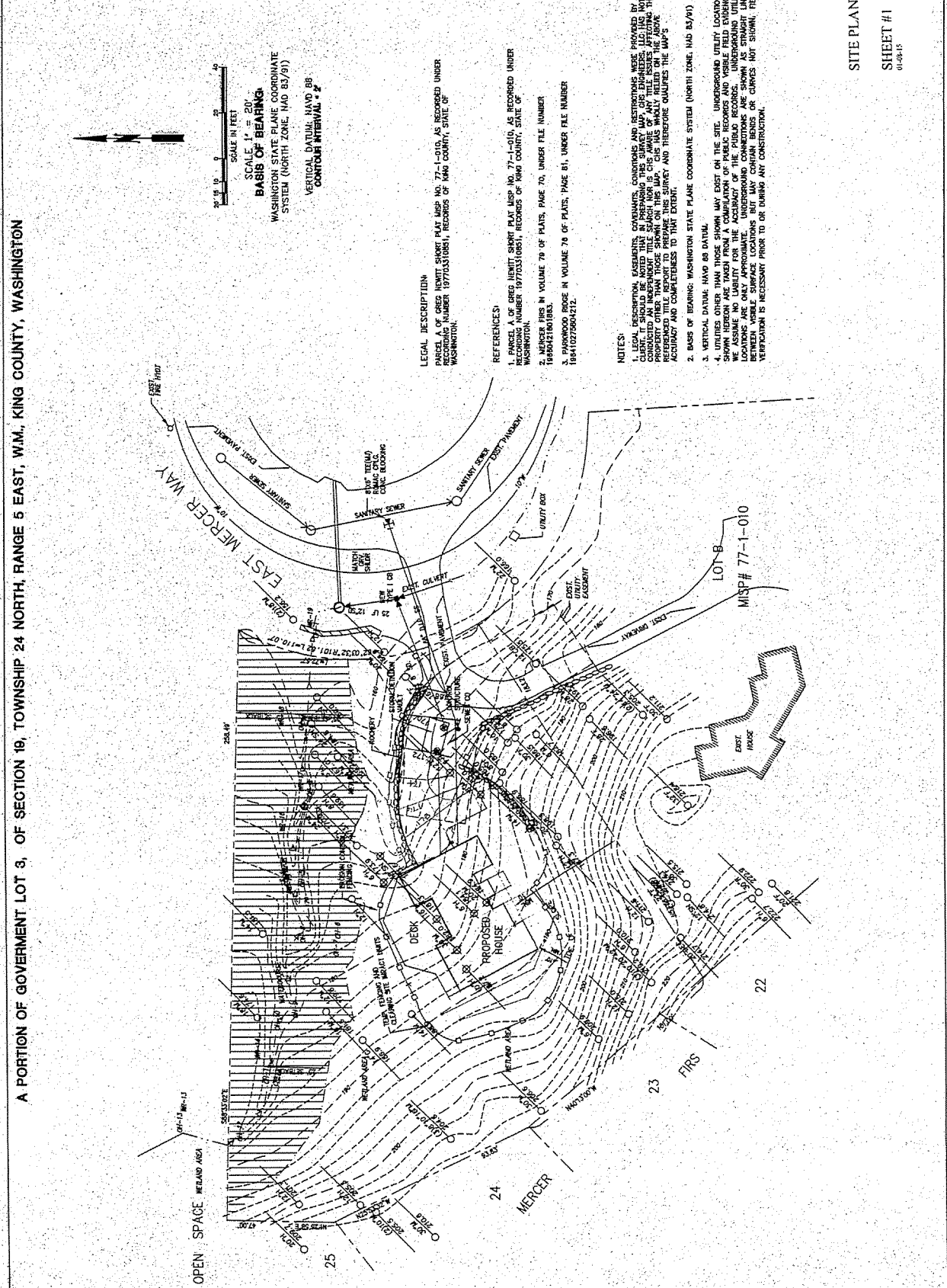


**Above: Existing quarry spall access driveway which leads to proposed building site**



A PORTION OF GOVERNMENT LOT 3, OF SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M., KING COUNTY, WASHINGTON

CHS ENGINEERS, LLC 1527 BELLEFLORE ROAD SUITE 104 BELLEVUE, WA 98005-2505 TEL: (425) 837-8987 FAX: (425) 837-8984 WWW.CHSENGINEERS.COM		Design / Date 11-14	Checked / Date 11-14
BOUNDARY / TOPOGRAPHIC SURVEY		6937 EAST MERCER WAY MERCER ISLAND, WA	
No. Dated By / Cld / Revision		SHEET #1 of 1	



SCALE 1" = 20'  
 BASIS OF BEARING  
 WASHINGTON STATE PLANE COORDINATE SYSTEM (NORTH ZONE, NAD 83)  
 VERTICAL DATUM: NAD 83  
 CONTOUR INTERVAL: 2'

LEGAL DESCRIPTION  
 PARCEL A OF GREG HEWITT SHORT PLAT MSP NO. 77-1-010, AS RECORDED UNDER WASHINGTON NUMBER 19770310851, RECORDS OF KING COUNTY, STATE OF WASHINGTON.

REFERENCES  
 1. PARCEL A OF GREG HEWITT SHORT PLAT MSP NO. 77-1-010, AS RECORDED UNDER WASHINGTON NUMBER 19770310851, RECORDS OF KING COUNTY, STATE OF WASHINGTON.  
 2. SURVEY DATA IN VOLUME 79 OF PLATS, PAGE 70, UNDER FILE NUMBER T88042180183.  
 3. SHARPOOD ROSE IN VOLUME 78 OF PLATS, PAGE 81, UNDER FILE NUMBER T8810278604212.

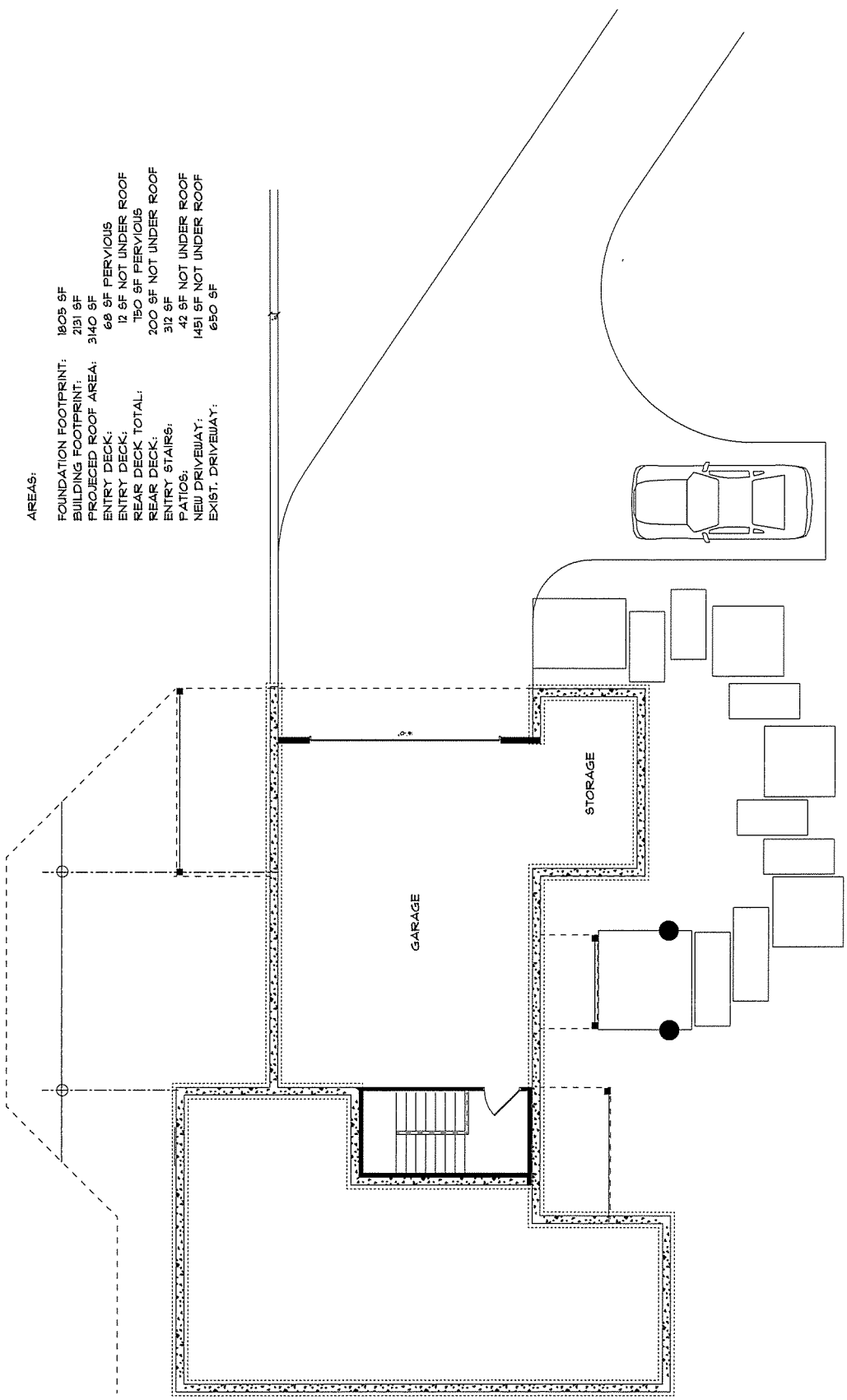
NOTES:  
 1. LEGAL DESCRIPTION, EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS WERE PROVIDED BY CLIENT. IT SHOULD BE NOTED THAT IN PREPARING THIS SURVEY MAP, THE ENGINEER HAS REVIEWED THE PROPERTY OTHER THAN THOSE SHOWN ON THIS MAP. THIS HAS MAINLY BEEN ON THE ABOVE REFERENCED TITLE REPORTS PREPARED BY THIS SURVEY AND THEREFORE QUALIFIED THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.  
 2. BASIS OF BEARING: WASHINGTON STATE PLANE COORDINATE SYSTEM (NORTH ZONE, NAD 83/91)  
 3. VERTICAL DATUM: NAD 83 DATUM.  
 4. UTILITIES OTHER THAN THOSE SHOWN MAY EXIST ON THE SITE. UNDERGROUND UTILITY LOCATIONS SHOWN HEREIN ARE TAKEN FROM A COMPARISON OF THE UTILITIES RECORDS, UNDERGROUND UTILITY LOCATIONS ARE ONLY APPROXIMATE. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN VISIBLE SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CHANGES NOT SHOWN. FIELD VERIFICATION IS NECESSARY PRIOR TO OR DURING ANY CONSTRUCTION.

SITE PLAN  
 SHEET #1  
 01-04-15

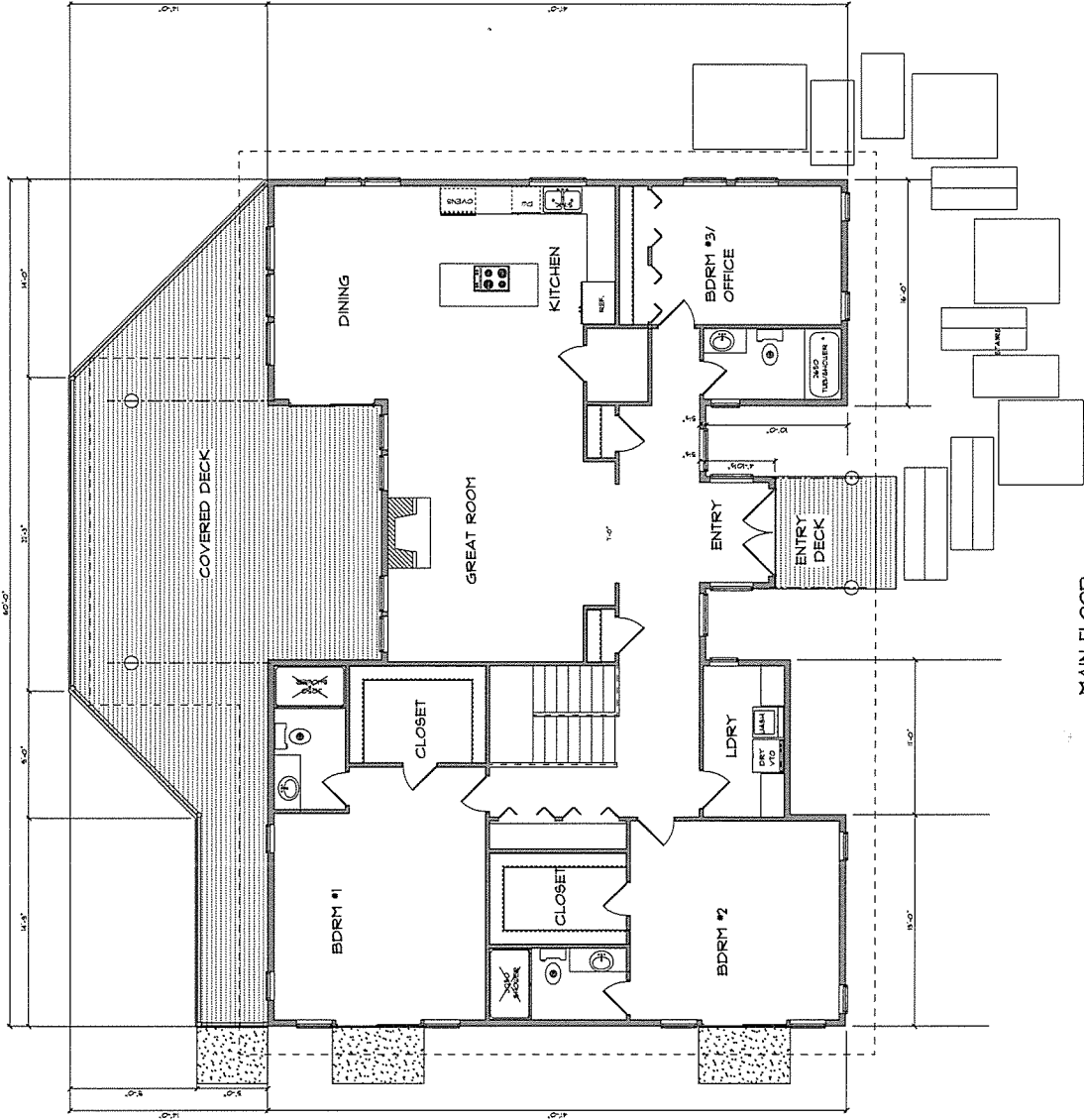


AREAS:

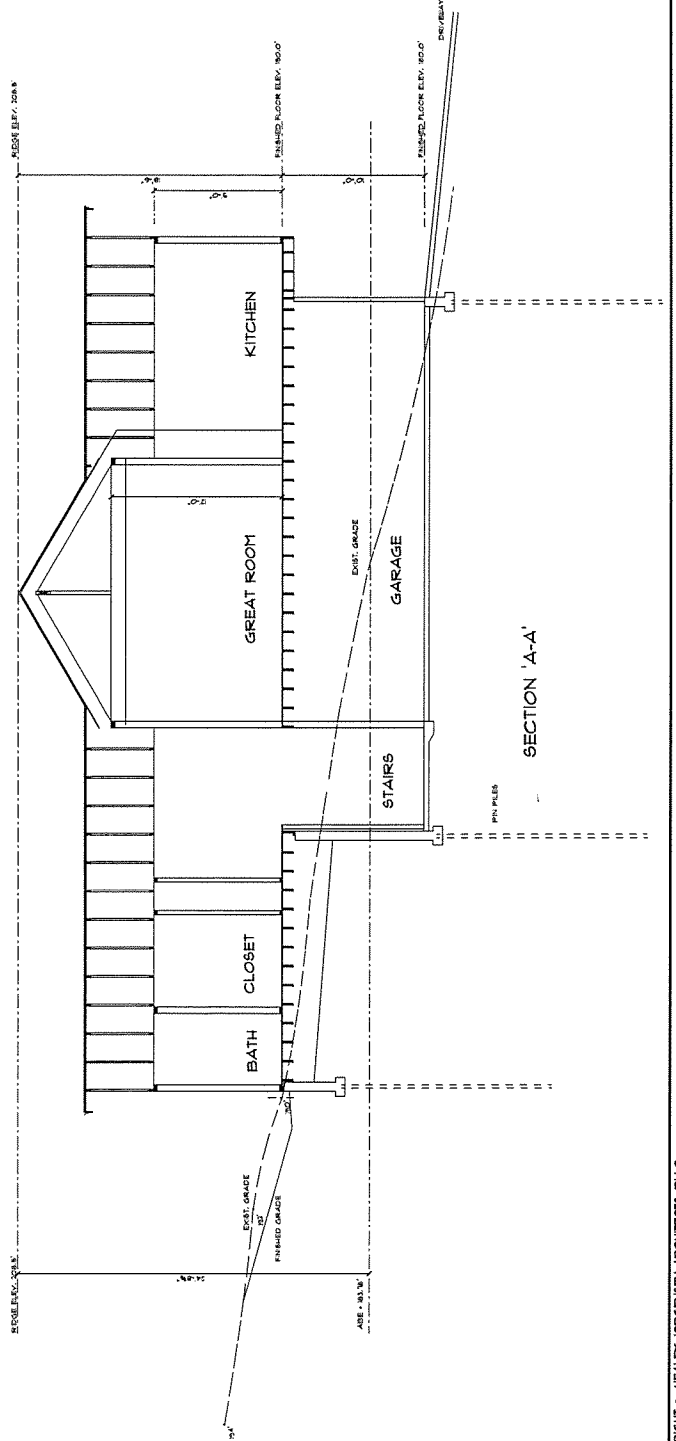
FOUNDATION FOOTPRINT: 1805 SF  
 BUILDING FOOTPRINT: 2131 SF  
 PROJECTED ROOF AREA: 3140 SF  
 ENTRY DECK: 68 SF PERVIOUS  
 ENTRY DECK: 12 SF NOT UNDER ROOF  
 REAR DECK TOTAL: 150 SF PERVIOUS  
 REAR DECK: 200 SF NOT UNDER ROOF  
 ENTRY STAIRS: 312 SF  
 PATIOS: 42 SF NOT UNDER ROOF  
 NEW DRIVEWAY: 1451 SF NOT UNDER ROOF  
 EXIST. DRIVEWAY: 650 SF

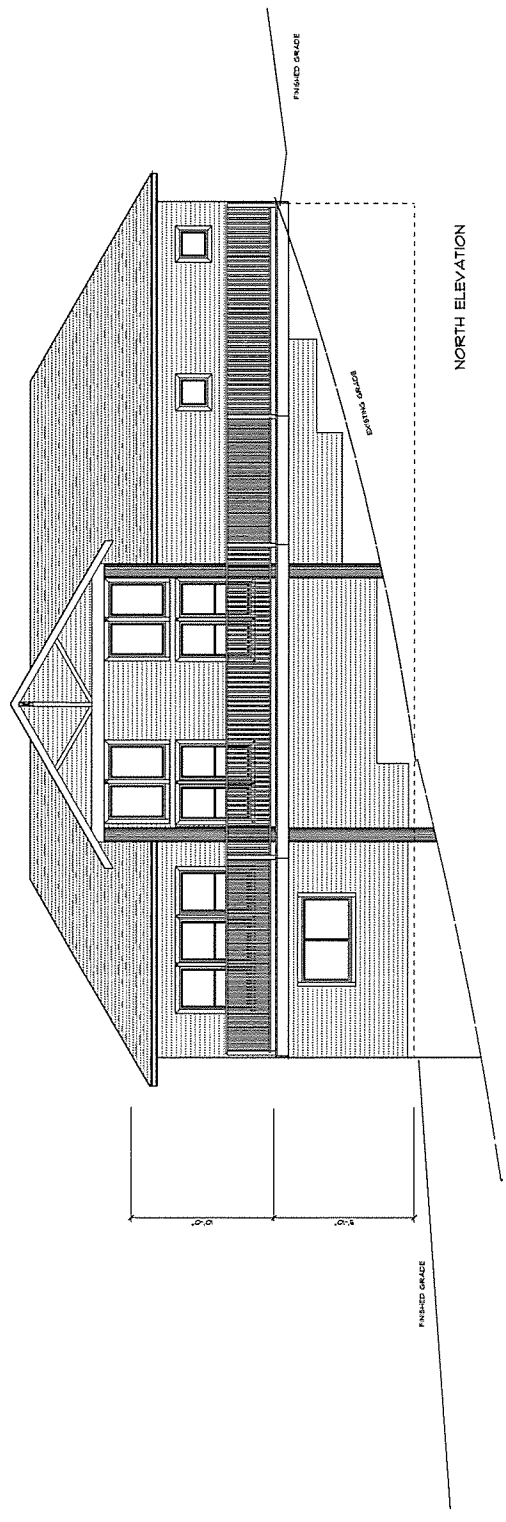


BASEMENT FLOOR  
 STAIRS 134 SF  
 GARAGE 831 SF  
 TOTAL 971 SF

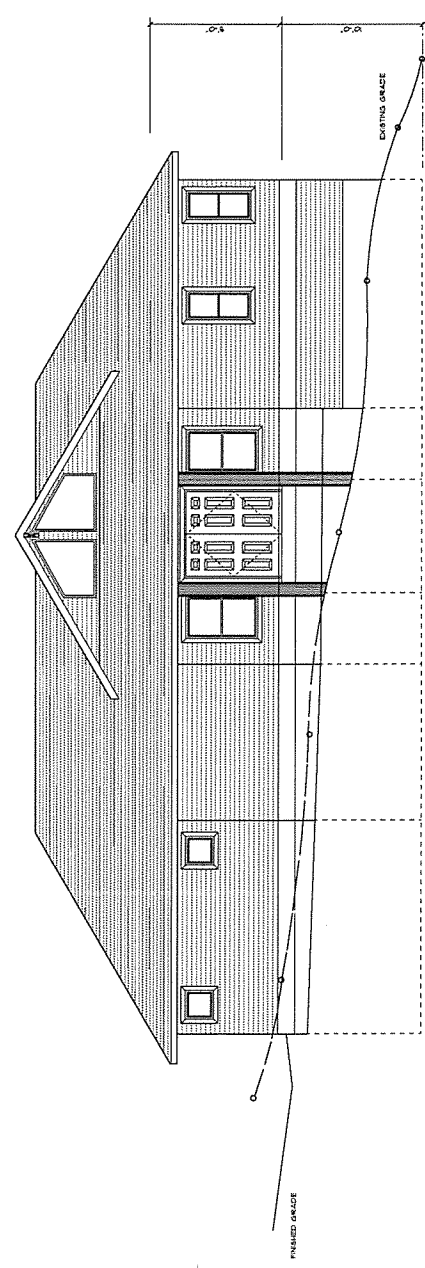


MAIN FLOOR  
 2131 SF LIVING

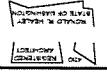




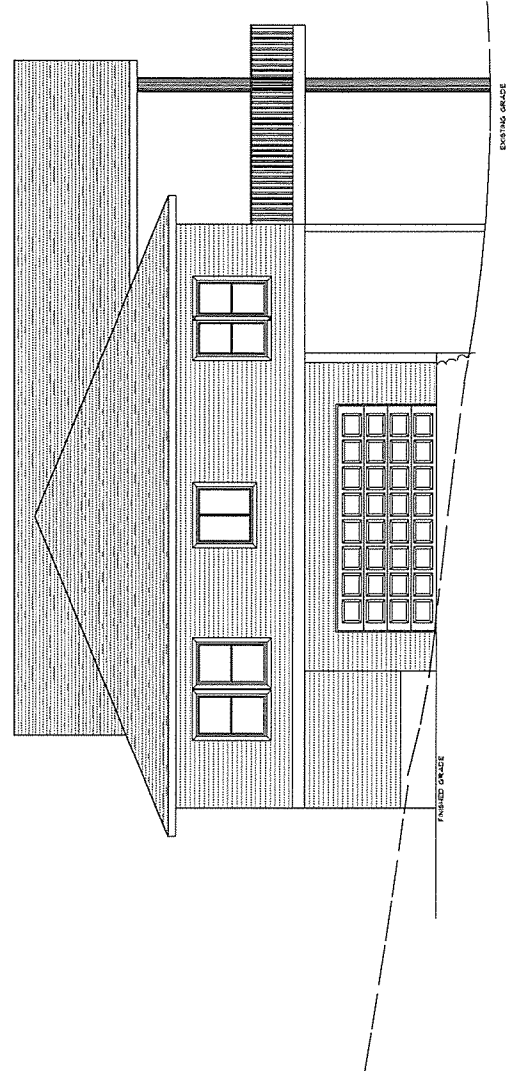
NORTH ELEVATION



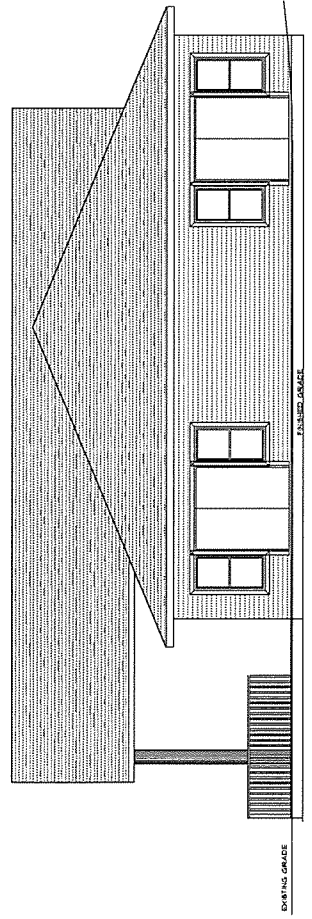
SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION





Wetland name or number A

WETLAND RATING FORM - WESTERN WASHINGTON  
 Version 2 - Updated July 2008 to increase accuracy and responsibility among users  
 Updated Oct 2008 with the new WDREV definitions for priority habitats

Name of wetland (if known): West A - Muck Bay Date of site visit: 11-6-14  
 Rated by EA Seemell Trained by Ecology? Yes No No No Date of training: \_\_\_\_\_  
 SEC: \_\_\_\_\_ RWQBE: \_\_\_\_\_ is S/TIR in Appendix D? Yes \_\_\_\_\_ No \_\_\_\_\_

Map of wetland unit: Figure \_\_\_\_\_ Estimated size .25 ac

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I \_\_\_\_\_ II \_\_\_\_\_ III \_\_\_\_\_ IV \_\_\_\_\_

Category I - Score >= 70	10
Category II - Score 51-69	6
Category III - Score 30-50	18
Category IV - Score < 30	34

Score for Water Quality Functions	10
Score for Hydrologic Functions	6
Score for Habitat Functions	18
TOTAL score for Functions	34

Category based on SPECIAL CHARACTERISTICS of wetland

I \_\_\_\_\_ II \_\_\_\_\_ Does not Apply ✓

Final Category (choose the "highest" category from above)

III

Summary of basic information about the wetland unit:

Estuarine	<input type="checkbox"/>
Natural Heritage Wetland	<input type="checkbox"/>
Bar	<input type="checkbox"/>
Marine Forest	<input type="checkbox"/>
Old Growth Forest	<input type="checkbox"/>
Open Water	<input type="checkbox"/>
Intertidal	<input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Wetland Rating Form - western Washington  
 version 2. To be used with Ecology Publication 04-06-023

August 2004

Does the wetland unit being rated meet any of the criteria below?  
 If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check that the wetland unit <b>MEETS</b> <b>ANY</b> <b>ADDITIONAL</b> <b>PROVISIONS</b> <b>YES</b> <b>NO</b>	
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (706 species)?	<input type="checkbox"/>
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?	<input type="checkbox"/>
For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed animal species are categorized as Category I Natural Heritage Wetlands (see p. 19 of this form).	
SP3. Does the wetland unit contain individuals of Priority species listed by the WDREV for the state?	<input type="checkbox"/>
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	<input type="checkbox"/>

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland Rating Form - western Washington  
 version 2. Updated with new WDREV definitions Oct. 2008

August 2004

Wetland name or number: A

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

- 1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?
NO - go to 2
YES - the wetland class is Tidal Fringe
If your wetland can be classified as a Freshwater Tidal Fringe use the form for Riverine wetland. If it is Saltwater Tidal Fringe it is rated as either a Riverine or Estuarine wetland. If it is Saltwater Tidal Fringe it is rated as either a Riverine or Estuarine wetland. Wetlands that are not tidally influenced are called Saltwater Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. 1).
2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.
NO - go to 3
YES - The wetland class is Flats
If your wetland can be classified as a "Flat" wetland, use the form for Depressional wetlands.
3. Does the entire wetland unit meet both of the following criteria?
The water table is at or below the surface of the soil for a body of permanent open water with at least 30% vegetation on the surface) at least 20 acres (8 ha) in size;
NO - go to 4
YES - The wetland class is Lake-Fringe (Lacustrine Fringe)
4. Does the entire wetland unit meet all of the following criteria?
The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
The water leaves the wetland without being impounded?
NO - go to 5
YES - The wetland class is Bay

Wetland name or number: A

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

- 5. Does the entire wetland unit meet all of the following criteria?
The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
NO - go to 6
YES - The wetland class is Riverine
NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding. YES - The wetland class is Riverine
6. Is the entire wetland unit in a topographic depression in which water ponds, or is situated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.
NO - go to 7
YES - The wetland class is Depressional
7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious inlet outlet.
NO - go to 8
YES - The wetland class is Depressional
8. Your wetland unit seems to be difficult to classify, and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, identify the wetland using the class that represents more than 90% of the total area.

Table with 2 columns: HGM Class, Wetland Class. Rows include Slope + Riverine, Slope + Depressional, Slope + Lake-Fringe, Depressional + Riverine along stream within boundary, Depressional + Lake-Fringe, Salt Water Tidal Fringe and any other class of freshwater wetland, and Treat as ESTUARINE under wetlands with special characteristics.

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as Depressional for the rating.







Wetland name or number: A

<p><b>H 2.4 Wetland Landscapes:</b> Give one description of the landscape around the wetland that best fits (see p. 84)</p> <p>There are at least 3 other wetlands within 1/4 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shores with some mowing, but connections should NOT be obscured by paved roads, fill, dikes, or other structures)</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/4 mile</p> <p>There are at least 3 other wetlands within 1/4 mile, BUT fine connections between them are disturbed</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/4 mile</p> <p>There is at least 1 wetland within 1/4 mile</p> <p>There are no wetlands within 1/4 mile.</p>	<p>3</p> <p>10</p> <p>8</p> <p>18</p>
<p><b>H 2. TOTAL Score - opportunity for providing habitat</b></p> <p>Add the scores from H2.1, H2.2, H2.3, H2.4</p> <p>TOTAL for H 1 from page 14</p>	<p>3</p> <p>10</p> <p>8</p> <p>18</p>
<p><b>Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on P. 1.</b></p>	<p>18</p>

Wetland name or number: 2

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

<p><b>Wetland Type</b></p> <p>Circle the type that apply to the wetland. Check the Category when the appropriate criteria are met.</p> <p>SC 1.0 Estuarine wetlands (see p. 80)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p>— The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt.</p> <p>YES = Go to SC 1.1 NO <input checked="" type="checkbox"/></p>	<p>Cat. I</p>
<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuarine Research Reserve, or other National System, or within a National Estuarine Research Reserve designated under WAC 332-300-1517?</p> <p>YES = Category I NO <input type="checkbox"/> Go to SC 1.2</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?</p> <p>— YES = Category I</p> <p>— The wetland is in a riparian habitat (including stream, river, or floodplain) and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of this wetland, then the wetland should be given a dual rating (D/D). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p>— At least 1/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</p> <p>— The wetland has at least 2 of the following features: dike channel, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Dual rating</p> <p>III</p>





Wetland name or number: A

<p>SC 6.0 Inter-tidal Wetlands (see p. 23)          Is the wetland unit west of the 1885 line (also called the Western Boundary of Upland Ownership or WBUO)?          YES - go to SC 6.1      NO - not an inter-tidal wetland for rating  <i>If your answer yes you will still need to rate the wetland based on its functions.</i>          In practical terms that means the following geographic areas:          • Long Beach Peninsula- lands west of SR 103          • Grayland-Westport- lands west of SR 105          • Ocean Shore-Copalis- lands west of SR 115 and SR 109          SC 6.1 Is the wetland one acre or larger, or is it a mosaic of wetlands that is one acre or larger?          YES - Category II      NO - go to SC 6.2          SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?          YES - Category III</p>	<p>Cat. II          Cat. III          NA</p>
<p><i>CRITICAL WETLANDS</i>          This category includes wetlands that are considered critical to the health of the ecosystem. Wetlands in this category are those that are located in areas that are subject to significant disturbance from human activities, such as agriculture, urban development, or other land use changes. Wetlands in this category are those that are located in areas that are subject to significant disturbance from human activities, such as agriculture, urban development, or other land use changes.</p>	

### MONITORING PLAN & MAINTENANCE PLAN

**ENHANCEMENT PLAN GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS**

ENHANCEMENT PLAN GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS ARE OUTLINED IN TABLE 1-1 (BELOW). THE GOALS AND OBJECTIVES OF THIS PLAN ARE CONSIDERED ACHIEVED WHEN THE PERFORMANCE STANDARDS ARE MET.

**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 BE SUBMITTED TO THE CITY OF MERCEER ISLAND BY THE DATE THAT THE WORK SHOWN ON THIS PLAN HAS BEEN COMPLETED.

**ANNUAL MONITORING**

PERFORMANCE STANDARDS OF THE AS-BUILT FOR THE CITY OF MERCEER ISLAND ANNUAL COMPLIANCE MONITORING SHALL BE COMPLETED FOR A PERIOD OF FIVE (5) YEARS. ANNUAL COMPLIANCE MONITORING SHALL BE COMPLETED BY AUGUST OR SEPTEMBER AND REPORTING TO THE CITY OF MERCEER ISLAND BY NOVEMBER 30 OF EACH MONITORING YEAR.

MONITORING SHALL COMPREHENSIVE QUANTITATIVE ASSESSMENT OF CONDITIONS WITHIN BUFFER AREAS FOR PURPOSES OF EVALUATING THE CURRENT YEARS INFORMATION SHALL BE COLLECTED WITHIN BUFFER AREAS AND ASSESSED RELATIVE TO THE SUCCESS STANDARDS ESTABLISHED FOR THE PROJECT.

- THE CONDITIONS OF INSTALLED PLANT STOCK INCLUDING SURVIVORSHIP, PRESENT, WILL BE DETERMINED.
- A DIRECT COUNT INVENTORY AND ASSESSMENT OF INSTALLED PLANT STOCK SHALL BE USED TO EVALUATE PLANT STOCK CONDITIONS. IN ADDITION, PHOTOGRAPHS OF BUFFER AREAS SHALL BE TAKEN FROM THE PERMANENT MONITORING POINTS AND SUBMITTED TO THE CITY OF MERCEER ISLAND BY THE DATE THAT THE WORK SHOWN ON THIS PLAN HAS BEEN COMPLETED.

**GENERAL MAINTENANCE**

INSTALLED PLANTS SHALL BE MAINTAINED AS REGULAR WEEDS ARE FOUND. WEEDS SHALL BE REMOVED TO PROMOTE THE SUCCESSFUL ESTABLISHMENT AND VIGOROUS GROWTH OF THE INSTALLED PLANT STOCK.

**GENERAL MAINTENANCE SHALL INCLUDE:**

1. REAPPLYING MULCH TO MAINTAIN A 6" MINIMUM APPLIED THICKNESS - YEAR 1 ONLY.
2. THE PRUNING OF INSTALLED PLANTS TO REMOVE DEAD WOOD AND PROMOTE VIGOROUS PLANT GROWTH AND PROPER FORM.
3. THE REPLACEMENT OF PLANTS THAT APPEAR TO BE IN DRESS AND/OR DISEASED.
4. THE REMOVAL OF TRASH, LITTER, AND/OR OTHER NON-DECOMPOSING DEBRIS.

GENERAL MAINTENANCE WORK SHALL OCCUR MONTHLY DURING THE GROWING SEASON (MAY THROUGH SEPTEMBER) AND SHALL BE COMPLETED AT THE END OF EACH MONTH TO PROMOTE THE SUCCESSFUL ESTABLISHMENT AND VIGOROUS GROWTH OF THE INSTALLED PLANTS.

**COMPLIANCE MONITORING ASSESSMENT**

SKILL AND COMPLIANCE MONITORING ASSESSMENT SHALL BE CONDUCTED AT THE END OF EACH MONITORING YEAR. THE PERFORMANCE STANDARDS FOR THE RESPECTIVE YEAR ARE NOT SATISFIED, THE CONTRACTOR SHALL PREPARE AN AS-BUILT OF THE COMPLETED WORK. THE AS-BUILT SHALL BE SUBMITTED TO THE CITY OF MERCEER ISLAND BY THE DATE THAT THE WORK SHOWN ON THIS PLAN HAS BEEN COMPLETED.

**ADDITIONAL PLANT INSTALLATION:**

1. BIODIVERSITY CONTROL.
2. MODIFICATION TO THE IRRIGATION REGIME, AND/OR
3. PLANT SUBSTITUTIONS TO THE CITY OF MERCEER ISLAND.

SUCH CONTINGENCY PLANS SHALL BE SUBMITTED TO THE CITY OF MERCEER ISLAND BY THE DATE THAT THE WORK SHOWN ON THIS PLAN HAS BEEN COMPLETED. APPROVED CONTINGENCY PLANS MUST BE COMPLETED WITHIN 60 DAYS OF THE DATE THAT THE WORK SHOWN ON THIS PLAN HAS BEEN COMPLETED. COMPLIANCE MONITORING FORD FOR THE ENHANCEMENT WORK.

**MAINTENANCE PLAN**

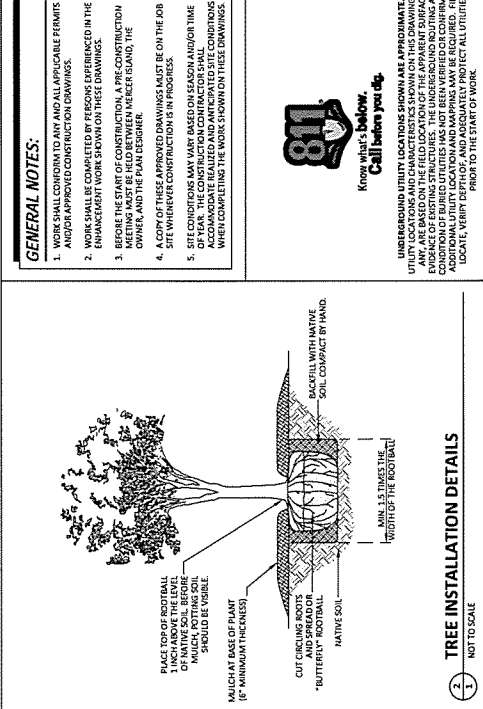
THIS SECTION PROVIDES A GENERAL OVERVIEW OF THE MAINTENANCE PROGRAM FOR THE PROJECT. THE PERFORMANCE STANDARDS ESTABLISHED FOR THIS PLAN ARE AS FOLLOWS:

**TABLE 1-1: GOALS, OBJECTIVES, MONITORING SCHEDULE, & PERFORMANCE STANDARDS**

GOAL	OBJECTIVE	SCHEDULE	PERFORMANCE STANDARDS
TO SUCCESSFULLY ENHANCE ON-SITE WETLAND AND BUFFER AREAS USING NATIVE PLANT SPECIES.	TO INSTALL AND SUCCESSFULLY ESTABLISH 60 NATIVE CONIFER TREE SPECIES.	AUGUST OR SEPTEMBER OF YEAR 1 FOLLOWING PLANT INSTALLATION	<ul style="list-style-type: none"> <li>• 100% SURVIVAL BY INSTALLED PLANT STOCK AFTER THE FIRST GROWING SEASON (YEAR 1). THIS STANDARD CAN BE MET THROUGH THE USE OF PROPER PLANTING TECHNIQUES.</li> <li>• 85% SURVIVAL BY INSTALLED PLANT STOCK AFTER THE FIFTH GROWING SEASON (YEAR 5).</li> </ul>

**GENERAL NOTES:**

1. WORK SHALL CONFORM TO ANY AND ALL APPLICABLE PERMITS AND/OR APPROVED CONSTRUCTION DRAWINGS.
2. WORK SHALL BE COMPLETED BY PERSONS EXPERIENCED IN THE ENHANCEMENT WORK SHOWN ON THESE DRAWINGS.
3. BEFORE THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE CITY OF MERCEER ISLAND, THE OWNER, AND THE PLANT DESIGNER.
4. A COPY OF THESE APPROVED DRAWINGS MUST BE ON THE JOB SITE WHEN CONSTRUCTION IS IN PROGRESS.
5. SITE CONDITIONS MAY VARY BASED ON SEASON AND/OR THE TIME OF YEAR. THE CONSTRUCTION CONTRACTOR SHALL ACCOMMODATE REALED AND ANTICIPATED SITE CONDITIONS WHEN COMPLETING THE WORK SHOWN ON THESE DRAWINGS.



**PLANTING PLAN NOTES:**

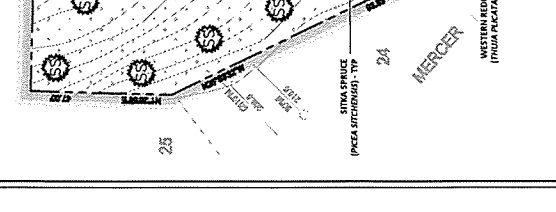
1. BASE TOPOGRAPHIC AND SITE PLAN PROVIDED BY TEAL JONGENHUIS ARCHITECTS (2025) SHALL BE USED FOR ALL CONSTRUCTION AND PLANTING. SOURCE DRAWINGS HAVE BEEN MODIFIED FOR VISUAL IMPROVEMENT.
2. PROTECT AND ACCOMMODATE EXISTING NATIVE VEGETATION WHEN INSTALLING PLANTS.
3. PLANT MATERIAL QUALITY AND LOCATIONS SHALL BE INSPECTED BY PLANT DESIGNER PRIOR TO PLANT INSTALLATION.
4. PLANTS SHALL BE PLANTED IN ACCORDANCE WITH THE SPECIFICATIONS, ADJUST TO PLANT LOCATIONS AND ACCORDANT SITE CONDITIONS, TO MAXIMIZE PLANT GROWTH AND VEGETATION, AND/OR PER PLAN DESIGNER AT THE TIME OF INSTALLATION.
5. SEE THIS SHEET FOR PLANT INSTALLATION DETAILS.

**PLANTING PLAN LEGEND:**

- PROJECT SITE LIMITS
- LIMITS OF CATEGORY III WETLAND
- LIMITS OF CATEGORY II WETLAND
- CENTRING OF TYPE 2 WATERBODIES
- STEEP SLOPE (INCLUDES WETLAND BUFFERS)
- WETLAND/STREAM BUFFER

**PLANTING PLAN:**

COMMON NAME	SCIENTIFIC NAME	SIZE/FORM	QUANTITY	SPACING
STEEA SPICE	PIZZA STRONGHUS	2 GALLON CONTAINERIZED	30	AS SHOWN
WESTERN RED CEDAR	THUSA PLICATA	2 GALLON CONTAINERIZED	30	AS SHOWN
		<b>TOTAL: 60</b>		



**PLANTING PLAN**

NOT TO SCALE

5637 EAST MERCER WAY  
MERCER ISLAND, WASHINGTON  
- MI TREEHOUSE LLC -

**CRITICAL AREA ENHANCEMENT PLAN**

DATE: 03/04/2025  
DRAWN BY: E. BAC  
CHECK BY: ES

DATE: 03/04/2025  
DRAWN BY: E. BAC  
CHECK BY: ES

Planting Plan, Notes, Details, & Monitoring Plan

1 of 1

25631 Covington Way SW #2, Covington, WA 98022 253-659-0555 Fax: 253-652-4722

Seawall Wetland Consulting, Inc.