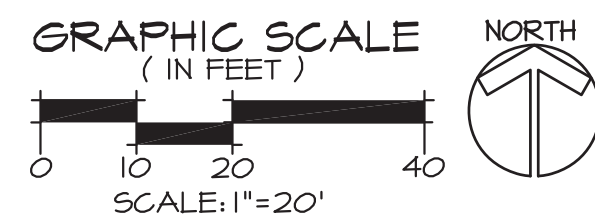


EXISTING CONDITIONS PLAN



PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND
- WETLAND BUFFER - STANDARD
- CENTERLINE OF STREAM & FLOW DIRECTION
- APPROXIMATE OHM
- STREAM BUFFER - STANDARD
- ▲A-# WETLAND FLAG LOCATION
- TP-# SOIL TEST PLOT LOCATION
- EXISTING TREES

VICINITY MAP



CONTACTS

- APPLICANT**
- NAME: SANG HOU
ADDRESS: 7022 EAST MERCER WAY
MERCER ISLAND, WA 98040
PHONE: (206) 948-7698
- SURVEYOR**
- NAME: ESM CONSULTING ENGINEERS
ADDRESS: 33400 8TH AVE S #205
FEDERAL WAY, WA 98003
PHONE: (253) 838-6113
CONTACT:
- ENVIRONMENTAL CONSULTANT**
- NAME: TALASAEA CONSULTANTS, INC.
ADDRESS: 15020 BEAR CREEK RD. NE
WOODINVILLE, WA 98077
PHONE: (425) 861-7550
CONTACT: ANN M. OLSEN, RLA
SENIOR PROJECT MANAGER
JENNIFER MARRIOTT, PHS
SENIOR WETLAND ECOLOGIST

SHEET INDEX

SHEET #	SHEET TITLE
WI.0	EXISTING CONDITIONS PLAN
WI.1	PROPOSED SITE PLAN, IMPACTS & MITIGATION PLAN
WI.2	PLANTING PLAN, SCHEDULE, NOTES & DETAILS
WI.3	PLANTING SPECIFICATIONS
WI.4	EAGLE MANAGEMENT, MONITORING PLAN, & BONDING ESTIMATE

NOT FOR CONSTRUCTION
THESE PLANS HAVE BEEN SUBMITTED TO THE APPROPRIATE AGENCIES FOR REVIEW AND APPROVAL. UNTIL APPROVED, THESE PLANS ARE SUBJECT TO REVISION.



Know what's below.
Call before you dig.

NOTES

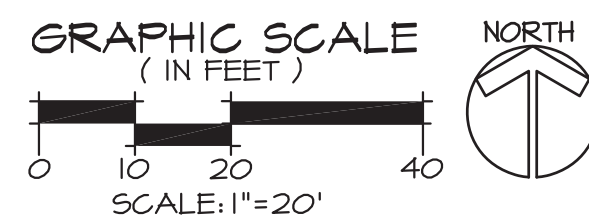
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- SOURCE DRAWING WAS MODIFIED BY TALASAEA CONSULTANTS FOR VISUAL ENHANCEMENT.
- THIS PLAN IS AN ATTACHMENT TO THE CRITICAL AREAS REPORT PREPARED BY TALASAEA CONSULTANTS IN JULY, 2017.

Revisions	Date	By

Date: 7-27-2017
Scale: AS SHOWN
Designed: AO
Drawn: MW
Checked: OA
Approved: ES



PROPOSED SITE PLAN, IMPACTS & MITIGATION PLAN



PLAN LEGEND

	PROPERTY LINE
	EXISTING WETLAND
	WETLAND BUFFER - REDUCED
	WETLAND BUFFER - STANDARD
	CENTERLINE OF STREAM & FLOW DIRECTION
	APPROXIMATE OHWM
	STREAM BUFFER - STANDARD
	PROPOSED CRITICAL AREAS BUFFER
	EXISTING TREES TO REMAIN
	EXISTING TREES TO BE REMOVED

STREAM BUFFER AVERAGING LEGEND

	BUFFER REDUCTION	354 SF
	BUFFER REPLACEMENT	333 SF
	TEMPORARY CONSTRUCTION IMPACTS	351 SF

MITIGATION LEGEND

	WETLAND BUFFER ENHANCEMENT	10,376 SF
	RESTORED BUFFER	351 SF
	LARGE WOODY DEBRIS	

*DURING CONSTRUCTION HEDERA HELIX WILL BE FIELD LOCATED AND REMOVED IN ENHANCEMENT AREAS. ALL INVASIVE WEEDS WILL BE DISPOSED OF OFF SITE.

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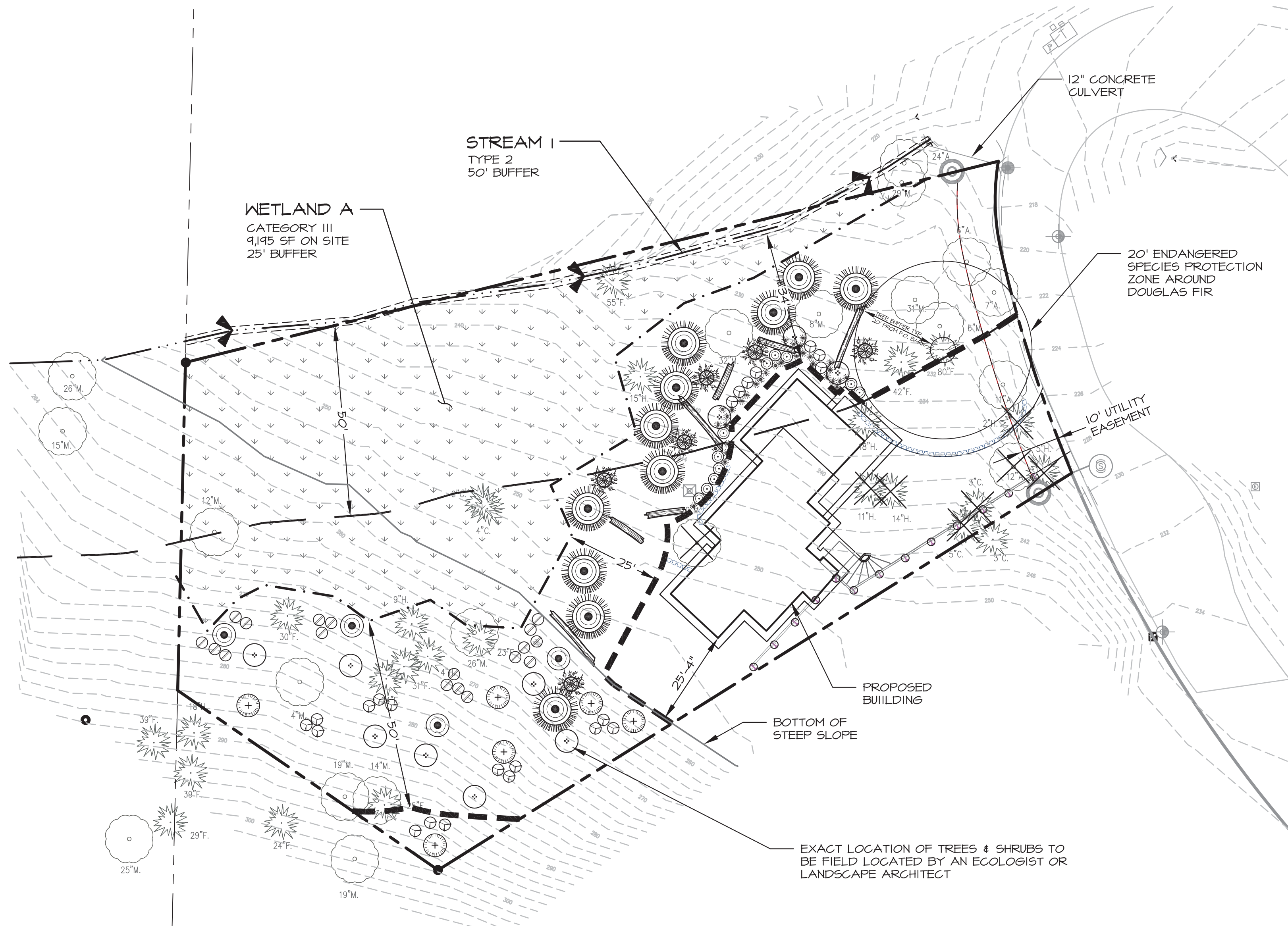
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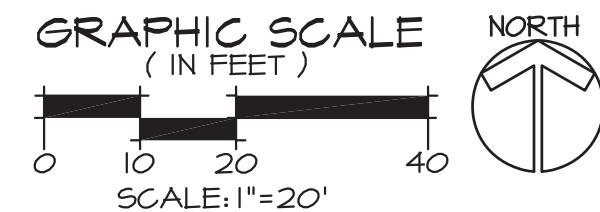
TALASAEA
 CONSULTANTS, INC.
 Resource & Environmental Planning
 13020 Bear Creek Road Northeast - Woodinville, Washington 98077
 P: (425) 881-7688 - Fax: (425) 881-7048

**CRITICAL AREAS MITIGATION PLAN
 PROPOSED SITE PLAN, IMPACTS & MITIGATION PLAN
 HOU PROPERTY
 MERCER ISLAND, WA**

Revisions	By	Date
Date	7-21-2017	
Scale	1"=20'	
Designed	AQ	
Drawn	MW	
Checked	OA	
Approved	ES	
Project	#1124B	
Sheet #	W11	



PLANTING PLAN

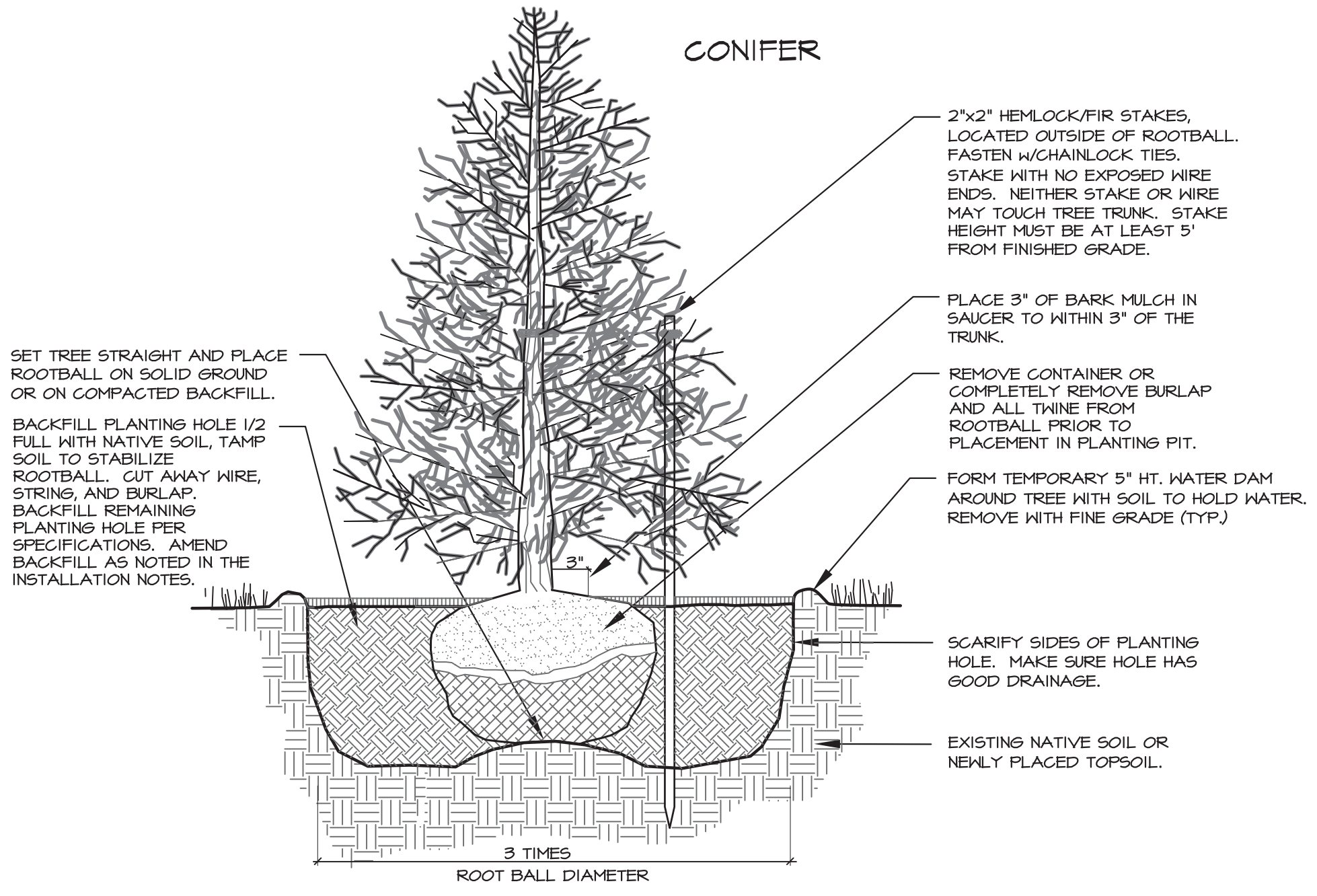


PLAN LEGEND

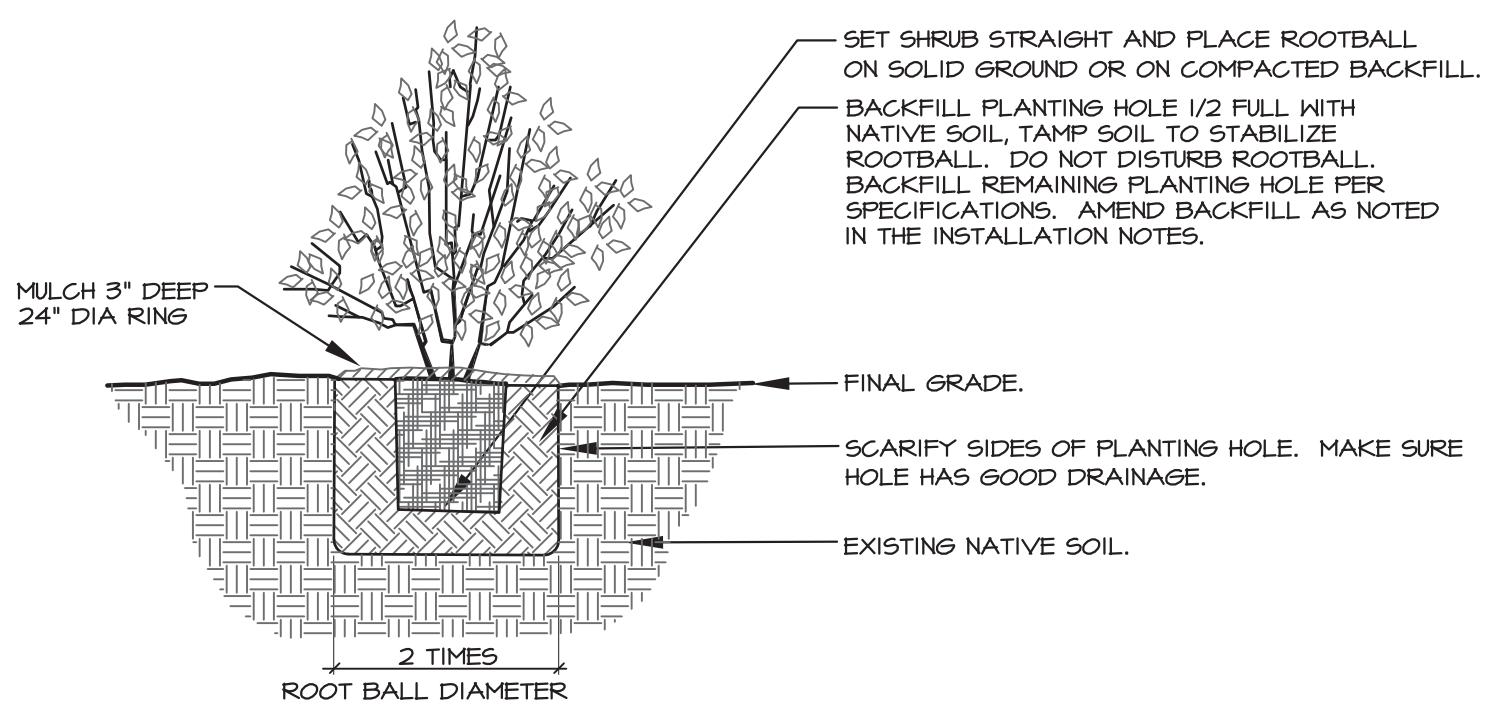
- PROPERTY LINE
- EXISTING WETLAND
- CENTERLINE OF STREAM & FLOW DIRECTION
- APPROXIMATE OHWM
- PROPOSED CRITICAL AREAS BUFFER
- EXISTING TREES TO REMAIN
- ⊗ EXISTING TREES TO BE REMOVED
- LARGE WOODY DEBRIS

PLANT SCHEDULE

TREES							
SYMBOL	SCIENTIFIC NAME	COMMON NAME	WL STATUS	QTY.	SPACING	SIZE (MIN.)	NOTES
⊗	ACER CIRCINATUM	VINE MAPLE	FAC	10	AS SHOWN	1 GAL.	FULL & BUSHY
⊕	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	FACU	6	AS SHOWN	1 GAL.	B&B, FULL & BUSHY
⊗	THUJA PLICATA	WESTERN RED CEDAR	FAC	11	AS SHOWN	4-5' HT.	B&B, FULL & BUSHY
⊗	THUJA PLICATA	WESTERN RED CEDAR	FAC	4	AS SHOWN	1 GAL.	B&B, FULL & BUSHY
SHRUBS							
SYMBOL	SCIENTIFIC NAME	COMMON NAME	WL STATUS	QTY.	SPACING	SIZE (MIN.)	NOTES
⊕	OEMLERIA CERASIFORMIS	INDIAN PLUM	FACU	22	5' O.C.	1 GAL.	MULTI-CANE (3 MIN.)
*	POLYSTICHUM MUNITUM	SWORD FERN	FACU	32	3' O.C.	1 1/2" HT	FULL & BUSHY
⊕	ROSA GYMNOCARPA	BALDHIP ROSE	FACU	11	3' O.C.	1 1/2" HT.	MULTI-CANE (3 MIN.)
○	RUBUS SPECTABILIS	SALMONBERRY	FAC	13	3' O.C.	1 GAL.	FULL & BUSHY



1 LARGE CONIFER TREE PLANTING (TYP.)
SCALE: NTS



2 CONTAINER TREE/SHRUB PLANTING (TYP.)
SCALE: NTS

GENERAL PLANTING INSTALLATION NOTES

1. PLANT TREE &/OR SHRUB 1/2" HIGHER THAN DEPTH GROWN AT NURSERY.
2. FOR CONTAINER TREES &/OR SHRUBS, SCORE FOUR SIDES OF ROOTBALL PRIOR TO PLANTING. BUTTERFLY ROOTBALL IF ROOT GIRLING IS EVIDENT.
3. AFTER PLANTING, STAKE TREES ONLY IF NECESSARY (LEANING OR DRIPPING) OR IN EXPOSED AREAS.
4. TREE STAKES TO BE VERTICAL, PARALLEL, EVEN-TOPPED, UNSCARRED AND DRIVEN INTO UNDISTURBED SUBGRADE. REMOVE AFTER ONE YEAR.
5. WATER IMMEDIATELY AND THOROUGHLY, HEAVIER AT FIRST, 2 OR 3 TIMES PER WEEK THROUGH THE DRY SEASON, THEN LESS UNTIL ESTABLISHED.

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TALASAEA CONSULTANTS, INC.
Resource & Environmental Planning
15009 Bear Creek Road Northeast - Woodinville, Washington 98077
Ph: (425) 861-1650 - Fax: (425) 861-7549

CRITICAL AREAS MITIGATION PLAN
PLANTING PLAN, SCHEDULE, NOTES & DETAILS
HOU PROPERTY
MERCER ISLAND, WA

Revisions	By	Date
Date	7-27-2017	
Scale	AS NOTED	
Designed	AQ	
Drawn	MW	
Checked	OA	
Approved	BS	
Project #	11294B	
Sheet #	WL2	

EAGLE MANAGEMENT PLAN CONDITIONS

PER THE EAGLE MANAGEMENT PLAN DATED 19 MARCH 2009 EXCAVATION CAN BEGIN AFTER JULY 20 OR WHEN FLEDGLING OCCURS.

EAGLE MANAGEMENT PLAN PROVIDED BY WASHINGTON DEPARTMENT OF FISH AND WILDLIFE DATED APRIL 12, 2007.

CONDITIONS

The following condition(s) apply to the entire parcel or lot and are intended to protect bald eagles and their habitat. This Agreement is project and owner specific; any further development or change in ownership will require an additional Bald Eagle Management Plan.

1. Retain all conifer trees ≥20 inches diameter at breast height (d.b.h.) on the property, EXCEPT that one >32 inch Douglas fir may be removed from the building site. No other conifer trees ≥ 20 inches d.b.h. located on the parcel may be cut or sustain damage resulting in a mortality.
2. No more than 10% of the conifer trees < 20 inches d.b.h., located outside of the building envelope and driveway footprint as shown in Figure 1, may be cut or killed on the property. This provision is intended to allow for flexibility in the construction, although the current landowner goal is to retain native trees outside of the building envelope.
3. Driveway construction shall not cause damage to tree roots in the eagle tree protection zone, and should be constructed as far from the wildlife tree as possible. To avoid soil compaction near the eagle nest tree a protection zone is to be established per Condition 4. Any excavation adjacent to this area must be done under the supervision of a certified arborist to ensure that there is no damage that will weaken or result in the decline of the wildlife tree. Drainage from site construction on the property, including the driveway, shall be directed away from the eagle tree protection zone.
4. An eagle tree protection zone shall be established to protect the critical root zone of the wildlife tree within a radius of 20 feet from the bole (trunk) of the nest tree, as shown in Figure 1. This zone shall be enclosed by durable, high-visibility construction fencing before the start of any construction, and shall remain in place until all construction is completed. No entry of any kind may take place within the eagle tree protection zone during construction, including materials storage. The placement of the construction fencing must be verified by City of Mercer Island or WDFW prior to commencing any work.
5. The eagle tree protection zone shall remain in native vegetation, with no landscaping, no irrigation, and no maintenance other than the removal of non-native plants (ivy) and the planting of native plants (e.g. salal and sword fern), if desired. Outside the eagle tree protection zone, landscaping may occur as desired, although native plants are encouraged.
6. Mitigation is required for removal of the >32 inch Douglas fir adjacent to the building envelope. No fewer than two Douglas fir or grand fir trees shall be planted and maintained on the property. The conifers shall be at least 2 feet tall at time of planting. They must be planted at least 10 feet from the house or other structures, and at least 10 feet from any other conifer tree. The trees must be maintained with summer watering for at least 2 summers. The landowner shall replace mitigation tree mortalities that occur within ten years of planting.
7. Windowing and low limbing of trees is acceptable provided no more than 30% of the live crown is removed, EXCEPT that no trimming of the nest tree is permitted. Limiting other live branch removal to < 25% is recommended. Topping of trees is not allowed.
8. There are no mandatory timing restrictions on construction activities. However, in light of the close proximity of the nest tree to the proposed activity, sensitivity in timing of construction is encouraged to minimize disturbance of nesting eagles. Eagles are more subject to disturbance during the early phase of nesting (February - April) and are less likely to abandon once they have begun incubating by mid April. Refer to Appendix B for disturbance avoidance recommendations.

MONITORING PLAN

1.0 MONITORING METHODOLOGY

Following successful installation of the CRITICAL AREAS MITIGATION PLAN, performance monitoring of the mitigation areas will be conducted for a period of three years according to the City of Mercer Island.

Performance monitoring will be conducted annually during the fall for the three years of performance monitoring that will be conducted in the fall. Performance monitoring reports will be submitted annually to the CITY OF MERCER ISLAND following the completion of each years fall monitoring event.

Table 1 below displays the performance monitoring schedule, including maintenance reviews and reports.

TABLE 1: PROJECTED CALENDAR FOR PERFORMANCE MONITORING & MAINTENANCE EVENTS

YEAR	DATE	MAINTENANCE REVIEW	PERFORMANCE MONITORING	REPORT DUE TO CITY
BA*	FALL	X	X	X
1	FALL	X	X	X
2	FALL	X	X	X
3	FALL	X	X	X**

*BASELINE ASSESSMENT **FINAL ASSESSMENT & JURISDICTIONAL REVIEW

2.0 BASELINE ASSESSMENT

A baseline assessment will be conducted following construction approval from the CITY OF MERCER ISLAND. Baseline vegetation plots will be established to provide a reference for future monitoring of plant survival and percent cover. The baseline evaluation will include: a) photo-documentation at designated points located on the site, b) a general description of the conditions of the installed plant material, c) estimates of percent vegetative cover, plant survival and undesirable species, d) an overall qualitative assessment of project success for the buffer areas. This baseline report will occur immediately following approval of construction of the CRITICAL AREAS MITIGATION PLAN.

2.1 PERFORMANCE MONITORING

Performance monitoring will begin in the season following construction and will collect data based upon the vegetation sampling plots established during the baseline assessment. Monitoring will include documentation of vegetation in the mitigation wetland area. If the performance criteria are met, annual monitoring will cease after the third year, unless objectives are met at an earlier date and the City accepts the mitigation project as successfully completed.

2.1.1 VEGETATION

Permanent vegetation sampling transects will be established at selected locations within the mitigation areas to incorporate all of the representative plant communities. The same monitoring point will be revisited each year, with a record kept of all plant species found. Vegetation will be recorded on the basis of relative percent cover of the dominant species within the vegetative strata. All monitoring will be conducted by a qualified ecologist.

Locations will be established within the mitigation area from which photographs will be taken throughout the monitoring period. These photographs will document general appearance and relative changes within the plant community. Review of the photos over time will provide a semi-quantitative representation of success of the planting plan.

Vegetation sampling plot and photo-point locations will be submitted with the baseline assessment report.

2.1.2 SUCCESS CRITERIA FOR PLANT ESTABLISHMENT

Overall success of the mitigation plantings following construction will be evaluated according to the schedule shown above. Data gathered from the vegetation plots will be incorporated into the overall plant evaluation portion of the monitoring plan. Success of plant establishment within the mitigation areas will be evaluated on the basis of both percent survival and percent cover. For conifer trees, success will be based on 100% percent survival rate and 75% for the restored buffer.

3.0 MAINTENANCE (M) AND CONTINGENCY (C)

Maintenance will be performed at least once per year to address any conditions that could jeopardize the success of the mitigation areas. Established performance standards for the project will be compared to the monitoring results to judge the success of the mitigation project. If there is a significant problem with achieving the performance standards, the bondholder shall work with the City to develop a contingency plan. Contingency plans can include, but are not limited to: re-grading, additional plant installation, erosion control, modifications to hydrology, and plant substitutions of type, size, quantity, and location. Contingencies will include many of the items listed below and would be implemented if these performance standards are not met. If any portion of the project is found to have failed and the contingency plan is activated, the monitoring period of the contingency work shall re-commence for the area(s) of failure for a period of not less than three years, unless otherwise approved by the City of Mercer Island.

Maintenance and remedial action on the site will be done within 30 days following completion of the monitoring event (unless otherwise specifically indicated below).

- During year one, replace all dead plant material. (M)
- Water all plantings at a rate of 1" of water at least every week between June 15 - October 15 during the first year after installation, and for the first year after any replacement plantings. (C & M)
- Replace dead plants with the same species or a substitute species that meets the goals and objectives of the mitigation plan, subject to Talasaea and agency approval. (C)
- Re-plant area after reason for failure has been identified (e.g., moisture regime, poor plant stock, disease, shade/sun conditions, wildlife damage, etc.). (C)
- Remove/control weedy or exotic invasive plants (e.g., Scot's broom, reed canarygrass, Himalayan blackberry, purple loosestrife, etc.) by manual or chemical means approved by the City. Use of herbicides or pesticides within the mitigation area would only be implemented if other measures failed or were considered unlikely to be successful, and would require prior agency approval. Trees and shrubs should be weeded to the dripline and mulched to a depth of three inches. All non-native vegetation must be removed and dumped off-site. (C & M)
- Clean-up trash and other debris. (M)
- Selectively prune woody plants to meet the mitigation plan's goals and objectives (e.g., thinning and removal of dead or diseased portions of trees/shrubs). (M)
- Repair or replace damaged structures including fences, signs, and bird boxes. (M)
- After consulting with City staff, minor excavations will be made to correct surface drainage patterns. (C)

4.0 AS-BUILT PLAN

Following completion of construction activities, a set of "as-built" plans for the mitigation areas will be provided to the CITY OF MERCER ISLAND. The plans will identify and describe any changes in relation to the original approved plan.

BONDING ESTIMATE

A PERFORMANCE BOND OR OTHER SURETY DEVICE WILL BE POSTED WITH CITY OF MERCER ISLAND BY THE PROPERTY OWNER TO COVER 100% OF THE COST OF LABOR, MATERIALS, MAINTENANCE, AND MONITORING. THE BOND OR ASSIGNMENT MAY BE RELEASED IN PARTIAL AMOUNTS AT THE SOLE DISCRETION OF CITY OF MERCER ISLAND IN PROPORTION TO WORK SUCCESSFULLY COMPLETED OVER THE THREE YEAR MONITORING PERIOD, AS THE APPLICANT DEMONSTRATES PERFORMANCE AND CORRECTIVE MEASURES.

CITY OF MERCER ISLAND WETLANDS AND BUFFER MITIGATION BOND REQUIREMENT

DATE: 7/19/17
 TO: CITY OF MERCER ISLAND DEPARTMENT OF PLANNING
 APPLICANT: SANG HOU
 7022 EASTE MERCER WAY MERCER ISLAND, WA 98040
 PHONE: (206) 948-7698
 CONTACT PERSON: SANG HOU

BOND TYPE: MITIGATION PLAN
 INCLUDED: PLANT INSTALLATION, TOPSOIL, MULCHING,
 MONITORING & MAINTENANCE FOR 3 YEARS = \$17,494.01

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**CRITICAL AREAS MITIGATION PLAN
 EAGLE MANAGEMENT, MONITORING PLAN, & BONDING ESTIMATE
 HOU PROPERTY
 MERCER ISLAND, WA**

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Revisions	Date	By

Date 7-27-2017
 Scale NS
 Designed AG
 Drawn MW
 Checked OA
 Approved BS

Project #1129B

Sheet # **W1.4**

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