



## **ARBORIST REPORT**

**DATE:**

April 6, 2024 (revised 8/26/24)

**PREPARED FOR:**

Traci Granbois

**SITE ADDRESS:**

8440 SE 82nd St Mercer Island, WA 98040 / Lot # 3625600120

**PREPARED BY:**

Kim Ettari - ISA Certified Arborist PN1301A / TRAQ

Seattle Tree Service Provider - TSP # 18856

Laughing Trees Landscapes

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# NARRATIVE

## SCOPE OF WORK

You have asked me to complete a tree retention, protection and replanting plan for the trees on your property in preparation for the demolition and reconstruction of a new residence and detached garage.

All documentation below should comply with requirements set forth in Mercer Island Municipal Code (19.10.010).

## METHODOLOGY

The methods used for this assessment are as outlined in *Tree Risk Assessment* by Julian Dunster and as adopted by the International Society of Arboriculture (ISA). The end goal of most assessments is to provide the owner or manager of the tree(s) with factual information, enabling them to make decisions about the management of the tree(s). For this particular assessment, I used a Level II Assessment that includes inspection of the root collar, lower trunk, upper limbs and canopy of the tree as can be seen from the ground. Basic assessment does not include climbing the tree or excavation of soils to inspect root structure or condition.

I measured twelve (12) significant trees for their diameter at breast height (DBH), an industry standard of measuring trees at 4.5' above grade. Trees that were multi-stemmed or branched below the standard 4.5' point of measurement were measured in some other way and noted as such in the findings notes of the appropriate tree.

A tree inventory and assessment spreadsheet was created that details each tree by reference number, species/common name, size (DBH), drip line/canopy extension and condition with remarks as needed. Any recommended action items are also included as said sheet (*See attached inventory.*)

A tree map was created indicating the locations, drip lines, and locations of any required tree protection fences. (*See attached tree map.*)

## FINDINGS AND OBSERVATIONS

The subject site is a 13,400 sq ft residential lot in an established neighborhood on the southern end of Mercer Island. The existing residence sits in the middle of the property with trees around most of the perimeter. The new residence will also be positioned in the center of the lot with a detached garage on the south side.

The following trees were inventoried and assessed:

Tree #1 - Thuja plicata / Western Red Cedar - 21" DBH - GOOD CONDITION - RETAIN

Tree #2 - Thuja plicata / Western Red Cedar - 12" DBH - GOOD CONDITION - RETAIN

Tree #3 - Pseudotsuga menziesii / Douglas Fir - 22' DBH - GOOD CONDITION - RETAIN

Tree #4 - Pseudotsuga menziesii / Douglas Fir - 26" DBH - GOOD CONDITION - RETAIN

Tree #5 - Pseudotsuga menziesii / Douglas Fir - 40" DBH (exceptional) - GOOD CONDITION - RETAIN

Tree #6 - Pseudotsuga menziesii / Douglas Fir - 33" DBH (exceptional) - GOOD CONDITION - RETAIN

Tree #7 - Pseudotsuga menziesii / Douglas Fir - 31" DBH (exceptional) - GOOD CONDITION - RETAIN

Tree #9 - Cornus nuttallii / Pacific Dogwood - 15" DBH - FAIR CONDITION - REMOVE

Tree #10 - Pseudotsuga menziesii / Douglas Fir - 31" DBH (exceptional) - GOOD CONDITION - RETAIN

Tree #12 - Pinus species / Pine - 12" DBH - POOR CONDITION - REMOVE

Tree #14 - Thuja plicata / Western Red Cedar - 20" DBH - GOOD CONDITION - RETAIN

Tree #15 - Thuja plicata / Western Red Cedar - 25" DBH - GOOD CONDITION - RETAIN

## RECOMMENDATIONS AND CONSIDERATIONS

### TREE REMOVAL

As per the tree retention requirements in Mercer Island Municipal Code (19.10.060 (2.a)) a *"minimum of 30 percent of trees with a diameter of 10 inches or greater, or that otherwise meet the definition of large trees, shall be retained over a rolling five-year period."*

REMOVAL CALCULATION - The proposed construction project will require the removal of Trees #9 and #12. These trees represent 27 caliper inches or 13.5% of the 200 total caliper inches on the site.

### TREE RETENTION

RETENTION CALCULATION - The remaining Trees #1, #2, #3, #4, #5(E), #6, #7, #10, #14 and #15 represent 173 caliper inches or 86.5% of the total 200 caliper inches on the site. As per MICC this percentage meets the 30% tree retention requirement.

The tree retention breakdown for this site would be as follows:

Number of regulated trees on site: 10 trees

Proposed regulated trees for removal: 2 trees

**Regulated trees to remain: 8 trees (80% > 30% meets requirement)**

## TREE PROTECTION

**Trees #1, #2, #3, #4, #14, #15** - Limits of disturbance and tree protection zones at the drip lines.

### PROTECTION OF RETAINED EXCEPTIONAL TREES

**Tree #5 - *Pseudotsuga menziesii* / Douglas Fir - 40" DBH (exceptional)** - Any limits of disturbance are outside the drip line of this protected tree. Tree protection fencing will be placed at the drip line.

**Tree #6 - *Pseudotsuga menziesii* / Douglas Fir - 33" DBH (exceptional)** - This tree is at a higher elevation (approximately 5') than the residence. Some encroachment into the western drip line of this tree is required for access to the new residence. The encroachment is outside the interior crucial root zone and represents less than 15% disturbance of the total area between the interior root zone and drip line. Aside from this section the limit of disturbance is at the drip line. Steel plate installation is recommended in the gap under the drip line between the tree protection zone of Tree #6 and the proposed structure to reduce foot compaction in this critical area. No equipment traffic is permitted over the steel plates (*See tree protection plan for locations of plates.*)

**Tree #7 - *Pseudotsuga menziesii* / Douglas Fir - 31" DBH (exceptional)** - This tree is at a higher elevation (approximately 5') than the residence. Some encroachment into the western drip line of this tree is required for access to the new residence. The encroachment is outside the interior crucial root zone and represents less than 15% disturbance of the total area between the interior root zone and drip line. Aside from this section the limit of disturbance is at the drip line. Steel plate installation is recommended in the gap under the drip line between the tree protection zone of Tree #7 and the proposed structure to reduce foot compaction in this critical area. No equipment traffic is permitted over the steel plates (*See tree protection plan for locations of plates.*)

**Tree #10 - *Pseudotsuga menziesii* / Douglas Fir - 31" DBH (exceptional)** - Some encroachment into the north west drip line of this tree is required for access to the new residence. The encroachment is outside the interior crucial root zone and represents less than 10% disturbance of the total area between the interior root zone and drip line. Aside from this section the limit of disturbance is at the drip line. Steel plate installation is recommended in the notched area under the drip line between the tree protection zone of Tree #10 and the new garage to reduce foot compaction in this critical area. No equipment traffic is permitted over the steel plates (*See tree protection plan for locations of plates.*)

3-4" of bark mulch is to be installed inside the tree protection zones of all retained trees.

Tree protection fencing with approved tree signage is to be installed prior to the commencement of any construction activities and to remain until project completion.

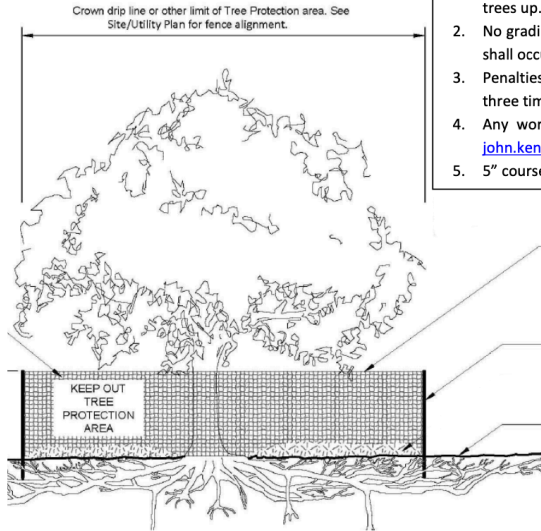
# TREE PROTECTION AREA (TPZ)

## KEEP OUT!

### DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation



#### Notes

1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, [john.kenney@mercergov.org](mailto:john.kenney@mercergov.org).
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.

Tree protection fence: 4-6" **chain link** fence, solidly anchored into the ground, or if authorized High-density polyethylene fencing with 3.5" x 1.5" openings; color orange. Steel posts installed at 8' o.c.

2" x 6" steel posts or approved equal

Maintain existing grade with the tree protection fence unless otherwise indication on the plans

Any Work in the protected area must be with the permission of the City Arborist [john.kenney@mercergov.org](mailto:john.kenney@mercergov.org)

## TREE REPLACEMENT

As per the attached Mercer Island Tree Worksheet this project requires the planting of four (4) replacement trees. I recommend two (2) 1.5" Vine Maples and two (2) 6/7' Shore Pines be planted and suggested locations are indicated on the attached tree map.

## WATERING PLAN FOR REPLACEMENT TREES

1. Above ground soaker hoses to be installed around each replacement tree. Smaller diameter trees to have hose looped around them once and larger diameter trees to have hose looped around them twice. If using hoses with emitters then multiple emitters are required for larger trees.
2. Watering times will depend on soaker hose system but deeper, less frequent waterings is ideal (possibly a couple of hours once or twice per week.) Check soil periodically to determine how deeply the water is soaking in. Trees that are planted near other large, established trees will likely need more water.

3. Watering to be applied for at least two full seasons (April - October or longer if little rainfall.)
4. 2-3" mulch to be applied over soaker hoses to aid water retention. Care should be taken to keep soaker hose and mulch away from the trunks.

## **LIMITATIONS**

This report was based on the conditions of the trees and site at the time the report was written. Weather and site changes can alter the conditions at any time. Trees inherently pose a certain degree of hazard and risk from breakage, failure or other causes and conditions. Recommendations that are made by Laughing Trees Landscapes are intended to minimize or reduce hazardous conditions that may be associated with trees. However, there is and there can be no guarantee or certainty that efforts to correct unsafe conditions will prevent breakage or failure of the tree. Any recommendations made should reduce the risk of tree failure but they cannot eliminate such risk, especially in the event of a storm or any act of God. There can be no guarantee or certainty that all hazardous conditions will be detected.

## Traci Granbois Tree Inventory - 8440 SE 82nd St Mercer Island, WA 98040

Tree #	Botanical Name	Common Name	DBH	Dripline	Condition	Notes	Action
1	Thuja plicata	Western Red Cedar	21"	10°N/10°E/ 15°S/15°W	GOOD	70' tall, co-dominant stems at 7', growing in cluster with Trees 2-4	RETAIN
2	Thuja plicata	Western Red Cedar	12"	10°N/10°E/ 10°S/10°W	GOOD	50' tall, growing in cluster with Trees 1, 3, 4	RETAIN
3	Pseudotsuga menziesii	Douglas Fir	22"	10°N/12°E/ 12°S/10°W	GOOD	100' tall, lower limb dieback, small branch failures	RETAIN
4	Pseudotsuga menziesii	Douglas Fir	26"	10°N/15°E/ 20°S/20°W	GOOD	100' tall, branched up to 50'	RETAIN
5	Pseudotsuga menziesii	Douglas Fir	40" exceptional	20°N/20°E/ 20°S/20°W	FAIR	100' tall, lower limb dieback, basal swelling indicating possible root decay, holes in bark on trunk from rodents/birds, large buttress roots above ground, roots coming up into lawn on south	RETAIN
6	Pseudotsuga menziesii	Douglas Fir	33" exceptional	20°N/15°E/ 20°S/10°W	GOOD	100' tall, small limb breakage	RETAIN
7	Pseudotsuga menziesii	Douglas Fir	31" exceptional	10°N/10°E/ 10°S/10°W	GOOD	100' tall, small limb failures, slight basal swelling	RETAIN
9	Cornus nuttallii	Pacific Dogwood	15"	10°N/15°E/ 15°S/20°W	POOR	50' tall, low vigor, sparse crown, co-dominant stems at 12', limb dieback	REMOVE
10	Pseudotsuga menziesii	Douglas Fir	31" exceptional	20°N/20°S/ 20°W	GOOD	80' tall, on property line, limb dieback in lower branches, canopy weighted to west,	RETAIN
12	Pinus spcies	Pine	12"	10°N/10°E/ 10°S/10°W	POOR	40' tall, bark splitting/peeling on branches, significant dieback, co-dominant stems at 20'	REMOVE
14	Thuja plicata	Western Red Cedar	20"	10°N/10°E/ 10°S/10°W	GOOD	50' tall, good vigor	RETAIN
15	Thuja plicata	Western Red Cedar	25"***	10°N/10°E/ 10°S/10°W	GOOD	50' tall, multi-stem	RETAIN

Inventory updated on 4/6/2024 by Laughing Trees Landscapes - Kim Ettari (ISA Certified Arborist PNI301A/TRAQ)

\*DBH = diameter at breast height / 4.5' from base

\*\*DBH for multi-stem = square root of sum of squared stem diameters

\*Dripline = measured in radius

# CITY OF MERCER ISLAND

## COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | [www.mercergov.org](http://www.mercergov.org)



## MERCER ISLAND TREE INVENTORY & REPLACEMENT SUBMITTAL INFORMATION

### PROJECT INFORMATION

Property Owner

Name: **Traci Granbois**

Site Address or

Parcel Number: **8440 SE 82nd St Mercer Island, WA 98040**

Project Contact

Name: **Traci Granbois**

Contact Email

Address: **traci.granbois@gmail.com>**

Contact Phone

Number: **206-920-6775**

### EXCEPTIONAL TREES

*Exceptional Trees- means a tree or group of trees that because of its unique historical, ecological or aesthetic value constitutes an important community resource. A tree that is rare or exceptional by virtue of its size, species, condition, cultural/historical importance, age, and/or contribution as part of a tree grove. Trees with a diameter of more than 36 inches, or with a diameter that is equal to or greater than the diameter listed in the Exceptional Tree Table shown in MICC 19.16 under Tree, Exceptional.*

List the total number of trees for each category and the tree identification numbers from the arborist report.

Number of trees 36" or greater

**1**

List tree numbers:

**5**

Number of trees 24" or greater (including 36" or greater)

**7**

List tree numbers:

**4, 5, 6, 7, 10, 14,15**

Number of trees from Exceptional Tree Table (MICC 19.16)

**4**

List tree numbers: **5, 6, 7, 10**

### LARGE REGULATED TREES

Large Regulated Trees- means any tree with a diameter of 10 inches or more, and any tree that meets the definition of an Exceptional Tree.

Number of Large Regulated Trees on site 12 (A)  
 List tree numbers: 1, 2, 3, 4, 5, 6, 7, 9, 10, 12, 14, 15

Number of Large Regulated Trees on site proposed for removal 2 (B)  
 List tree numbers: 9,12

Percentage of trees to be retained ((A-B)/Ax100) note: must be at least 30% 80 %

**RIGHT OF WAY TREES**

Right of Way Trees- means a tree that is located in the street right of way adjacent to the project property.

Number of Large Regulated Trees in right of way \_\_\_\_\_  
 List tree numbers: \_\_\_\_\_

Number of Large Regulated Trees in right of way proposed for removal \_\_\_\_\_  
 List tree numbers: \_\_\_\_\_

Reason for removal: \_\_\_\_\_

**TREE REPLACEMENT**

Tree replacement- removed trees must be replaced based on the ratio in the table below. Replacement trees shall be conifers at least six feet tall and or deciduous at least one and one-half inches in diameter at base.

Diameter of Removed Tree (measured 4.5' above ground)	Tree replacement Ratio	Number of Trees Proposed for Removal	Number of Tree Required for Replacement Based on Size/Type
Less than 10"*	1		
10" up to 24"	2	<b>2</b>	<b>4</b>
Greater than 24" up to 36"	3		
Greater than 36" and any Exceptional Tree	6		-
<b>TOTAL TREE REPLACEMENTS</b>			<b>4</b>

*\*no replacement tree is needed if the tree fits all of the following;*

*Less than 10 inches in diameter, not an exceptional tree, and not a replacement tree from another tree permit. \**

**TREE RETENTION & PROTECTION PLAN**  
 Kim Ebers - ISA Approved P/N 3014/TRAQ  
 Laughing Trees Landscapes

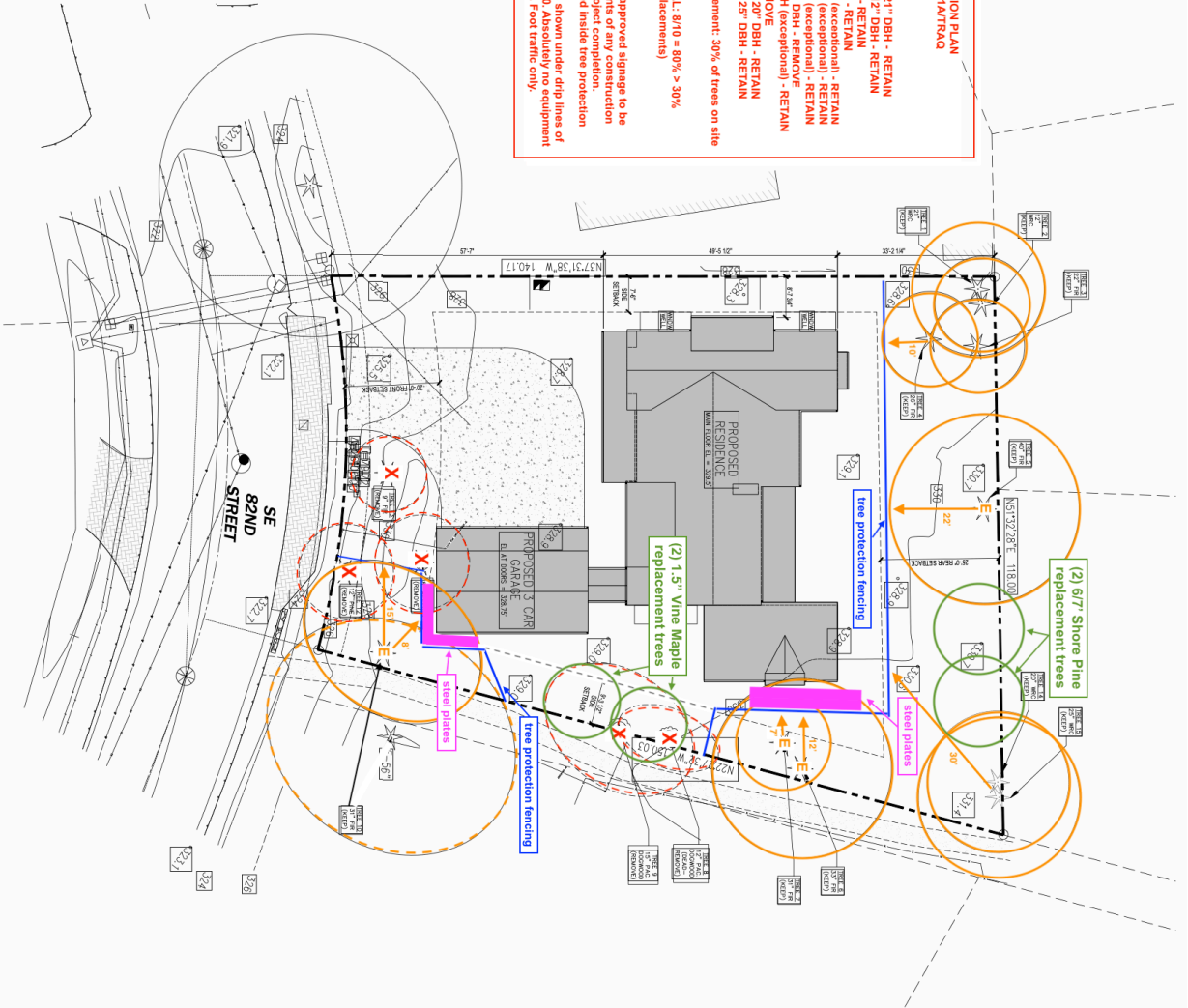
**TREE LEGEND:**

- Tree #1 - Western Red Cedar - 21" DBH - RETAIN
- Tree #2 - Western Red Cedar - 12" DBH - RETAIN
- Tree #3 - Douglas Fir - 26" DBH - RETAIN
- Tree #4 - Douglas Fir - 26" DBH - RETAIN
- Tree #5 - Douglas Fir - 40" DBH (exceptional) - RETAIN
- Tree #6 - Douglas Fir - 33" DBH (exceptional) - RETAIN
- Tree #7 - Douglas Fir - 31" DBH (exceptional) - RETAIN
- Tree #8 - Pacific Dogwood - 15" DBH - REMOVE
- Tree #9 - Douglas Fir - 31" DBH (exceptional) - RETAIN
- Tree #10 - Douglas Fir - 31" DBH (exceptional) - RETAIN
- Tree #11 - Douglas Fir - 20" DBH - RETAIN
- Tree #12 - Douglas Fir - 20" DBH - RETAIN
- Tree #13 - Douglas Fir - 20" DBH - RETAIN
- Tree #14 - Western Red Cedar - 25" DBH - RETAIN
- Tree #15 - Western Red Cedar - 25" DBH - RETAIN

Mercer Island Retention Requirement: 30% of trees on site  
 Trees to be retained: 2  
 Trees to be removed: 2  
 Tree Removal: 8/10 = 80% > 30%  
 (meets requirement with no replacements)

**ARBORIST NOTES:**

1. Tree protection fencing with approved signage to be installed prior to commencement of any construction activities and to remain until project completion.
2. Steel plates to be installed inside tree protection areas.
3. Steel plates to be installed as shown under drip lines of exceptional Trees #6, #7 and #10. Absolutely no equipment traffic permitted on steel plates. Foot traffic only.



1 SITE PLAN  
 SCALE: 1" = 10'

