



ARBOR INFO LLC

2406 N Castle Way Brier, WA, 98036



aerial.docx

**Tree Assessment
For
Sturman Architects
At
Mounger Residence
4006 E. Mercer Way
Mercer Island, Washington**



Date

8/28/2020 (rev 12/29/2020)

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- II. Tree Assessment Summary Table
- III. Root Zone Encroachment
- IV. Mercer Island Check list
- V. Mercer Island Tree Inventory Form

1. Introduction

I was contacted by Brad Sturman, Sturman Architects to describe and assess the condition, viability and protection of trees on and adjacent to the Mounger property at 4006 E. Mercer Way, Mercer Island, WA. This report summarizes my observations and conclusions.

2. Competence

- Certified Arborist (International Society of Arboriculture, ISA #23136, PN 0426 A)
- Registered Consulting Arborist (American Society of Consulting Arborists #499).
- Tree Risk Assessment Qualified (ISA).
- Certified forester (Society of American Foresters #951)
- Bachelor of Science degree in Forest Management from the University of Washington
- Licensed Washington State Real Estate Managing Broker #11534

3. Client

The client to whom this report is addressed is:

Sturman Architects
9 -103rd Ave NE, Suite 203
Bellevue, WA 98004

4. Assignment, Purpose and Use of Report

The assignment is to describe and assess the condition and viability of on-site trees and off-site trees potentially affected by development and to provide protection recommendations in conformance with the City of Mercer Island “Tree Submittal Check List”, Attached.

5. Limits of Assignment

The assignment is limited to the information gathered during the site visit August 10, 2020 (date of assessment) and references noted in this report. No excavation or sampling was undertaken to determine unseen defects. No inspection of trees not reported herein was made.

A site plan indicating a proposed development plan was provided and is included in the Addenda with tree locations noted.

6. Site Description

Lot 4, 5202 Forest Ave SE, Mercer Island, WA, King County Parcel No. 1410300063.
The subject property consists of a single-family residence on 16,396 square feet.

A single-family residence is planned for the site.

7. Methodology

Each tree was measured for diameter at 4.5-feet above ground, (or equivalent) total height, percentage of live green crown, and dripline (extent of live limbs).

Each tree was assessed as to its condition, or vigor and viability:

Vigor or condition:

Health: Biotic

- Good: No evidence of fungal infection or decay; expected to survive without disturbance to its normal life expectancy. (40-100 years in this case)
- Fair: Tree has initial fungal decay or evidence of insect habitat and is less likely to survive to normal life expectancy. Some with minor defects, are rated viable,
- Poor: Tree has significant fungal decay and defects that render it not likely to survive three years.

Structural: Abiotic

- Good: no significant abiotic or mechanical defects
- Fair: less than preferred form, defects such as breaks in the bole, poor limb attachments, included bark, poor root contact, etc.
- Poor: Broken or cracked bole or limbs; root plate compromised

Viability:

- A measure of whether the tree is likely to live to its “normal” life span or has defects limiting that potential or poses a risk to the residence or proposed development is a simple ‘yes/no’ rating. Trees not likely to survive 10 years are rated as “marginal”.

8. Tree Description

Refer to the attached Tree Assessment Summary Form. A total of fifty-six on-site trees as indicated on the Site Plan provided were found. They are classified by the City Municipal Code (MICC) 19.10 –“Trees” as indicated following in Table 1.

Table 1- Tree Classifications-On site

Species	Exceptional	Large	Small	Total
W. red cedar	4	5	4	13
Douglas-fir	5	10	2	17
Port Orford cedar	1	3	1	5
Bigleaf maple		4	1	5
Sitka spruce	3			3
Ash		2		2
Holly			1	3
Cherry		1		1
Sequoia		1		1
Alder		1		1
White pine			1	1
Total	16	28	12	56

On-site trees 451,453,463,465,470,493 are non-viable due to health or structural defects. As well, offsite trees 442,443, 449, 452 are non-viable. However, these are small trees with no high value targets and are not recommended for removal at this time.

9. Root Zone Impacts

Only tree No. 1 and No. 2 will be removed. Tree No. 3 is measured at 11.5 feet east of the excavation zone. This encroachment into the root zone will affect less than about 15-percent of the that zone and is within acceptable standards. No other trees are planned for removal or within dripline distance to the excavation.

The limits of disturbance are determined on a case by case basis for each tree in consideration of the tree size, estimate of the extent of the root zone and consideration of the planned root zone disturbance. Distances from the face of each tree to the excavation limit were provided by the client. There appears to be little or not impact to the retained trees.

The root zone of Tree No. 500 is within the proposed access excavation area. Excavation, down-hill from the tree will remove 93 square feet of the total 462 square feet or about 20-percent. Considering the down-hill location and the subsequent rebuilding of the retention wall, in my opinion this tree will not be significantly affected.

Table 2 – Root Zone Impacts

No.	Species	Diameter	Facing Dripline	Measured Distance to Excavation Limit	Excavation Type	Root Zone Impact
500	Douglas-fir	31”	18’	7.8’	Site leveling	±20%

10. Discussion

Mercer Island Code does not specify root zone protection areas but rather refers to the general guidelines found in Managing Trees During Construction, Fite and Smiley, 2016. In this publication the suggested root zone protection (TPZ) is 31-feet, however the document also states that “Reducing the size of the TPZ on one or more sides can be reduced if necessary if planned infrastructure cannot be located outside the TPZ”. Since the tree protection zone opposite the incursion will not be affected the planned excavation is acceptable in my opinion. The encroachment projected for Tree No. 500 is within the general tolerances for trees and it can be expected that it will remain viable. The remainder of the retention trees will not be affected by root zone/dripline encroachment.

11. Replacement Trees

Trees No. 501 and 502 are planned for removal. Tree No. 501 requires 2 replacement trees and tree No. 502 requires 1 replacement tree. (MCC 19.10.070)

Table 3 – Replacement Trees

Replacement Trees 501	Western red cedar	<i>Thuja plicata</i>
Replacement Tree 502	Pacific Dogwood	<i>Cornus nuttalli</i>

Per MCC 19.10.070 replacement trees must be at least 6-feet tall for the Western red cedar and 1.5-inches in diameter at the base for the Dogwood. These are to be maintained for a period of 5 years after establishment.

12. Summary

Forty-nine of the fifty-six on-site trees are healthy and structurally sound indicating full-term viability. Non-viable trees are not considered high risk hazards due to lack of high value targets. Of the forty-nine viable trees only two will be removed. One tree, No. 500 will have limited root zone excavation that will not significantly affect viability. Two trees (501 and 502) will be removed and three replacement trees will be planted.

The City of Mercer Island Tree Inventory and Replacement Form as well as the Tree Submittal Checklist are attached.

13. Tree Protections

Tree Protections

Retained Tree protections should include:

- Certified Arborist on site during excavation activities within the defined root zone of all trees.
- All trees to be retained are to be fenced at the edge of the recommended tree protection zone with 6-foot high cyclone type fencing.
- Utility lines should be bored. Bore access pits to be developed with 18” buckets or hand dug.
- Retaining wall footings to be minimally deep, no more than 12-inches.
- Tree roots over 1-1/2 inches in diameter encountered in all excavations are to be cut cleanly to the trench wall with clean sharp tools. Roots to be covered with soil or wetted burlap if they must remain exposed.
- Supplemental irrigation is to be provided during summer months (generally June-September) for all trees in the construction zones.
- Recommended protected tree root zones are to be covered with 4-inches of hog fuel at all times. Where machinery access is needed, the root zones should be covered with 12-inches of hog fuel, plywood or steel sheets.
- Stumps for trees to be removed are to be ground out (not excavated).

14. Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Ownership of the subject trees as provided by the client is assumed to be correct. No responsibility is assumed for legal matters. No opinion as to the property line location is made.
2. Care has been taken to obtain all information from reliable sources. The consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including additional fees.
4. This report and any values expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

5. The exhibits in this report are included to assist the reader and are not necessarily to scale.
6. Unless expressed otherwise, information in this report covers only items that were examined, and reflects the condition of those items at the time of inspection. The subject site was cleared of all vegetation at the time of inspection therefore the extent of removals is inferred from adjacent undisturbed areas. The inspection is limited to visual examination of accessible portions of the trees and plants.
7. Loss or alteration of any part of the report invalidates the entire report. Ownership of any documents related to this report passes to the client only.
8. The liability of ArborInfo LLC its contractors and employees is limited to the client only and only up to the amount of the fee actually received for the assignment.
9. *There is no warranty suggested for any of the trees subject to this report. Weather, latent tree conditions, and future man-caused activities could cause physiologic changes and deteriorating tree condition. Over time, deteriorating tree conditions may appear and there may be conditions, which are not now visible which, could cause tree failure. This report or the verbal comments made at the site in no way warrant the structural stability or long-term condition of any tree, but represent my opinion based on the observations made.*
10. *NEARLY ALL TREES IN ANY CONDITION STANDING WITHIN REACH OF IMPROVEMENTS OR HUMAN USE AREAS REPRESENT HAZARDS THAT COULD LEAD TO DAMAGE OR INJURY. THE ASSESSMENT IS VALID FOR TWO YEARS FROM THE DATE OF INSPECTION, ONLY.*
11. PERTINENT JURISDICTION RULES AND REGULATIONS SHOULD BE CONSULTED PRIOR TO THE REMOVAL OF ANY TREE.

Respectfully Submitted,



Thomas M. Hanson, CF, RCA

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Addenda

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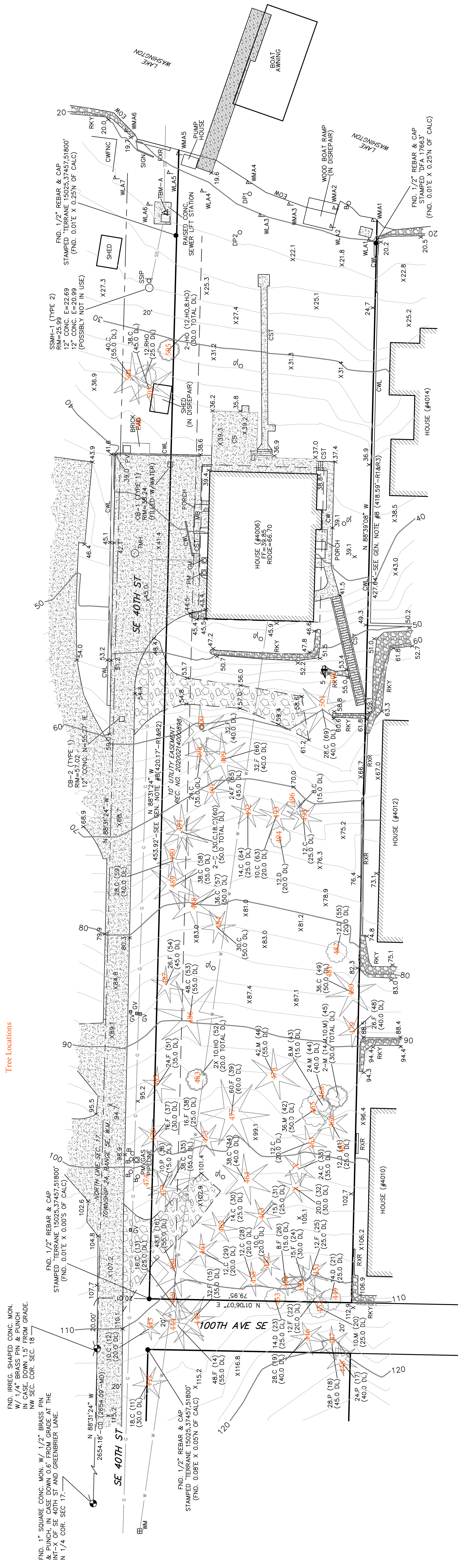
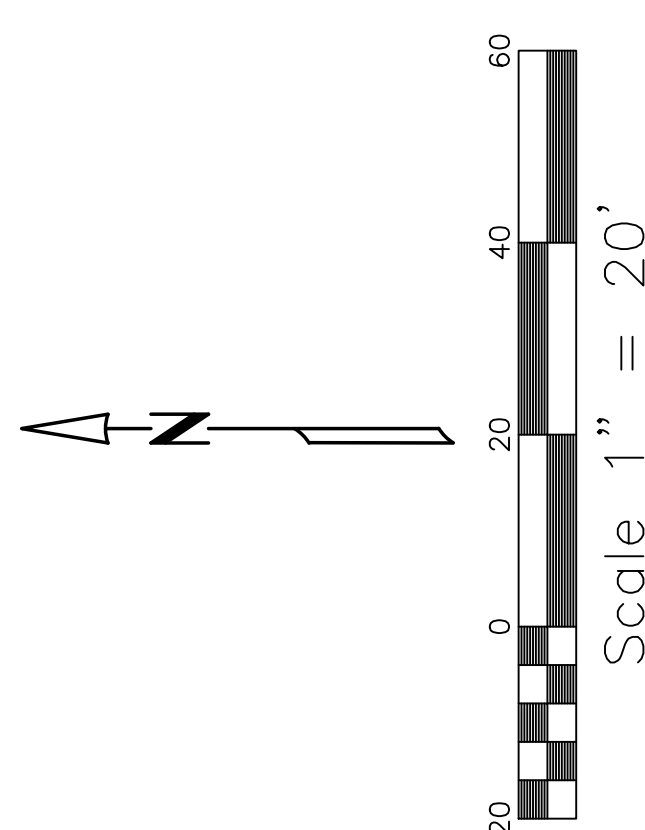
Tree Assessment																	
Site: Moulger,			Date:										Project:				
Tree #	Common	Species	Scientific	DBH (inches)	Height (feet)	Crown Ratio (%)	Dripline					LOD/Inner Root Zone	Vigor	Viable	Class	Defects/Comments	
							N	S	E	W	Health						Structure
On Site																	
50% ave DL																	
450	Douglas-fir	<i>Pseudotsuga menziesii</i>		11.5	80	30	6	10	10	10	10	5	Good	Good	Yes	Large	
451	Douglas-fir	<i>Pseudotsuga menziesii</i>		8.9	70	10	4	4	4	4	2	2	Poor	Good	No	Small	
453	Oregon ash	<i>Fraxinus latifolia</i>		10.4	70	50	12	12	12	14	14	6	Poor	Poor	No	Large	Bole decay
454	Douglas-fir	<i>Pseudotsuga menziesii</i>		12.8	100	20	12	14	8	16	6	6	Fair	Good	Yes	Large	
455	Douglas-fir	<i>Pseudotsuga menziesii</i>		11.4	90	30	4	19	8	12	5	5	Good	Fair	Yes	Large	Crook at 70'
456	Douglas-fir	<i>Pseudotsuga menziesii</i>		6.0	40	30	8	0	12	4	3	3	Fair	Good	Yes	Small	
457	Western red cedar	<i>Thuja plicata</i>		7.5	30	70	8	12	14	8	5	5	Good	Good	Yes	Small	
458	Port Orford cedar	<i>Chamaecyparis lawsoniana</i>		9.1	60	70	0	8	6	0	2	2	Fair	Good	Yes	Small	
460	Douglas-fir	<i>Pseudotsuga menziesii</i>		44.6	150	80	35	35	35	35	18	18	Good	Good	Yes	Exceptional	
461	Western red cedar	<i>Thuja plicata</i>		9.4	30	80	9	8	8	7	4	4	Good	Good	Yes	Small	
462	Port Orford cedar	<i>Chamaecyparis lawsoniana</i>		14.4	70	80	12	12	14	12	6	6	Good	Good	Yes	Large	
463	Port Orford cedar	<i>Chamaecyparis lawsoniana</i>		19.3	75	50	4	8	8	10	4	4	Fair	Fair	No	Large	Fork at 40'
464	Western red cedar	<i>Thuja plicata</i>		31.1	80	80	12	14	10	16	7	7	Good	Good	Yes	Exceptional	Heart rot
465	Bitter cherry	<i>Prunus emarginata</i>		18.5	35	30	10	10	0	24	6	6	Good	Poor	No	Large	split trunk, lean
466	Port Orford cedar	<i>Chamaecyparis lawsoniana</i>		19.9	80	30	0	12	10	0	3	3	Good	Good	Yes	Large	
467	Western red cedar	<i>Thuja plicata</i>		10.2	45	10	0	4	4	4	2	2	Poor	Fair	No	Large	Fork at 10'
468	Red maple	<i>Acer rubra</i>		13.0	40	30	6	12	16	8	5	5	Good	Fair	Yes	Large	3 codominants
469	Bigleaf maple*	<i>Acer macrophyllum</i>		25.9	90	60	24	25	18	26	12	12	Good	Good	Yes	Large	
470	Bigleaf maple	<i>Acer macrophyllum</i>		6.9	10	10	0	10	0	0	1	1	Poor	Poor	No	Small	
471	Bigleaf maple*	<i>Acer macrophyllum</i>		18.4	95	60	20	36	36	10	13	13	Good	Fair	Yes	Large	
472	Bigleaf maple	<i>Acer macrophyllum</i>		13.4	80	40	0	18	28	0	6	6	Good	Fair	Yes	Large	
473	Western red cedar	<i>Thuja plicata</i>		37.1	115	80	22	20	20	22	11	11	Good	Good	Yes	Exceptional	
474	White pine	<i>Pinus monticola</i>		7.1	40	40	16	0	4	6	3	3	Good	Poor	Yes	Small	Crook at 20'. Leans

Tree Assessment

Site: Moulter,		Date:											Project:				
Tree #	Common	Species	Scientific	DBH (inches)	Height (feet)	Crown Ratio (%)	Dripline					LOD/Inner Root Zone	Vigor	Class	Defects/Comments		
							N	S	E	W	Structure					Health	Viability
On Site																	
50% ave DL																	
475	Douglas-fir	<i>Pseudotsuga menziesii</i>		16.7	110	40	14	16	16	16	16	8	Good	Good	Yes	Large	
476	Sitka spruce	<i>Picea sitchensis</i>		16.2	70	60	14	14	14	14	14	7	Good	Good	Yes	Exceptional	
477	Douglas-fir	<i>Pseudotsuga menziesii</i>		47.5	150	80	30	30	30	30	30	15	Good	Good	Yes	Exceptional	
478	Douglas-fir	<i>Pseudotsuga menziesii</i>		37.2	150	80	20	24	24	26	26	12	Good	Good	Yes	Exceptional	
479	Douglas-fir	<i>Pseudotsuga menziesii</i>		24.9	150	40	24	26	24	22	22	12	Good	Good	Yes	Large	
480	Western red cedar	<i>Thuja plicata</i>		41.0	120	70	28	28	28	28	28	14	Good	Good	Yes	Exceptional	
481	Douglas-fir	<i>Pseudotsuga menziesii</i>		11.2	80	40	16	16	16	16	16	8	Good	Good	Yes	Large	
482	Bigleaf maple	<i>Acer macrophyllum</i>		13.1	50	20	20	20	30	4	4	9	Good	Good	Yes	Large	
483	Holly*	<i>Ilex aquifolium</i>		10.8	35	80	6	14	12	12	12	6	Good	Good	Yes	Large	
484	Sequoia	<i>Sequoia sempervirens</i>		28.6	120	80	20	20	20	25	25	11	Good	Good	Yes	Large	
485	Sitka spruce	<i>Picea sitchensis</i>		25	134	80	12	10	10	12	12	6	Good	Good	Yes	Exceptional	
486	Port Orford cedar	<i>Chamaecyparis lawsoniana</i>		46.9	140	90	24	24	24	24	24	12	Good	Good	Yes	Exceptional	
487	Sitka spruce	<i>Picea sitchensis</i>		26.7	120	80	18	12	18	12	12	8	Good	Fair	Yes	Exceptional	2 codominants at 6'
488	Western red cedar	<i>Thuja plicata</i>		28.4	125	70	18	12	16	16	16	8	Good	Good	Yes	Large	
489	Douglas-fir	<i>Pseudotsuga menziesii</i>		32.5	132	70	22	20	14	14	14	9	Good	Good	Yes	Exceptional	Butt swell, heart rot
490	Western red cedar	<i>Thuja plicata</i>		23.9	90	50	18	16	16	8	8	7	Good	Good	Yes	Large	
491	Western red cedar	<i>Thuja plicata</i>		33.4	100	70	18	18	18	18	18	9	Good	Good	Yes	Exceptional	2 codominants
492	Western red cedar	<i>Thuja plicata</i>		18.6	63	80	7	18	7	7	5	5	Good	Good	Yes	Large	
493	Western red cedar	<i>Thuja plicata</i>		8.8	40	40	7	10	8	4	4	4	Poor	Poor	No	Small	Bole decay
494	Oregon ash	<i>Fraxinus latifolia</i>		11.5	50	40	12	12	12	12	12	6	Good	Good	Yes	Large	
495	Western red cedar	<i>Thuja plicata</i>		10.2	60	50	10	10	10	10	10	5	Good	Good	Yes	Large	
496	Port Orford cedar	<i>Chamaecyparis lawsoniana</i>		6.5	30	30	3	6	12	0	3	3	Good	Good	Yes	Small	
497	Douglas-fir	<i>Pseudotsuga menziesii</i>		21.5	90	60	18	16	12	18	18	8	Good	Good	Yes	Large	Pitchy
498	Douglas-fir	<i>Pseudotsuga menziesii</i>		20.8	125	50	10	18	14	10	7	7	Good	Fair	Yes	Large	Sweep
499	Western red cedar	<i>Thuja plicata</i>		26.5	80	60	14	14	12	12	7	7	Good	Good	Yes	Large	
500	Douglas-fir	<i>Pseudotsuga menziesii</i>		31.0	120	60	12	14	18	6	6	6	Good	Fair	Yes	Exceptional	Pistol butt, crooked

Tree Assessment																
Site: Moulger,					Date:					Project:						
Tree #	Common	Species	Scientific	DBH (inches)	Height (feet)	Crown Ratio (%)	Dripline			LOD/Inner Root Zone	Vigor		Class	Defects/Comments		
							N	S	E		W	Health			Structure	Yes/No
50% ave DL																
On Site																
501	Western red cedar	<i>Thuja plicata</i>		21.3	60	90	13	13	18	14	7	Good	Good	Yes	Large	2 codominants

Off Site																
442	Western red cedar	<i>Thuja plicata</i>		14.2	50	10	8	8	8	8	4	Poor	Good	No	Large	
443	Western red cedar	<i>Thuja plicata</i>		7.8	50	10	4	4	4	4	2	Poor	Good	No	Small	
444	Douglas-fir	<i>Pseudotsuga menziesii</i>		42.8	140	60	32	8	20	20	10	Good	Good	Yes	Exceptional	Pitchy
445	Douglas-fir	<i>Pseudotsuga menziesii</i>		29.4	120	60	8	36	30	20	12	Good	Good	Yes	Large	
446	Western red cedar	<i>Thuja plicata</i>		21.9	100	80	8	6	8	11	4	Good	Good	Yes	Large	
447	White pine	<i>Pinus monitcola</i>		27.5	140	40	9	10	18	8	6	Good	Good	Yes	Large	
448	White pine	<i>Pinus monitcola</i>		21.5	140	40	14	6	7	10	5	Good	Good	Yes	Large	
449	Bigleaf maple	<i>Acer macrophyllum</i>		7.1	25	10	0	0	0	6	1	Poor	Poor	No	Small	
452	Bigleaf maple	<i>Acer macrophyllum</i>		7.1	60	20	14	0	10	10	4	Fair	Good	No	Small	Bole decay
459	Western red cedar	<i>Thuja plicata</i>		13.2	55	20	16	8	12	0	5	Poor	Poor	No	Large	
502	Holly	<i>Ilex aquifolium</i>		6.0	20	60	6	6	6	6	3	Good	Good	Yes	Small	
503	Western red cedar	<i>Thuja plicata</i>		38.2	105	60	18	18	18	18	9	Fair	Poor	Yes	Exceptional	Hollow, butt rot
504	Western red cedar	<i>Thuja plicata</i>		37.4	80	60	22	22	22	12	10	Good	Fair	Yes	Exceptional	2 codominants
505	Holly*	<i>Ilex aquifolium</i>		12.3	28	80	6	12	8	8	4	Good	Good	Yes	Small	
506	Pacific yew	<i>Taxus brevifolia</i>		8.8	12	90	8	18	8	12	6	Good	Good	Yes	Exceptional	



Tree Locations

MERIDIAN

ASSUMED - BASIS OF BEARING N. LINE OF SEC. 17, T.24N., R.5E., W.M. AS SHOWN HEREON

LEGEND:

- FOUND MONUMENT AS DESCRIBED
- FOUND EXISTING PROP. COR. AS SHOWN
- ▲ TEMPORARY BENCHMARK AS SHOWN ON MAP
- BOLLARD
- CEDAR TREE
- CATCH BASIN
- CALCULATED DIMENSION
- CONCRETE STAIRS
- CONCRETE WALK
- CHICKEN WIRE FENCE
- DECIDUOUS TREE
- DRAIN LINE
- EDGE OF WATER
- FIRE TREE
- GAS VALVE
- GAS METER
- INVERT ELEVATION
- MAPLE TREE
- METAL BORED DIMENSION
- PINE TREE
- POWER METER
- RHO
- RHODODENDRON TREE
- RAILROAD TIE WALL
- SLOTTED LOG
- SOLID LOG
- TELEPHONE MANHOLE
- WATER LOCATION FLAG
- WETLAND FLAG

LEGAL DESCRIPTION

PER STATUTORY WARRANTY DEED REC. NO. 20200423001396 LOT 1, LAKESIDE ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 12 OF PLATS, PAGE 52, RECORDS OF KING COUNTY, WASHINGTON, TOGETHER WITH SECOND CLASS SHORELANDS ADJACENT OR ABUTTING THEREON, SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

CONTOUR INTERVAL = 2'

EQUIPMENT & PROCEDURES

FIELD SURVEY CONDUCTED USING A COMBINATION OF GPS, USING A REFERENCE NETWORK PROVIDED BY THE CITY OF MERCER ISLAND. ALL MEASUREMENTS MADE IN ACCORDANCE WITH SURVEY PROCEDURES MEET OR EXCEED STATE STANDARDS AS SPECIFIED BY W.A.C. 332-130 WITH REGARD TO LINEAR AND ANGULAR CLOSURES. ALL MEASURING INSTRUMENTS FOR THIS SURVEY HAVE BEEN MAINTAINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS WITH A NATIONAL GEODETIC SURVEY CALIBRATED BASELINE WITHIN THE LAST 12 MONTHS.

REFERENCES

1. ALTA/NSPS LAND TITLE SURVEY BY TERRANE, PROVIDED BY CLIENT (R1)
2. RECORD OF SURVEY, VOL. 54 OF SURVEYS, PAGE 202; REC. NO. 198704019003 (R2)
3. RECORD OF SURVEY, VOL. 164 OF SURVEYS, PAGE 03; REC. NO. 20031029900002 (R3)

GENERAL NOTES

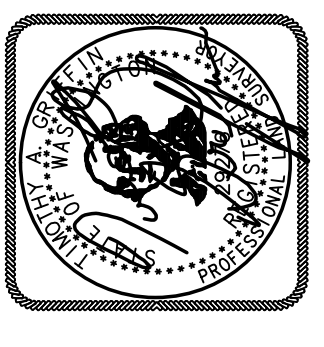
1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY CONDUCTED BY TYPICAL SURVEYORS, INC. ONLY BEING CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. UNDERGROUND UTILITIES WERE LOCATED BASED ON THE SURFACE EVIDENCE OF UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY THE EXACT LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. TREE SIZES WERE LOCATED & SPECIES DETERMINED TO THE BEST OF OUR ABILITY. HOWEVER, TREE SURVEYORS DOES NOT WARRANT THE ACCURACY OF SIZE & SPECIES SHOWN HEREON. ANY TREES CONSIDERED TO BE CRITICAL SHOULD BE IDENTIFIED BY A MEASUREMENT, IN FEET, IN NUMBER OF TREE TAG, IF AVAILABLE.
4. NO PROPERTY CORNERS WERE SET IN CONJUNCTION WITH THIS SURVEY.
5. MAP SYMBOLS ARE NOT TO SCALE, AND ARE FOR GRAPHIC PURPOSES ONLY.
6. THIS SURVEY WAS CREATED USING A COMBINATION OF INTERNAL RECORDS, KING COUNTY RECORDS OF SURVEY NO'S: 20031029900002 & 198704019003 AND THE PLAT OF LAKEHOLM ADD.
7. THE INTENT OF THIS SURVEY IS TO AID WITH DESIGN/PLANNING FOR THIS SITE.
8. THE WORK AND SURVEY PROPERTY LINES WERE EXTENDED FROM ANS MATCH R1, R2, R3 IN BEARING RELATIONSHIP BUT HAVE BEEN EXTENDED TO THE EDGE OF WATER LOCATIONS DONE BY TYPICAL SURVEYORS ON 5-20-2020.

BENCHMARK & DATUM INFO

VERTICAL DATUM: NAVD83
 ORIGINAL BM: CITY OF MERCER ISLAND, BM-1074, FIN. 1" SQUARE CONC. W/IN. W/ 1/2" BRASS SPIN & PUNCH, IN CASE DOWN 0.6' FROM GRADE AT THE INT.-X OF SE 40TH ST AND GREENBRIER LANE
 ELEV. OF 305.675 ISLAND BM-PS-12; FND. 7" BRASS DISC SURFACE MON. STAMPED 'CITY OF MERCER ISLAND GPS CONTROL SET ON TOP OF A RAISED SEWER LIFT STATION VAULT NEAR THE NE CORNER OF THE SITE AS SHOWN ON MAP.
 ELEV. = 241.8'

HATCH LEGEND

- DECK HATCH
- CONCRETE HATCH
- ROCKERY HATCH
- BUILDING HATCH
- GRAVEL HATCH
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- SANITARY SEWER LINE
- SPOT ELEVATION
- CONIFER TREE
- DECIDUOUS TREE



SITE ADDRESS: 4006 E MERCER WAY
 PARCEL NUMBER: 413190-0005
 NW1/4, NW1/4, SEC. 17, T. 24 N., R. 5 E., W.M.
 CITY OF MERCER ISLAND, WASHINGTON
 6-10-2020

TOPOGRAPHIC SURVEY
 for
MITCH MOUNGER

Tye & Associates, Inc.
 PROFESSIONAL LAND SURVEYORS
 10007 GREENWOOD AV. N. SEATTLE, WA. 98133 206-525-3660

DATE: 6-10-2020
 JOB NO.: 20057
 DRAWN BY: AA
 CHECK BY: TG
 SCALE: 1" = 20'
 SHEET: 1 OF 1

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | www.mercergov.org

Inspection Requests: Online: www.mybuildingpermit.com VM: 206.275.7730



TREE SUBMITTAL CHECKLIST

If a box is checked, please provide the information in your next submittal

SUBMITTAL ITEMS

1. The Mercer Island Tree Inventory Form

- Provide the City's Mercer Island Tree Inventory Form

2. Arborist report/tree inventory

- Provide an Arborist report, prepared by a qualified Arborist. Include the following information in the arborist report.
 - 1. Description of how the arborist meets the threshold requirements for Qualified Arborist.
 - 2. A complete description of each tree's diameter, species, critical root zone, limits of allowable disturbance, health, condition, and viability.
 - 3. A description of the method(s) used to determine the limits of allowable disturbance (i.e., critical root zone, root plate diameter, or a case-by-case basis description for individual trees).
 - 4. Any special instructions specifically outlining any work proposed within the limits of disturbance protection areas (i.e. hand-digging, air space, tunneling, root pruning, any grade changes, clearing, monitoring, and aftercare).
 - 5. For trees not viable for retention, a description of the reason(s) for removal based on poor health, high risk of failure due to structure, defects, unavoidable isolation, windfirmness, unsuitability species, etc. If there is no reasonable alternative action (pruning, cabling, etc.) possible, replacement recommendations must be given.
 - 6. Describe the impact of necessary tree removal on the remaining trees, including those in a grove or on adjacent properties.
 - 7. Describe timing and installation of tree protection measures. Such measures must include fencing and be in accordance with the tree protection standards as outlined in MICC 19.10.
 - 8. The suggested location and species of replacement trees to be used when required. The report shall include planting and maintenance specifications to ensure long term survival.
 - 9. **A Tree Inventory** containing the following:
 - a. A numbering system of all existing large trees on the property (with corresponding tags on trees). The inventory shall also include large trees on adjacent property with driplines or critical root zones extending into the property.
 - b. Tree size (diameter).
 - c. Proposed tree status (retained or proposed for removal).
 - d. Tree type or species.
 - e. Identify all Exceptional trees and differentiate between those less than 24 inches and those greater than or equal to 24 inches in diameter.
 - f. Brief general health or condition rating of each tree (i.e. poor, fair, good, etc.).

3. Site/tree retention plan

Indicate the following on all civil/utility and grading sheets. If there are no civil sheets indicate on the architectural site plan

- 1. Location of all proposed improvements (building footprint, access, utilities, buffers, required landscape areas).
- 2. Surveyed location of all large trees and Exceptional trees on the property
- 3. Show the critical root zone of Large trees on adjacent properties if driplines extend over the subject property line.
- 4. Trees labeled corresponding to the tree inventory numbering system on the Mercer Island Tree Inventory Form.
- 5. Identify Exceptional trees using different symbols for trees less than 24 inches and trees greater than or equal to 24 inches.
- 6. Location of tree protection measures.
- 7. Limits of excavation near potential saved trees (e.g. excavation limits for building foundation).
- 8. Indicate clearing limits/limits of disturbance (LOD) around all trees potentially impacted by site disturbances - grading, demolition, construction activities (including approximate LOD of off-site trees with overhanging driplines), etc.
- 9. Proposed tree status (trees to be removed or retained) noted by an 'X' for removal.

4. Replanting plan

- Provide the Replanting plan showing proposed locations of any required replacement trees.

PEER REVIEW AND CONFLICT OF INTEREST

A peer review of the tree permit application by a qualified arborist may be required to verify the adequacy of the information and analysis. **The applicant shall bear the cost of the peer review.**

The City Arborist may require the applicant retain a replacement qualified arborist or may require a peer review where the City Arborist believes a conflict of interest may exist.

For example, if an otherwise qualified arborist is employed by a tree removal company and prepares the arborist report for a development proposal, a replacement qualified arborist or peer review may be required.

ARBORIST QUALIFICATION

For tree reviews associated with a development proposal, a qualified arborist must have

- A minimum of three (3) years' experience working directly with the protection of trees during construction
- Have experience with the likelihood of tree survival after construction
- Be able to prescribe appropriate measures for the preservation of trees during land development
- ISA Tree Risk Assessment Qualification
- Your qualified arborists must have at least one (1) of the following credentials:
 - ISA Certified Arborist;
 - ISA Certified Arborist Municipal Specialist;
 - ISA Board Certified Master Arborist;
 - American Society of Consulting Arborists (ASCA) registered Consulting Arborist;
 - Society of American Foresters (SAF) Certified Forester for Forest Management Plans;

ADDITIONAL INFORMATION

Additional Information. The City Arborist or Code Official may require additional documentation, plans, or information as needed to ensure compliance with applicable City regulations.

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TREE INVENTORY & REPLACEMENT SUBMITTAL INFORMATION

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 _____

List tree numbers: _____

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

List tree numbers: _____

Number of trees from Exceptional Tree Table (MICC 19.16) _____

List tree numbers: _____

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 _____ (A)

List tree numbers: _____

Number of Large Regulated Trees on site proposed for removal _____ (B)

List tree numbers: _____

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

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		
Greater than 24" up to 36"	3		
Greater than 36" and any Exceptional Tree	6		
TOTAL TREE REPLACEMENTS			