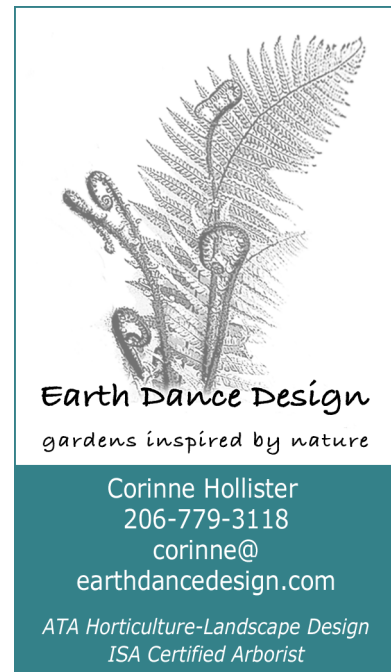


Corinne R. Hollister

ISA CERTIFIED ARBORIST — *PN-6981A*
ISA TREE RISK ASSESSMENT QUALIFIED
American Society of Consulting Arborists, Member

Consulting Arborist Services

To: JayMarc Homes, Jay Mesistrano
Reference: Tree Inventory Report
with tomography results on offsite trees
Date: September 23, 2021
Site Address: 4537 90th SE, Mercer Island 98040
Parcel: 0191100195



Dear Mr. Mesistrano,

You contacted me and subsequently contracted my services on behalf of JayMarc Homes to develop a tree inventory for the property referenced above. I visited the site on April 27, 2021, and collected data on all regulated trees. After my site visit, you sent me a topographic and boundary survey developed by Terrane, dated May 12, 2021. On September 14, 2021, I met Christopher Rippey (WE-7672AUTM) at the property to coordinate tomography testing on five (5) of the large Douglas-fir trees (*Pseudotsuga menziesii*) located on the parcel to the north. An inventory of all regulated trees, along with tree health and structure are the focus of this report. This report does not include tree retention calculations, tree replacement requirements, or tree protection guidelines.

Summary:

I visually inspected the trees and identified one exceptional tree on the parcel, a 58.5-inch Western red cedar (*Thuja plicata*). There are also two small trees on the parcel, as indicated on the survey. There is a second exceptional Western red cedar located in the right-of-way along 90th Avenue SE. In addition, there are five (5) trees located on adjacent parcels with overhanging branches. Of those five (5) trees, four (4) are exceptional due to trunk diameter or location in a tree grove, as defined by MICC 19.16.010.

The regulated trees are a mix of predominantly native evergreen species, with a few small Mountain ash (*Sorbus aucuparia*) and an Eastern dogwood (*Cornus florida*). There are several large shrubs on the parcel, which are not included in this report. All of the trees are listed in the table on page 10. Ratings for health and structure are included, as are tree categories, and notes on any visible defects or diseases.

Tomography test results on three (3) offsite Douglas-fir trees indicate minor decay.

Total exceptional trees on site	1
Total exceptional trees in ROW	1
Total off-site exceptional trees	4
Total off-site large trees	1
Total regulated trees	7

Contents

Introduction

Limitations

Methods & Observations

Tomography Testing on Offsite Trees

Attachments:

1. Assumptions & Limiting Conditions
2. Certification of Performance
3. Significant Tree Inventory
4. Annotated Survey
5. Site Exhibit – Photos

Introduction

I visually inspected the trees on site and identified one (1) exceptional tree on the parcel, two (2) small trees as indicated on the survey, one (1) exceptional tree and a clump of small trees located in the ROW, four (4) exceptional trees and one (1) large tree with overhanging branches located on adjoining properties. Some measurements are estimated due to lack of access. The trees are predominantly native evergreen species, as mentioned. There is a grove of trees located on the parcels to the north and northwest, including trees with overhanging branches on this parcel. Tomography testing was conducted on three (3) exceptional Douglas-fir trees adjacent to proposed construction.

All the trees are listed in the inventory table on page 10.

Limitations and Use of this Report

This tree report establishes existing conditions of the trees on the property, utilizing the most practical means available. This report is based solely on what is readily visible and observable, without any invasive means. Ratings for health and structure, as well as any recommendations, are valid only through project development and construction, and within a reasonable amount of time.

There are several factors that can affect a tree's condition, which may be pre-existing and indeterminable with only a visual analysis. No attempt was made to establish the presence of hidden or concealed conditions which may contribute to the risk or failure potential of trees on or adjacent to the site. These conditions include root and stem (trunk) rot, internal cracks, structural defects or construction damage to roots, which may be hidden beneath the soil. In addition, construction and post-construction circumstances can cause a relatively rapid deterioration of a tree's condition.

There were no limitations preventing access to any of the trees, except to those located on neighboring properties where fences blocked views of the trunks or permission would be required to obtain access and accurate measurements. Any measurements estimated are indicated as such.

Tree Inspection:

This inspection identifies both the health and the structure of each tree. Tree health assesses disease, insect infestation and old age. Tree structure is the manner in which a tree is constructed, along with observable defects, which can indicate if a tree is subject to failure. No invasive procedures were performed on any tree during inspection. The results of this inspection are based on what was visible at the time of my site visit.

The inventory table on page 7 reflects the results of my inspection, including the following for each tree:

- Number – as shown on the annotated survey attached.
- Species – both common and Latin names.
- DBH – stem diameter measured in inches, 4.5 feet from the ground, unless otherwise indicated.
- Dripline – average branch extension from the trunk, measured as radius in feet from trunk center.
- Category – small, large, exceptional, and/or grove as defined by Mercer Island Municipal Code, 19.16.010.
- Ratings – from 1 to 3 (where '1' indicates no visible defects in structure or health; '2' indicates minor to moderate problems that may require action; '3' indicates significant problems or defects and tree removal is recommended).
- Visible defects – Visible structural defects or diseases:

Anthrachnose – common fungal infection in Eastern dogwood. Symptoms include lesions in leaves, stems, fruits, or flowers and cankers on twigs and branches. Can lead to death of infected plant.

Asymmetrical canopy – tree has an unbalanced canopy often due to space and light competition from adjacent trees or structures.

Grove – a group of trees growing in close proximity where limited light and space can cause asymmetrical canopies, suppressed conditions and low live crown ratio. Retention or removal of any tree within a grove can impact the health and structure of the entire grove.

Lean – angle of trunk from vertical.

Multiple leaders – tree has multiple stem attachments, which may lead to tree failure and require maintenance or monitoring over time.

Suppressed – tree crowded by larger adjacent trees, with possible defective structure and/or low vigor. Retain tree only as part of a grove, not a stand-alone.

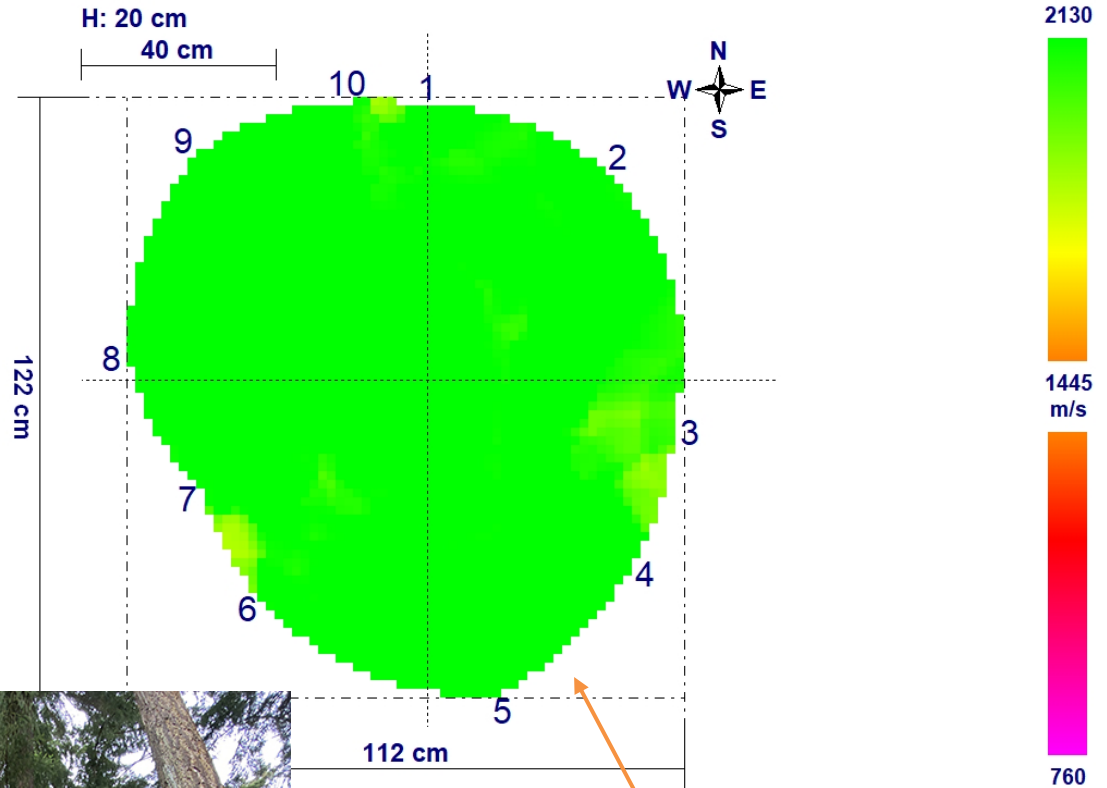
Tomography Results:

Tree 102 has two superficial cracks in the north and southwest quadrant, and some sapwood decay in the eastern quadrant. Reassessment in five years recommended.

Project: Holister
 Location: 4539 90th Ave SW. Mercer Island, Washington

Tree: 102 (*Pseudotsuga menziesii*)
 Tree species: Conifer

Date: 9/14/2021
 North: 0°



Construction impacts from SE – new foundation.

Looking west near the property line where offsite trees with overhanging branches are located:

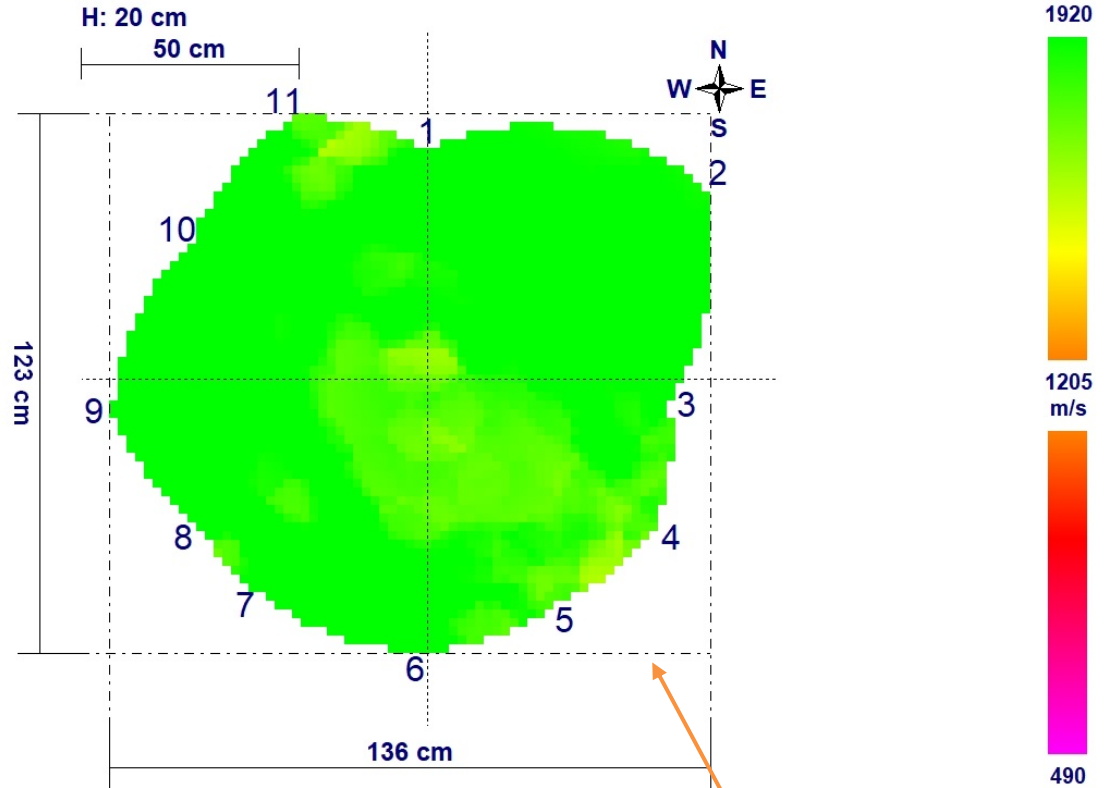
- Tree #102, far left, a 36.5-inch Douglas-fir, see this page.
- Tree #103, center, a 40-inch Douglas-fir, see page 5.
- Tree #104, right, a 30.5-inch Douglas-fir see page 6.

Tree 103 has sapwood decay in its northeast and southwest quadrants, and some heartwood decay emanating to the southeast. Reassessment after planned construction or two years from initial test recommended.

Project: Hollister
Location: 4537 90th Ave SE. Mercer Island, Washington

Tree: Tree 103 (*Pseudotsuga menziesii*)
Tree species: Conifer

Date: 9/14/2021
North: 0°



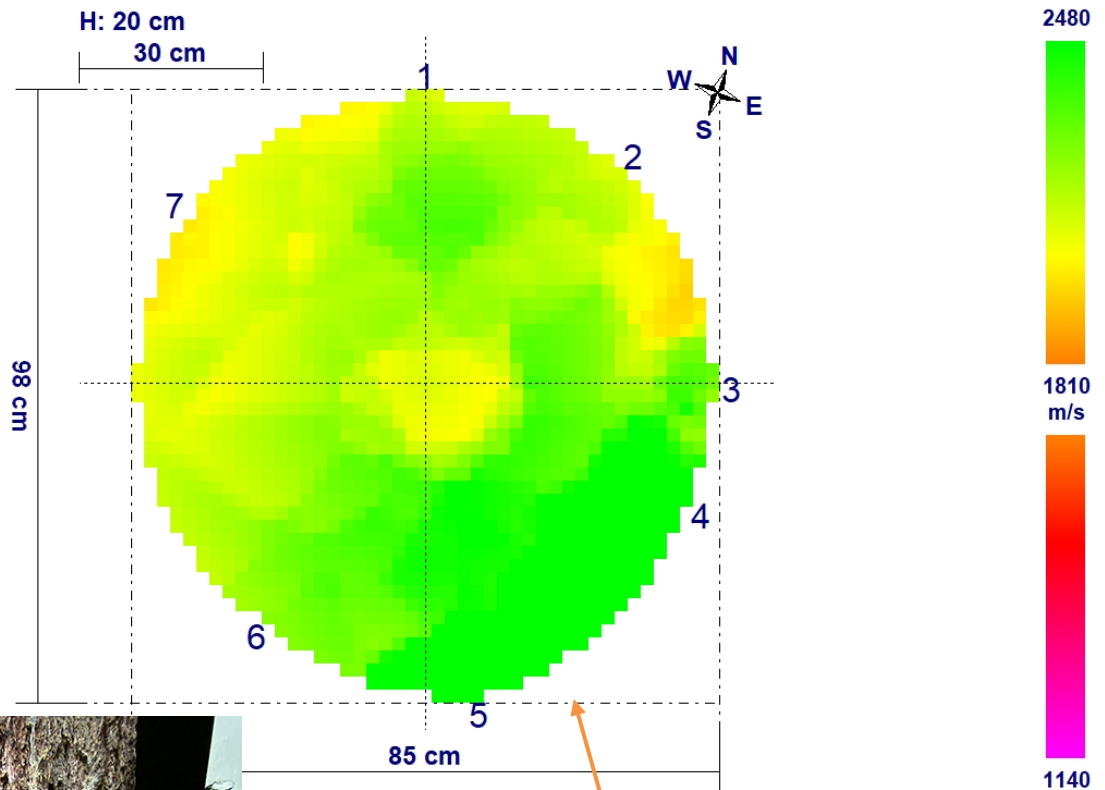
Construction impacts from SE – new foundation.

Tree 104 has sapwood decay on its northwest and northeast quadrants, and some centralized heartwood decay. The decay in the tree is estimated to be causing a 13% strength loss. Provide appropriate tree protection during construction. Reassessment after planned construction or two years from initial test recommended.

Project: Holister
 Location: 4537 90th Ave SE. Mercer Island, Washington

Tree: 104 (*Pseudotsuga menziesii*)
 Tree species: Conifer

Date: 9/14/2021
 North: 20



Construction impacts from SE – new foundation.

Tree #104, a 30.5-inch Douglas-fir located adjacent to an existing shed at the back of the parcel.

Limits of Disturbance

Limits of Disturbance (LOD) are based on industry standards and are calculated using rootplate ¹ and trunk diameter,^{2,3} and Best Management Practices from the International Society of Arboriculture (ISA)⁴. The LOD is the minimum distance from a tree for any soil disturbance, and represents the area to be protected during construction. These measurements are based on impacts limited to one side of the tree. They may be adjusted during the design and construction process, if reviewed and approved by a city planner and/or the project arborist.

This project is in the design phase and complete tree protection guidelines shall be developed based on the final design.

Limits of Disturbance in feet as radius from tree trunk.

Tree No.	DBH inches	Tree Species	DL feet	LOD feet	Limits of Disturbance Notes
102	36.5	Douglas-fir	14	18	Cuts to roots within dripline proposed for new foundation.
103	40	Douglas-fir	26	20	Cuts to roots within dripline proposed for new foundation.
104	30.5	Douglas-fir	26	20	Cuts to roots within dripline proposed for new foundation.

(DL = dripline, measured as radius from trunk center to further extent of branches)

¹ Coder, Kim D. 2005. Tree Biomechanics Series. University of Georgia School of Forest Resources.

² Smiley, E. Thomas, Ph. D. Assessing the Failure Potential of Tree Roots, Shade Tree Technical Report. Bartlett Tree Research Laboratories.

³ Fite, Kelby and E. Thomas Smiley. 2009. Managing Trees During construction; Part Two. Arborist News. ISA.

⁴ Companion publication to the ANSI A300 Series, Part 5: Managing Trees During Construction. 2016. ISA.

Attachment 1: Assumptions and Limiting Conditions

1. A field examination of the site was made on April 27, 2021. Tomography testing was performed by Christopher Rippey of Rippey Arboriculture on September 1, 2014. Observations and conclusions are as of that most recent date.
2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, as the consultant/arborist I can neither guarantee nor be responsible for the accuracy of information provided by others.
3. I am not a qualified land surveyor, and this tree report is based on an aerial photo from the King County iMap web site. I received a topographic survey after my site visit. Sketches and photographs in this report are not necessarily to scale and should not be construed as an accurate survey.
4. I, as consultant/appraiser, shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made.
5. Unless stated otherwise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied that problems or deficiencies of the subject tree may not arise in the future.
6. Unless required by law otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without prior written or verbal consent of the consultant.
7. All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects, and with or without applied stress. Risk management is solely the responsibility of the landowner.
8. Construction activities can impact trees in unpredictable ways. All retained trees should be inspected at the completion of construction, and regularly thereafter as part of ongoing maintenance.

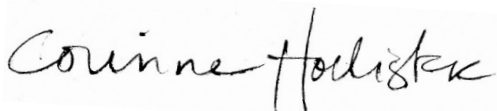
Attachment 2: Certificate of Performance

I, Corinne Hollister, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately.
- I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinion, and conclusions stated herein are my own and are based on current industry standards, scientific procedures and facts.
- My analysis, opinion, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.
- No one provided significant professional assistance to me, except as indicated within the report.
- My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the International Society of Arboriculture (ISA), and the ISA PNW Chapter, I am an ISA Certified Arborist (#PN-6981A) and am Tree Risk Assessment Qualified. I also am a member of the American Society of Consulting Arborists (ASCA).

Signed,



Corinne Hollister

Date: September 23, 2021

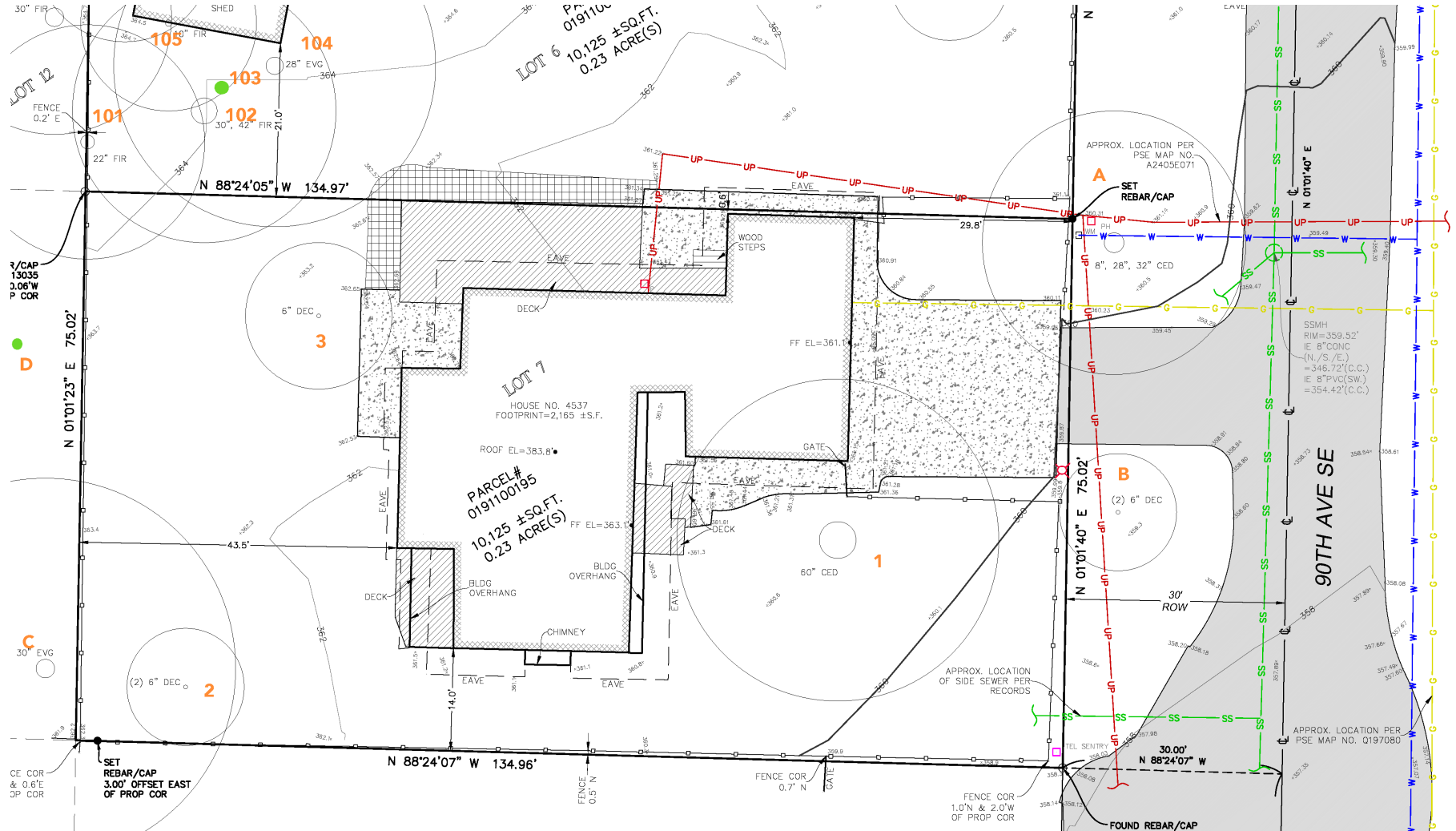
Attachment 3: Tree Inventory Table

Tree#	Species	DBH	Dripline	Health	Structure	Category	Notes
1	<i>Thuja plicata</i> Western red cedar	58.5 in.	24 ft	1	1	Exceptional	Asymmetrical canopy: Dripline shorter on east side of tree – ranges from 17 ft to 26 ft. May have been topped in past.
2	<i>Sorbus aucuparia</i> Mountain ash	6 in.	6 ft	1	2	Small Tree	Two main stems: 5, 4 inches, topped.
3	<i>Cornus florida</i> Eastern dogwood	6 in.	16 ft	2	2	Small Tree	Lean to east due to competition from nearby trees, infected with Anthracnose.
Off-site and ROW Trees							
A	<i>Thuja plicata</i> Western red cedar	41.6 in. *	20 ft	1	1	Exceptional	Two main stems: 28 and 31 inches. Located in right of way.
B	<i>Sorbus aucuparia</i> Mountain ash	9 in.	11 ft.	2	2	Small Tree	Clump of three Mountain ash trees, trunks range from 3 to 9 inches, topped. Located in right of way.
C	<i>Pseudotsuga menziesii</i> Douglas-fir	35 in.	21 ft	1	1	Exceptional	Located off-site on parcel to the west. Measurements estimated. Branches overhang parcel by 18 ft.
D	<i>Pseudotsuga menziesii</i> Douglas-fir	24 in.	16 ft	1	1	Large Tree	Located off-site on parcel to the west. Measurements estimated. Branches overhang parcel by 4 ft.
101	<i>Pseudotsuga menziesii</i> Douglas-fir	24 in.	18 ft	1	1	Exceptional Grove Tree	Located in the middle of the fenceline on parcel to north. Level 3 tomography testing – completed.
102	<i>Pseudotsuga menziesii</i> Douglas-fir	36.5 in.	14 ft.	1	1	Exceptional Grove Tree	Located off-site to north, very close to Tree #103 near existing shed. Level 3 tomography testing – completed.
103	<i>Pseudotsuga menziesii</i> Douglas-fir	40 in.	26 ft.	1	1	Exceptional Grove Tree	Located off-site to north, very close to Tree #102 near existing shed. Level 3 tomography testing – completed.
104	<i>Pseudotsuga menziesii</i> Douglas-fir	30.5 in.	26 ft.	2	2	Exceptional Grove Tree	Resin on trunk, low live crown ratio. Level 3 tomography testing – completed.

Health and Structure ratings – '1' indicates none to minor visible health-related problems or structural defects, '2' indicates moderate to major visible problems or defects that may require attention if the tree is retained, and '3' indicates significant visible problems or defects and tree removal is recommended.

Tree categories – small, large, exceptional, grove as defined by MICC 19.16.010.

Attachment 5: Annotated Survey



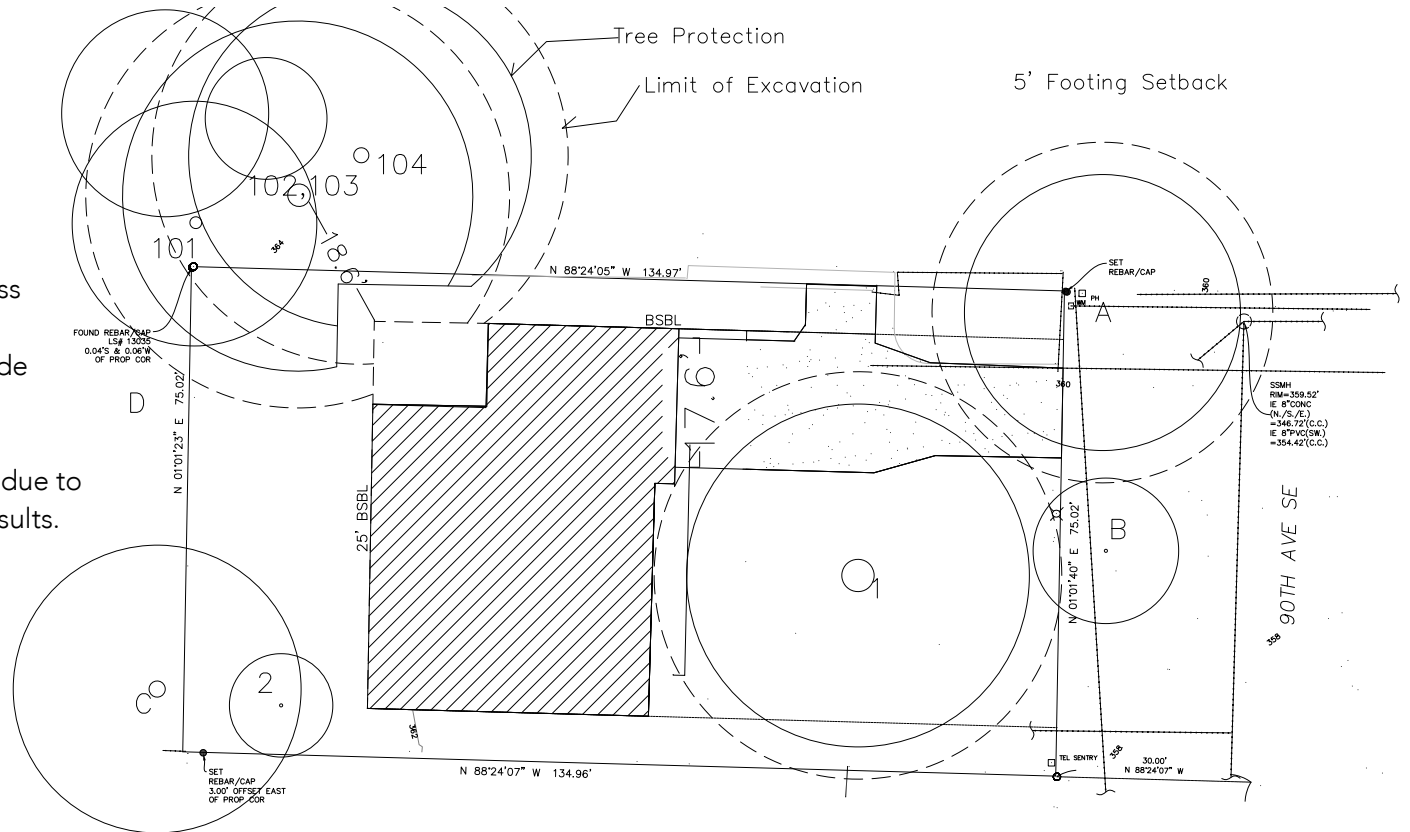
Attachment 6: Preliminary Site Plan

Limits of Disturbance

#102	36.5 in. Douglas-fir	18 feet
#103	40 in. Douglas-fir	20 feet
#104	30.4 in. Douglas-fir	20 feet

Proposed disturbance does not cut across root plates and can be accommodated with construction guidelines which provide maximum protection.

Tree #104 requires increased protection due to minor decay indicated in tomography results.



FUTURE BUILDING PAD

Attachment 7: Photos of site



Above: Looking west. Tree #1, an exceptional Western red cedar on the left. A tree grove is located off-site to the west/northwest.

Right: Tree #1, adjacent to existing home.





Above: Looking west. Tree A, an exceptional Western red cedar located in the ROW.

Above Right: Off-site exceptional Douglas fir trees with overhanging branches, part of a tree grove.

Left: A clump of small Mountain ash trees in the ROW, left of the existing driveway.

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