

# CASCARA TREE CONSULTING

## ARBORIST REPORT

TO: Chihiro Morishima

REFERENCE: Tree Inventory & Assessment

SITE ADDRESS: 7650 Ridgecrest Lane, Mercer Island, WA

DATE: 10/10/2025

PREPARED BY: Megan Roy, ISA Certified Arborist UT-4622A  
ISA Tree Risk Assessment Qualified

REVIEWED BY: Katie Hogan, ISA Certified Arborist PN-8078A  
ISA Tree Risk Assessment Qualified

### Summary

This report documents the tree inventory and assessment conducted on September 30, 2025, for the property referenced above. The assessment was requested in preparation for the submission of building permits to the City of Mercer Island and to comply with Mercer Island City Code (MICC) 19.10.060.

Nine large<sup>1</sup> trees are located on the subject property. Two trees are considered exceptional<sup>2</sup> due to their size. All nine trees are healthy and viable. The proposed project involves building an addition on the west side of the house while retaining all the trees. Additionally, four off-site trees with overhanging canopies were assessed.

A tree protection zone is recommended for two trees that could be potentially impacted by construction activity. Excavation monitoring by the project arborist is suggested for one tree (Tree #559) that may be impacted by proposed excavation for a concrete pier.

MICC 19.10.060 requires retaining a minimum of 30% of large trees. Of the nine viable trees, three must be retained. The project plans to retain all nine viable trees, achieving a 100% retention rate.

Table 1. Summary of Trees

Category	Count
Total Large Trees	9
• Viable	9
• Non-Viable	0
Trees Proposed to Retain	9
Trees Proposed to Remove	0
Trees Required to Retain (30%)	3
Proposed Retention Percentage	100%

<sup>1</sup> Large tree: trees measuring 10" diameter or larger or any tree considered exceptional per MICC.

<sup>2</sup> Exceptional tree: trees 36" diameter or larger, identified on the [Exceptional Tree Table](#), or that form a grove (8 or more trees with a continuous canopy).

Table 2. Summary of Exceptional Trees

Category	County
Total Exceptional Trees	2
• Exceptional by Size	2
• Exceptional by Grove	0
Exceptional Trees to Retain	2
Exceptional Trees to Remove	0

## Tree Viability Assessment

A Level 2 Visual Tree Assessment (VTA) was performed on all nine trees on the property. Each tree was visually inspected from the ground to assess its health and structural condition. Trees were then assigned a condition rating based on the criteria<sup>3</sup> listed in Table 3. Based on their condition, each tree was assigned a viability rating, as shown in Table 4.

Table 3. Health & Structural Condition Ratings

CONDITION RATING	TREE HEALTH <i>Consider crown indicators — including vigor, density, leaf size, quality, and stem shoot extensions.</i>	TREE STRUCTURE <i>Consider root condition/formation, trunk condition, and branch assembly and arrangement.</i>
<b>Excellent</b>	Perfect specimen with excellent form and vigor, along with a well-balanced crown. Trunk is sound and solid. No apparent pest problems. Normal to exceeding shoot length on new growth. Normal leaf size and color. Exceptional life expectancy for the species.	Root plate undisturbed and clear of any obstructions. Trunk flare has normal development. No visible trunk defects or cavities. Branch spacing/structure and attachments are free of any defects.
<b>Good</b>	Imperfect canopy density in 10% or less of the tree. Lacks natural symmetry. Less than half the normal growth rate and minor deficiency in leaf development. Few pest issues or damage, and controllable if present. Normal branch and stem development with healthy growth. Typical life expectancy for the species.	Root plate appears normal, with only minor damage. Possible signs of root dysfunction around trunk flare. Minor trunk defects from previous injury, with good closure and less than 25% of bark section missing. Good branch habit; minor dieback with some signs of previous pruning. Codominant stem formation may be present, requiring minor corrections.
<b>Fair</b>	Crown decline and dieback up to 30% of the canopy. Poor overall symmetry. Leaf size smaller and color somewhat chlorotic. Shoot extensions indicate some stunting and stressed growing conditions. Obvious signs of pest problems contribute to a lesser condition. Some decay areas found in the main stem and branches. Below-average life expectancy for the species.	Root plate reveals previous damage or disturbance. Dysfunctional roots may be visible around the main stem. Evidence of trunk damage or cavities, with decay or defects present and less than 30% of bark sections missing on trunk. Co-dominant stems are present. Branching habit and attachments indicate poor pruning or damage, which requires moderate corrections.
<b>Poor</b>	Lacking a full crown, with more than 50% decline and dieback that especially affects larger branches. Stunting obvious, with little evidence of growth on smaller stems. Leaf size and color reveals overall stress in the plant. Insect or disease infestation may be severe. Extensive decay or hollow characteristics. Low life expectancy for the species.	Root plate disturbance and defects indicate major damage, with girdling roots around the trunk flare. Trunk reveals more than 50% of bark section missing. Branch structure has poor attachments, with several structurally important branches dead or broken. Canopy reveals signs of damage or previous topping or lion-tailing, with major corrective action required.

<sup>3</sup> Purcell, L. and Ling, J. (2019) *Tree appraisal and the value of trees - extension - purdue extension, Purdue Extension Forestry and Natural Resources*. Available at: <https://www.extension.purdue.edu/extmedia/FNR/FNR-473-W.pdf> (Accessed: 03 August 2023).

Table 4. Tree Viability Ratings

TREE STRUCTURE	TREE HEALTH			
	Excellent	Good	Fair	Poor
Excellent	Viable	Viable	Viable	Not Viable
Good	Viable	Viable	Viable	Not Viable
Fair	Viable	Viable	Not Viable	Not Viable
Poor	Not Viable	Not Viable	Not Viable	Not Viable

## Observations & Discussion

### Site Conditions

The subject property is a 0.47-acre, R-15 zoned lot in the City of Mercer Island, containing a dwelling unit with an attached garage. The project proposes building a one-story 499 square foot addition on the west side of the house.

Most of the trees located at the front (south end) of the lot are ornamental fruit trees. The trees at the back (north end) of the lot are a mix of native and non-native conifer and deciduous trees, including an exceptional bigleaf maple (*Acer macrophyllum*) and Douglas-fir (*Pseudotsuga menziesii*). The trees immediately adjacent to the proposed addition are a sweet cherry (*Prunus avium*) to the north and common fig (*Ficus carica*) to the south.

### Existing Trees & Proposed Actions

Nine viable trees are proposed for retention, including both exceptional trees. Most trees will be unimpacted by the proposed addition, except for two trees along the west side of the house near the proposed addition.

Individual tree impacts are described below:

- Tree #559: A 23.5" DBH sweet cherry (*Prunus avium*) on the north side of the house with a dripline that overlaps the proposed addition. There are likely some roots occupying the space to the west where the addition is planned that may be impacted during the foundation excavation. See tree protection recommendations below.
- Tree #558: A multi-stemmed common fig (*Ficus carica*) on the south side of the house with a dripline that overlaps the proposed addition. No major impacts are anticipated to this tree; however, tree fencing is recommended to ensure machinery is not operated within the Critical Root Zone (CRZ). See additional recommendations below.

### Tree Retention & Replanting Requirements

Per MICC 19.10.060, the project is required to retain at least 30% of the total viable trees. By retaining all nine viable trees, the project achieves a 100% tree retention rate. No tree removals are proposed therefore no replanting is required for this project.

## Recommendations/Specifications

### Tree #558:

- **Tree Fencing:** Install tree protection fencing to restrict machinery access and prevent damage to tree roots. See “Tree Protection Zone” section below.
- **Root Management:** Cleanly cut any roots 2 inches in diameter or larger with a sharp saw to promote wound closure and regeneration.

### Tree #559:

- **Tree Fencing:** Install tree protection fencing to restrict machinery access and prevent damage to tree roots. See “Tree Protection Zone” section below.
- **Monitoring:** Consider on-site arborist monitoring for any excavation within 10-15 feet of the tree trunk.
- **Root Management:** Cleanly cut any roots 2 inches in diameter or larger with a sharp saw to promote wound closure and regeneration.

### Tree Retention Plan:

- Create a Tree Retention Plan including all requirements on the [City’s Tree Submittal Checklist](#). See Figure 1 below for requirements.

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	
<input type="checkbox"/>	1. Location of all proposed improvements (building footprint, access, utilities, buffers, required landscape areas).
<input type="checkbox"/>	2. Surveyed location of all large trees and Exceptional trees on the property
<input type="checkbox"/>	3. Show the critical root zone of Large trees on adjacent properties if driplines extend over the subject property line.
<input type="checkbox"/>	4. Trees labeled corresponding to the tree inventory numbering system on the Mercer Island Tree Inventory Form.
<input type="checkbox"/>	5. Identify Exceptional trees using different symbols for trees less than 24 inches and trees greater than or equal to 24 inches.
<input type="checkbox"/>	6. Location of tree protection measures.
<input type="checkbox"/>	7. Limits of excavation near potential saved trees (e.g. excavation limits for building foundation).
<input type="checkbox"/>	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.
<input type="checkbox"/>	9. Proposed tree status (trees to be removed or retained) noted by an 'X' for removal.

Figure 1. Tree Retention Plan Requirements

### Tree Protection Zone

#### 1) Tree Protection Fencing

- a. Install 6-ft chain-link fencing at or beyond the Critical Root Zone (CRZ) / Tree Protection Zone (TPZ) of each retained tree prior to land disturbance.
- b. Fencing must be maintained throughout construction and inspected prior to site work.

#### 2) Signage

- a. Post clear “Tree Protection Area - No Entry” signs on fencing.

#### 3) No-Disturbance Zone

- a. Prohibit grading, trenching, storage, soil compaction, equipment access, or drainage alterations within TPZs.

**4) Equipment Placement**

- a. All machinery should be stored and operated outside of tree driplines and critical root zones. When access to areas beneath the driplines is required, install ground protection to minimize soil compaction. Acceptable methods of ground protection include a 12-inch layer of coarse woodchips or a combination of 4-6 inches of woodchips with ¾ inch plywood on top.

**5) Footing Marking**

- a. Minimize over-excavation required for concrete beam footings by clearly marking the footing locations prior to beginning work. Hand dig around roots.

**6) Construction Monitoring**

- a. Arborist monitoring recommended for any activity within or adjacent to the TPZ, including utility trenching or grade changes.

**7) Post-Construction Care**

- a. Apply 4-6 inches of arborist mulch within TPZs.
- b. Provide supplemental irrigation during the first two growing seasons following construction.

PHOTOGRAPHS

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*Photo 1. Tree #559 (Prunus avium) near the excavation site for the proposed addition.*



*Photo 2. Tree #558 (Ficus carica) on the south side of the house and location of the proposed addition.*



*Photo 3. Construction access on the west side of the house with exceptional Tree #560 (Acer macrophyllum) in the distance.*

## Attachments

- 1) Glossary
- 2) References
- 3) Inspection Methods
- 4) Appendix A – Assumptions & Limiting Conditions
- 5) Appendix B – Certification of Performance
- 6) Tree Inventory Map**
- 7) Tree Table**

## GLOSSARY

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**ANSI A300:** American National Standards Institute (ANSI) standards for tree care

**Chlorotic:** discoloration caused by lack of chlorophyll in the foliage

**Codominant Stems:** two or more stems (or leaders) of relatively similar size that emerge from the same location on the main trunk (Gilman, 2002)

**Crown:** the above ground portion of the tree comprised of branches and their foliage

**DBH or DSH:** diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade

**ISA:** International Society of Arboriculture

**Limits of disturbance:** The boundary of minimum protection around a tree, the area that cannot be encroached upon without possible permanent damage to the tree. It is a distance determined by a qualified professional and is based on the age of the tree, its health, the tree species tolerance to disruption and the type of disturbance. It also considers soil and environmental condition and previous impacts. It is unique to each tree in its location.

**Pathogen:** causal agent of disease

**ROW:** right-of-way; generally referring to a tree that is located offsite on a city easement

**Reaction wood:** specialized secondary xylem which develops in response to a lean or similar mechanical stress, it serves to help restore the stem to a vertical position

**Significant tree:** a tree measuring a specific diameter determined by the municipality the tree grows in. Some municipalities deem that only healthy trees can be significant, other municipalities consider both healthy and unhealthy trees of a determined diameter to be significant

**Structural defects:** flaws, decay, or other faults in the trunk, branches, or root collar of a tree, which may lead to failure; may be genetic, or environmental

**Visual Tree Assessment (VTA):** method of evaluating structural defects and stability in trees by noting the pattern of growth. Developed by Claus Mattheck (Harris, et al 1999) detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires that a tree risk assessor walk completely around the tree trunk looking at the site, aboveground roots, trunk, and branches (ISA 2013)

## REFERENCES

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- Dunster, J. A. 2003. Preliminary Species Profiles for Tree Failure Assessment. Bowen Island: Dunster & Associates Environmental Consultants Ltd.
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- Lilly, Sharon. Arborists' Certification Study Guide. Champaign, IL: The International Society of Arboriculture, 2001.
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- Schwarze, Francis W.M.R. Diagnosis and Prognosis of the Development of Wood Decay in Urban Trees. Australia: ENSPEC Pty Ltd. 2008
- Sinclair, Wayne A., Lyon, Howard H., and Johnson, Warren T. Diseases of Trees and Shrubs. Ithaca, New York: Cornell University Press, 1987.
- Smiley, E. Thomas, Nelda Matheny, and Sharon Lilly. Tree Risk Assessment Best Management Practices, ANSI A300 Part 9: Tree, Shrub, and Other Woody Plant Management—Standard Practices (Tree Risk Assessment: Tree Structure Assessment). The International Society of Arboriculture Press. Champaign. IL. 2011.
- Thies, Walter G. and Sturrock, Rona N. Laminated root rot in Western North American. United States Department of Agriculture. Pacific Northwest. Resource Bulletin PNW-GTR-349. April 1995.

## INSPECTION METHODS

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I performed a Level 2 Visual Tree Assessment (VTA) for each tree. I visually inspected the tree from the ground, walking around the tree to inspect for any basal defects. I then positioned myself further from the tree, looking up into the crown and branches for any notable defects and symptoms of canopy decline.

I measured the diameter at 4.5 above-ground using a Spencer logging tape and measured the dripline using a laser rangefinder. I then tagged each tree and mapped locations using an Arrow 100+ GNSS receiver.

Using the VTA method, I rated the health and structural condition of each tree. This inspection method is an international industry standard for assessing trees from the ground level and identifies external signs of decay, physical damage, growth related defects, and abnormal or declining foliage. Tree health and structure are each assigned their own condition rating. The following ratings are used:

Poor: Lacking a full crown, with more than 50% decline and dieback that especially affects larger branches. Low life expectancy for the species.

Fair: Crown decline and dieback up to 30% of the canopy. Below-average life expectancy for the species.

Good: Imperfect canopy density in 10% or less of the tree. Typical life expectancy for the species.

Excellent: Perfect specimen with excellent form and vigor, along with a well-balanced crown. Exceptional life expectancy for the species.

## APPENDIX A - ASSUMPTIONS & LIMITING CONDITIONS

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- 1) Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
- 2) It is assumed that any property is not in violation of any applicable codes, ordinances, statutes or other governmental regulations.
- 3) The assessment in this report is based on information and data from sources believed to be reliable, correct, and accurately reported. No responsibility is assumed for false or misleading information provided by others.
- 4) The consultant/appraiser shall not be required to give testimony or to attend court by reason of the report unless subsequent contractual arrangements are made including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
- 5) Loss or alteration of any part of this report invalidates the entire report.
- 6) 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 the prior expressed written or verbal consent of the consultant/appraiser.
- 7) Neither all nor any part of the contents of the report, nor copy thereof, shall be conveyed by anyone, including the client to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant/appraiser – particularly as to value conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant/appraiser as stated in her qualification.
- 8) The report and any values expressed herein represent the opinion of the consultant/appraiser, and the consultant's/appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of subsequent event, nor upon any finding to be reported.
- 9) Sketches, diagrams, graphs, and photographs in this report, being intended as visual aid, are not necessarily to scale and should not be construed as engineering or architectural reports or survey.
- 10) Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing or coring. There is not warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.

## APPENDIX B - CERTIFICATION OF PERFORMANCE

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I, Katie Hogan, certify that:

- I have personally inspected the trees on the property referenced in this report and the statements of fact contained in this report are true and correct.
- I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest with respect to the parties involved.
- The reported analysis, opinions, and conclusions are my personal, unbiased professional analysis, opinions, and conclusions.
- My analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural best practices.
- No individuals or organizations have provided significant assistance with the preparation of this report, except those named in the report.
- My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined outcome or direction that favors the cause of the client, the results of the assessment, or the occurrence of any subsequent events.

Signed:

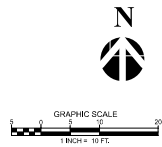
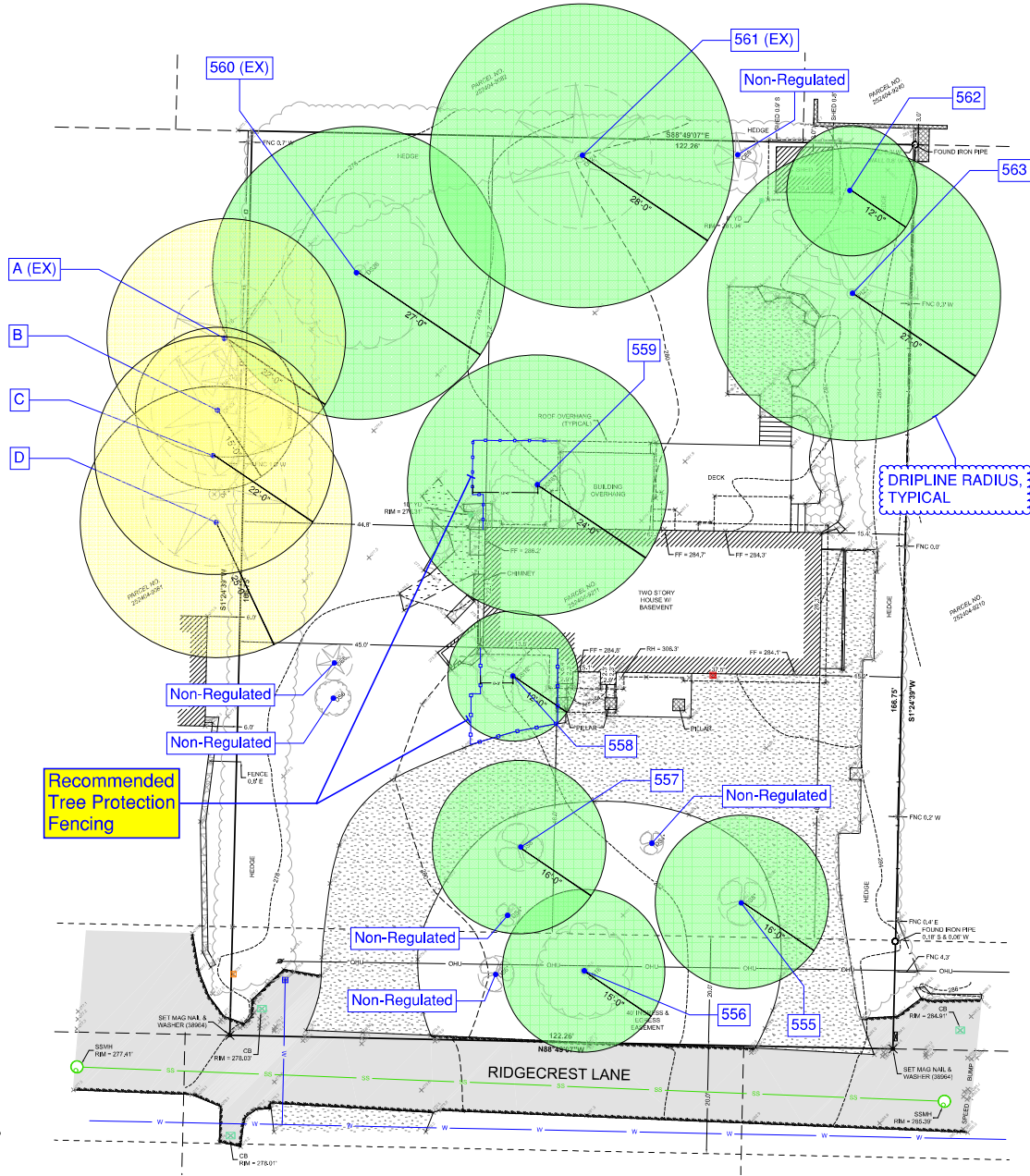
A handwritten signature in black ink that reads "Katie Hogan". The signature is written in a cursive, flowing style.

Cascara Tree Consulting, LLC

# TREE INVENTORY MAP

## Tree Legend

- TREE # = TREE #
- = TREE, SIGNIFICANT, ON SITE
- = TREE, SIGNIFICANT, OFF SITE
- = TREE PROTECTION FENCING
- EX** = EXCEPTIONAL TREE



**Morishima Residence**  
7650 Ridgecrest Lane, Mercer Island, WA

## TREE INVENTORY MAP

**CASCARA TREE CONSULTING**

Megan Roy  
UT2622A, QUALIFIED TREE  
RISK ASSESSOR



PREPARED:  
10/10/2025

SHEET NO.

01

Client: Morishima  
 Address: 7650 Ridgecrest Ln, Mercer Island, WA  
 Date: 10/10/2025

## Tree Table On-Site

Prepared by: Katie Hogan  
 Cascara Tree Consulting  
 [PN-8078A, TRAQ]

Tree No.	Species	Common Name	DBH Single-stem (in)	DBH Multistem (in)	Health	Structure	Viable (Yes/No)	Dripline Radius (ft)	CRZ (ft)	Significant (Yes/No)	Exceptional Sized (Yes/No)	Exceptional Grove (Yes/No)	Proposed Action	Notes/Observations
555	<i>Prunus avium</i>	Sweet cherry	15.2		Fair	Fair	Yes	16.3	16	Yes	No	No	Retain	Topped with typical defects of a mature cherry including signs of fire blight
556	<i>Prunus domestica</i>	Common plum	18.1		Fair	Fair	Yes	15.4	15	Yes	No	No	Retain	Multiple weak attachments
557	<i>Prunus avium</i>	Sweet cherry	11.9	10.1, 6.2	Good	Fair	Yes	16.2	16	Yes	No	No	Retain	
558	<i>Ficus carica</i>	Common fig	11.9	10.1, 6.2	Fair	Fair	Yes	12.2	12	Yes	No	No	Retain	Topped, leaning, and included bark at base
559	<i>Prunus avium</i>	Sweet cherry	23.5		Fair	Fair	Yes	24.5	24	Yes	No	No	Retain	Topped with a narrow codominant union and signs of fire blight
560	<i>Acer macrophyllum</i>	Bigleaf maple	24.6		Good	Good	Yes	27.5	27	Yes	Yes	No	Retain	
561	<i>Pseudotsuga menziesii</i>	Douglas-fir	27.0		Good	Good	Yes	28.6	28	Yes	Yes	No	Retain	Some overextended branches
562	<i>Thuja plicata</i>	Western redcedar	12.0		Good	Good	Yes	15.3	15	Yes	No	No	Retain	Not on survey
563	<i>Pinus nigra</i>	Austrian pine	24.8		Good	Good	Yes	18.5	18	Yes	No	No	Retain	

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## Tree Table Off-Site

Prepared by: Katie Hogan  
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 [PN-8078A, TRAQ]

Tree No.	Species	Common Name	DBH Single-stem (in)	DBH Multistem (in)	Health	Structure	Viable (Yes/No)	Dripline Radius (ft)	Significant (Yes/No)	Exceptional Sized (Yes/No)	Exceptional Grove (Yes/No)	Proposed Action	Notes/Observations
A	<i>Thuja plicata</i>	Western redcedar	26.0		Good	Good	Yes	22.3	Yes	Yes	N/A	Retain	Offsite
B	<i>Pseudotsuga menziesii</i>	Douglas-fir	16.0		Good	Good	Yes	15.4	Yes	No	N/A	Retain	Offsite
C	<i>Pseudotsuga menziesii</i>	Douglas-fir	22.0		Good	Good	Yes	22.2	Yes	No	N/A	Retain	Offsite
D	<i>Pseudotsuga menziesii</i>	Douglas-fir	20.0		Good	Good	Yes	25.2	Yes	No	N/A	Retain	Offsite

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## Summary

Prepared by: Katie Hogan  
Cascara Tree Consulting  
[PN-8078A, TRAQ]

Existing Trees	
Category	Qty.
Total 'Large' Trees (10" DBH or greater)	9
Viable 'Large' Trees	9
• Exceptional Trees by Size	2
• Exceptional Grove Trees	0
Proposed Actions	
Category	Qty.
Trees Proposed to Retain	9
Trees Proposed to Remove	0
Tree Credits & Required Density	
Category	Qty.
Retention Requirements	30%
Minimum Trees Required to Retain	3
Trees Proposed to Retain	9
Replacement Tree Requirements	
Category	Qty.
Replacement Trees Required	0
Replacement Trees Proposed	0