Todd Prager & Associates LLC

# Tree Plan for
# SW Ibach Street Subdivision

**Date:** August 22, 2025

**Site Address:** 10150 SW Ibach Street
Tualatin, OR 97062

**Prepared for:**
Jim Schmitt, PE
3J Consulting, Inc.
9600 SW Nimbus Acenue Suite 100
Beaverton, OR 97008
503.946.9365 | jim.schmitt@3j-consulting.com

**Prepared by:**
Christine Johnson
Todd Prager & Associates, LLC
ASCA Registered Consulting Arborist® #823
ISA Board Certified Master Arborist® PN-8730B
971.978.9381 | christine@toddprager.com

## Contents

## Summary

Residential development is proposed at the SW Ibach Street Subdivision site. The 1.76 acre site will be developed into a 27-lot subdivision. One hundred and sixty-six (166) trees over 8-inches in diameter were inventoried onsite. One 31-inch DSH Douglas-fir (*Pseudotsuga menziesii*) can be preserved if modifications can be made to the proposed grading plan and sidewalk layout or construction approach. One hundred and sixty-five (165) trees over 8-inches in diameter and onsite are proposed for removal.

## Background

The property is zoned low density residential (RL). Proposed development includes clearing the land for development and construction of a new street, sidewalks, 27 buildable lots, and associated utilities (Attachment 1). The property is in Washington County. There are no applicable insect pest quarantines or control area orders related to this project.

### *Assignment*

The scope of work requested of our firm was:

1. Inventory and assess existing private trees over 8-inch DSH at the project site.
2. In coordination with the project team, identify the trees to be retained and removed. This may involve working with project planners, engineers, contractors, and others to identify techniques to retain trees of significance.
3. Develop a tree protection plan for the trees to be retained in accordance with the City of Tualatin Code.

## Tree Inventory

The inventory was completed on May 19, 2025. A total of 204 trees on or adjacent to the areas of proposed development were inventoried (Attachments 2 and 3). Of the 204 trees, 166 are over 8-inch DSH (diameter at standard height, 4.5 feet above ground level) and on the project site. The following information was collected for each tree: tree number, common name, scientific name, DSH, single-stem DSH, approximate crown radius, health condition, structural condition, property status, pertinent comments, and treatment (Attachment 3). The tree numbers on the tree removal and preservation plan in Attachment 2 correspond to the tree numbers in the inventory in Attachment 3.

## Tree Preservation

Trees 8-inches in diameter and greater are subject to tree preservation and removal requirements outlined in Tualatin Development Code Section 33.110. A Tree Preservation Plan and Tree Assessment Report prepared by a certified arborist is required with the land use application. One hundred and sixty-five (165) trees 8-inches DSH or larger and onsite are proposed for removal. One tree, tree 10102 a 31-inch DSH Douglas-fir of good health and fair structure, is proposed for preservation.

A typical minimum root protection zone allows encroachments no closer than a radius from a tree of 0.5 feet per inch of DSH if no more than 25 percent of the root protection zone area (estimated at one foot radius per inch of DSH) is impacted. Figure 1 illustrates this concept. This

standard may need to be adjusted on a case-by-case basis due to tree health, species, root distribution, whether the tree will be impacted on multiple sides, the specific development proposed, and other factors.

Attachment 2 illustrates the proposed construction impacts in relation to the existing trees. Based on the construction impacts, 165 trees over 8-inch DSH are proposed for removal because they are either within the construction footprint or their root zones would be severely impacted by construction.

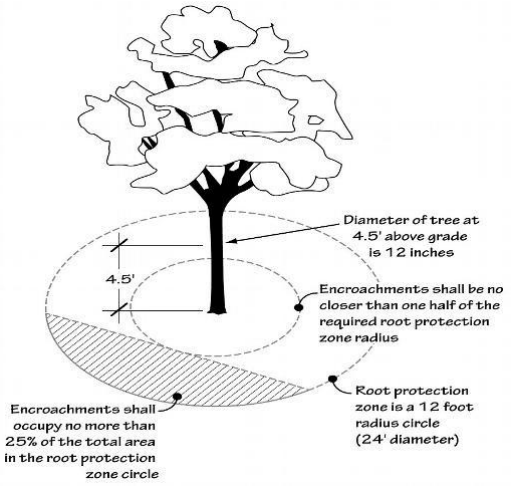



**Figure 1** Typical minimum protection zone.

***Tree 10102, 31-inch DSH Douglas-fir***

Tree 10102 is in the southwest corner of the subdivision within Lot 13. The tree may be compatible with development if the following modifications can be made and approved prior to development:

- *Modify the retaining wall.* A retaining wall is proposed approximately 5 feet north of the south property line and approximately 8 feet south of the trunk. Reducing the wall by 23 feet would stop the retaining wall outside of the minimum root protection zone radius of 15.5 feet.
- *Modify grading.* The existing grade around tree 10102 is between 257 FT and 253 FT. The proposed grade is between 250 FT and 251 FT, with the ground behind the retaining wall at 255 FT. This amount of cut (2 to 6 feet) needs to be limited to outside the minimum root protection zone radius of 15.5 feet.
- *Modify the sidewalk and/or paving profile.* A 6-foot-wide sidewalk is proposed 11.5 feet west of tree 10102. If the sidewalk could be curb tight for approximately 52-feet, that would reduce the level of encroachment on the west side of the tree. If a curb tight sidewalk is not an option, then a modified paving profile is recommended (Figure 2).

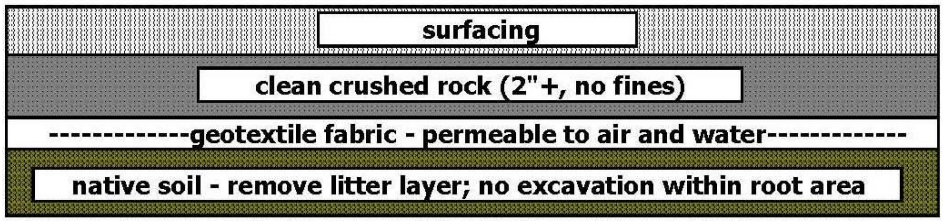



**Figure 2** Sample profile for area within fenced tree protection zone. Depth of rock is dependent on grading.

If the above modifications cannot be made to the plan (either partially or completely), then the tree may not be compatible with development. The proposed modifications can reduce the impact on the tree, but it does not guarantee its survival. As currently proposed, the tree will be impacted on all sides and likely experience root loss from excavation or compaction. Post-construction treatments, such as pneumatic excavation to loosen compacted soil and applying compost and mulch may be recommended to mitigate construction impacts. Following the tree

protection plan and communicating with an arborist will be an important factor in reducing the overall impact on the tree.

Furthermore, the removal of three large-diameter trees north of tree 10102 (trees 10104, 10105, and 10107) will significantly change wind exposure for tree 10102. Specifically, tree 10102 will be more exposed to wind forces on the north side. Upon review of wind data from the Aurora State Airport (approximately 9 miles south of the site, Figure 3) and Portland Hillsboro Airport (approximately 20 miles northwest of the site, Figure 4),[1] the tree will experience sustained winds and wind gusts from the north, though winds from the south are also common.

Therefore, if tree 10102 is to be retained, it should be assessed for risk following tree removal, routinely during construction, and periodically post-construction.

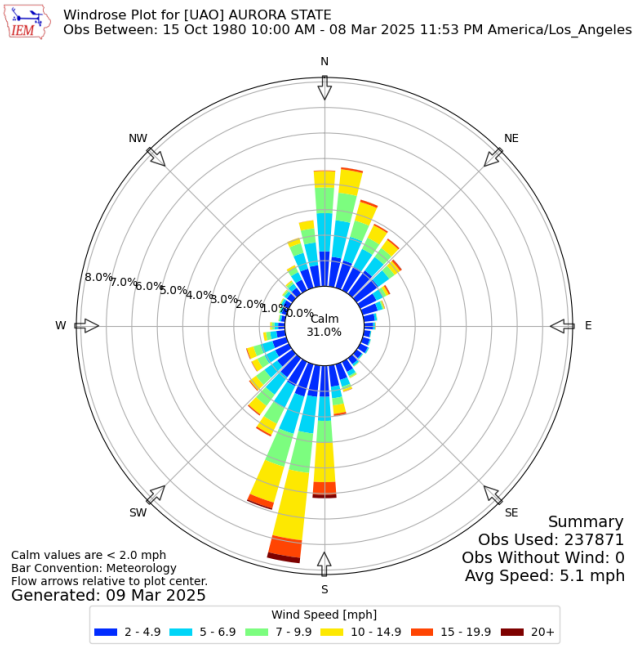



**Figure 3** Windrose plot from Aurora State Airport, approximately 9 miles south of the site.

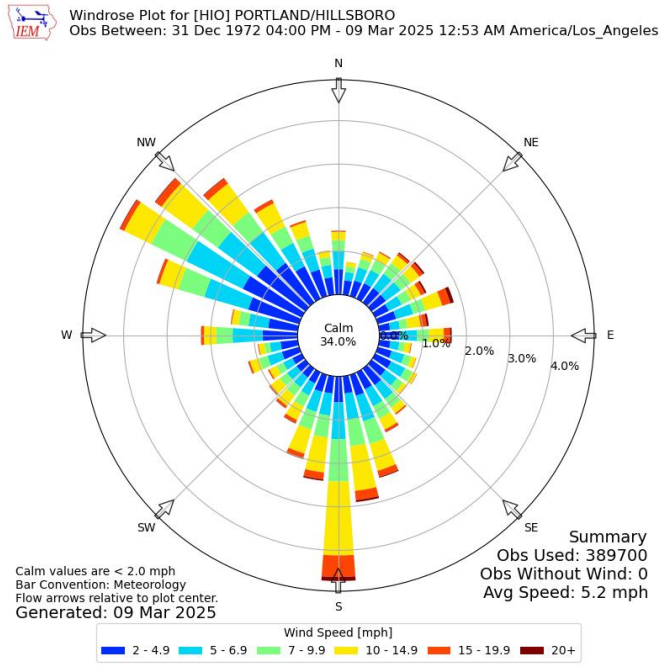



**Figure 4** Windrose plot from Portland-Hillsboro Airport, approximately 20 miles northwest of the site.

[1] Windrose data was generated from the Iowa Environmental Mesonet, Aurora State Airport and Portland Hillsboro Airport, mesonet.agron.iastate.edu/sites/locate.php?network=OR_ASOS.

The following tree protection measures are recommended:

**BEFORE CONSTRUCTION**

1. **Install Tree Protection Fencing**
   a. Tree protection fencing shall be installed before any ground disturbing activities take place including demolition, clearing, grubbing or grading.
      i. *Height*: Provide a minimum 6-foot-high metal fence (chain-link or chain-link panels).
      ii. *Posts & Spacing:* Place concrete footers or steel footers no more than 10-feet apart. Posts shall be a minimum 8-feet-tall and affixed to the ground to be immovable.
      iii. *Existing Grade*: Install fencing flush with the initial undisturbed grade of the protection zone.
      iv. *Locations:* Install fencing as shown in **Attachment 2.**
      v. *Signage:* Weatherproof tree protection signage shall be placed on tree protection fencing at intervals of every 30 feet or every third fence panel or section (**Attachment 4**).
2. **Erosion control**
   Any required sediment fencing shall be routed outside the tree protection zones to protect the root systems of the tree to be retained. If erosion control is required within the tree protection zone, straw wattles shall be used if approved by the City of Tualatin.

**DURING CONSTRUCTION**

3. **Maintain Tree Protection Fencing**
   Maintain protection fencing in good effective condition at the approved and inspected location. Fencing that is damaged during site work shall be repaired and placed in the approved location prior to resuming work in the area. Failure to maintain tree protection fencing in the approved locations may result in a code violation.
4. **Prevent Tree Protection Zone Impacts**
   a. The following activities are prohibited within a protection zone:
      i. Dumping of harmful chemicals and materials, such as paints, thinners, cleaning solutions, petroleum products, concrete or dry wall excess, construction debris, or run-off;
      ii. Storage of materials such as building supplies, soil, rocks, or waste items;
      iii. Placement of portable toilets, drop-boxes, or similar temporary items;
      iv. Parking of vehicles or equipment; and,

   Excavation, trenching, grading, root pruning, or similar activities unless directed by an arborist present on site.
5. **Root Pruning**
   The project arborist should be notified prior to the cutting of woody roots from trees that are to be retained to evaluate and oversee the proper cutting of roots with sharp cutting tools.
6. **Project Arborist Oversight**
   a. The tree protection plan proposes project arborist oversight for the following work:
      i. Tree felling inside the tree protection fencing around tree 10102.
      ii. Excavation within a 31-foot radius of tree 10102.
      iii. Grading within 31-foot radius of tree 10102.

   The project arborist will document findings for the owner.
7. **Supplemental Watering**
   If construction occurs during the summer months (June through September), supplemental watering is recommended (**Attachment 5**).
8. **Monitor Tree 10102 for Risk**
   Tree 10102 should be assessed for risk using the ISA visual tree risk assessment process (level 2) after trees 10104, 10105 and 10107 are removed and throughout construction. At a minimum it should be assessed for risk every 9 months and after severe weather events, such as the January 2023 ice and windstorm. The level 2 tree risk assessment should be performed by an ISA Tree Risk Assessment Qualified arborist.

| | |
|---|---|
| AFTER CONSTRUCTION | **9. Remove Tree Protection Fencing**<br>Tree protection fencing must remain in place until the final inspection.<br>**10. Monitoring Tree 10102 for Stress**<br>Trees are often stressed for several years post construction. If trees show signs of decline (thinning foliage, discolored foliage, stunted growth), engage with a qualified arborist to inspect the trees and recommend treatment.<br>**11. Monitor Tree 10102 for Risk**<br>Tree 10102 should continue to be assessed for risk after construction ends. I recommend reassessing the tree every 9 months and after severe weather events, such as the January 2023 ice and windstorm for three years post-construction and then annually thereafter for the next five years. The level 2 tree risk assessment should be performed by an ISA Tree Risk Assessment Qualified arborist. |

## Tree Removal

This section of the report provides findings for the Tree Assessment Report criteria in Section 33.110(4)(b) of the Tualatin Development Code. The code criteria are listed followed by my findings in *italics*.

(b) Tree Assessment Report. A tree assessment prepared by a certified arborist must include:

*This report has been prepared by Christine Johnson, an ISA Board Certified Master Arborist. This criterion is met.*

(i) An analysis as to whether trees proposed for preservation may be preserved in light of the development proposed, are healthy specimens, and do not pose an imminent hazard to persons or property if preserved;

*The health and structural conditions of the trees to be preserved in the vicinity of the proposed development have been evaluated by our firm. A summary of the tree conditions is provided in the tree inventory in Attachment 3. The preserved tree is a healthy specimen and is not an imminent hazard to persons or property as of our assessment dates. The preserved tree will need to be protected during construction as detailed in the Tree Protection Recommendations Section of this report (above), so it remains healthy and viable for the foreseeable future. This criterion is met.*

(ii) An analysis as to whether any trees proposed for removal could reasonably be preserved in light of the development proposed and health of the tree;

*Our firm coordinated with the project design team at 3J Consulting to consider design options for preserving healthy trees. Based on the project design along with site constraints, stormwater requirements, utility and site access connections, parking requirements, and client needs, tree preservation has been maximized to the extent practicable. This criterion is met.*

(iii) a statement addressing the approval criteria set forth in TDC 33.110(5);

*The reason for the proposed tree removals is to construct proposed improvements based on Architectural Review approval (TDC Subsection 33.110(5)(iii)). This criterion is met.*

(iv) the name, contact information, and signature of the arborist preparing the report; and

*The name, contact information, and signature of the arborist that prepared this report is provided. This criterion is met.*

(v) The tree assessment report must have been prepared and dated no more than one calendar year preceding the date the development or Tree Removal Permit application is deemed complete by the City.

*This report has been prepared and provided less than one calendar year preceding the anticipated date the development application will be deemed complete. This criterion is met.*

## Conclusion

One hundred and sixty-six (166) trees over 8-inches in diameter are subject to tree preservation standards for the SW Ibach Street Subdivision project. One hundred and sixty-five (165) trees over 8-inches in diameter are proposed for removal to facilitate the new street, sidewalks, utilities, and prepare 27 lots for future construction. One tree, a 31-inch DSH Douglas-fir, may be compatible with tree preservation measures if grading and sidewalk modifications can be made and the tree adapts to the loss of neighboring trees to the north.

Please let me know if you have any questions about the information provided in this report.

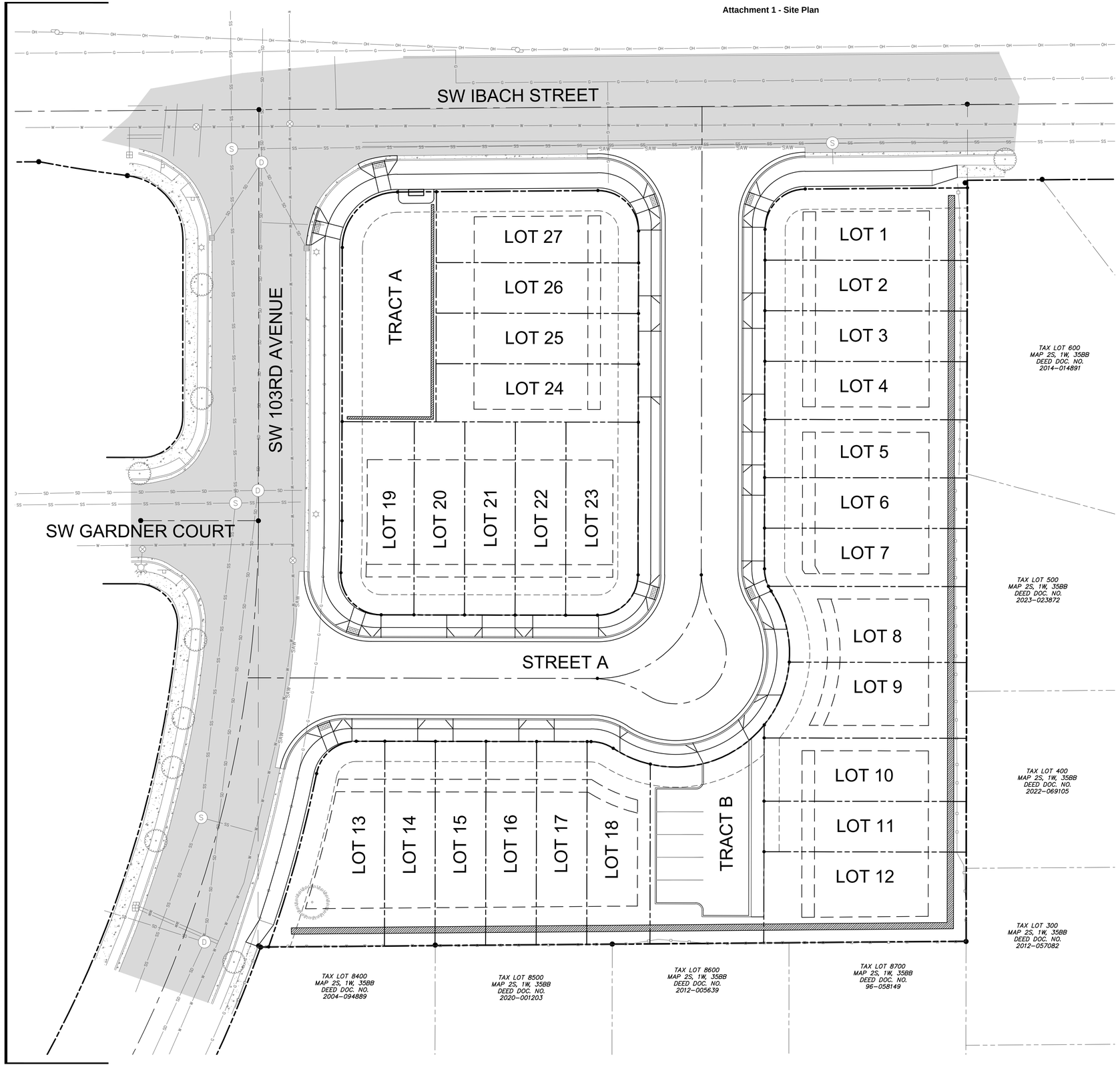
Sincerely,

Christine Johnson

Christine Johnson
*ASCA Registered Consulting Arborist® #823*
*ISA Board Certified Master Arborist® PN-8730B*
*ISA Tree Risk Assessment Qualified*
*ASCA Tree and Plant Appraisal Qualified*
*PNW ISA Wildfire Risk Reduction Qualification*
*christine@toddprager.com |971.978.9381*

Enclosures:
Attachment 1 – Site Plan
Attachment 2 – Tree Removal and Preservation Plan
Attachment 3 – Tree Inventory
Attachment 4 – Tree Protection Signage
Attachment 5 – ODF Watering Your Trees Factsheet
Attachment 6 – Assumptions and Limiting Conditions

**Attachment 1 - Site Plan**




## LEGEND

- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PROPOSED CENTERLINE
- PROPOSED SETBACK LINE
- PROPOSED CURB AND GUTTER
- PROPOSED CONCRETE
- PROPOSED WALL
- PROPOSED STRIPING

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SCALE: 1" = 20'
0 20 40 FT

SECTION 35, T.2S., R.1W. W.M.,
WASHINGTON COUNTY, OREGON

811 Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER
92406PE
OREGON
JULY 11, 2017
JAMES J. SCHMITT
EXPIRES: 06/30/26

PUBLISH DATE
**07/30/2025**

ISSUED FOR
**LAND USE DOCUMENTS**

REVISIONS

*SITE PLAN*
***SW IBACH ST SUBDIVISION***
DEZ DEVELOPMENT LLC
TUALATIN, OR

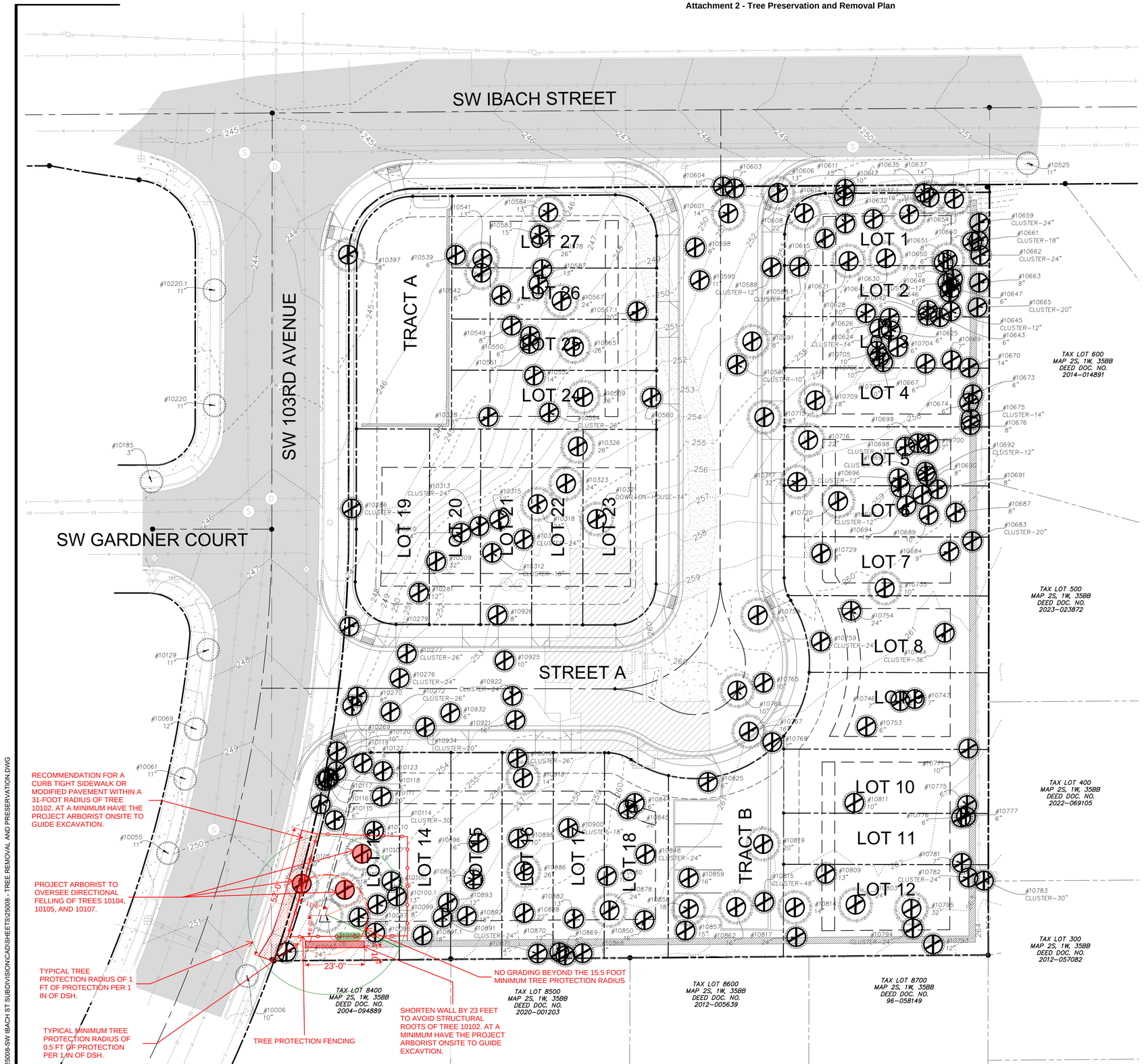
3J CONSULTING
CIVIL ENGINEERING
WATER RESOURCES
COMMUNITY PLANNING
9600 SW NIMBUS AVE., SUITE 100; BEAVERTON, OR 97008

PROJECT INFORMATION

| | |
|---|---|
| 3J PROJECT # | 25008 |
| TAX LOT(S) | 2S135BB02100 |
| LAND USE # | TBD |
| DESIGNED BY | SRC, SKS |
| CHECKED BY | JJS |

SHEET NUMBER
**C200**

P:\25008-SW IBACH ST SUBDIVISION\CAD\SHEETS\25008 - SITE PLAN.DWG




## LEGEND

- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- TREE TO BE REMOVED

## GENERAL TREE INVENTORY STATISTICS

| | |
|---|---|
| TOTAL TREE INVENTORY (IN PROJECT LIMITS): | 195 EA |
| TOTAL TREES RETAINED: | 1 EA |
| TOTAL TREES REMOVED: | 194 EA |

## TREE PRESERVATION RECOMMENDATIONS

**BEFORE CONSTRUCTION**

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N
W E
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SCALE: 1" = 20'
0 20 40 FT

SECTION 35, T.2S., R.1W. W.M., WASHINGTON COUNTY, OREGON

**TREE PLAN PREPARED BY:**
Todd Prager & Associates, LLC
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ISA Board Certified Master Arborist® PN-8730B
ASCA Registered Consulting Arborist ® #823
christine@toddprager.com | 971-978-9381
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Know what's below. Call before you dig. 811

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OREGON
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REVISIONS

# TREE REMOVAL AND PRESERVATION PLAN
# SW IBACH ST SUBDIVISION
DEZ DEVELOPMENT LLC
TUALATIN, OR

3J CONSULTING
CIVIL ENGINEERING
WATER RESOURCES
COMMUNITY PLANNING
9600 SW NIMBUS AVE., SUITE 100; BEAVERTON, OR 97008

PROJECT INFORMATION
3J PROJECT # | 25008
TAX LOT(S) | 2S135BB02100
LAND USE # | TBD
DESIGNED BY | SRC, SKS
CHECKED BY | JJS

SHEET NUMBER
**C110**

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Todd Prager & Associates LLC

**Attachment 3 - Tree Inventory**
10150 SW Ibach Street, Tualatin, OR 97062

| Tree No | Common name | Scientific name | DSH[1] (in) | Single Stem DSH[2] (in) | C-Rad[3] (ft) | Health[4] | Structure[4] | Property Status | Comments | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|
| 10006 | red maple | *Acer rubrum* | 10 | 10 | 12 | good | good | No | | n/a |
| 10055 | red maple | *Acer rubrum* | 11 | 11 | 12 | good | good | No | | n/a |
| 10061 | red maple | *Acer rubrum* | 12 | 12 | 12 | good | good | No | | n/a |
| 10069 | red maple | *Acer rubrum* | 14 | 14 | 12 | good | good | No | diameter measured at 3.5' | n/a |
| 10085 | sweet cherry | *Prunus avium* | 21 | 21 | 22 | fair | fair | Yes | thin, asymmetrical crown, self-corrected phototropic lean | remove |
| 10096 | red alder | *Alnus rubra* | 18 | 18 | 8 | fair | fair | Yes | trunk cavities, thin | remove |
| 10097 | red alder | *Alnus rubra* | 8 | 8 | 0 | dead | dead | Yes | | remove |
| 10099 | red alder | *Alnus rubra* | 9 | 9 | 4 | fair | poor | Yes | thin, high crown, asymmetrical crown | remove |
| 10100 | red alder | *Alnus rubra* | 16 | 16 | 0 | dead | dead | Yes | | remove |
| 10100.1 | red alder | *Alnus rubra* | 13 | 13 | 0 | dead | dead | Yes | location approximated by arborist | remove |
| 10102 | Douglas-fir | *Pseudotsuga menziesii* | 31 | 31 | 25 | good | fair | Yes | asymmetrical crown, sweeping trunk | RETAIN |
| 10104 | Douglas-fir | *Pseudotsuga menziesii* | 18 | 18 | 12 | fair | fair | Yes | thin, suppressed, asymmetrical crown, narrow crown, high crown | remove |
| 10105 | Douglas-fir | *Pseudotsuga menziesii* | 25 | 25 | 18 | fair | fair | Yes | dead branches 0 to 2" diameter, asymmetrical crown, self-corrected phototropic lean | remove |
| 10107 | Douglas-fir | *Pseudotsuga menziesii* | 19 | 19 | 18 | fair | fair | Yes | thin, narrow crown, trunk wound, closed trunk wound at 25' | remove |
| 10110 | bigleaf maple | *Acer macrophyllum* | 21 | 21 | 20 | good | fair | Yes | asymmetrical crown | remove |
| 10111 | sweet cherry | *Prunus avium* | 21 | 21 | 20 | fair | fair | Yes | codominant leaders, dead branches 0 to 2" diameter, trunk oddities | remove |
| 10114 | red alder | *Alnus rubra* | 18, 16 | 24 | 25 | good | fair | Yes | codominant leaders, asymmetrical crown, self-corrected phototropic lean | remove |
| 10115 | sweet cherry | *Prunus avium* | 8 | 8 | 15 | fair | fair | Yes | asymmetrical crown, suppressed, self-corrected phototropic lean | remove |
| 10116 | sweet cherry | *Prunus avium* | 8 | 8 | 14 | fair | fair | Yes | asymmetrical crown, self-corrected phototropic lean, suppressed | remove |
| 10117 | sweet cherry | *Prunus avium* | 7 | 7 | 7 | fair | fair | Yes | self-corrected phototropic lean, suppressed, high crown | n/a |
| 10118 | sweet cherry | *Prunus avium* | 6 | 6 | 6 | fair | fair | Yes | suppressed, self-corrected phototropic lean, high crown | n/a |
| 10119 | sweet cherry | *Prunus avium* | 6 | 6 | 5 | good | fair | Yes | high crown, narrow crown, self-corrected phototropic lean | n/a |
| 10120 | one seed hawthorn | *Crataegus monogyna* | 11 | 11 | 15 | fair | fair | Yes | epicormic branches, crossing leaders | remove |
| 10122 | bigleaf maple | *Acer macrophyllum* | 9 | 9 | 15 | good | fair | Yes | asymmetrical crown, self-corrected phototropic lean | remove |
| 10123 | bigleaf maple | *Acer macrophyllum* | 17 | 17 | 20 | fair | fair | Yes | asymmetrical crown, high crown, trunk cavities, dead 9" leader, lacks trunk flare, cavity open but has good response | remove |
| 10129 | red maple | *Acer rubrum* | 11 | 11 | 10 | good | good | No | | n/a |
| 10185 | eastern redbud | *Cercis canadensis* | 3 | 3 | 8 | fair | fair | No | thin | n/a |
| 10220 | red maple | *Acer rubrum* | 11 | 11 | 10 | good | good | No | | n/a |
| 10220.1 | red maple | *Acer rubrum* | 11 | 11 | 12 | good | good | No | location approximated by arborist | n/a |
| 10269 | sweet cherry | *Prunus avium* | 7 | 7 | 15 | fair | fair | Yes | thin, high crown, self-corrected phototropic lean, suppressed | n/a |
| 10270 | sweet cherry | *Prunus avium* | 10 | 10 | 16 | good | fair | Yes | thin, asymmetrical crown, self-corrected phototropic lean | remove |
| 10272 | bigleaf maple | *Acer macrophyllum* | 14, 12 | 18 | 18 | good | fair | Yes | asymmetrical crown, codominant leaders with inclusion, dead branches 2 to 4" diameter | remove |
| 10276 | sweet cherry | *Prunus avium* | 20 | 20 | 20 | fair | fair | Yes | asymmetrical crown, suppressed, self-corrected phototropic lean | remove |
| 10277 | bigleaf maple | *Acer macrophyllum* | 16 | 16 | 15 | poor | very poor | Yes | suspected disease, dead and failed codominant leaders, brittle cinder fungus | remove |
| 10279 | red alder | *Alnus rubra* | 8 | 8 | 7 | good | fair | Yes | self-corrected phototropic lean, narrow crown | remove |
| 10281 | sweet cherry | *Prunus avium* | 11 | 11 | 14 | good | fair | Yes | asymmetrical crown, self-corrected phototropic lean | remove |
| 10286 | bigleaf maple | *Acer macrophyllum* | 9, 9, 8 | 15 | 16 | good | fair | Yes | codominant leaders with inclusion, asymmetrical crown | remove |

Todd Prager & Associates LLC

**Attachment 3 - Tree Inventory**
10150 SW Ibach Street, Tualatin, OR 97062

| Tree No | Common name | Scientific name | DSH[1] (in) | Single Stem DSH[2] (in) | C-Rad[3] (ft) | Health[4] | Structure[4] | Property Status | Comments | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|
| 10309 | bigleaf maple | *Acer macrophyllum* | 36 | 36 | 20 | poor | poor | Yes | diameter measured at 2', asymmetrical crown, codominant leaders with inclusion, trunk cavities, 12" diameter stem failed at base | remove |
| 10310 | bigleaf maple | *Acer macrophyllum* | 12 | 12 | 10 | dead | dead | Yes | | remove |
| 10312 | sweet cherry | *Prunus avium* | 12, 14 | 18 | 10 | fair | fair | Yes | dead branches 0 to 2" diameter, thin, codominant leaders with inclusion | remove |
| 10313 | bigleaf maple | *Acer macrophyllum* | 12, 9 | 15 | 15 | fair | poor | Yes | codominant leaders with inclusion, trunk cavities, suspected disease, brittle cinder fungus | remove |
| 10315 | bigleaf maple | *Acer macrophyllum* | 12 | 12 | 18 | good | fair | Yes | asymmetrical crown, self-corrected phototropic lean | remove |
| 10316 | sweet cherry | *Prunus avium* | 13, 12 | 18 | 10 | dead | dead | Yes | | remove |
| 10318 | Douglas-fir | *Pseudotsuga menziesii* | 27 | 27 | 25 | good | fair | Yes | high crown | remove |
| 10321 | western hemlock | *Tsuga heterophylla* | 14 | 14 | 10 | dead | dead | Yes | failed | remove |
| 10323 | Douglas-fir | *Pseudotsuga menziesii* | 24 | 24 | 25 | good | fair | Yes | high crown | remove |
| 10326 | Douglas-fir | *Pseudotsuga menziesii* | 27 | 27 | 25 | good | fair | Yes | high crown | remove |
| 10328 | scouler's willow | *Salix scouleriana* | 13 | 13 | 10 | fair | fair | yes | suppressed, self-corrected phototropic lean | remove |
| 10397 | Douglas-fir | *Pseudotsuga menziesii* | 8 | 8 | 10 | good | good | )n property line | | remove |
| 10525 | red maple | *Acer rubrum* | 11 | 11 | 8 | good | good | No | | n/a |
| 10539 | black cottonwood | *Populus trichocarpa* | 8 | 8 | 8 | fair | fair | Yes | asymmetrical crown, crooked trunk | remove |
| 10541 | Douglas-fir | *Pseudotsuga menziesii* | 14 | 14 | 15 | good | good | Yes | | remove |
| 10542 | Douglas-fir | *Pseudotsuga menziesii* | 7 | 7 | 8 | good | fair | Yes | asymmetrical crown | n/a |
| 10543 | red alder | *Alnus rubra* | 10 | 10 | 10 | dead | dead | Yes | | remove |
| 10549 | Scouler's willow | *Salix scouleriana* | 9 | 9 | 10 | good | fair | Yes | self-corrected phototropic lean | remove |
| 10550 | sweet cherry | *Prunus avium* | 6 | 6 | 5 | fair | fair | Yes | suppressed | n/a |
| 10551 | sweet cherry | *Prunus avium* | 7 | 7 | 7 | fair | fair | Yes | asymmetrical crown, suppressed, self-corrected phototropic lean | n/a |
| 10552 | bigleaf maple | *Acer macrophyllum* | 14 | 14 | 15 | good | fair | Yes | asymmetrical crown, self-corrected phototropic lean | remove |
| 10554 | bigleaf maple | *Acer macrophyllum* | 19, 16 | 25 | 35 | good | fair | Yes | codominant leaders, asymmetrical crown | remove |
| 10559 | Douglas-fir | *Pseudotsuga menziesii* | 30 | 30 | 30 | good | good | Yes | | remove |
| 10560 | white poplar | *Populus alba* | 12 | 12 | 8 | poor | very poor | Yes | leaning trunk, high crown, thin, failed trees to either side | remove |
| 10565 | Douglas-fir | *Pseudotsuga menziesii* | 30 | 30 | 25 | good | good | Yes | | remove |
| 10567 | Douglas-fir | *Pseudotsuga menziesii* | 27 | 27 | 25 | good | good | Yes | | remove |
| 10567.1 | bigleaf maple | *Acer macrophyllum* | 14, 14 | 20 | 18 | good | fair | Yes | codominant leaders with inclusion, location approximated by arborist | remove |
| 10578 | black cottonwood | *Populus trichocarpa* | 24 | 24 | 20 | good | good | Yes | | remove |
| 10583 | Scouler's willow | *Salix scouleriana* | 15 | 15 | 15 | good | fair | Yes | codominant leaders, asymmetrical crown | remove |
| 10584 | blue spruce | *Picea pungens* | 12 | 12 | 8 | fair | fair | Yes | asymmetrical crown, dead branches 0 to 2" diameter, self-corrected phototropic lean | remove |
| 10587 | Scouler's willow | *Salix scouleriana* | 13 | 13 | 15 | good | fair | Yes | asymmetrical crown, self-corrected phototropic lean | remove |
| 10588 | one seed hawthorn | *Crataegus monogyna* | 8, 4, 4 | 10 | 10 | fair | fair | Yes | multi-stem, dead branches 2 to 4" diameter, epicormic branches | remove |
| 10588.1 | one seed hawthorn | *Crataegus monogyna* | 8, 2 | 8 | 4 | fair | poor | Yes | thin, asymmetrical crown, suppressed, dead branches 0 to 2" diameter, multi-stem, location approximated by arborist | remove |
| 10590 | one seed hawthorn | *Crataegus monogyna* | 7, 4, 2 | 8 | 4 | fair | poor | Yes | multi-stem, asymmetrical crown, suppressed | remove |
| 10591 | Norway spruce | *Picea abies* | 9 | 9 | 0 | dead | dead | Yes | | remove |
| 10595 | English walnut | *Juglans regia* | 11 | 11 | 10 | good | fair | Yes | dead branches 2 to 4" diameter, self-corrected phototropic lean | remove |

Todd Prager & Associates LLC

**Attachment 3 - Tree Inventory**
10150 SW Ibach Street, Tualatin, OR 97062

| Tree No | Common name | Scientific name | DSH[1] (in) | Single Stem DSH[2] (in) | C-Rad[3] (ft) | Health[4] | Structure[4] | Property Status | Comments | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|
| 10598 | English walnut | *Juglans regia* | 6, 4 | 7 | 7 | fair | fair | Yes | asymmetrical crown, suppressed, codominant leaders, dead branches 0 to 2" diameter, thin | n/a |
| 10601 | Norway spruce | *Picea abies* | 16 | 16 | 10 | fair | fair | Yes | dead branches 0 to 2" diameter, codominant leaders, leaning trunk | remove |
| 10603 | European white birch | *Betula pendula* | 8 | 8 | 5 | poor | very poor | On property lin | Snag at 10' | remove |
| 10604 | European white birch | *Betula pendula* | 9 | 9 | 8 | fair | fair | On property lin | dying from the top down, asymmetrical crown, leaning trunk | remove |
| 10606 | Douglas-fir | *Pseudotsuga menziesii* | 14 | 14 | 12 | good | fair | Yes | asymmetrical crown | remove |
| 10608 | Ponderosa pine | *Pinus ponderosa* | 26 | 26 | 15 | fair | fair | Yes | thin, discolored foliage, high crown | remove |
| 10611 | red alder | *Alnus rubra* | 17 | 17 | 15 | good | good | On property line | | remove |
| 10612 | red alder | *Alnus rubra* | 11 | 11 | 10 | good | fair | Yes | leaning trunk, asymmetrical crown | remove |
| 10614 | European white birch | *Betula pendula* | 8 | 8 | 1 | dead | dead | Yes | | remove |
| 10615 | European white birch | *Betula pendula* | 10 | 10 | 10 | fair | very poor | Yes | dying from the top down, storm damage | remove |
| 10621 | Ponderosa pine | *Pinus ponderosa* | 13 | 13 | 8 | very poor | very poor | Yes | high crown, thin, 10 % live crown | remove |
| 10624 | sweet cherry | *Prunus avium* | 9, 7 | 11 | 8 | poor | very poor | Yes | multi-stem, thin, asymmetrical crown, suppressed, high crown, narrow crown | remove |
| 10625 | sweet cherry | *Prunus avium* | 6 | 6 | 3 | poor | very poor | Yes | asymmetrical crown, suppressed, narrow crown, high crown | n/a |
| 10626 | sweet cherry | *Prunus avium* | 6 | 6 | 5 | poor | very poor | Yes | thin, asymmetrical crown, suppressed, high crown, narrow crown | n/a |
| 10628 | sweet cherry | *Prunus avium* | 10 | 10 | 10 | poor | poor | Yes | asymmetrical crown, suppressed, dead branches 0 to 2" diameter, thin | remove |
| 10630 | Ponderosa pine | *Pinus ponderosa* | 19 | 19 | 10 | very poor | very poor | Yes | thin, discolored foliage, leaning trunk, codominant leaders, 15% live crown | remove |
| 10632 | sweet cherry | *Prunus avium* | 9 | 9 | 10 | good | fair | Yes | self-corrected phototropic lean | remove |
| 10635 | European white birch | *Betula pendula* | 8 | 8 | 8 | fair | very poor | Yes | self-corrected phototropic lean, narrow crown, topped for utilities | remove |
| 10637 | Douglas-fir | *Pseudotsuga menziesii* | 14 | 14 | 12 | good | fair | Yes | self-corrected phototropic lean | remove |
| 10637.1 | Ponderosa pine | *Pinus ponderosa* | 19 | 19 | 16 | good | fair | Yes | codominant leaders, high crown, location approximated by arborist | remove |
| 10641 | sweet cherry | *Prunus avium* | 7 | 7 | 7 | fair | fair | Yes | high crown, narrow crown | n/a |
| 10642 | sweet cherry | *Prunus avium* | 6 | 6 | 6 | fair | fair | Yes | thin, suppressed, self-corrected phototropic lean | n/a |
| 10643 | sweet cherry | *Prunus avium* | 7 | 7 | 8 | fair | fair | Yes | suppressed, high crown, narrow crown, choked by ivy | n/a |
| 10645 | sweet cherry | *Prunus avium* | 8, 6 | 10 | 8 | fair | fair | Yes | codominant leaders, suppressed, high crown, choked by ivy | remove |
| 10646 | sweet cherry | *Prunus avium* | 7 | 7 | 5 | fair | poor | Yes | suppressed, self-corrected phototropic lean, choked by ivy, narrow crown | n/a |
| 10647 | sweet cherry | *Prunus avium* | 8 | 8 | 6 | fair | poor | Yes | thin, suppressed, high crown, narrow crown, choked by ivy | remove |
| 10648 | sweet cherry | *Prunus avium* | 8, 6 | 10 | 10 | fair | fair | Yes | codominant leaders, suppressed, self-corrected phototropic lean, choked by ivy | remove |
| 10649 | sweet cherry | *Prunus avium* | 11 | 11 | 10 | poor | poor | Yes | suppressed, high crown, choked by ivy | remove |
| 10650 | sweet cherry | *Prunus avium* | 7 | 7 | 6 | very poor | very poor | Yes | thin, suppressed, choked by ivy | n/a |
| 10651 | sweet cherry | *Prunus avium* | 8 | 8 | 5 | poor | poor | Yes | thin, suppressed, high crown, choked by ivy | remove |
| 10654 | Douglas-fir | *Pseudotsuga menziesii* | 8 | 8 | 8 | good | good | Yes | | remove |
| 10659 | sweet cherry | *Prunus avium* | 16, 12, 9 | 22 | 12 | fair | fair | Yes | multi-stem, thin, choked by ivy | remove |
| 10660 | sweet cherry | *Prunus avium* | 8 | 8 | 4 | poor | poor | Yes | thin, suppressed, high crown, choked by ivy, narrow crown | remove |
| 10661 | sweet cherry | *Prunus avium* | 13, 7 | 15 | 8 | poor | poor | Yes | codominant leaders, suppressed, high crown, choked by ivy | remove |
| 10662 | sweet cherry | *Prunus avium* | 10, 10, 9 | 17 | 4 | very poor | very poor | Yes | choked by ivy, 5 % live crown | remove |
| 10663 | sweet cherry | *Prunus avium* | 10 | 10 | 10 | poor | poor | Yes | suppressed, self-corrected phototropic lean, choked by ivy, high crown | remove |
| 10665 | sweet cherry | *Prunus avium* | 11, 10 | 15 | 8 | poor | poor | Yes | codominant leaders, suppressed, choked by ivy, high crown | remove |
| 10667 | sweet cherry | *Prunus avium* | 6 | 6 | 2 | poor | very poor | Yes | suppressed, narrow crown, high crown, thin | n/a |
| 10669 | sweet cherry | *Prunus avium* | 9 | 9 | 6 | poor | very poor | Yes | trunk cavities, crooked trunk, suppressed, trunk cavity from 2 to 20' | remove |
| 10670 | bigleaf maple | *Acer macrophyllum* | 15 | 15 | 15 | good | fair | Yes | self-corrected phototropic lean, asymmetrical crown | remove |

Todd Prager & Associates LLC

**Attachment 3 - Tree Inventory**
10150 SW Ibach Street, Tualatin, OR 97062

| Tree No | Common name | Scientific name | DSH[1] (in) | Single Stem DSH[2] (in) | C-Rad[3] (ft) | Health[4] | Structure[4] | Property Status | Comments | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|
| 10673 | bigleaf maple | *Acer macrophyllum* | 6 | 6 | 12 | good | fair | Yes | lost and regrew top, asymmetrical crown, choked by ivy | n/a |
| 10674 | bigleaf maple | *Acer macrophyllum* | 7 | 7 | 15 | good | fair | Yes | asymmetrical crown, choked by ivy | n/a |
| 10675 | bigleaf maple | *Acer macrophyllum* | 8, 6 | 10 | 12 | fair | fair | Yes | asymmetrical crown, suppressed, self-corrected phototropic lean, choked by ivy | remove |
| 10676 | bigleaf maple | *Acer macrophyllum* | 10 | 10 | 15 | good | fair | Yes | asymmetrical crown, self-corrected phototropic lean, choked by ivy | remove |
| 10683 | sweet cherry | *Prunus avium* | 9, 8 | 12 | 12 | good | fair | Yes | asymmetrical crown, self-corrected phototropic lean, codominant leaders | remove |
| 10684 | sweet cherry | *Prunus avium* | 11 | 11 | 15 | fair | fair | Yes | thin, crooked trunk | remove |
| 10687 | sweet cherry | *Prunus avium* | 8 | 8 | 4 | poor | poor | Yes | thin, high crown, narrow crown | remove |
| 10689 | sweet cherry | *Prunus avium* | 11 | 11 | 8 | fair | poor | Yes | high crown, narrow crown, lost and regrew top | remove |
| 10690 | sweet cherry | *Prunus avium* | 9 | 9 | 6 | poor | poor | Yes | thin, high crown, narrow crown | remove |
| 10691 | sweet cherry | *Prunus avium* | 9 | 9 | 8 | fair | poor | Yes | thin, narrow crown, high crown | remove |
| 10692 | sweet cherry | *Prunus avium* | 7, 6 | 9 | 5 | poor | very poor | Yes | multi-stem, thin, asymmetrical crown, high crown, narrow crown | remove |
| 10693 | sweet cherry | *Prunus avium* | 10, 10 | 14 | 6 | poor | very poor | Yes | multi-stem, asymmetrical crown, bowed trunk, high crown, narrow crown | remove |
| 10694 | English walnut | *Juglans regia* | 15 | 15 | 15 | good | fair | Yes | self-corrected phototropic lean, asymmetrical crown | remove |
| 10695 | sweet cherry | *Prunus avium* | 7, 4 | 8 | 4 | poor | poor | Yes | multi-stem, thin, suppressed, high crown | remove |
| 10696 | sweet cherry | *Prunus avium* | 7, 6, 4 | 10 | 8 | poor | very poor | Yes | multi-stem, dead branches 2 to 4" diameter, asymmetrical crown, suppressed | remove |
| 10698 | sweet cherry | *Prunus avium* | 6, 6 | 8 | 4 | poor | poor | Yes | asymmetrical crown, suppressed, high crown, multi-stem | remove |
| 10699 | sweet cherry | *Prunus avium* | 6 | 6 | 3 | poor | very poor | Yes | suppressed, high crown, narrow crown, thin | n/a |
| 10700 | sweet cherry | *Prunus avium* | 7, 3 | 8 | 4 | poor | poor | Yes | multi-stem, thin, suppressed, high crown, narrow crown | remove |
| 10704 | sweet cherry | *Prunus avium* | 6 | 6 | 3 | poor | very poor | Yes | asymmetrical crown, suppressed, high crown, narrow crown | n/a |
| 10705 | sweet cherry | *Prunus avium* | 10 | 10 | 8 | poor | poor | Yes | asymmetrical crown, suppressed, dead branches 0 to 2" diameter | remove |
| 10706 | sweet cherry | *Prunus avium* | 10 | 10 | 3 | poor | very poor | Yes | suppressed, high crown, narrow crown, bowed trunk | remove |
| 10707 | sweet cherry | *Prunus avium* | 8 | 8 | 3 | poor | very poor | Yes | thin, suppressed, narrow crown, high crown | remove |
| 10709 | western redcedar | *Thuja plicata* | 19 | 19 | 18 | fair | fair | Yes | thin, dead branches 0 to 2" diameter | remove |
| 10715 | Douglas-fir | *Pseudotsuga menziesii* | 33 | 33 | 25 | good | fair | Yes | codominant leaders with inclusion, dead branches 2 to 4" diameter | remove |
| 10716 | lodgepole pine | *Pinus contorta* | 22 | 22 | 10 | fair | poor | Yes | thin, dead branches 0 to 2" diameter, high crown, narrow crown, codominant leaders with inclusion, poor trunk taper | remove |
| 10717 | Norway spruce | *Picea abies* | 28 | 28 | 15 | poor | very poor | Yes | dead branches greater than 4" diameter, codominant leaders with inclusion, asymmetrical crown | remove |
| 10720 | Norway spruce | *Picea abies* | 13 | 13 | 0 | dead | dead | Yes | | remove |
| 10729 | kousa dogwood | *Cornus kousa* | 5, 4 | 6 | 3 | poor | poor | Yes | multi-stem, asymmetrical crown, dead branches 0 to 2" diameter | n/a |
| 10735 | Norway spruce | *Picea abies* | 10 | 10 | 0 | dead | dead | Yes | | remove |
| 10744 | sweet cherry | *Prunus avium* | 20, 20 | 28 | 25 | fair | poor | Yes | dead branches 0 to 2" diameter, codominant leaders with inclusion, trunk cavities | remove |
| 10746 | Scouler's willow | *Salix scouleriana* | 8 | 8 | 8 | fair | fair | Yes | thin, history of branch/leader failure, leaning trunk, trunk seam | remove |
| 10747 | Scouler's willow | *Salix scouleriana* | 7 | 7 | 10 | good | fair | Yes | sweeping trunk | n/a |
| 10753 | red alder | *Alnus rubra* | 7 | 7 | 7 | fair | fair | Yes | dead branches 0 to 2" diameter, thin, dying from the top down | n/a |
| 10754 | sweet cherry | *Prunus avium* | 15, 14 | 21 | 12 | fair | fair | Yes | multi-stem, thin, asymmetrical crown, dead branches 0 to 2" diameter | remove |
| 10758 | Norway spruce | *Picea abies* | 14 | 14 | 0 | dead | dead | Yes | | remove |
| 10759 | sweet cherry | *Prunus avium* | 16, 12 | 20 | 10 | fair | poor | Yes | asymmetrical crown, thin, high crown, dead branches 0 to 2" diameter | remove |
| 10764 | lodgepole pine | *Pinus contorta* | 12 | 12 | 4 | fair | poor | Yes | codominant leaders with inclusion, dead branches 0 to 2" diameter, asymmetrical crown, discolored foliage | remove |

Todd Prager & Associates LLC

**Attachment 3 - Tree Inventory**
10150 SW Ibach Street, Tualatin, OR 97062

| Tree No | Common name | Scientific name | DSH[1] (in) | Single Stem DSH[2] (in) | C-Rad[3] (ft) | Health[4] | Structure[4] | Property Status | Comments | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|
| 10765 | red alder | *Alnus rubra* | 9, 5 | 10 | 12 | good | fair | Yes | multi-stem, asymmetrical crown | remove |
| 10767 | grand fir | *Abies grandis* | 17 | 17 | 12 | good | fair | Yes | asymmetrical crown, dead branches 0 to 2" diameter | remove |
| 10768 | European mountain ash | *Sorbus alnifolia* | 8 | 8 | 6 | very poor | very poor | Yes | codominant leaders, dying from the top down | remove |
| 10771 | sweet cherry | *Prunus avium* | 10 | 10 | 8 | very poor | very poor | Yes | dead branches greater than 4" diameter, leaning trunk, missing bark, trunk cavities, 10 % live crown | remove |
| 10775 | sweet cherry | *Prunus avium* | 8 | 8 | 10 | good | fair | Yes | self-corrected phototropic lean | remove |
| 10776 | sweet cherry | *Prunus avium* | 6 | 6 | 8 | good | fair | Yes | self-corrected phototropic lean | n/a |
| 10777 | sweet cherry | *Prunus avium* | 7 | 7 | 10 | good | fair | Yes | crooked trunk | n/a |
| 10781 | sweet cherry | *Prunus avium* | 9 | 9 | 15 | good | fair | Yes | self-corrected phototropic lean | remove |
| 10782 | sweet cherry | *Prunus avium* | 14, 12 | 18 | 15 | good | fair | Yes | self-corrected phototropic lean, codominant leaders with inclusion | remove |
| 10783 | sweet cherry | *Prunus avium* | 20, 20, 18 | 34 | 20 | good | fair | Yes | codominant leaders with inclusion, self-corrected phototropic lean, asymmetrical crown | remove |
| 10793 | sweet cherry | *Prunus avium* | 12 | 12 | 15 | good | fair | Yes | asymmetrical crown | remove |
| 10794 | sweet cherry | *Prunus avium* | 16, 13 | 21 | 20 | fair | fair | Yes | thin, asymmetrical crown, codominant leaders with inclusion, self-corrected phototropic lean | remove |
| 10795 | Douglas-fir | *Pseudotsuga menziesii* | 35 | 35 | 25 | good | fair | Yes | codominant leaders, lost and regrew top, codominant leaders at 30', racoon nest | remove |
| 10803 | Douglas-fir | *Pseudotsuga menziesii* | 26 | 26 | 25 | good | fair | Yes | crooked trunk | remove |
| 10809 | Scouler's willow | *Salix scouleriana* | 6 | 6 | 3 | very poor | very poor | Yes | dead branches greater than 4" diameter, thin, codominant leaders, missing bark, dead codominant leader | n/a |
| 10811 | English holly | *Ilex aquifolium* | 8, 6 | 10 | 8 | poor | very poor | Yes | codominant leaders, suppressed, trunk wound | remove |
| 10814 | Douglas-fir | *Pseudotsuga menziesii* | 14 | 14 | 12 | fair | fair | Yes | thin, dead branches 0 to 2" diameter, crooked trunk | remove |
| 10815 | white poplar | *Populus alba* | 28, 20 | 34 | 25 | fair | fair | Yes | multi-stem, dead branches greater than 4" d, failed stem still attached at base | remove |
| 10817 | sweet cherry | *Prunus avium* | 22 | 22 | 20 | fair | fair | Yes | codominant leaders with inclusion, asymmetrical crown, dead branches 0 to 2" diameter | remove |
| 10819 | Douglas-fir | *Pseudotsuga menziesii* | 23 | 23 | 20 | good | fair | Yes | asymmetrical crown, self-corrected phototropic lean | remove |
| 10825 | red alder | *Alnus rubra* | 6 | 6 | 4 | good | fair | Yes | crooked trunk, narrow crown | n/a |
| 10844 | English walnut | *Juglans regia* | 8 | 8 | 12 | good | fair | Yes | self-corrected phototropic lean, dead branches 0 to 2" diameter | remove |
| 10845 | black cottonwood | *Populus trichocarpa* | 28 | 28 | 25 | good | good | Yes | | remove |
| 10848 | red alder | *Alnus rubra* | 11, 10, 9 | 17 | 10 | fair | fair | Yes | multi-stem, thin, narrow crown | remove |
| 10850 | sweet cherry | *Prunus avium* | 17 | 17 | 10 | fair | poor | Yes | dead branches 0 to 2" diameter, asymmetrical crown, narrow crown, high crown | remove |
| 10857 | sweet cherry | *Prunus avium* | 15 | 15 | 10 | fair | fair | Yes | asymmetrical crown, narrow crown, invasive ground cover | remove |
| 10858 | Douglas-fir | *Pseudotsuga menziesii* | 20 | 20 | 8 | fair | fair | Yes | thin, asymmetrical crown, suppressed | remove |
| 10859 | sweet cherry | *Prunus avium* | 17 | 17 | 10 | fair | fair | Yes | dead branches 0 to 2" diameter, asymmetrical crown | remove |
| 10862 | Douglas-fir | *Pseudotsuga menziesii* | 18 | 18 | 16 | fair | fair | Yes | crooked trunk, thin, dead branches 0 to 2" diameter | remove |
| 10868 | river birch | *Betula nigra* | 9 | 9 | 6 | fair | fair | Yes | asymmetrical crown, narrow crown, choked by ivy | remove |
| 10869 | one seed hawthorn | *Crataegus monogyna* | 6 | 6 | 4 | fair | fair | Yes | multi-stem, choked by ivy, asymmetrical crown, suppressed | n/a |
| 10870 | river birch | *Betula nigra* | 11 | 11 | 4 | poor | poor | Yes | thin, suppressed, high crown, narrow crown, choked by ivy | remove |
| 10871 | river birch | *Betula nigra* | 13 | 13 | 8 | fair | fair | Yes | choked by ivy, asymmetrical crown | remove |
| 10878 | Douglas-fir | *Pseudotsuga menziesii* | 23 | 23 | 12 | fair | fair | Yes | codominant leaders with inclusion, dead branches 0 to 2" diameter, asymmetrical crown | remove |

Todd Prager & Associates LLC

**Attachment 3 - Tree Inventory**
10150 SW Ibach Street, Tualatin, OR 97062

| Tree No | Common name | Scientific name | DSH[1] (in) | Single Stem DSH[2] (in) | C-Rad[3] (ft) | Health[4] | Structure[4] | Property Status | Comments | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|
| 10880 | sweet cherry | *Prunus avium* | 22 | 22 | 8 | poor | poor | Yes | codominant leaders with inclusion, narrow crown, high crown, crooked trunk, dead branches 0 to 2" diameter | remove |
| 10882 | sweet cherry | *Prunus avium* | 14 | 14 | 5 | very poor | very poor | Yes | dead branches 0 to 2" diameter, thin, narrow crown, high crown, choked by ivy, epicormic branches | remove |
| 10886 | grand fir | *Abies grandis* | 28 | 28 | 15 | fair | fair | Yes | dead branches 0 to 2" diameter, thin | remove |
| 10888 | black cottonwood | *Populus trichocarpa* | 24 | 24 | 20 | fair | fair | Yes | choked by ivy, high crown, narrow crown | remove |
| 10891 | red alder | *Alnus rubra* | 12, 10 | 16 | 0 | dead | dead | Yes | | remove |
| 10891.1 | red alder | *Alnus rubra* | 18 | 18 | 10 | poor | poor | Yes | dying from the top down, dead branches 2 to 4" diameter, thin, location approximated by arborist | remove |
| 10892 | red alder | *Alnus rubra* | 17 | 17 | 8 | fair | fair | Yes | self-corrected phototropic lean, dead branches 0 to 2" diameter, choked by ivy | remove |
| 10893 | grand fir | *Abies grandis* | 12 | 12 | 5 | good | fair | Yes | asymmetrical crown, suppressed, crooked trunk | remove |
| 10895 | red alder | *Alnus rubra* | 15 | 15 | 3 | very poor | very poor | Yes | dying from the top down, narrow crown, high crown, thin | remove |
| 10896 | red alder | *Alnus rubra* | 18 | 18 | 0 | dead | dead | Yes | | remove |
| 10898 | eastern white pine | *Pinus strobus* | 10 | 10 | 6 | good | fair | Yes | crooked trunk, self-corrected phototropic lean, thin | remove |
| 10900 | red alder | *Alnus rubra* | 13, 8, 4 | 16 | 12 | poor | very poor | Yes | multi-stem, missing bark, dying from the top down, dead branches greater than 4" d, two of three stems dying from top down | remove |
| 10918 | river birch | *Betula nigra* | 13 | 13 | 0 | dead | dead | Yes | | remove |
| 10919 | river birch | *Betula nigra* | 19, 17 | 25 | 2 | very poor | very poor | Yes | codominant leaders, dying from the top down, epicormic branches | remove |
| 10921 | red alder | *Alnus rubra* | 17 | 17 | 10 | poor | poor | Yes | self-corrected phototropic lean, trunk wound, trunk seam, asymmetrical crown | remove |
| 10922 | red alder | *Alnus rubra* | 15, 10, 7 | 19 | 10 | fair | fair | Yes | multi-stem, dead branches 0 to 2" diameter, asymmetrical crown, thin | remove |
| 10925 | river birch | *Betula nigra* | 10 | 10 | 2 | very poor | very poor | Yes | dying from the top down, epicormic branches, snag at 25' | remove |
| 10926 | sweet cherry | *Prunus avium* | 10 | 10 | 10 | dead | dead | Yes | | remove |
| 10932 | apple | *Malus spp.* | 6 | 6 | 6 | good | fair | Yes | epicormic branches, suppressed, dead branches 0 to 2" diameter | n/a |
| 10934 | sweet cherry | *Prunus avium* | 10, 7, 5 | 13 | 10 | fair | fair | Yes | thin, dead branches 0 to 2" diameter, codominant leaders, self-corrected phototropic lean | remove |

[1]**DSH** is tree diameter measured at 4.5 feet above the ground level in inches, except as otherwise noted.

[2]**Single DSH** is the trunk diameter of a multi-stem tree converted to a single number according to the following formula: square root of the sum of the squared diameter of each trunk at 4.5 feet above mean ground level.

[3]**C-Rad** is crown radius measured in feet.

[4]**Health** and **Structure** are rated as good, fair, poor, very poor, to dead.

**Attachment 4 - Tree Protection Signage**



***STOP!***

***DO NOT MOVE THIS FENCE.***

# TREE PROTECTION ZONE

Inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the project arborist.

For questions regarding tree protection please call the project arborist:
Todd Prager & Associates, LLC
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971.295.4835

# Watering Your Trees

*Arborvitae (western redcedar or eastern whitecedar cultivars) prefer cool, shaded environments and is not drought tolerant. It does not like crowding but it is often planted in rows in dry, sun-exposed lawns and slowly dies unless irrigated. Drought weakens tree defenses, allowing beetles to move into these trees and finish them off.*

Climate change has resulted in long droughts and heatwaves across the state. So our landscape trees could use a little help from irrigation. You can aid them by planting the right tree in the right site and removing grass and other plants nearby that compete for moisture (leave some understory plants to prevent soil drying from sun and wind). Watering a drought-stressed tree will not bring back yellowing leaves but does prevent the loss of other leaves and death of roots and water transport tissues. Common symptoms of drought in trees are:

- Thinning canopies (premature leaf drop)
- Uneven crowns (asymmetrical)
- Scorched leaves
- Topkill (top of tree dies)
- Reduced growth (trunk diameter, needle length)
- Overabundant cones or seeds often paired with thin crowns to distinguish from a good seed year

## How do trees respond to drought?

Water is collected by roots and moved throughout the tree along a network of tubes (vascular tissues) then released through holes in leaves (stomata) into the air. Hot, dry or windy conditions can increase water loss from leaves. Drought stress kills roots and collapses vascular tissues. It can take many years for trees to rebuild these tissues. During that time they have fewer of these tissues to actively collect and move water throughout the tree.


## Drought tolerance

Western hemlock
True fir (including grand fir)
Western redcedar
Birch
Douglas-fir
Madrone
Incense cedar
Willamette Valley ponderosa pine
Eastern Oregon ponderosa pine
Oregon white oak

Trees combat drought by closing stomata to reduce water loss. However, this stops intake of carbon dioxide and thus photosynthesis, which starves the tree and is therefore only a short-term solution. Another strategy is to prematurely drop leaves to reduce the amount of tissues that both need and release moisture. This also reduces photosynthesis. Suppressing photosynthesis both reduces growth and resources allocated to defenses, which makes trees less resilient to other stressors, such as insects, diseases, mechanical damage, etc. For example, pitch is a primary mechanical and chemical barrier against tree-killing bark beetles. However, drought-stressed trees do not have enough moisture for both growth and defense. Because growth always takes priority, defenses are limited. Further, drought-stressed trees release chemicals that indicate when defenses are down, which attracts opportunistic bark beetles.

Most trees have no solution for when water runs short; they simply are not drought tolerant over the long term. Prolonged or repeated droughts often result in death, sometimes years later.

## Watering guidance

- Encourage healthy root development from the start by preventing drought or heat stress in seedlings. During planting keep trees cool and roots moist.
- Irrigation in the first 2-3 years is most important for young tree establishment. After that a network of roots is often established enough to absorb natural moisture. Most trees native to Oregon have the majority of their water-absorbing roots in the upper 12-18 inches of soil.
- Hand-watering, drip irrigation, soaker hoses, or passive irrigation (e.g., Tree-Gator-type watering bags, or 5-gallon buckets with small holes at the base set around the root zone) are preferred watering methods.
- Water around the root base or within the drip line (i.e., the area directly below the tree canopy).
- Trees need long, slow and deep watering to encourage deeper root growth. They get less benefit from a large dump of water or frequent, shallow watering.
- The larger the tree, the more water is needed, although larger trees may have more extensive root systems to access moisture deeper in the ground.
- A sprinkler set to water a lawn is typically not enough to support nearby mature trees.
- Water during the cooler parts of the day (preferably mornings) and keep irrigation systems low to the ground to avoid evaporation in the air and wet leaves, which can encourage diseases.
- Add 3-4 inches of mulch (wood chip instead of bark) around the base of a tree to retain moisture. Be careful not to pile mulch against the trunk, which can encourage rot.
- Avoid runoff by reducing water pressure or creating water catchment berms around the root base.
- Identify soil type (sand, loam, clay, etc.) to estimate ability for water to penetrate and be retained. Sandy soils drain too quickly and clay soils become waterlogged if overwatered. Allow the upper 3 inches of soil to get moderately dry between waterings to prevent fungal growth.
- Know how much water a tree needs before you choose what to plant. Pick a species density appropriate to the site. Sprawling invasives, such as ivy, blackberry and Scotch broom compete with trees for soil moisture. Shallow-rooted, drought-tolerant native ground covers can protect soil from drying out.
- Trees planted in containers require more frequent irrigation because roots are limited to moisture within the pot, which can dry out faster due to its smaller volume.

## Volume, frequency and duration

Concentrate watering during the warmest, driest months - generally May through September in most of Oregon. Estimates below may need to be adjusted for different soil types and depths, microclimates, tree size or species. Some native trees, such as Oregon white oak, most California oaks, and ponderosa pine should not be watered after their first couple of years. Below are irrigation rules of thumb to get you started. Adjust according to how your tree responds:

- 10-15 gallons a week for trees 3 years or younger
- 20-25 gallons a week for trees 4 - 10 years old
- Deep soakings once or twice a month for trees over 10 years old

## Avoid

- Fertilizing. Fertilization will not “green up” dying foliage and is rarely necessary. It spurs growth, which then increases water needs.
- Sudden reduction of water amount or frequency. Opt for gradually phasing out irrigation to avoid shocking trees.
- Overwatering. Too much water can waterlog soil, drowning roots and killing them. Symptoms can be confused with those of drought or nutrient deficiencies, such as yellowing leaves that drop early, poor growth, thinning canopies or topkill.

# Attachment 6 - Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. Loss or alteration of any part of this delivered report invalidates the entire report.
4. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
5. The consultant's role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
6. The client is advised to ensure compliance with applicable local, state, and federal laws and regulations that could relate to this project, i.e., Local and State Tree or Natural Resource Regulations, Local and State Development Regulations, Migratory Bird Treaty Act, Endangered Species Act, Clean Water Act, Americans with Disabilities Act, etc. The consultant may advise the client of issues regarding local, state, and federal laws that the consultant believes would be helpful to the client, but any such advice or comment is not a determination or interpretation of local, state, or federal law or regulation.
7. The information provided in this inspection report includes information and recommendations for the benefit of our client's decision making. The ultimate decision of whether to retain, remove, prune, inspect, or otherwise apply treatment recommendations to a tree is the sole responsibility of the tree owner, and not the responsibility of the project arborist. If there are any questions or concerns with the information presented in this report, please contact our firm so that we can address any issues as soon as possible.
8. The purpose of this report is to:
    a. Provide tree removal findings and recommendations based on the proposed site and grading plan for the Ibach Subdivision project; and
    b. Provide recommendations for adequately protecting the tree to be retained during construction.