

TREE PROTECTION AND REMOVAL PLAN

For

AVERY 2

PHELON DEVELOPMENT



March 28, 2022

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City of Tualatin, Oregon – Avery 2 Property

Arboricultural Assessment and Tree Protection/ Removal Plan

Report Summary.

This report includes the location and status of the trees that fall within the perimeters of the proposed development of the project. The trees are marked on the site plan (Appendix C), including their location and corresponding number. This report is created following the development code of the City of Tualatin. The City Code pertaining to this site are:

- TDC-74.720 Protection of trees during development

General Information.

Project Location and Identification

The property is in the City of Tualatin, Oregon. The physical address is:

- 10500 SW Tualatin-Sherwood Road, Oregon

Proposal

The project proposes the development of the lot with a commercial building. The construction proposed includes site improvements in the form of utilities and new landscaping.

Assignment:

- Locate and identify the trees that will be affected based on the proposed construction according to the provided site plan (Appendix C)
- Assess the overall condition of the trees and provide a rating associated with the individual trees. Ratings are determined by comparing the structural integrity, abnormalities and expected growth habits versus current growth habits.
- Provide findings/ recommendations pertaining to the trees.

The data collected in the field is used to determine the viability and survivability of the trees during and after construction.

Tree Inventory and assessment

On 11/30/2021 I completed the inventory of the trees. The trees in question were evaluated for the impacts by the construction project, their overall condition, and verified in comparison to the site plan provided by Phelan Development which indicates the site improvements (Appendix C). The data collected for each tree includes the tree number, trunk diameter (DBH), tree health and condition, comments if applicable and removal recommendations.

Purpose and Use of this Report.

The purpose of this report is to establish a Tree Protection Plan that will serve as directions that need to be followed during the construction project. This report documents this information and is intended to be used by the owner, construction contractor, the sub-contractors, the tree care, and landscape professionals who are involved in the construction project.

Limits of the report

The trees were visually assessed above ground only, no tools were used. The field data was collected using an iPadOS 15.1 and a blue tooth connected GNSS Surveyor for GPS function. Although the location of the trees is accurate, the location of the trees is not up to NSPS (National Society of Surveyor) standards and are meant as a visual aid only. The survey points collected should not be used for architectural drawings.

The site was not yet surveyed, and the conclusion of my findings are made by visually comparing the landmarks to the provided site plan. For the purpose of this report only the trees within the disturbance area are inventoried and documented. The primary trees inventoried are trees over 8" DBH. Some smaller trees are inventoried because of the landmark characteristics.

Observations

Site observations

The proposed building is planned on the vacant lot to the SW of the property. The area where the development is proposed shows characteristics of an orchard. The "orchard" area has been neglected for some time and volunteer trees have taken over the stand. The vegetation in the area is primarily comprised of *Corylus avellana*, commonly known as Filbert or Hazelnut, and *Malus* ssp. or Apple trees. Hazelnut is typically not considered a tree but rather a shrub. For this report only the species that are considered trees are inventoried.

To the NE of the property is a stand of *Pinus* ssp. (Pine trees of different varieties). Most of the trees are relatively small from an arboricultural perspective, there are however a few large specimen trees measuring 40" to 60" DBH and reaching heights of 125-feet tall (verified with a hypsometer).

The neighboring property to the NE is currently being developed and a large portion of the stand of trees has been removed. The development encroaches on the remaining stand. The trees at the northern edge may have been negatively affected by the grading activities. The tree protection fencing for the neighboring project is directly against tree number 91 and there are signs of ground disturbance directly to the north of the tree. Tree 91 is a 60" DBH Ponderosa Pine measuring 125-feet tall. To the west is tree 90 which is a 38" DBH *Quercus garryana* or Oregon White Oak.

The ground disturbance occurred well within the critical root zone of both trees which may have compromised the structural integrity of the root system and bio-mechanical strength of the trees. It is advisable to perform a level 3 tree risk assessment and investigate if damages occurred and if so, the extend of them. If it is determined that significant damages occurred, the trees may have to be removed for safety concerns. The trees are currently shown to be protected in this plan.

Tree Removal Recommendations

The City of Tualatin Code requires that private trees over 8" DBH are permitted if more than 4 trees are removed in a calendar year. 11 or more trees per year requires an architectural review application which can be found at: <https://www.tualatinoregon.gov/planning/architectural-review-ar-instructions>

The tree removals are incorporated with the larger permit packet and a separate permit is not required.

For the purpose of this report trees larger than 8" DBH were the primary focus of the inventory. Some smaller trees were incorporated because of their landmark features.

The trees that are recommended for removal are within the direct footprint or in the vicinity of the site improvements. The trees that are not within the direct footprint of the improvements are recommended for removal due to their overall health and condition. The condition of the trees is determined by comparing the species profile of the tree and how it "should be growing" versus the status of the trees at the time of my visit. Trees may receive a poor rating for structure when the trunk or other parts of the tree show signs of decay, for example. Comparing the impacts of the project to the overall condition of the tree determines if the tree is retained or removed.

Trees 1 through 102

The trees proposed for removal are in the direct footprint of the proposed building and/or will be impacted significantly due to the required grading.

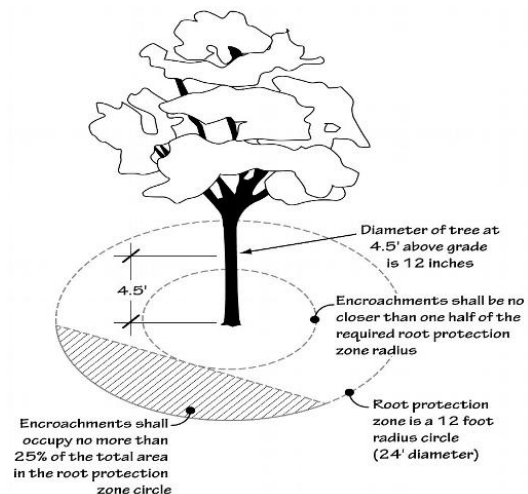
Tree 78

Is proposed for removal due to the structural integrity. The trunk of the tree has split and the tree itself is in poor health.

Discussion and Tree Protection

The critical root zone is typically calculated at 6-inches per diameter inch of the trunk measured at 4.5" from the original grade. For example: a 12-inch DBH tree should have a tree protection zone radius of 6-feet. Depending on the plant species profile the fencing may need to be adjusted to accommodate the tree's construction tolerance. The City of Tualatin Code TDC-74.720- Protection of Trees During Construction states that:

"During excavation and construction, the person must guard the tree within 6-feet and all building materials and/or debris must be kept at least 4-feet from any tree".



Tree Protection Recommendation

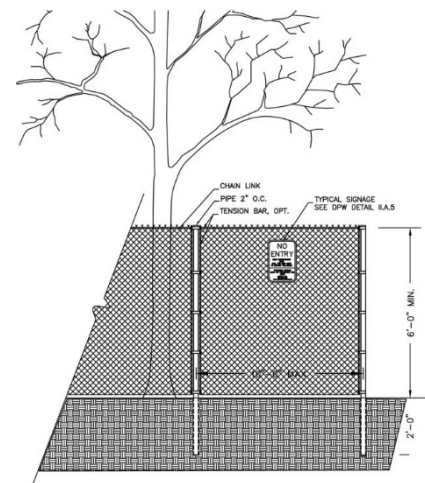
It is recommended to hold a site meeting with the contractors involved in the project to go over the tree plan and have the contractors sign a memorandum. The memorandum should show the provision and the penalty for violation of the Tree Plan. The penalty should include the cost of the appraised tree, fines incurred by the municipalities. The penalties should be made payable to the owner.

Excavation near the TPZ (Tree Protection Zone)

- All excavation, demolition, install of concrete forms... etc. within 1 foot per diameter inch shall be monitored by one of our Certified Arborists assigned to the project to ensure that the impacts are minimal to the trees to be preserved. Techniques used by the project arborist will follow arboricultural guidelines and best management practices to preserve the trees (such as: City code, ANSI a300 standards... etc.)
- The excavator and/ or equipment shall stay outside the critical root zone/ drip line (tips of the branches) and carefully remove layers of soil while the project arborist probes the soil for roots 2" and larger.
- Exploratory pneumatic excavation may be necessary to determine the exact location of roots 2" diameter and larger, if found the project arborist may deem them to be substantially significant in the retention of the trees. Alternative construction measures may be recommended if large roots are found.
- Trees scheduled for removal located in proximity of the RPZ of the trees to be retained, should be cut, and not pulled over by excavator to minimize root impacts. Use of a stump grinder is recommended to remove stumps.

Tree Protection Fencing

- The tree protection fencing shall be a minimum of 4-feet tall and should be placed as far away from the tree as possible, while still allowing the construction project to commence. The fencing can be orange mesh fencing.
- The temporary fencing shall be secured with 6-foot metal posts placed 8 feet apart, two feet deep at the edge of the tree protection zone.
- The sign 'Vegetation/ Tree Protection Zone' shall be placed prominently on the fence designated for the tree protection zone and list the penalties for violation.
- The fencing shall be installed prior to any ground disturbance taking place, including clearing, grading, or construction.
- The tree protection fencing may be removed after the final inspection is completed and the project arborist has met with the landscape contractor to go over their plans.



Prohibited Activities Inside the Tree Protection Zone

Construction activities are prohibited inside any part of the Tree Protection Zone. Should access be required due to unforeseen circumstances, prior approval from the project arborist is mandated and he/ she shall be onsite to determine mitigation to the proposed activity.

Prohibited activities include but are not limited to:

- Ground disturbance
- Construction activity involving vehicular or equipment access.
- Storage of equipment and materials (including soil and gravel)
- Temporary or permanent stockpiling
- Proposed buildings
- Impervious surfaces such as pavement
- Underground utilities
- Excavation or fill
- Trenching
- In ground irrigation system installations

Violations of the provisions may result in liability for damages and applicable fines.

Conclusion:

The trees are in poor to good condition taking species and age into consideration. Provided with the information I received, it is in my professional opinion that the tree plan will suffice from an arboricultural standpoint. Care should be taken to follow the recommendations and provisions laid out in this TPP to ensure the success of the retention efforts. I highly recommend a job site walkthrough prior to the start of the project.

Recommendations

Based on my findings and conclusions I am recommending the following course of action regarding the retention efforts:

- Hold a site meeting to discuss the methods of approach.

<i>Appendix A</i>	Assumptions and Limitations
<i>Appendix B</i>	Certification of Performance
<i>Appendix C</i>	Site plan with tree locations, RPZ and TPZ

Appendix A - Assumptions and Limitations

1. A field examination of the site was made. My observations and conclusions are as of that date.
2. Care has been taken to obtain all information from a reliable source, however the Arborist can neither guarantee nor be responsible for accuracy of information provided by others.
3. Unless stated otherwise, information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection. The inspection is limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee that problems or deficiencies of the subject tree may not arise in the future.
4. All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects or applied stress. Trees are living biological organisms, and I cannot predict nor guarantee their stability or failure.
5. Sketches or drawings in this report are intended as visual aids and are not necessarily to scale and should not be used as engineering or architectural reports or surveys.
6. This report and any values/opinions expressed herein represents my opinion as an arborist. Inaction on the part of those receiving the report is not the responsibility of the Arborist.
7. Loss or alteration of this report invalidates the entire report.
8. *It is the contractor's/ owner's responsibility to contact us in a timely matter to ensure that a project arborist is available when inspections and/ or observations are required. Please allow two weeks for scheduling purposes.*
9. 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. All property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
10. The consultant/ appraiser shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payment for such services.
11. Possession of this report does not imply right of publication or use for any other purpose by any other than the person to whom it is addressed, without the prior expressed written consent of the consultant/ appraiser.

Appendix B - Certification of Performance

I, Peter van Oss, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately. The extent of the evaluation or appraisal is stated in the attached report and the Terms of the Assignment.
- I have no current or prospective interest in the vegetation or the property that is subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinions 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 in the report.
- My compensation is not contingent upon 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 of, and certified by the ISA. I have been involved in the arboricultural field in a full- time capacity for a period of 15 years.

Sincerely,



Peter van Oss
NW Tree Specialists
Certified Arborist PN-8145A
ISA Qualified Tree Risk Assessor
ASCA Member
503-512-3826 (Direct/ Cell)
peter@nwtreespecialists.com

 **AMERICAN SOCIETY of**
CONSULTING ARBORISTS

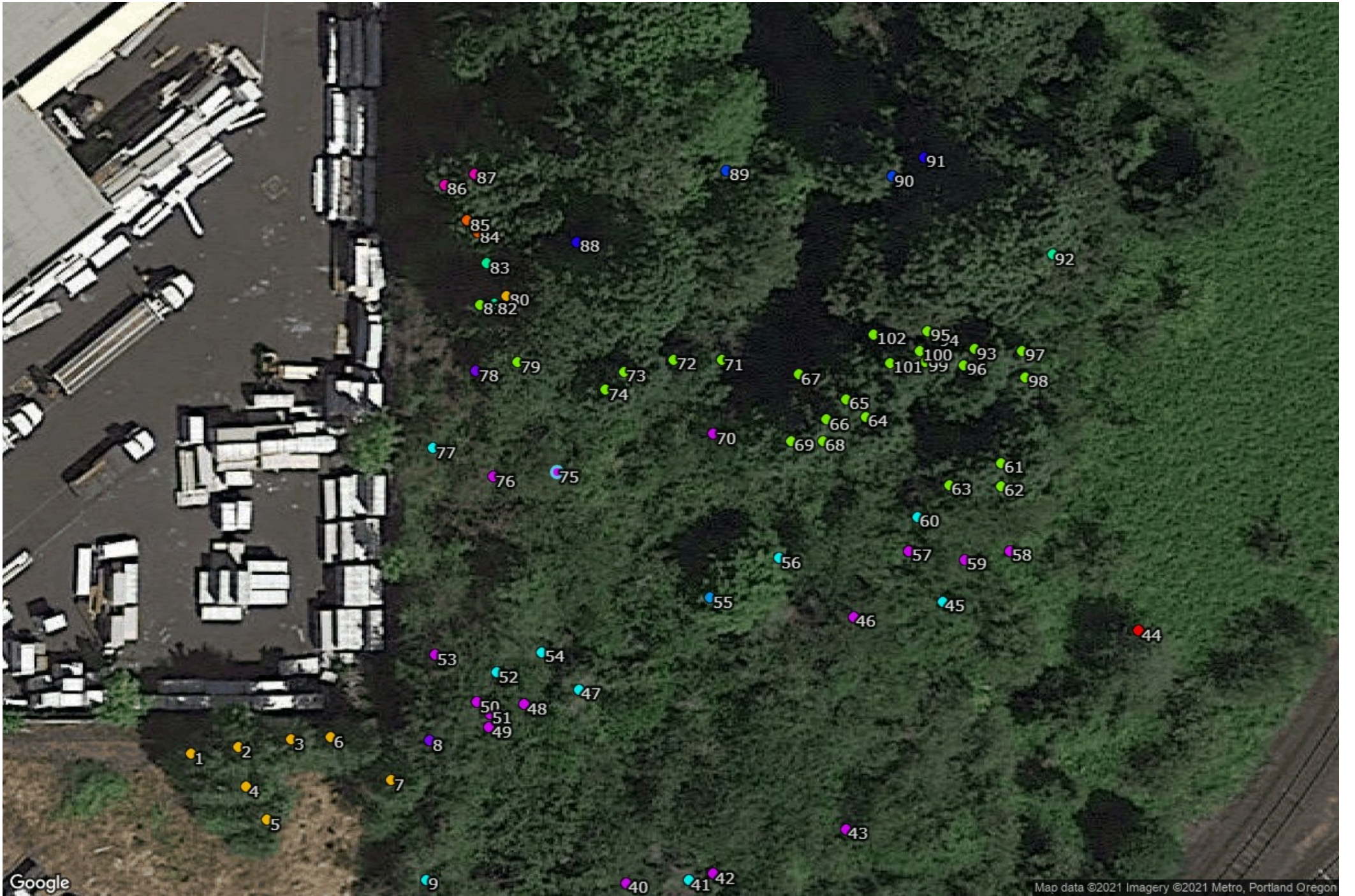
Glossary

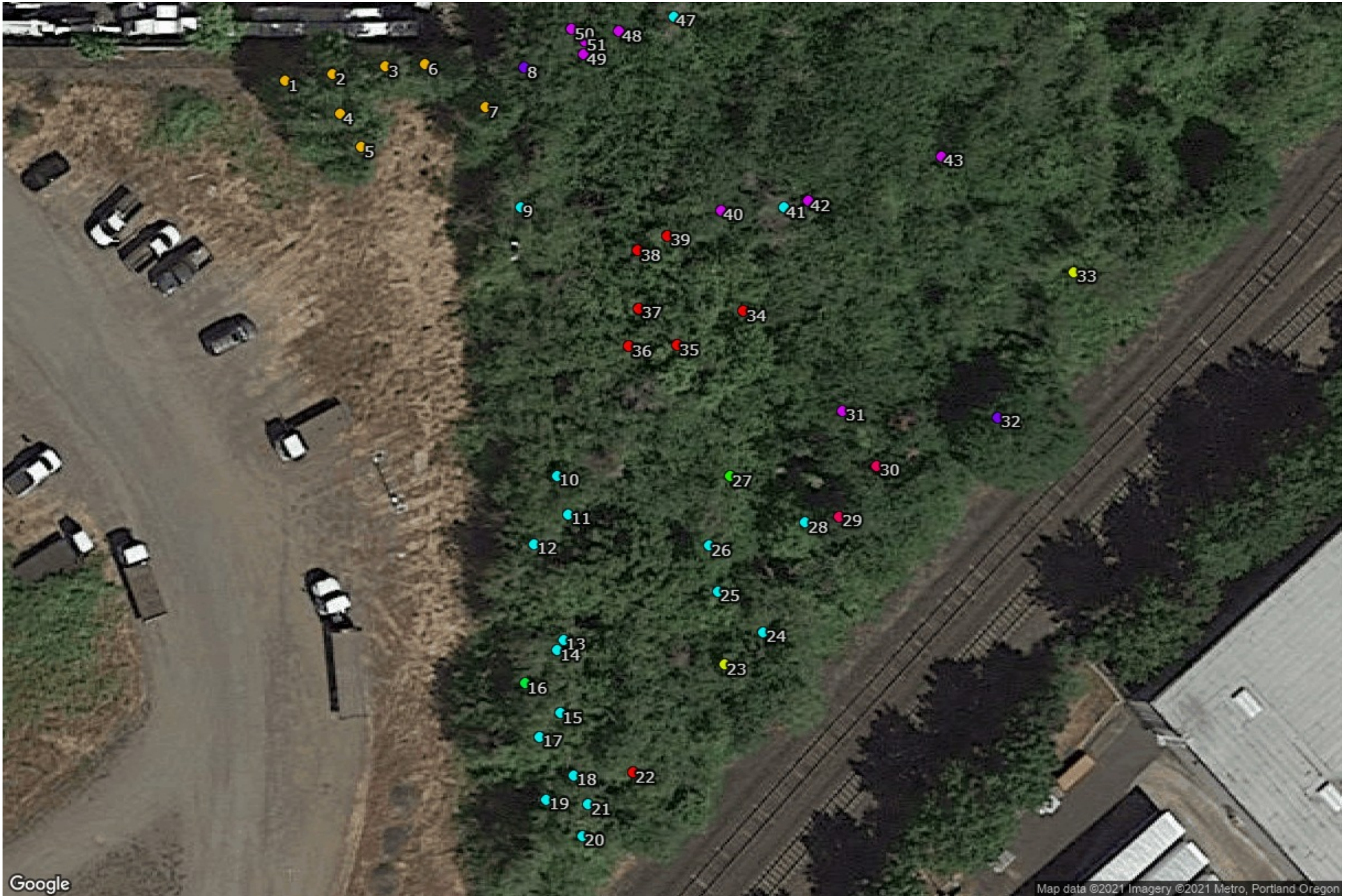
DBH	The diameter of the tree measured at 54" from the ground.
TPP	Tree Protection Plan
TPZ	Tree Protection Zone
RPZ	Root Protection Zone
TPF	Tree Protection Fencing
Soil Amelioration	Enriching the soil with nutrients.



GROSS LOT AREA:	TBD
NET LOT AREA:	334,247 sf 7.7 acres
TOTAL BUILDING AREA:	116,975 sf
BUILDING A:	81,075 sf
BUILDING B:	35,900 sf
SITE COVERAGE (on NET):	35.0%
DOCK DOOR RATIO:	
BUILDING A:	1 / 4,054 sf
BUILDING B:	1 / 3,989 sf
PARKING REQUIRED	97 spaces
BUILDING A:	67 spaces
WAREHOUSE (60%) at .3 per 1,000:	15 spaces
MANUFACTURING (40%) at 1.6 per 1,000:	52 spaces
BUILDING B:	30 spaces
WAREHOUSE (60%) at .3 per 1,000:	7 spaces
MANUFACTURING (40%) at 1.6 per 1,000:	23 spaces
PARKING PROVIDED:	102 spaces
TOTAL SITE:	102 spaces
.87 per 1,000 sf	
LANDSCAPE REQUIRED:	TBD
LANDSCAPE PROVIDED:	TBD
15 September 2021 p:\2018\18500 phelan development\18500.52 pd-avery\1\18500.52 scheme 3.dwg	







Tree Id	Common Name	Latin Name	DBH	To be Removed	Regulated status	Condition (Health)	Condition (Structure)	Fencing Distance in Feet	Status	Observation Comments
1	Black cottonwood	Populus balsamifera ssp. trichocarpa	7.5	Y	N	Good	Good		Proposed Tree Removal	
2	Black cottonwood	Populus balsamifera ssp. trichocarpa	6.5	Y	N	Good	Good		Proposed Tree Removal	
3	Black cottonwood	Populus balsamifera ssp. trichocarpa	10	Y	Y	Good	Good		Proposed Tree Removal	
4	Black cottonwood	Populus balsamifera ssp. trichocarpa	6.4	Y	N	Good	Good		Proposed Tree Removal	
5	Black cottonwood	Populus balsamifera ssp. trichocarpa	6	Y	N	Good	Good		Proposed Tree Removal	
6	Black cottonwood	Populus balsamifera ssp. trichocarpa	7	Y	N	Good	Good		Proposed Tree Removal	
7	Black cottonwood	Populus balsamifera ssp. trichocarpa	9	Y	Y	Good	Good		Proposed Tree Removal	
8	Scouler willow	Salix scouleriana	14.56	Y	Y	Very Poor	Failed/Failing		Proposed Tree Removal	
9	English hawthorn	Crataegus monogyna	8.25	Y	Y	Very Poor	Failed/Failing		Proposed Tree Removal	
10	English hawthorn	Crataegus monogyna	8.5	Y	Y	Fair	Poor		Proposed Tree Removal	
11	English hawthorn	Crataegus monogyna	6.5	Y	N	Fair	Poor		Proposed Tree Removal	
12	English hawthorn	Crataegus monogyna	6.5	Y	N	Fair	Poor		Proposed Tree Removal	
13	English hawthorn	Crataegus monogyna	10.3	Y	Y	Fair	Poor		Proposed Tree Removal	
14	English hawthorn	Crataegus monogyna	9.11	Y	Y	Fair	Poor		Proposed Tree Removal	
15	English hawthorn	Crataegus monogyna	7.21	Y	N	Fair	Poor		Proposed Tree Removal	
16	Common plum	Prunus domestica	8.77	Y	Y	Fair	Poor		Proposed Tree Removal	
17	English hawthorn	Crataegus monogyna	7	Y	N	Fair	Poor		Proposed Tree Removal	
18	English hawthorn	Crataegus monogyna	10.91	Y	Y	Fair	Poor		Proposed Tree Removal	
19	English hawthorn	Crataegus monogyna	8	Y	Y	Fair	Poor		Proposed Tree Removal	
20	English hawthorn	Crataegus monogyna	11.66	Y	Y	Fair	Poor		Proposed Tree Removal	
21	English hawthorn	Crataegus monogyna	9	Y	Y	Fair	Poor		Proposed Tree Removal	
22	Apple	Malus spp.	10	Y	Y	Fair	Poor		Proposed Tree Removal	
23	Black hawthorn	Crataegus douglasii	10	Y	Y	Fair	Poor		Proposed Tree Removal	
24	English hawthorn	Crataegus monogyna	7	Y	N	Fair	Poor		Proposed Tree Removal	
25	English hawthorn	Crataegus monogyna	5	Y	N	Fair	Poor		Proposed Tree Removal	
26	English hawthorn	Crataegus monogyna	10.54	Y	Y	Fair	Poor		Proposed Tree Removal	
27	Common pear	Pyrus communis	7.5	Y	N	Fair	Poor		Proposed Tree Removal	
28	English hawthorn	Crataegus monogyna	8	Y	Y	Fair	Poor		Proposed Tree Removal	
29	White oak	Quercus alba	11	Y	Y	Good	Good		Proposed Tree Removal	
30	White oak	Quercus alba	10	Y	Y	Good	Good		Proposed Tree Removal	
31	Sweet cherry	Prunus avium	11	Y	Y	Good	Good		Proposed Tree Removal	
32	Scouler willow	Salix scouleriana	21.56	Y	Y	Poor	Failed/Failing		Proposed Tree Removal	
33	Black hawthorn	Crataegus douglasii	8.54	Y	Y	Fair	Fair		Proposed Tree Removal	
34	Apple	Malus spp.	12.37	Y	Y	Poor	Failed/Failing		Proposed Tree Removal	
35	Apple	Malus spp.	10.05	Y	Y	Fair	Fair		Proposed Tree Removal	
36	Apple	Malus spp.	8	Y	Y	Fair	Fair		Proposed Tree Removal	Homeless camp
37	Apple	Malus spp.	7.62	Y	N	Fair	Fair		Proposed Tree Removal	Homeless camp
38	Apple	Malus spp.	7.81	Y	N	Fair	Fair		Proposed Tree Removal	Homeless camp
39	Apple	Malus spp.	9.43	Y	Y	Fair	Fair		Proposed Tree Removal	

40	Sweet cherry	Prunus avium	14	Y	Y	Good	Good		Proposed Tree Removal
41	English hawthorn	Crataegus monogyna	8.54	Y	Y	Good	Good		Proposed Tree Removal
42	Sweet cherry	Prunus avium	12	Y	Y	Good	Good		Proposed Tree Removal
43	Sweet cherry	Prunus avium	9	Y	Y	Good	Good		Proposed Tree Removal
44	Apple	Malus spp.	10.5	Y	Y	Good	Poor		Proposed Tree Removal
45	English hawthorn	Crataegus monogyna	9.27	Y	Y	Good	Fair		Proposed Tree Removal
46	Sweet cherry	Prunus avium	14	Y	Y	Good	Fair		Proposed Tree Removal
47	English hawthorn	Crataegus monogyna	8	Y	Y	Poor	Very Poor		Proposed Tree Removal
48	Sweet cherry	Prunus avium	10	Y	Y	Good	Good		Proposed Tree Removal
49	Sweet cherry	Prunus avium	9	Y	Y	Good	Good		Proposed Tree Removal
50	Sweet cherry	Prunus avium	9.22	Y	Y	Good	Fair		Proposed Tree Removal
51	Sweet cherry	Prunus avium	8	Y	Y	Good	Good		Proposed Tree Removal
52	English hawthorn	Crataegus monogyna	8	Y	Y	Poor	Very Poor		Proposed Tree Removal
53	Sweet cherry	Prunus avium	11.66	Y	Y	Good	Good		Proposed Tree Removal
54	English hawthorn	Crataegus monogyna	13.42	Y	Y	Poor	Very Poor		Proposed Tree Removal
55	Norway maple	Acer platanoides	12	Y	Y	Good	Good		Proposed Tree Removal
56	English hawthorn	Crataegus monogyna	8	Y	Y	Good	Good		Proposed Tree Removal
57	Sweet cherry	Prunus avium	7	Y	N	Good	Good		Proposed Tree Removal
58	Sweet cherry	Prunus avium	8	Y	Y	Good	Good		Proposed Tree Removal
59	Sweet cherry	Prunus avium	7	Y	N	Good	Good		Proposed Tree Removal
60	English hawthorn	Crataegus monogyna	8.06	Y	Y	Good	Good		Proposed Tree Removal
61	Black Pine	Pinus nigra	14	Y	Y	Good	Good		Proposed Tree Removal
62	Black Pine	Pinus nigra	21.26	Y	Y	Good	Good		Proposed Tree Removal
63	Black Pine	Pinus nigra	16	Y	Y	Good	Good		Proposed Tree Removal
64	Black Pine	Pinus nigra	16	N	Y	Good	Good	8	Proposed Tree Removal
65	Black Pine	Pinus nigra	11	N	Y	Good	Good	5.5	Proposed Tree Removal
66	Black Pine	Pinus nigra	11.5	N	Y	Good	Good	5.75	Proposed Tree Removal
67	Black Pine	Pinus nigra	10	N	Y	Good	Good	5	Proposed Tree Removal
68	Black Pine	Pinus nigra	15	N	Y	Good	Good	7.5	Proposed Tree Removal
69	Black Pine	Pinus nigra	22	N	Y	Good	Good	11	Proposed Tree Removal
70	Sweet cherry	Prunus avium	8	Y	Y	Good	Good		Proposed Tree Removal
71	Black Pine	Pinus nigra	8	N	Y	Good	Good	4	Proposed Tree Removal
72	Black Pine	Pinus nigra	14	N	Y	Good	Good	7	Proposed Tree Removal
73	Black Pine	Pinus nigra	16	N	Y	Good	Good	8	Proposed Tree Removal
74	Black Pine	Pinus nigra	18.87	N	Y	Good	Good	9.435	Proposed Tree Removal
75	Sweet cherry	Prunus avium	8	Y	Y	Good	Good		Proposed Tree Removal
76	Sweet cherry	Prunus avium	11	Y	Y	Good	Good		Proposed Tree Removal
77	English hawthorn	Crataegus monogyna	14	Y	Y	Good	Good		Proposed Tree Removal
78	Scouler willow	Salix scouleriana	27.2	Y	Y	Poor	Failed/Failing		Proposed Tree Removal
79	Black Pine	Pinus nigra	16	N	Y	Fair	Fair	8	Proposed Tree Removal
80	Black cottonwood	Populus balsamifera ssp. trichocarpa	24	N	Y	Good	Good	12	Proposed Tree Removal
81	Black Pine	Pinus nigra	10	N	Y	Good	Fair	5	Proposed Tree Removal
82	Douglas fir	Pseudotsuga menziesii	8	N	Y	Fair	Fair	4	Proposed Tree Removal
83	Douglas fir	Pseudotsuga menziesii	12	N	Y	Good	Good	6	Proposed Tree Removal
84	Bigleaf maple	Acer macrophyllum	12	N	Y	Good	Good	6	Proposed Tree Removal
85	Bigleaf maple	Acer macrophyllum	12	N	Y	Good	Good	6	Proposed Tree Removal
86	Western white pine	Pinus monticola	24	N	Y	Good	Good	12	Proposed Tree Removal

87	Western white pine	Pinus monticola	30	N	Y	Good	Good	15	Proposed Tree Removal	
88	Ponderosa pine	Pinus ponderosa	46	N	Y	Good	Good	23	Proposed Tree Removal	
89	Oregon white oak	Quercus garryana	32	N	Y	Good	Good	16	Proposed Tree Removal	
90	Oregon white oak	Quercus garryana	38	N	Y	Good	Good	19	Proposed Tree Removal	Edge of neighboring construction site
91	Ponderosa pine	Pinus ponderosa	60	N	Y	Good	Good	30	Proposed Tree Removal	Edge of neighboring construction site. Roots may be compromised.
92	Douglas fir	Pseudotsuga menziesii	14	N	Y	Fair	Poor	7	Proposed Tree Removal	
93	Black Pine	Pinus nigra	18	N	Y	Fair	Poor	9	Proposed Tree Removal	
94	Black Pine	Pinus nigra	13	N	Y	Fair	Poor	6.5	Proposed Tree Removal	
95	Black Pine	Pinus nigra	8	N	Y	Fair	Poor	4	Proposed Tree Removal	
96	Black Pine	Pinus nigra	14	N	Y	Fair	Poor	7	Proposed Tree Removal	
97	Black Pine	Pinus nigra	12	N	Y	Fair	Poor	6	Proposed Tree Removal	
98	Black Pine	Pinus nigra	12	N	Y	Fair	Poor	6	Proposed Tree Removal	
99	Black Pine	Pinus nigra	10	N	Y	Fair	Poor	5	Proposed Tree Removal	
100	Black Pine	Pinus nigra	10	N	Y	Fair	Poor	5	Proposed Tree Removal	
101	Black Pine	Pinus nigra	10	N	Y	Fair	Poor	5	Proposed Tree Removal	
102	Black Pine	Pinus nigra	10	N	Y	Fair	Poor	5	Proposed Tree Removal	

TREE PROTECTION AND REMOVAL PLAN

For

AVERY1

PHELON DEVELOPMENT

For Service At



November 30, 2021

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City of Tualatin, Oregon – Avery 1 Property

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Limits of the report

The trees were visually assessed above ground only, no tools were used. The field data was collected using an iPadOS 15.1 and a blue tooth connected GNSS Surveyor for GPS function. Although the location of the trees is accurate, the location of the trees is not up to NSPS (National Society of Surveyor) standards and are meant as a visual aid only. The survey points collected should not be used for architectural drawings.

The site was not yet surveyed, and the conclusion of my findings are made by visually comparing the landmarks to the provided site plan. For the purpose of this report only the trees within the disturbance area are inventoried and documented. The primary trees inventoried are trees over 8" DBH. Some smaller trees are inventoried because of the landmark characteristics.

Observations

Site observations

The proposed building is planned on the vacant lot to the SE of the property. The trees have been inventoried previously by a different company and the trees still have their tags. The inventory spreadsheet reflects the numbers under the label 'Tree Tag Number'.

Tree Removal Recommendations

The City of Tualatin Code requires that private trees over 8" DBH are permitted if more than 4 trees are removed in a calendar year. 11 or more trees per year requires an architectural review application which can be found at: <https://www.tualatinoregon.gov/planning/architectural-review-ar-instructions>
The tree removals are incorporated with the larger permit packet and a separate permit is not required. For the purpose of this report only trees larger than 8" DBH were inventoried.

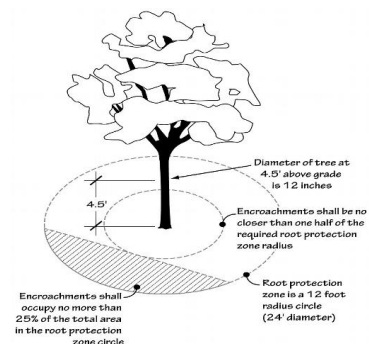
The trees that are recommended for removal are within the direct footprint or in the vicinity of the site improvements. The trees that are not within the direct footprint of the improvements are recommended for removal due to the impacts of the project.

Trees 1 through 15 and 20 through 36.

The trees proposed for removal are in the direct footprint of the proposed building and/or will be impacted significantly due to the required grading.

Discussion and Tree Protection

The critical root zone is typically calculated at 6-inches per diameter inch of the trunk measured at 54" from the original grade. For example: a 12-inch DBH tree should have a tree protection zone radius of 6-feet. Depending on the plant species profile the fencing may need to be adjusted to accommodate the tree's construction tolerance.



The City of Tualatin Code TDC-74.720- Protection of Trees During Construction states that:
“During excavation and construction, the person must guard the tree within 6-feet and all building materials and/or debris must be kept at least 4-feet from any tree”.

The Fencing Shall Be Placed as Prescribed in Appendix C. Refer to the inventory for CRZ (Critical Root Zone) distances.

Tree Protection Recommendation

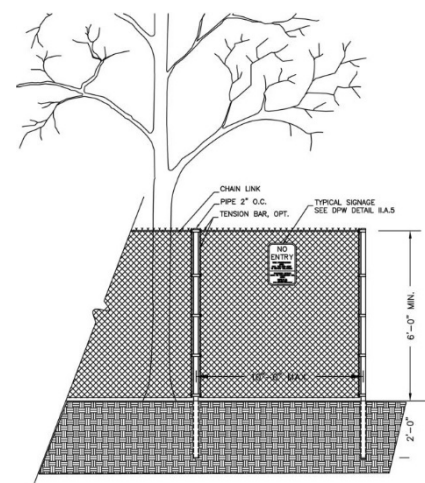
It is recommended to hold a site meeting with the contractors involved in the project to go over the tree plan and have the contractors sign a memorandum. The memorandum should show the provision and the penalty for violation of the Tree Plan. The penalty should include the cost of the appraised tree, fines incurred by the municipalities. The penalties should be made payable to the owner.

Excavation near the TPZ (Tree Protection Zone)

- All excavation, demolition, install of concrete forms.... etc. within 1 foot per diameter inch shall be monitored by one of our Certified Arborists assigned to the project to ensure that the impacts are minimal to the trees to be preserved. Techniques used by the project arborist will follow arboricultural guidelines and best management practices to preserve the trees (such as: City code, ANSI a300 standards... etc.)
- The excavator and/ or equipment shall stay outside the critical root zone/ drip line (tips of the branches) and carefully remove layers of soil while the project arborist probes the soil for roots 2” and larger.
- Exploratory pneumatic excavation may be necessary to determine the exact location of roots 2” diameter and larger, if found the project arborist may deem them to be substantially significant in the retention of the trees. Alternative construction measures may be recommended if large roots are found.
- Trees scheduled for removal located in proximity of the RPZ of the trees to be retained, should be cut, and not pulled over by excavator to minimize root impacts. Use of a stump grinder is recommended to remove stumps.

Tree Protection Fencing

- The tree protection fencing shall be a minimum of 4-feet tall and should be placed as far away from the tree as possible, while still allowing the construction project to commence. The fencing can be orange mesh fencing.
- The temporary fencing shall be secured with 6-foot metal posts placed 8 feet apart, two feet deep at the edge of the tree protection zone.
- The sign ‘Vegetation/ Tree Protection Zone’ shall be placed prominently on the fence designated for the tree protection zone and list the penalties for violation.
- The fencing shall be installed prior to any ground disturbance taking place, including clearing, grading, or construction.
- The tree protection fencing may be removed after the final inspection is completed and the project arborist has met with the landscape contractor to go over their plans.



Prohibited Activities Inside the Tree Protection Zone

Construction activities are prohibited inside any part of the Tree Protection Zone. Should access be required due to unforeseen circumstances, prior approval from the project arborist is mandated and he/ she shall be onsite to determine mitigation to the proposed activity.

Prohibited activities include but are not limited to:

- Ground disturbance
- Construction activity involving vehicular or equipment access.
- Storage of equipment and materials (including soil and gravel)
- Temporary or permanent stockpiling
- Proposed buildings
- Impervious surfaces such as pavement
- Underground utilities
- Excavation or fill
- Trenching
- In ground irrigation system installations

Violations of the provisions may result in liability for damages and applicable fines.

Conclusion:

The trees are in poor to good condition taking species and age into consideration. Provided with the information I received, it is in my professional opinion that the tree plan will suffice from an arboricultural standpoint. Care should be taken to follow the recommendations and provisions laid out in this TPP to ensure the success of the retention efforts. I highly recommend a job site walkthrough prior to the start of the project.

Recommendations

Based on my findings and conclusions I am recommending the following course of action regarding the retention efforts:

- Establishing a Plant Health Care Program to ensure the retention efforts are a success. i.e., soil amelioration, the application of liquid organic fertilizers and watering during the dry months.
- Hold a site meeting to discuss the methods of approach.

<i>Appendix A</i>	Assumptions and Limitations
<i>Appendix B</i>	Certification of Performance
<i>Appendix C</i>	Site plan with tree locations, RPZ and TPZ

Appendix A - Assumptions and Limitations

1. A field examination of the site was made. My observations and conclusions are as of that date.
2. Care has been taken to obtain all information from a reliable source, however the Arborist can neither guarantee nor be responsible for accuracy of information provided by others.
3. Unless stated otherwise, information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection. The inspection is limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee that problems or deficiencies of the subject tree may not arise in the future.
4. All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects or applied stress. Trees are living biological organisms, and I cannot predict nor guarantee their stability or failure.
5. Sketches or drawings in this report are intended as visual aids and are not necessarily to scale and should not be used as engineering or architectural reports or surveys.
6. This report and any values/opinions expressed herein represents my opinion as an arborist. Inaction on the part of those receiving the report is not the responsibility of the Arborist.
7. Loss or alteration of this report invalidates the entire report.
8. *It is the contractor's/ owner's responsibility to contact us in a timely matter to ensure that a project arborist is available when inspections and/ or observations are required. Please allow two weeks for scheduling purposes.*
9. 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. All property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
10. The consultant/ appraiser shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payment for such services.
11. Possession of this report does not imply right of publication or use for any other purpose by any other than the person to whom it is addressed, without the prior expressed written consent of the consultant/ appraiser.

Appendix B - Certification of Performance

I, Peter van Oss, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately. The extent of the evaluation or appraisal is stated in the attached report and the Terms of the Assignment.
- I have no current or prospective interest in the vegetation or the property that is subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinions 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 in the report.
- My compensation is not contingent upon 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 of, and certified by the ISA. I have been involved in the arboricultural field in a full- time capacity for a period of 15 years.

Sincerely,



Peter van Oss
NW Tree Specialists
Certified Arborist PN-8145A
ISA Qualified Tree Risk Assessor
ASCA Member
503-512-3826 (Direct/ Cell)
peter@nwtreespecialists.com

 **AMERICAN SOCIETY of
CONSULTING ARBORISTS**

Glossary

DBH	The diameter of the tree measured at 54" from the ground.
TPP	Tree Protection Plan
TPZ	Tree Protection Zone
RPZ	Root Protection Zone
TPF	Tree Protection Fencing
Soil Amelioration	Enriching the soil with nutrients.



GROSS LOT AREA:	TBD
NET LOT AREA:	334,247 sf 7.7 acres
TOTAL BUILDING AREA:	116,975 sf
BUILDING A:	81,075
BUILDING B:	35,900
SITE COVERAGE (on NET):	35.0%
DOCK DOOR RATIO:	
BUILDING A:	1 / 4,054 sf
BUILDING B:	1 / 3,989 sf
PARKING REQUIRED	97 spaces
BUILDING A:	67 spaces
WAREHOUSE (60%) at .3 per 1,000:	15 spaces
MANUFACTURING (40%) at 1.6 per 1,000:	52 spaces
BUILDING B:	30 spaces
WAREHOUSE (60%) at .3 per 1,000:	7 spaces
MANUFACTURING (40%) at 1.6 per 1,000:	23 spaces
PARKING PROVIDED:	102 spaces
TOTAL SITE:	102 spaces
.87 per 1,000 sf	
LANDSCAPE REQUIRED:	TBD
LANDSCAPE PROVIDED:	TBD
15 September 2021 p:\2018\18500 phelan development\18500.52 pd-avery\1\18500.52 scheme 3.dwg	

Tree Fencing Placement

Separate Project





Tree Id	Common Name	Latin Name	Condition (Health)	Status	Tree Tag Number	DBH	Critical Root Zone (CRZ)	Tree Protection Zone (TPZ)	Condition (Structure)	To be Removed	Regulated status	Offset Required (RPZ)	RPZ/CRZ Fencing	Construction arborist req	Notes
1	Scouler willow	Salix scouleriana	Good	Proposed Removal	3878	14.21	7.105	14.21	Fair	Yes	Regulated				
2	Madrone	Arbutus menziesii	Good	Proposed Removal	3880	8.06	4.03	8.06	Good	Yes	Regulated				
3	Scouler willow	Salix scouleriana	Good	Proposed Removal		5	2.5	5	Good	Yes	Exempt				
4	Scouler willow	Salix scouleriana	Good	Proposed Removal		9.27	4.635	9.27	Good	Yes	Regulated				
5	Scouler willow	Salix scouleriana	Good	Proposed Removal		7.14	3.57	7.14	Good	Yes	Exempt				
6	Black cottonwood	Populus balsamifera ssp.	Good	Proposed Removal	3889	9	4.5	9	Good	Yes	Regulated				
7	Black cottonwood	Populus balsamifera ssp.	Good	Proposed Removal	3896	16	8	16	Good	Yes	Regulated				
8	Black cottonwood	Populus balsamifera ssp.	Good	Proposed Removal	3895	18	9	18	Good	Yes	Regulated				
9	Black cottonwood	Populus balsamifera ssp.	Good	Proposed Removal	3894	8	4	8	Good	Yes	Regulated				
10	Black cottonwood	Populus balsamifera ssp.	Good	Proposed Removal	3893	18	9	18	Good	Yes	Regulated				
11	Sweet Chestnut	Castanea sativa	Good	Proposed Removal		16.12			Poor	Yes	Regulated				
12	Scouler willow	Salix scouleriana		Proposed Removal	3879					Yes	Regulated				
13	Sweet cherry	Prunus avium	Good	Proposed Removal		7.21	3.605	7.21	Good	Yes	Exempt				
14	Sweet cherry	Prunus avium	Fair	Proposed Removal	3880	28.43	14.215	28.43	Poor	Yes	Regulated				
15	Sweet Chestnut	Castanea sativa	Good	Proposed Removal	3881	28			Poor	Yes	Regulated				
16	Black cottonwood	Populus balsamifera ssp.	Good	Protected Tree	3883	10	5	10	Good	NO	Regulated	6-feet	Orange Mesh	NO	
17	Black cottonwood	Populus balsamifera ssp.	Good	Protected Tree	3884	12	6	12	Good	NO	Regulated	6-feet	Orange Mesh	NO	
18	Black cottonwood	Populus balsamifera ssp.	Good	Protected Tree		12	6	12	Good	NO	Regulated	6-feet	Orange Mesh	NO	
19	Black cottonwood	Populus balsamifera ssp.	Good	Protected Tree		10	5	10	Good	NO	Regulated	6-feet	Orange Mesh	NO	
20	Western red cedar	Thuja plicata	Good	Proposed Removal		8	4	8	Good	Yes	Regulated				
21	Western red cedar	Thuja plicata	Good	Proposed Removal		8	4	8	Good	Yes	Regulated				
22	Western red cedar	Thuja plicata	Good	Proposed Removal		14	7	14	Good	Yes	Regulated				
23	Red maple	Acer rubrum	Good	Proposed Removal		5	2.5	5	Good	Yes	Exempt				
24	Red maple	Acer rubrum	Good	Proposed Removal		6	3	6	Good	Yes	Exempt				
25	Red maple	Acer rubrum	Good	Proposed Removal		5	2.5	5	Good	Yes	Exempt				
26	Red maple	Acer rubrum	Good	Proposed Removal		5	2.5	5	Good	Yes	Exempt				
27	Red maple	Acer rubrum	Good	Proposed Removal		5	2.5	5	Good	Yes	Exempt				
28	Red maple	Acer rubrum	Good	Proposed Removal		4	2	4	Good	Yes	Exempt				
29	Red maple	Acer rubrum	Good	Proposed Removal		2	1	2	Good	Yes	Exempt				
30	Red maple	Acer rubrum	Good	Proposed Removal		2	1	2	Good	Yes	Exempt				
31	Red maple	Acer rubrum	Good	Proposed Removal		4	2	4	Good	Yes	Exempt				
32	Red maple	Acer rubrum	Good	Proposed Removal		4	2	4	Good	Yes	Exempt				
33	Red maple	Acer rubrum	Good	Proposed Removal		4	2	4	Good	Yes	Exempt				

34	Red maple	Acer rubrum	Good	Proposed Removal	4	2	4	Good	Yes	Exempt			
35	Red maple	Acer rubrum	Good	Proposed Removal	10	5	10	Good	Yes	Regulated			
36	Red maple	Acer rubrum	Good	Proposed Removal	10	5	10	Good	Yes	Regulated			
37	Western red cedar	Thuja plicata	Good	Protected Tree	12	6	12	Good	NO	Regulated	6-feet	Orange Mesh	NO
38	Western red cedar	Thuja plicata	Good	Protected Tree	9.43	4.715	9.43	Good	NO	Regulated	6-feet	Orange Mesh	NO
39	Western red cedar	Thuja plicata	Good	Protected Tree	9.43	4.715	9.43	Good	NO	Regulated	6-feet	Orange Mesh	NO
40	Western red cedar	Thuja plicata	Good	Protected Tree	8.12	4.06	8.12	Good	NO	Regulated	6-feet	Orange Mesh	NO