



# TREE PROTECT PLAN

for

VLMK ENGINEERING + DESIGN

for the

124<sup>TH</sup> AVE BUSINESS PARK PROJECT  
SW TUALATIN ROAD,  
TUALATIN, OR 97062

Submitted by

Peter van Oss PN-8145A

Date Friday, April 21, 2023

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## Summary

Teragan and Associates, Inc.<sup>TM</sup> has been contracted with VLMK Engineering + Design to provide arboricultural consulting services. This report is the tree plan for the development of the proposed business park. The report includes the narrative for the proposed removals and the protection mitigation recommendations that should be adopted during the construction project. The provisions in this report are collaborated to meet and exceed the ordinances set forth by the City of Tualatin, OR.

## Background

The plans show the proposed development of the lots adjacent to Tualatin Island Greens (east) south of SW Myslony Street and north of SW Cimino Street. The site is currently vacant property that represents a natural appearance. Most of the east side of the property is designated as a Natural Resource Protected (NRPO) area and the plans show that a small portion of the proposed development is located within the area. This report provides the narrative for the proposed tree removals and the recommended protection mitigation for the retained trees.

## Tree Inventory

Our firm completed the inventory in June 2021, and I verified the current conditions onsite during a site visit conducted on April, 20, 2023. The tree diameters were recorded using a diameter tape. The health and conditions of the trees are determined by the plant species profiles compared to the current condition the trees present. Attributes that can negatively impact the ratings are growing conditions, bark inclusions, broken branches, poor vigor...etc. All trees are tagged with aluminum tags that have the corresponding numbers scribed on them except for trees that were not accessible due to accessibility restrictions.

## Purpose and Use of the Report

The purpose of this report is to establish a narrative for the removal of the trees and tree protection measures that will need to be adhered to during the construction project to ensure a positive outcome of the retention efforts. This report may be used by the owner to establish communications between the city planning department, the contractors, and sub-contractors regarding the tree protection efforts of the project.

## Limits of the Report

The trees were visually assessed from the ground only, no tools were used to assess any of the tree parts. The site improvements were not staked out at the time of the inventory and the impacts from the construction were established by visualizing the provided plans to key landmarks.

## Observations

The property has a significant topographical change between the road (SW 124<sup>th</sup> Ave) to where the NRPO area is located. Significant impacts from grading are anticipated and most of the trees are in the direct footprint of the development. There is a small portion of the NRPO that is located within the proposed footprint of the development, there are no trees located within that portion of the NRPO, however. Southwest 12<sup>th</sup> Ave has an improved right-of-way and there are street trees planted between the road and the sidewalk. The street trees are to be retained and considered protected during the construction process.

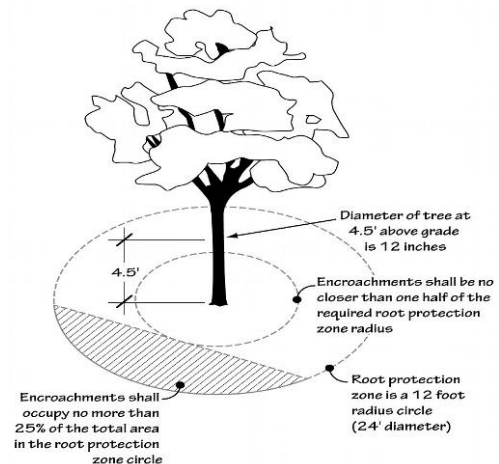
## Proposed Removals

The attached site plans in this report (Appendix C) show the proposed site improvements which were added as an overlay to the existing conditions plans. The west side of the property has a significant topography change with an easterly aspect. The west side of the property is treed and given the terrain, most of the trees within the proposed development area will need to be removed. The trees within the proposed development area (orange hatched area on the plans) are proposed to be removed and the inventory in Appendix D shows detailed information regarding the individual trees.

## Site Specific Tree Protection

There are 17 trees proposed to be retained not including the street trees. The trees in the northeast corner of the property are not anticipated to be negatively impacted by construction activities and the trees are outside of the development impact area. The trees to the south of the development are in proximity to the disturbance area and care must be taken to minimize impacts to the trees.

It is recommended that retained trees are protected at a distance of 12X the diameter of the trees. This means that ground disturbance should not occur within the root protection zones without the presence of the project arborist. It is typically accepted that 25% of the root structure can be disturbed without significantly impacting the trees, however this may decrease depending on the tree species and health and condition of the trees. The project arborist may require that alternative construction methods are used to increase the likelihood of retention possibility if large roots are encountered. Bridging or gapping the roots are examples viable alternative construction mitigation.



Given the significant topographical differences it is anticipated that grading and retaining wall placement may be needed within the tree protection zones. If the impacts are observed to be too significant and viable alternative construction is not possible, the project arborist may advise removing additional trees.

The attached existing conditions plan provided has been marked up to scale. The blue circles indicate the tree protection zone at 12X the diameter and the orange circles indicate the tree protection zones at 6X the diameter.

## Additional Tree Protection Mitigation in Appendix E

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Arboricultural Consultants  
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## Conclusion

It is my professional opinion that the tree protection measures set forth in this tree plan will suffice in the protection of the trees during construction. It is important to adhere to the standards in this report to ensure that the retention goals are successful.

Please feel free to contact me with any questions or concerns.

Sincerely,

*Peter van Oss*

Peter van Oss | Senior Associate

*ISA Certified Arborist PN-8145A*

*Tree Risk Assessment Qualified*

*ASCA Member*

## Enclosures:

- Appendix A: Certification of Performance
- Appendix B: Assumptions and Limiting Conditions
- Appendix C: Site Plan Fencing Placement and Proposed Removals
- Appendix D: Inventory
- Appendix E: Tree Protection Standards
- Appendix F: Vegetation Protection Signage

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### Appendix A: 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 professional 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 as an arborist by the ISA. I have been involved in the arboricultural field in a full- time capacity for a period of 17 years.

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Lake Oswego, Oregon  
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Inventory By Christine Johnson  
Prepared and Checked By Peter van Oss

**Project**  
SW 124th Ave  
Business Park

**Site Address**  
SW 124th Ave & SW Myslony St  
Tualatin, OR

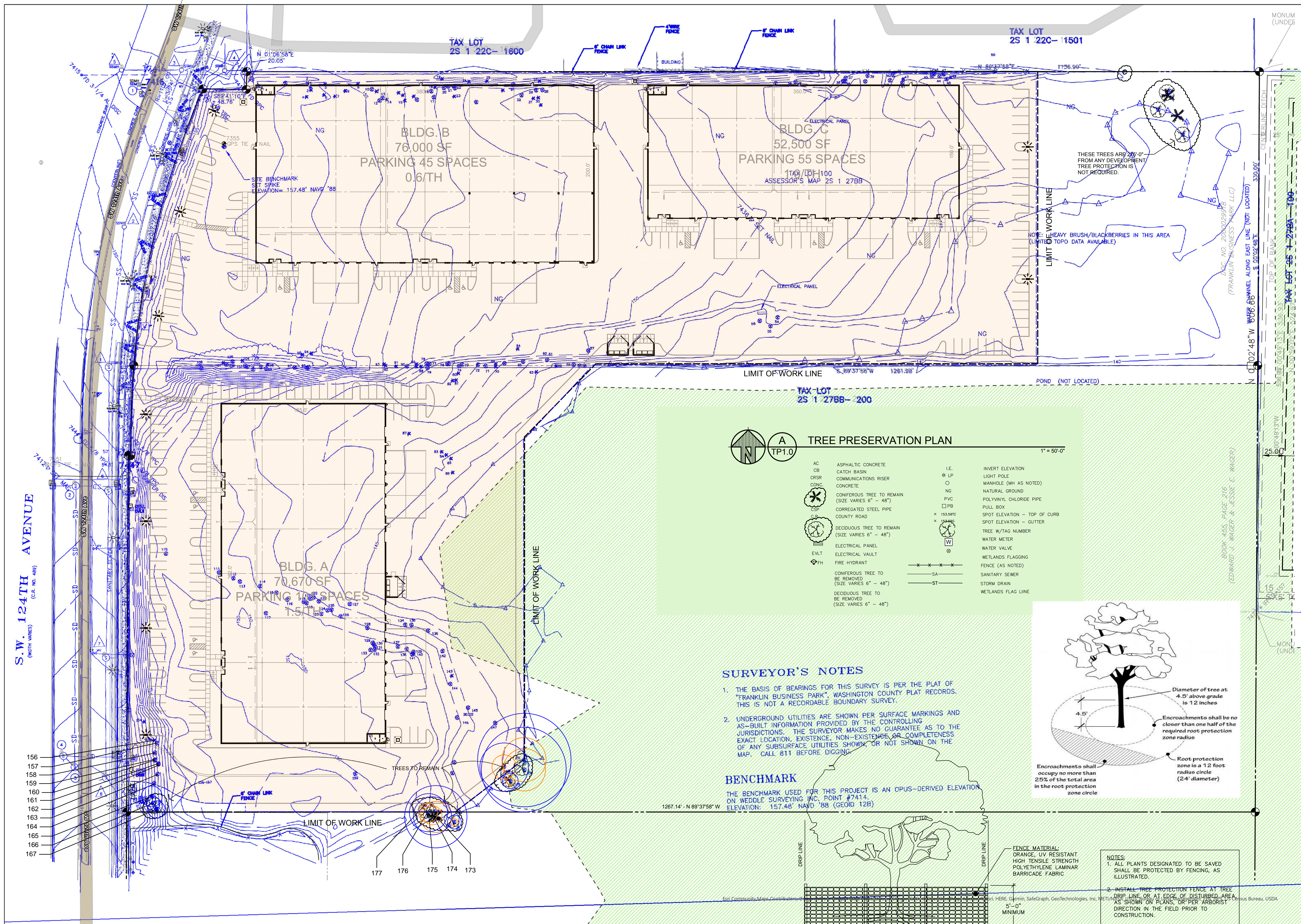
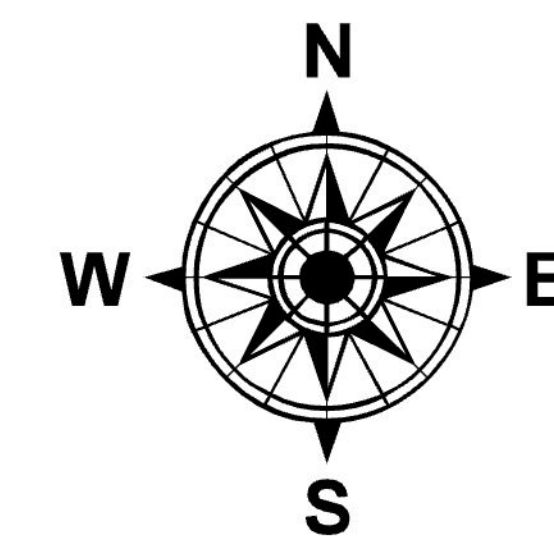
Natural resource overlays added from ArcGIS Online Data Sets. Accuracy of data may be outdated. The information provided on the plans is for reference only. These plans should not be used for architectural, engineering, or construction purposes.

**Legend**

- NRPO**
- Creek Greenways (GC)
  - Riverbank Greenway (GR)
  - Other Greenways (OG)
  - Open Space Natural Areas (OSNA)
  - Wetland Conservation Natural Area (WCNA)
  - Wetland Preservation Natural Area (WPNA)
- c23-4-20 - 2867\_PDFToTIFF.tif

- RGB**
- Red: Band\_2
  - Green: Band\_3
  - Blue: Band\_4

- X 12X The tree diameter protection zone
- X 6X The tree diameter protection zone
- Tree Protection Fencing



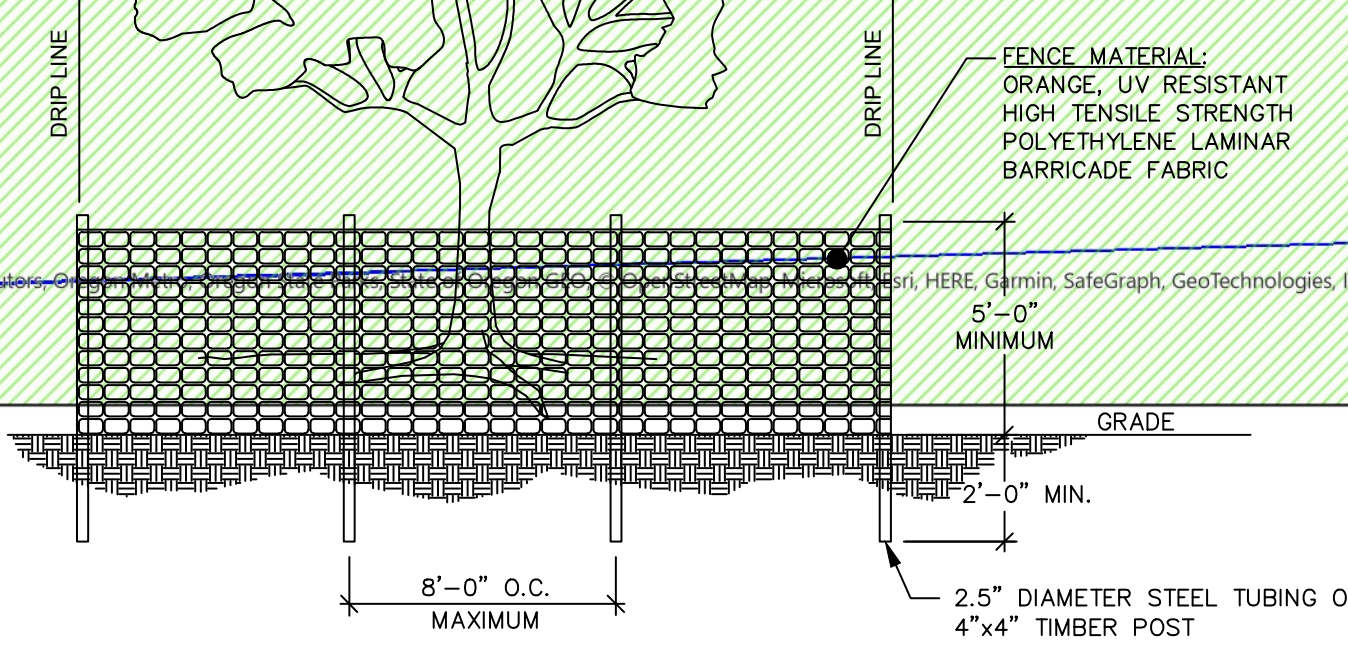
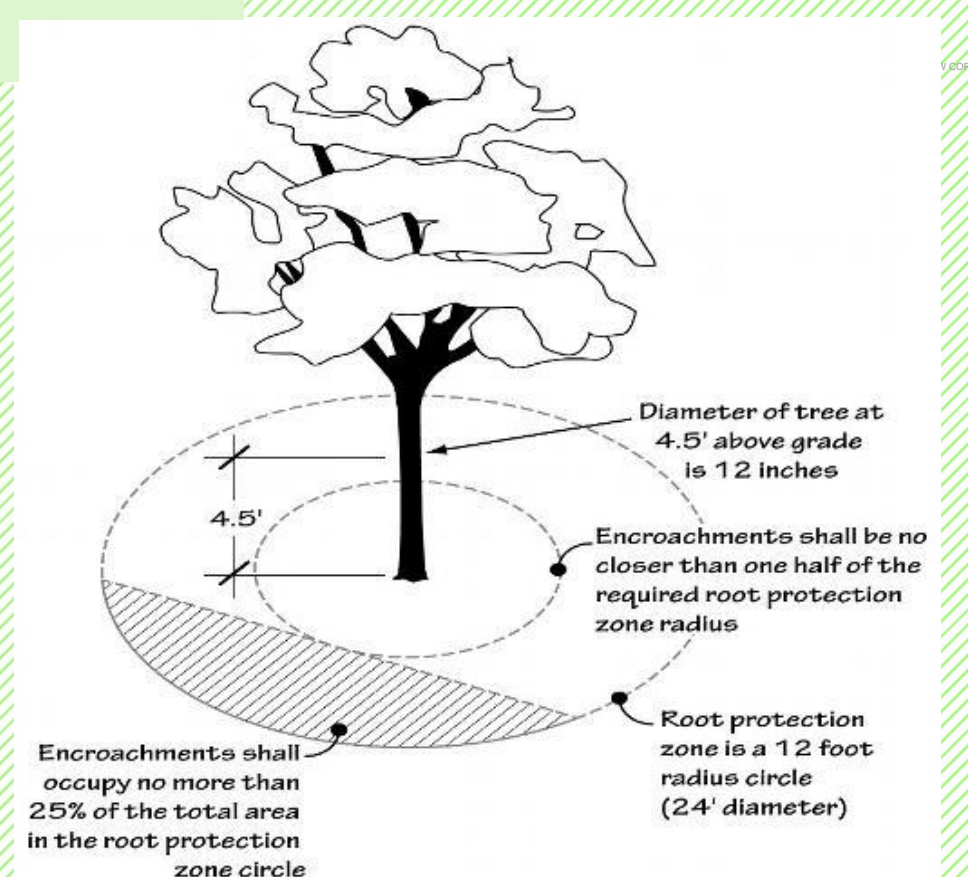
**TREE PRESERVATION PLAN**  
1" = 50'-0"

AC ASPHALTIC CONCRETE	I.E. INVERT ELEVATION
CB CATCH BASIN	LP LIGHT POLE
CRSR COMMUNICATIONS RISER	MH MANHOLE (MH AS NOTED)
CONC CONCRETE	NG NATURAL GROUND
CTR CONFERENTIAL TREE TO REMAIN (SIZE VARIES 6" - 48")	PVC POLYVINYL CHLORIDE PIPE
CSPP CORRUGATED STEEL PIPE	PB PULL BOX
CRD COUNTY ROAD	SE SPOT ELEVATION - TOP OF CURB
DDT DECAIDUOUS TREE TO REMAIN (SIZE VARIES 6" - 48")	SG SPOT ELEVATION - GUTTER
EVLT ELECTRICAL VAULT	TREE W/TAG NUMBER
FH FIRE HYDRANT	WM WATER METER
FRM CONFERENTIAL TREE TO BE REMOVED (SIZE VARIES 6" - 48")	WV WATER VALVE
DDM DECAIDUOUS TREE TO BE REMOVED (SIZE VARIES 6" - 48")	WFL WETLANDS FLAGGING
	FENCE (AS NOTED)
	SS SANITARY SEWER
	SD STORM DRAIN
	WFL WETLANDS FLAG LINE

**SURVEYOR'S NOTES**

- THE BASIS OF BEARINGS FOR THIS SURVEY IS PER THE PLAT OF "FRANKLIN BUSINESS PARK", WASHINGTON COUNTY PLAT RECORDS. THIS IS NOT A RECORDABLE BOUNDARY SURVEY.
- UNDERGROUND UTILITIES ARE SHOWN PER SURFACE MARKINGS AND AS-BUILT INFORMATION PROVIDED BY THE CONTROLLING JURISDICTIONS. THE SURVEYOR MAKES NO GUARANTEE AS TO THE EXACT LOCATION, EXISTENCE, NON-EXISTENCE, OR COMPLETENESS OF ANY SUBSURFACE UTILITIES SHOWN OR NOT SHOWN ON THE MAP. CALL 811 BEFORE DIGGING.

**BENCHMARK**  
THE BENCHMARK USED FOR THIS PROJECT IS AN OPUS-DERIVED ELEVATION ON WEDDLE SURVEYING INC. POINT #7414.  
ELEVATION: 157.48' NAVD '88 (GEOID 12B)  
1267.14' - N 69°37'58" W



- NOTES:**
- ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING, AS ILLUSTRATED.
  - INSTALL TREE PROTECTION FENCE AT TREE DRIP LINE OR AT EDGE OF DISTURBED AREA AS SHOWN ON PLANS, OR PER ARBORIST DIRECTION IN THE FIELD PRIOR TO CONSTRUCTION.
  - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
  - THERE SHALL BE NO STORAGE OF MATERIAL WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.
  - TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

**TREE PROTECTION FENCING** N.T.S.

**Appendix C - Existing Conditions Overlay**



3145 Westview Circle  
Lake Oswego, Oregon  
503-697-1975 | info@teragan.com

Inventory By Christine Johnson  
Prepared and Checked By Peter van Oss

**Project**  
**SW 124th Ave  
Business Park**

**Site Address**  
SW 124th Ave & SW Myslony St  
Tualatin, OR

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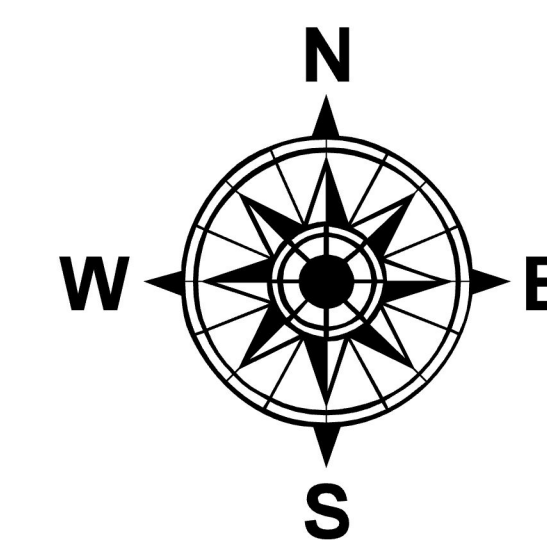
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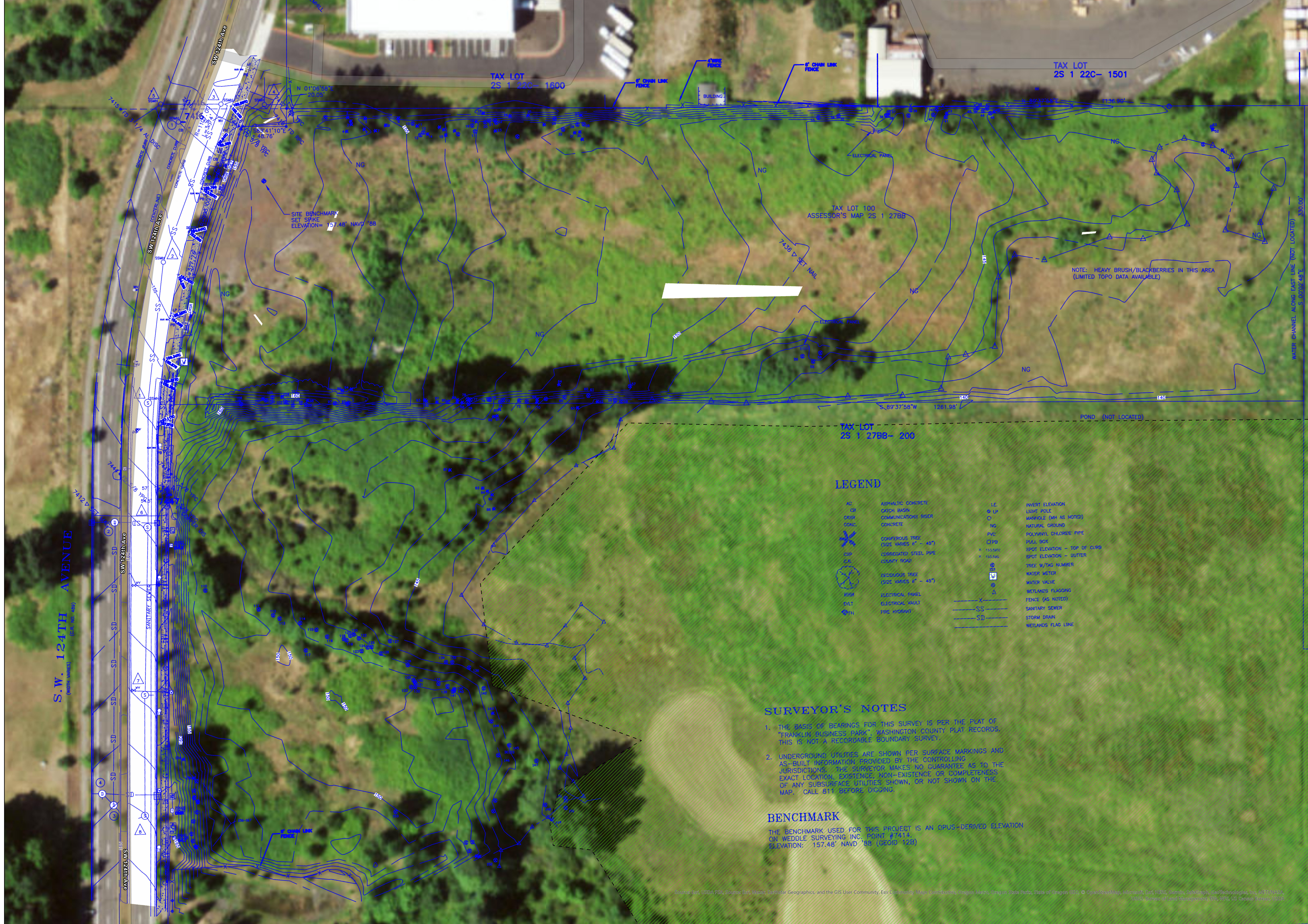
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**RGB**

- Red: Band\_2
- Green: Band\_3
- Blue: Band\_4



0 20 40 80 120 160 Feet



**LEGEND**

- |    |                      |      |                              |
|----|----------------------|------|------------------------------|
| AC | ASPHALTIC CONCRETE   | I.E. | INVERT ELEVATION             |
| CB | CATCH BASIN          | LP   | LIGHT POLE                   |
| CR | CONCRETE             | OH   | ORANGE HOLES (AS NOTED)      |
| CS | CONCRETE             | NG   | NATURAL GROUND               |
| CT | CONCRETE TIE         | PC   | POLYETHYLENE PIPE            |
| CP | CONCRETE PIPE        | PB   | PULL BOX                     |
| CS | CORROSION PROTECTANT | SE   | SPOT ELEVATION - TOP OF CURB |
| CS | CORROSION PROTECTANT | SB   | SPOT ELEVATION - BUTTER      |
| CS | CORROSION PROTECTANT | TR   | TREE W/TAG NUMBER            |
| CS | CORROSION PROTECTANT | WM   | WATER METER                  |
| CS | CORROSION PROTECTANT | WV   | WATER VALVE                  |
| CS | CORROSION PROTECTANT | WF   | WETLANDS FLAGGING            |
| CS | CORROSION PROTECTANT | FF   | FENCE (AS NOTED)             |
| CS | CORROSION PROTECTANT | SS   | SANITARY SEWER               |
| CS | CORROSION PROTECTANT | SD   | STORM DRAIN                  |
| CS | CORROSION PROTECTANT | WF   | WETLANDS FLAG LINE           |

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**BENCHMARK**

THE BENCHMARK USED FOR THIS PROJECT IS AN OPUS-DERIVED ELEVATION ON WEDDLE SURVEYING INC. POINT #7414. ELEVATION: 157.48' NAVD '83 (OCEID 12B)

53	Cottonwood	<i>Populus trichocarpa</i>	23	Good	Good		X	Two leaders split at 1' AGL: 16,16.
54	Cottonwood	<i>Populus trichocarpa</i>	20	Good	Fair	X		Not tagged; heavy ivy and poison oak; broken branches.
55	Cottonwood	<i>Populus trichocarpa</i>	35	Good	Fair	X		Not tagged; three large leaders: 20,20,20; heavy ivy and poison oak.
56	Cottonwood	<i>Populus trichocarpa</i>	13	Good	Good	X		Not tagged; poison oak; phototropism to the NW.
57	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	Good	Good	X		
58	Cottonwood	<i>Populus trichocarpa</i>	36	Good	Good	X		
59	Bigleaf maple	<i>Acer macrophyllum</i>	9	Good	Good	X		
60	Pacific madrone	<i>Arbutus menziesii</i>	13	Good	Good	X		Diameter at 4'; splits into 2 leaders at 6' AGL; barbed wire embedded.
61	Scouller willow	<i>Salix scoulleriana</i>	Avg. 12	Poor	Poor	X		Seven leaders averaging 12" diameter; deadwood; broken branches.
62	Douglas-fir	<i>Pseudotsuga menziesii</i>	34	Good	Good	X		
63	Douglas-fir	<i>Pseudotsuga menziesii</i>	32	Fair	Fair	X		Storm damage; epicormic growth.
64	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	Fair	Fair	X		Thin, suppressed.
65	Bigleaf maple	<i>Acer macrophyllum</i>	8	Good	Good	X		High crown.
66	Pacific madrone	<i>Arbutus menziesii</i>	14	Good	Good	X		Two leaders split at 3': 12,7.
67	Douglas-fir	<i>Pseudotsuga menziesii</i>	40	Good	Good	X		Inaccessible; not tagged.
68	Oregon white oak	<i>Quercus garryana</i>	8	Good	Good	X		
69	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	Good	Good	X		
70	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	Good	Good	X		
71	Bigleaf maple	<i>Acer macrophyllum</i>	12	Fair	Fair	X		Suppressed.
72	Bigleaf maple	<i>Acer macrophyllum</i>	8	Fair	Fair	X		Suppressed.
73	Bigleaf maple	<i>Acer macrophyllum</i>	10	Good	Good	X		
74	Bigleaf maple	<i>Acer macrophyllum</i>	11	Good	Good	X		
75	Bigleaf maple	<i>Acer macrophyllum</i>	15	Good	Good	X		
76	Bigleaf maple	<i>Acer macrophyllum</i>	10	Good	Good	X		
77	Bigleaf maple	<i>Acer macrophyllum</i>	11	Good	Fair	X		High crown; W side suppressed.
78	Bigleaf maple	<i>Acer macrophyllum</i>	16	Fair	Fair	X		Suppressed; broken limbs.
79	Bigleaf maple	<i>Acer macrophyllum</i>	18	Good	Fair	X		Suppressed on W side.
80	Pacific madrone	<i>Arbutus menziesii</i>	14	Good	Fair	X		Horizontal trunk for approximately 30'; 6" pacific madroneto the E.
81	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	Fair	Good	X		Suppressed.
82	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	Good	Good	X		
83	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	Good	Good	X		
84	Douglas-fir	<i>Pseudotsuga menziesii</i>	9	Good	Fair	X		Suppressed.
85	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	Good	Good	X		
86	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	Good	Good	X		
87	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	Good	Good	X		
88	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	Good	Good	X		
89	Douglas-fir	<i>Pseudotsuga menziesii</i>	60	Good	Good	X		Two leaders fused at bottom 3': 40,45.
90	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	Fair	Fair	X		Suppressed, unbalanced canopy.
91	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	Good	Good	X		Poison oak in canopy
92	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	Good	Good	X		Poison oak in canopy.
93	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	Good	Good	X		Poison oak in canopy; directly next to 92; ~50' break between 93 and 94.
94	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	Good	Good	X		
95	Bigleaf maple	<i>Acer macrophyllum</i>	23	Good	Good	X		Three leaders: 20,12,10; one leader has deadwood and a wound on W side.
96	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	Good	Good	X		
97	Scouller willow	<i>Salix scoulleriana</i>	8	Good	Good	X		Poison oak.
98	Douglas-fir	<i>Pseudotsuga menziesii</i>	32	Good	Good	X		
99	Bigleaf maple	<i>Acer macrophyllum</i>	15	Good	Fair	X		Unbalanced to the S.
100	Bigleaf maple	<i>Acer macrophyllum</i>	20	Good	Good	X		
101	Cottonwood	<i>Populus trichocarpa</i>	14	Good	Good	X		High crown.
102	Scouller willow	<i>Salix scoulleriana</i>	10	Dead	Dead	X		7" willow to the E.
103	Bigleaf maple	<i>Acer macrophyllum</i>	17	Good	Good	X		
104	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	Good	Good	X		
105	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	Good	Good	X		Growing below canopy of 107.

106	Scouler willow	<i>Salix scouleriana</i>	9	Good	Good	X		Growing 1' SE of 107.
107	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	Good	Good	X		
108	Cottonwood	<i>Populus trichocarpa</i>	19	Good	Good	X		
109	Cottonwood	<i>Populus trichocarpa</i>	17	Good	Good	X		
110	Bigleaf maple	<i>Acer macrophyllum</i>	39	Good	Fair	X		Four leaders: 24,19,17,17.
111	Bigleaf maple	<i>Acer macrophyllum</i>	9	Good	Good	X		Two leaders: 7, 6; two 6" bigleaf maples to the SE.
112	Bigleaf maple	<i>Acer macrophyllum</i>	13	Fair	Fair	X		Three leaders: 10,8,6; 6" leader dead.
113	Bigleaf maple	<i>Acer macrophyllum</i>	14	Good	Good	X		Two leaders at 2' AGL; two leaders: 12, 7.
114	Bigleaf maple	<i>Acer macrophyllum</i>				X		
115	Bigleaf maple	<i>Acer macrophyllum</i>				X		
116	Bigleaf maple	<i>Acer macrophyllum</i>	10	Good	Good	X		Two leaders: 7, 7; two 7" trees to N.
117	Cottonwood	<i>Populus trichocarpa</i>	Avg. 8	Good	Good	X		Cluster of cottonwood.
118	Bigleaf maple	<i>Acer macrophyllum</i>	12	Good	Good	X		Three leaders: 8,8,4.
119	Bigleaf maple	<i>Acer macrophyllum</i>	8	Good	Good	X		
120	Bigleaf maple	<i>Acer macrophyllum</i>	14	Good	Good	X		Not tagged, poison oak.
121	Scouler willow	<i>Salix scouleriana</i>	Avg.4	Dead	Dead	X		
122	Bigleaf maple	<i>Acer macrophyllum</i>	8	Good	Good	X		N of 121.
123	Bigleaf maple	<i>Acer macrophyllum</i>	9	Good	Good	X		Top of mound; two leaders: 7, 5.
124	Bigleaf maple	<i>Acer macrophyllum</i>	11	Good	Good	X		Three leaders: 7, 6, 6.
125	Bigleaf maple	<i>Acer macrophyllum</i>	11	Good	Good	X		Two leaders: 8,7.
126	Bigleaf maple	<i>Acer macrophyllum</i>	15	Good	Fair	X		Five leaders: 9,8,5,5,4; inclusion, bacterial wetwood.
127	Bigleaf maple	<i>Acer macrophyllum</i>	8	Good	Good	X		
128	Cottonwood	<i>Populus trichocarpa</i>	13	Good	Good	X		
129	Cottonwood	<i>Populus trichocarpa</i>	8	Good	Good	X		
130	Cottonwood	<i>Populus trichocarpa</i>	8	Good	Good	X		
131	Cottonwood	<i>Populus trichocarpa</i>	8	Good	Good	X		
132	Cottonwood	<i>Populus trichocarpa</i>	8	Good	Good	X		Two leaders: 7, 4.
133	Cottonwood	<i>Populus trichocarpa</i>	8	Good	Good	X		
134	Sweet cherry	<i>Prunus avium</i>	14	Fair	Fair	X		Thin foliage, missing bark, sapsuckers.
135	Oneseed hawthorn	<i>Crataegus monogyna</i>	12	Good	Fair	X		Multiple leaders; crossing branches.
136	Oneseed hawthorn	<i>Crataegus monogyna</i>	10	Good	Good	X		Two leaders: 7, 7; Not tagged
137	Cottonwood	<i>Populus trichocarpa</i>	26	Good	Good	X		Three leaders:17, 15, 12.
138	Cottonwood	<i>Populus trichocarpa</i>	11	Good	Good	X		
139	Cottonwood	<i>Populus trichocarpa</i>	15	Good	Good	X		
140	Cottonwood	<i>Populus trichocarpa</i>	8	Good	Good	X		
141	Cottonwood	<i>Populus trichocarpa</i>	14	Good	Good	X		
142	Cottonwood	<i>Populus trichocarpa</i>	14	Good	Good	X		
143	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	Good	Good	X		
144	Scouler willow	<i>Salix scouleriana</i>	Avg. 8	Good	Good	X		Twelve leaders with avg. of 8" diameter.
145	Pacific madrone	<i>Arbutus menziesii</i>	8	Good	Good	X		Two leaders: 6, 5.
146	Scouler willow	<i>Salix scouleriana</i>	Avg. 7	Good	Good	X		Seven leaders avg. 7"
147	Bigleaf maple	<i>Acer macrophyllum</i>	8	Good	Good	X		
148	Oregon ash	<i>Fraxinus latifolia</i>	28	Fair	Fair		X	Wound and dead leader on E side of trunk.
149	Oregon ash	<i>Fraxinus latifolia</i>	Avg. 9	Fair	Fair		X	Deadwood, unbalanced to SE.
150	Cottonwood	<i>Populus trichocarpa</i>	49	Good	Good		X	diameter estimated due to large lateral side leader.
151	Cottonwood	<i>Populus trichocarpa</i>	54	Good	Good		X	diameter estimated, 3 leaders at 3'
152	Oregon ash	<i>Fraxinus latifolia</i>	8	Good	Good		X	
153	Cottonwood	<i>Populus trichocarpa</i>	20	Good	Good	X		NW of homeless camp; two leaders: 14, 14.
154	Cottonwood	<i>Populus trichocarpa</i>	26	Good	Good	X		Four leaders: 17,14,11,7; near road.
155	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	Fair	Fair	X		
156	Pacific madrone	<i>Arbutus menziesii</i>	8	Fair	Fair	X		Diameter at 2' agl, close to DF
157	Pacific madrone	<i>Arbutus menziesii</i>	10	Fair	Fair	X		Estimated diameter, poor access.
158	Pacific madrone	<i>Arbutus menziesii</i>	8	Fair	Fair	X		Estimated diameter, poor access.

159	Pacific madrone	<i>Arbutus menziesii</i>	8	Fair	Fair	X		Estimated diameter, poor access.
160	Pacific madrone	<i>Arbutus menziesii</i>	8	Fair	Fair	X		Estimated diameter, poor access.
161	Pacific madrone	<i>Arbutus menziesii</i>	8	Fair	Fair	X		Estimated diameter, poor access.
162	Pacific madrone	<i>Arbutus menziesii</i>	8	Fair	Fair	X		Estimated diameter, poor access.
163	Pacific madrone	<i>Arbutus menziesii</i>	8	Fair	Fair	X		Estimated diameter, poor access.
164	Pacific madrone	<i>Arbutus menziesii</i>	12	Fair	Fair	X		Estimated diameter, poor access.
165	Pacific madrone	<i>Arbutus menziesii</i>	12	Fair	Fair	X		Estimated diameter, poor access.
166	Pacific madrone	<i>Arbutus menziesii</i>	8	Fair	Fair	X		Estimated diameter, poor access.
167	Pacific madrone	<i>Arbutus menziesii</i>	10				X	Estimated diameter, poor access.
168	Red alder	<i>Alnus rubra</i>	9	Good	Good		X	Wound on E side of tree, 10' long, 6" wide, good wound wood response.
169	Red alder	<i>Alnus rubra</i>	9	Good	Good		X	Street tree diameter at 4'.
171	Northern red oak	<i>Quercus rubra</i>	9	Good	Good		X	Street tree; west of black fence
172	Northern red oak	<i>Quercus rubra</i>	10	Good	Good		X	Northern red oaks : 6,6,4,7,6,4,9.
173	Douglas-fir	<i>Pseudotsuga menziesii</i>	36	Good	Good		X	
174	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	Good	Good		X	
175	Oregon ash	<i>Fraxinus latifolia</i>	22	Good	Good		X	
176	Oregon ash	<i>Fraxinus latifolia</i>	16	Poor	Very Poor	X		Large portion of dieback in the crown
177	Oregon ash	<i>Fraxinus latifolia</i>	18	Very Poor	Very Poor	X		Large failed crown
							<b>159</b>	<b>17</b>

## Appendix E: Tree Protection Specifications

It is critical that the following steps be taken to ensure that they are retained and protected.

### Before Construction Begins

1. **Notify all contractors of the tree protection procedures.** For successful tree protection on a construction site, all contractors must know and understand the goals of tree protection. It can only take one mistake with a misplaced trench or other action to destroy the future of a tree.
  - 1.1. Hold a Tree Protection meeting with all contractors to fully explain the goals of tree protection.
  - 1.2. Have all subcontractors sign memoranda of understanding regarding the goals of tree protection. Memoranda to include penalty for violating tree protection plan. Penalty to equal appraised value of tree(s) within the violated tree protection zone per the current Trunk Formula Method as outlined by the Council of Tree & Landscape Appraisers current edition of the *Guide for Plant Appraisal*.
2. **Fencing.**
  - 2.1. Establish fencing around each tree or grove of trees to be retained as shown on the tree protection site plan.
  - 2.2. The fencing is to be put in place before the ground is cleared to protect the trees and the soil around the trees from any disturbance at all. The exception is if trees are to be removed that are located within the tree protection zones, they should be removed prior to installing the tree protection fencing without the use of mechanized wheeled or tracked equipment.
  - 2.3. Fencing is to be placed at the edge of the root protection zone as shown on the Tree Protection Plan (Appendix C). Root protection zones are established by the project arborist based on the needs of the site and the tree to be protected.
  - 2.4. “Protection fencing consisting of a minimum 4-foot-high metal fencing, secured with metal posts shall be established at the edge of the root protection zone and permissible encroachment area on the development site. Existing structures and/or existing secured fencing at least 3.5 feet tall can serve as the required protective fencing.” If construction fencing is used it is recommended that the panels are secured to prevent movement of the fencing during construction.
  - 2.5. Fencing is to remain in the position that is established by the project arborist and not to be moved without written permission from the project arborist until the end of the project after the final inspection has been completed.
3. **Signage**
  - 3.1. All tree protection fencing should have signage clearly indicating that the area is a vegetation protection zone (Appendix F).
  - 3.2. Signage should be placed so as to be visible from all sides of a tree protection area and spaced every 35 feet.

## During Construction

### 4. Protection guidelines within the Root Protection Zone

- 4.1. No traffic shall be allowed within the root protection zone. No vehicle, heavy equipment, or even repeated foot traffic.
- 4.2. No storage of materials including but not limited to soil, construction material, or waste from the site.
- 4.3. Waste includes but is not limited to concrete wash out, gasoline, diesel, paint, cleaner, thinners, etc.
- 4.4. Construction trailers are not to be parked / placed within the root protection zone without written clearance from the project arborist.
- 4.5. No vehicles shall be allowed to park within the root protection areas.
- 4.6. No activity shall be allowed that will cause soil compaction within the root protection zone.
- 4.7. The use of straw wattles is strongly recommended instead of silt fencing to avoid the need for trenching within the root protection zones.

### 5. Landscaping

- 5.1. Landscaping within the tree protection zones at a distance of 12X the diameter of the tree may commence after approval from the project arborist.
- 5.2. Inground irrigation systems must be avoided, and it is recommended that only above ground irrigation systems are used. Temporary systems and/or drip irrigation are preferred.
- 5.3. Any hardscapes within the tree protection zones shall be approved by the project arborist prior to soil disturbance taking place.
- 5.4. Landscape vegetation can be installed inside of the tree protection zones by pocket planting only. It is not recommended that soils are amended unless laboratory testing indicates that soil amelioration is needed.
- 5.5. No more than 4" of fill is allowed within the tree protection zone measured at a distance of 12X the diameter in circumference of the trees. No more than 25% of the tree protection zone may be impacted without the consent of the project arborist.
- 5.6. It is highly recommended that nutrient rich mulch or arborist woodchips are used in the planter areas. The material may be enriched with nitrogen to enhance the nutrient uptake by the soils.
6. **Tree protection.** Retained trees shall be protected from any cutting, skinning, or breaking of branches, trunks, or roots.
7. **Root pruning.** The roots that are to be cut from existing trees that are to be retained, the project consulting arborist shall be notified to evaluate, document, and oversee the proper cutting of roots with sharp cutting tools. Cut roots are to be immediately covered with soil or mulch to prevent them from drying out.
8. **Grade changes.** No grade change should be allowed within the root protection zone.
9. **Root protection zone changes.** Any necessary deviation of the root protection zone shall be cleared by the project consulting arborist in writing.
10. **Watering.** Provide water to trees during the summer months as needed. Tree(s) that will have had root system(s) cut back will need supplemental water to overcome the loss of ability to absorb necessary moisture during the summer months.
11. **Utilities.** Any necessary passage of utilities through the root protection zone shall be by means of tunneling under roots by hand digging or boring.
12. **Re-inspection of fencing.** Tree protection fencing is subject to inspection by the city. The project arborist highly recommends monthly inspections of tree protection fencing to ensure compliance with the permit and protection of the trees.

**After Construction**

13. Fences are to remain standing until the final inspection has been completed by the city for the project.
14. Provide for or ensure that adequate drainage will occur around the retained trees.
15. Pruning of the existing trees should be completed as one of the last steps of the landscaping process before the final placement of trees, shrubs, ground covers, mulch, or turf.
16. Trees that are retained may need to be fertilized as called for by the project arborist if acceptable thresholds are exceeded. Lab analysis may be required.
17. The existing trees should be monitored for decline for a period of three years post construction. Proper care should be prescribed if the trees start to show signs of stress.

**If there are any questions or concerns regarding the proper protection of the trees during the construction process, contact the project arborist.**

# VEGETATION/TREE PROTECTION ZONE

**DO NOT REMOVE OR ADJUST THIS FENCING.  
THE FENCE LOCATIONS ARE APPROVED TO PROTECT  
VEGETATION AND TREES.**

*Please contact the Code Enforcement Specialist and project arborist, if alterations to the approved location of the protection fencing are needed.*



**Project Arborist: TERAGAN & ASSOCIATES, INC 503-697-1975**