



- Preliminary Tree Protection Plan-

PINNACLE AT LIBERTY BAY

17505 Sunrise Ridge Avenue
Poulsbo, Washington

Prepared for: Montebanc Management LLC
Prepared by: Washington Forestry Consultants, Inc.
Date of Report: June 16, 2025

Introduction

The project proponent is planning to construct a new housing development on 4 parcels totaling 41.41-acres at 17505 Sunrise Ridge Avenue in Poulsbo, WA. The proponent has retained WFCI to:

- Evaluate all significant (≥ 6 inches diameter) trees on the site pursuant to the requirements of Chapter 18.180 of Poulsbo Municipal Code.
- Make recommendations for tree removal and retention.
- Complete the required minimum stocking and tree replacement calculations.

Methodology

The significant (6-inches DBH and larger) trees on the parcel were inventoried using standard forestry sampling methodology. Twenty-one variable area plots were installed on a systematic grid across the parcel. The plot locations are marked in the field with pink flagging. Data from the counts of significant trees were entered into SuperAce[®], a forest inventory software program that projected the total number of significant trees of the project. This plot data will be used to determine the 25% tree retention requirement. Sampling was designed to and achieved a 95% confidence level for the projection of the population of significant trees. The evaluation used methodology developed by the International Society of Arboriculture and Matheny and Clark (1998)¹.

¹ Nelda Metheny and James R. Clark. (1994). [A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas](#) (2nd Edition). International Society of Arboriculture, Champaign, IL.

Observations

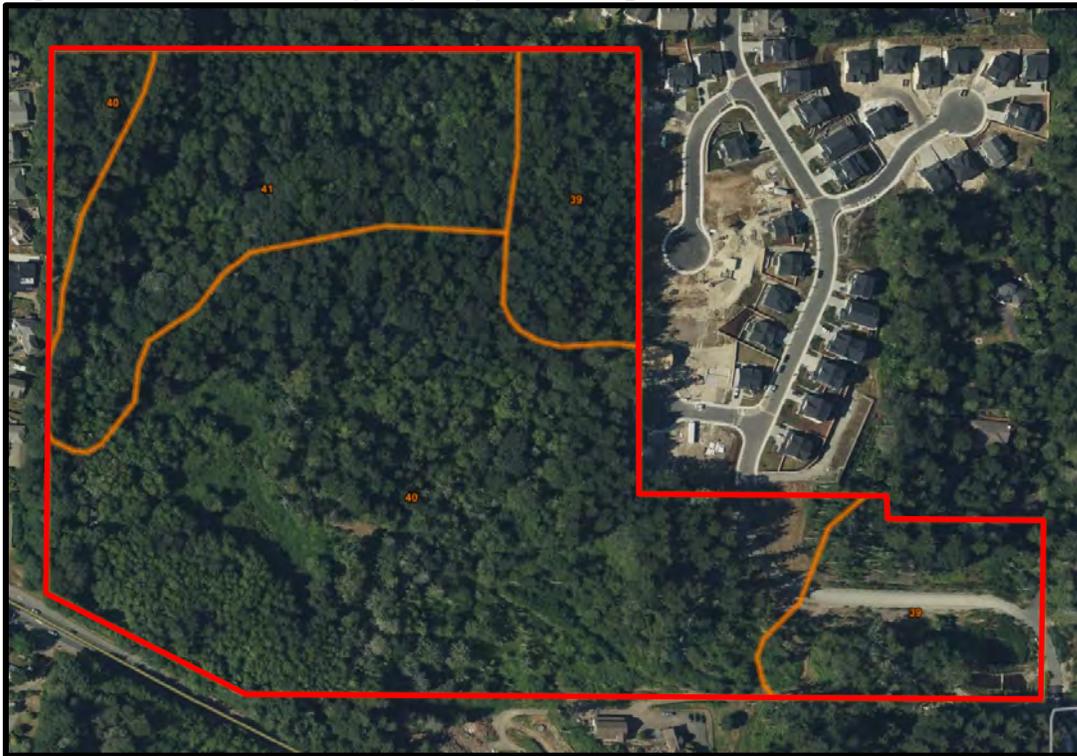
Site Description

The project area is made up of 4 parcels, legally described as parcel #'s: 242601-3-005-2006, 242601-3-018-2001, 242601-3-003-2008, and 232601-4-001-2009. The parcels are moderate to steeply sloped to the south. The site is bordered by undeveloped lots and single-family homes to the north and east, single-family homes and SR 305 to the south, and single-family homes to the west. There is a paved road through the site in the southeast area of the site.

Soils

According to the USDA Web Soil Survey there are three variants of the Poulsbo gravelly sandy loam located on the site. These soil types are a moderately deep, moderately well drained soil found on glacial terraces. A weakly cemented hardpan is at a depth of 20 to 40 inches. Permeability is moderately rapid above the hardpan and very slow in the pan. Available water capacity is very low. Effective rooting depth is 20-40 inches. A perched seasonal high-water table is at a depth of 12-30 inches from November to March. The potential for windthrow of trees is moderate under normal conditions. New trees require irrigation for establishment.

Figure 1: Pinnacle at Liberty Bay Project Soil Map.



- 39 – Poulsbo gravelly sandy loam 0 – 6% slope**
- 40 – Poulsbo gravelly sandy loam 6 – 15% slope**
- 41 – Poulsbo gravelly sandy loam 15 – 30% slope**

Existing Tree Conditions

There are three forest cover types on the parcel for the purposes of description (see Attachment #1).

Type I. -- Cover Type I is the largest type on the site at 25.64-acres. The type is a mature stand of native, second growth trees that has been commercially thinned. Tree species include Douglas-fir (*Pseudotsuga menziesii*), western redcedar (*Thuja plicata*), red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*), Pacific madrone (*Arbutus menziesii*), and western hemlock (*Tsuga heterophylla*). There are projected to be 2,346 trees in this type, ranging in size from 10 to 38 inches DBH. Tree conditions range from ‘Dead’ to ‘Very Good’ with most trees described as being in ‘Good’ condition or better. One thousand seven hundred and ninety-five (1,795) of the 2,346 trees are healthy significant trees. There are many trees infected with red ring rot (*Porodaedalea pini*) and brown crumbly rot (*Fomitopsis pinicola*) throughout the stand.

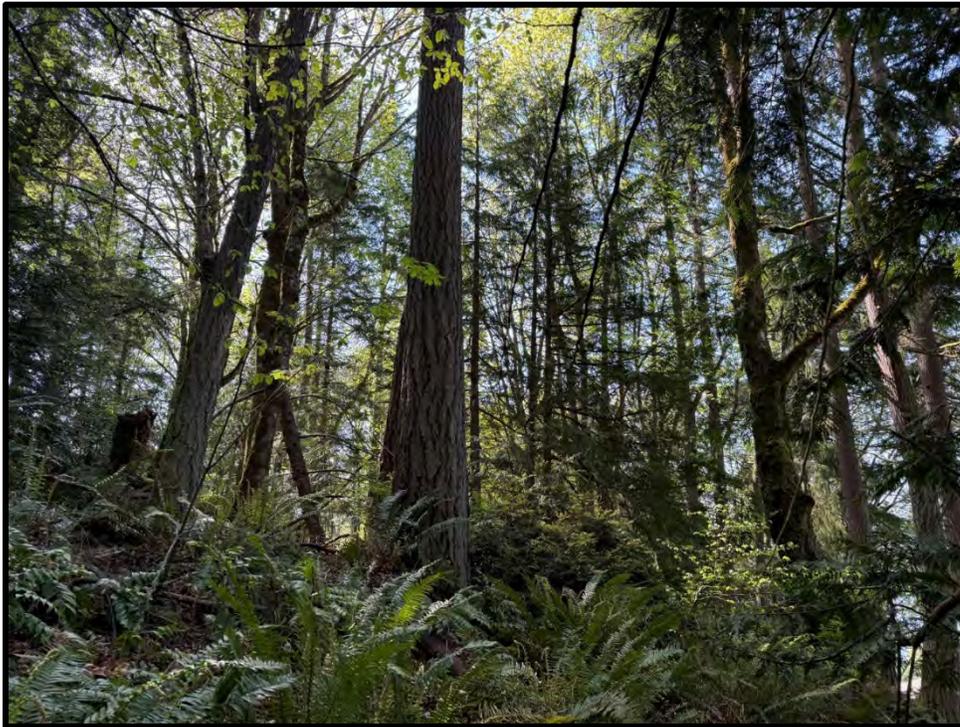


Photo 1. View of typical trees in Type I on Pinnacle at Liberty Bay site.

The understory vegetation is moderately dense shrubs including western swordfern (*Polystichum munitum*), Oregon grape (*Mahonia repens*), western hazelnut (*Corylus cornuta*), salmon berry (*Rubus spectabilis*), red huckleberry (*Vaccinium parvifolium*) and Indian plum (*Oemleria cerasiformis*).

Table 1. Summary of Trees in Cover Type I.

Species	DBH Range (in.)	# of Healthy, Significant (≥6" DBH) Trees	# of Unhealthy Trees	Total # of Trees
Bigleaf Maple	14 – 34	449	107	556
Douglas-fir	10 – 34	1,041	137	1,178
Pacific Madrone	18 – 35	70	11	81
Red Alder	14 – 19	91	296	387
Western Hemlock	16 – 30	15	0	15
Western Redcedar	14 – 38	129	0	129
Summary	10 - 38	1,795	551	2,346

Type II. – The 9.02-acre Cover Type II includes two areas that were cleared of most trees when the site was logged. The few trees in the type are scattered residual Douglas-fir and Pacific madrone, resprouted bigleaf maple stumps, and young red alder that naturally reseeded after harvest. The healthy residuals are the only trees worth retaining in the type. There are 101 trees in this type, ranging in size from 6 to 30 inches DBH. Tree conditions range from ‘Dead’ to ‘Good’ with most trees described as being in ‘Fair’ condition or better. Fifty-five (55) of the 101 trees are healthy significant trees.



Photo 2. View of typical trees in Type II on Pinnacle at Liberty Bay site.

The understory vegetation is very dense with Himalayan blackberry (*Rubus armeniacus*). Nothing else was growing in the understory.

Table 2. Summary of Trees in Cover Type II.

Species	DBH Range (in.)	# of Healthy, Significant (≥6" DBH) Trees	# of Unhealthy Trees	Total # of Trees
Bird Cherry	6 – 12	12	0	12
Douglas-fir	18 – 26	11	0	11
Pacific Madrone	18 – 30	10	6	16
Red Alder	6 - 16	22	40	62
Summary	6 – 30	55	46	101

Type III. -- Cover Type III covers a 5.31-acre area in the southwest corner of the site. The type is almost a pure stand of red alder. Bigleaf maple is also found on the edges of the type. There are projected to be 404 trees in this type, ranging in size from 10 to 38 inches DBH. Tree conditions range from ‘Dead’ to ‘Very Good’ with most trees described as being in ‘Poor’ or worse condition. Seventy-five percent of the red alder trees have broken tops from snow and ice storms, stem decay, or some other structural defect that puts them in a poor condition. One hundred and forty-six (146) of the 404 trees are healthy significant trees.



Photo 3. View of typical trees in Type III on Pinnacle at Liberty Bay site.

The understory vegetation is moderately dense shrubs including salmon berry Indian plum and Himalayan blackberry.

Table 3. Summary of Trees in Cover Type III.

Species	DBH Range (in.)	# of Healthy, Significant (≥6" DBH) Trees	# of Unhealthy Trees	Total # of Trees
Bigleaf Maple	15 – 38	62	0	62
Red Alder	10 - 20	84	258	342
Summary	10 – 38	146	258	404

Potential Tree Retention

The trees on the site are large, mature trees that will make quality retention trees and should be protected in groups to reduce the chances of windthrow after development. The site plan shows 12.57 acres of tree retention on the western side of the site, around the riparian areas. These areas are forested with quality, long-term trees.

Impacts to Off-Site Trees

Off-site trees will not be impacted by tree removal or grading of this project.

Discussion

There are 1,996 healthy significant-sized trees currently growing in the project area. The City of Poulsbo requires 25% significant trees to be retained.

The following is a summary of the proposed tree retention:

Total Trees on Site:	2,851 Trees
Number of Unhealthy Trees:	<u>855 Trees</u>
Number of Healthy Trees:	1,996 Trees
Required Tree Retention	
(25% of 1,996 trees):	499 Significant Trees
Planned Tree Retention:	840 Significant Trees
Excess of Tree Retention Requirement:	341 Significant Trees
Required Replacement Trees:	0 Trees

The proposed site plan is retaining 840 healthy significant trees in several critical areas on the site. No tree replacement is required since the planned tree retention is 341 trees over the 25% retention requirement. Unhealthy trees away from targets could also be saved.

Tree Protection Measures

Trees to be saved should be protected during site grading and construction with high visibility NGPA fencing on driven posts (see Attachment #4) located at the edge of the critical root zone. This zone is described as a distance of 5 feet outside of the dripline of the save tree unless otherwise specified by WFCI. The fences should be installed after logging and pruning, but prior to the start of land clearing.

There should be no root disturbing activity within the critical root zone of save trees. This includes irrigation line installation, rototilling, equipment operation, trenching, cuts or fills. If roots are encountered outside of the established root protection zone, they should be cut cleanly with a saw and covered immediately with moist soil. If grading or fill soils must impact tree, then the tree should be re-evaluated by WFCI to determine if the tree can be saved. Mitigation to save the tree can then be prescribed, or tree removal may be necessary.

Pruning

Tree pruning may be required where trails, sidewalks, access roads, or other improvements occur near saved trees. Crown raising should be done to a height of 8' over sidewalks, and 15' over driveways or streets to allow vehicles to pass without damaging branches. All new buildings should have at least 10 feet of clearance to tree branches. Pruning should be completed prior to construction to avoid tree damage by construction contractors cutting or breaking branches for clearance.

All pruning on save trees should be completed according to the ANSI A300 (2001) standards for proper pruning, and be completed by, or supervised by an International Society of Arboriculture Certified Arborist®.

Conclusions

Timeline for Activity

1. The approved tree protection plan map should be included in the construction drawings for bid and construction of the project.
2. Contact WFCI to attend pre-job conference and discuss tree protection issues with logging and clearing contractor. WFCI can verify all trees to be saved and/or removed are adequately marked for retention.
3. Complete logging and removal of any hazard trees within reach of homes or other targets within the project and outside of the project area.
4. Complete all necessary pruning to provide at least 8' of ground clearance near sidewalks and trails, and 15' above all driveways or access roads.
5. Complete land clearing. Do not excavate stumps within 10' of trees to be saved. These should be individually evaluated by WFCI to determine method of removal.
6. Remove any invasive species within tree protection areas. No equipment should enter the tree protection areas.

7. Install tree protection fences along the perimeter landscape and around all interior trees to be saved. The fences should be located at the edge of grading. Maintain fences throughout construction.
8. Complete grading and construction of the project.

Summary

There are 1,996 healthy significant trees projected to be on the project area. At least 499 significant trees are required to be retained to meet the 25% tree retention requirement. There will be 840 healthy trees saved in the on-site critical areas, 341 more than the minimum number of save trees. No replacement trees are required.

Please give us a call if you have any questions.

Respectfully submitted,

Washington Forestry Consultants



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Attachment 2. Pinnacle at Liberty Bay Site Plan



— Project Boundary

■ Save Tree Areas

**Attachment 3. Stand Summary Reports by Type
(3 pages attached)**

Stand Summary Report

State, County:

Project: KITSAP COUNTY

Tract: MONTEBANC

Stand: 0001

Acres: 25.64

Plots: 17

Trees: 74

Measured Trees: 0

Count Trees: 74

Species: GEN WEST

Sort: ACI SORTS-SPECIES

Grade: NW SCALE GRADES

Price: ACI-2018

Cost: ACI-2023

Page: 2/2

Date: 06/04/2025

Cruised: 05/02/2025

Grown To:

Edited: 05/02/2025

Spp	St	Dbh	Smpl Trees	Avg Age	Avg FF	Avg Total Ht	Trees /Ac	BA /Ac	Logs /Ac	Ht/D Inches	Net Per Log		Net Per Acre			BdFt Def %	Total Net			
											CuFt	BdFt	Tons	CuFt	BdFt		Tons	Ccf	Mbf	
BM	4	36	0	50	90	0	0.411	2.90	0.000	0.0										
BM-4			0	50	90	0	12.323	40.67	0.000	0.0	0	0				0.0				
BM	5	26	0	50	90	0	0.788	2.90	0.000	0.0										
BM	5	28	0	50	90	0	0.679	2.90	0.000	0.0										
BM	5	30	0	50	90	0	0.592	2.90	0.000	0.0										
BM	5	34	0	50	90	0	0.461	2.90	0.000	0.0										
BM-5			0	50	90	0	2.520	11.62	0.000	0.0	0	0				0.0				
RA	0	20	0	50	90	0	1.331	2.90	0.000	0.0										
RA-0			0	50	90	0	1.331	2.90	0.000	0.0	0	0				0.0				
RA	1	14	0	50	90	0	5.435	5.81	0.000	0.0										
RA	1	18	0	50	90	0	1.644	2.90	0.000	0.0										
RA-1			0	50	90	0	7.078	8.71	0.000	0.0	0	0				0.0				
RA	2	18	0	50	90	0	1.644	2.90	0.000	0.0										
RA	2	19	0	50	90	0	1.475	2.90	0.000	0.0										
RA-2			0	50	90	0	3.119	5.81	0.000	0.0	0	0				0.0				
RA	4	16	0	50	90	0	2.080	2.90	0.000	0.0										
RA	4	19	0	50	90	0	1.475	2.90	0.000	0.0										
RA-4			0	50	90	0	3.556	5.81	0.000	0.0	0	0				0.0				
RC	4	14	0	50	90	0	2.717	2.90	0.000	0.0										
RC	4	22	0	50	90	0	1.100	2.90	0.000	0.0										
RC-4			0	50	90	0	3.818	5.81	0.000	0.0	0	0				0.0				
RC	5	35	0	50	90	0	0.435	2.90	0.000	0.0										
RC	5	36	0	50	90	0	0.411	2.90	0.000	0.0										
RC	5	38	0	50	90	0	0.369	2.90	0.000	0.0										
RC-5			0	50	90	0	1.215	8.71	0.000	0.0	0	0				0.0				
MA	0	35	0	50	90	0	0.435	2.90	0.000	0.0										
MA-0			0	50	90	0	0.435	2.90	0.000	0.0	0	0				0.0				
MA	4	18	0	50	90	0	1.644	2.90	0.000	0.0										
MA-4			0	50	90	0	1.644	2.90	0.000	0.0	0	0				0.0				
MA	5	22	0	50	90	0	1.100	2.90	0.000	0.0										
MA-5			0	50	90	0	1.100	2.90	0.000	0.0	0	0				0.0				
WH	4	30	0	50	90	0	0.592	2.90	0.000	0.0										
WH-4			0	50	90	0	0.592	2.90	0.000	0.0	0	0				0.0				
Stands/Project:			0	50	90	0	91.519	214.96	0.000	0.0	0	0				0.0				

Stand Summary Report

State, County:

Project: KITSAP COUNTY

Tract: MONTEBANC

Stand: 0003

Acres: 5.31

Plots: 2

Trees: 8

Measured Trees: 0

Count Trees: 8

Species: GEN WEST

Sort: ACI SORTS-SPECIES

Grade: NW SCALE GRADES

Price: ACI-2018

Cost: ACI-2023

Page: 1/1

Date: 06/04/2025

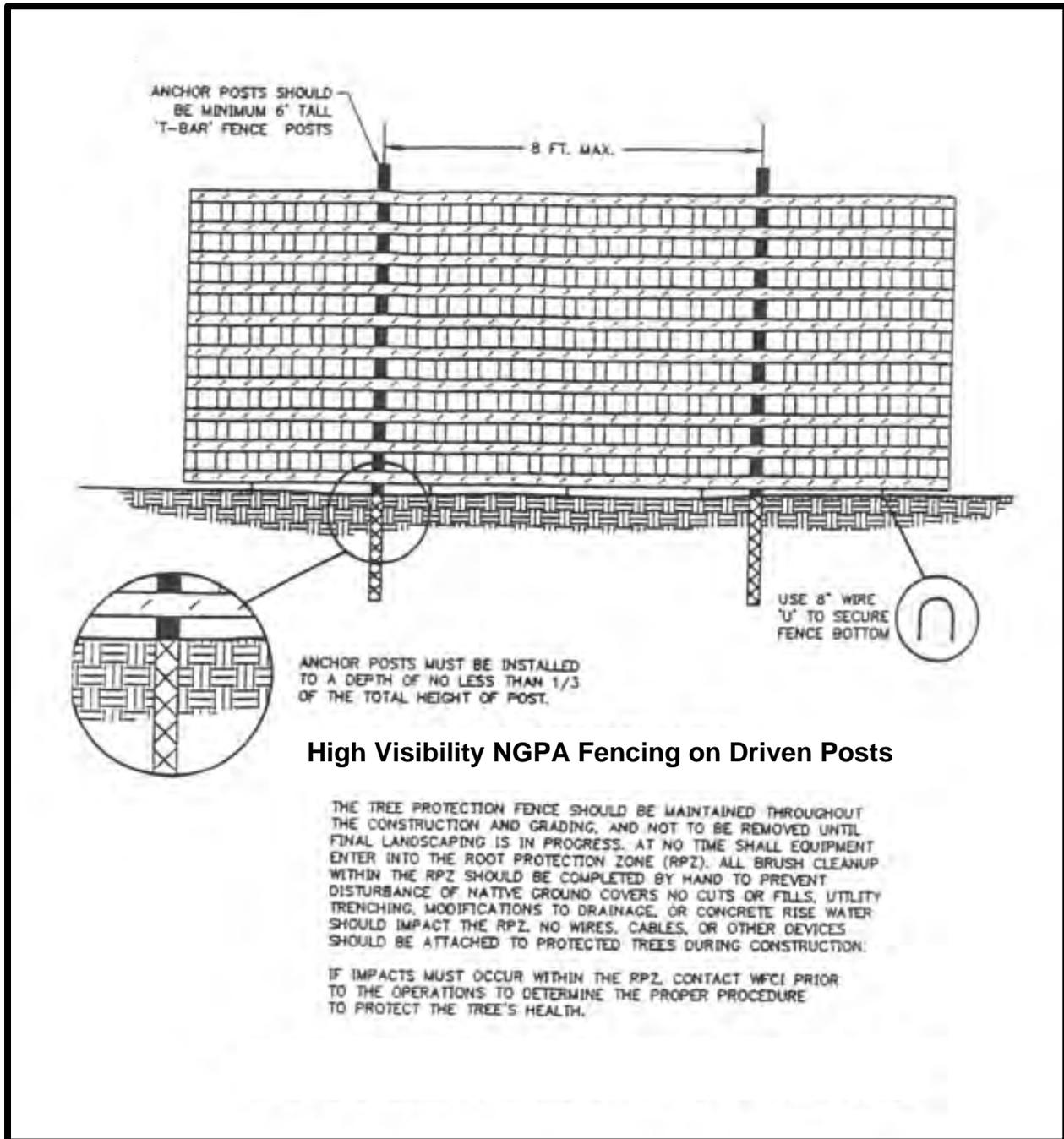
Cruised: 05/02/2025

Grown To:

Edited: 05/02/2025

Spp	St	Dbh	Smpl Trees	Avg Age	Avg FF	Avg Total Ht	Trees /Ac	BA /Ac	Logs /Ac	Ht/D Inches	Net Per Log		Net Per Acre			BdFt Def %	Total Net			
											CuFt	BdFt	Tons	CuFt	BdFt		Tons	Ccf	Mbf	
RA	0	10	0	50	90	0	22.635	12.35	0.000	0.0										
RA-0			0	50	90	0	22.635	12.35	0.000	0.0	0	0				0.0				
RA	1	20	0	50	90	0	5.659	12.35	0.000	0.0										
RA-1			0	50	90	0	5.659	12.35	0.000	0.0	0	0				0.0				
RA	2	13	0	50	90	0	13.394	12.35	0.000	0.0										
RA	2	18	0	50	90	0	6.986	12.35	0.000	0.0										
RA-2			0	50	90	0	20.380	24.69	0.000	0.0	0	0				0.0				
RA	4	16	0	50	90	0	8.842	12.35	0.000	0.0										
RA	4	18	0	50	90	0	6.986	12.35	0.000	0.0										
RA-4			0	50	90	0	15.828	24.69	0.000	0.0	0	0				0.0				
BM	4	38	0	50	90	0	1.568	12.35	0.000	0.0										
BM-4			0	50	90	0	1.568	12.35	0.000	0.0	0	0				0.0				
BM	5	15	0	50	90	0	10.060	12.35	0.000	0.0										
BM-5			0	50	90	0	10.060	12.35	0.000	0.0	0	0				0.0				
Stands/Project:			0	50	90	0	76.130	98.77	0.000	0.0	0	0				0.0				

Attachment 4. Tree Protection Fence Detail



Attachment 5. Assumptions and Limiting Conditions

- 1) Any legal description provided to the Washington Forestry Consultants, Inc. is assumed to be correct. Any titles and ownership's to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
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Note: Even healthy trees can fail under normal or storm conditions. The only way to eliminate all risk is to remove all trees within reach of all targets. Annual monitoring by an ISA Certified Arborist or Certified Forester will reduce the potential of tree failures. It is impossible to predict with certainty that a tree will stand or fail, or the timing of the failure. It is considered an 'Act of God' when a tree fails, unless it is directly felled or pushed over by man's actions.