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- Preliminary Tree Protection Plan-

SANDSTONE RIDGE

Noll Road NE & Langaunet Ln. NE
Poulsbo, Washington

Prepared for: Entitle Fund , LLC

Prepared by: Washington Forestry Consultants, Inc.

Date of Report: April 17, 2024

Introduction

The project proponent is planning to construct a new 86-lot single-family home plat on 18.14 acres on Noll Road NE 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. Eighteen variable area plots were installed on a systematic grid across the parcel. The plot locations are marked in the field with orange 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% interior 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

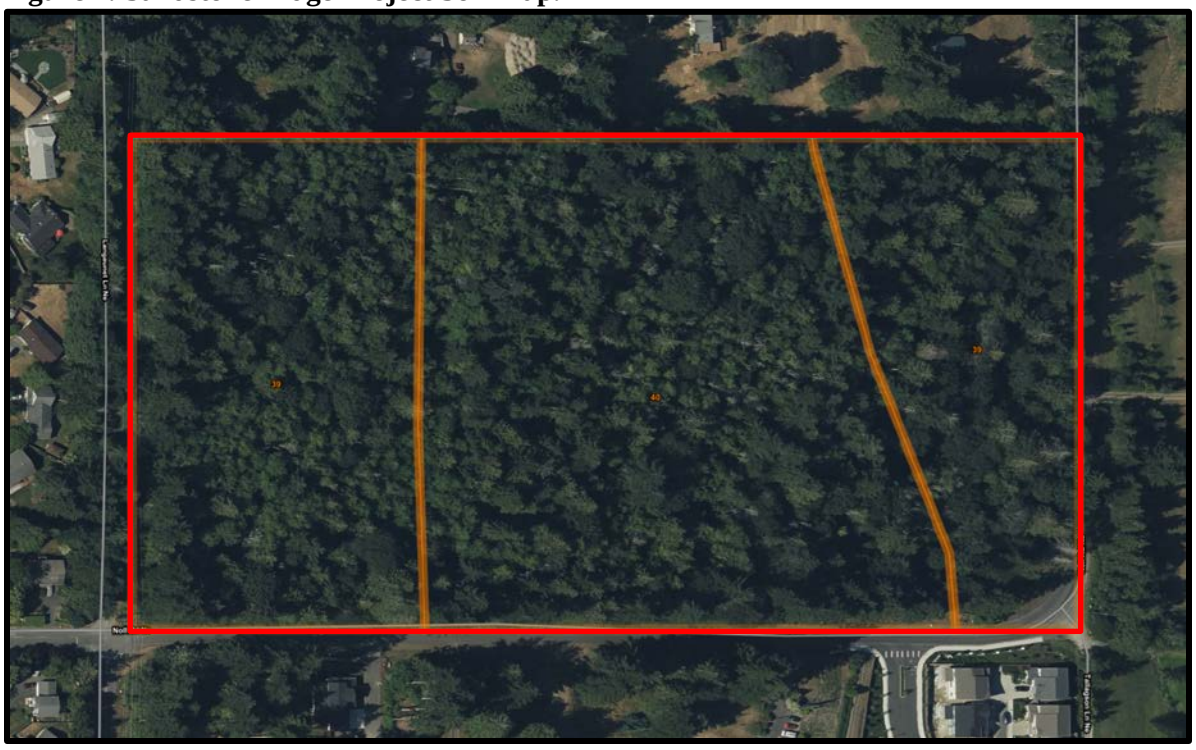
Site Description

The site is made up of 1 parcel, legally described as parcel #: 132601-4-008-2004. The parcel is moderately sloped to the east. There is a Type 5 stream located off-site to the east that has a 200' buffer that extends onto the site. The parcel is bordered by single family homes on all sides. Noll Road NE make up the east and south boundaries and Langaunet Ln. NE is the west boundary. There are no improvements on the site.

Soils

There are two variants of the Poulsbo gravelly sandy loam. 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: Sandstone Ridge Project Soil Map.



39 – Poulsbo gravelly sandy loam 0 – 6% slope
40 – Poulsbo gravelly sandy loam 6 – 15% slope

Existing Tree Conditions

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

Type I. -- Cover Type I is the largest type on the site, 16.91-acres. The stand is an older second growth stand of native trees. Tree species include Douglas-fir (*Pseudotsuga menziesii*), western redcedar (*Thuja plicata*), red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*), western white pine (*Pinus monticola*), and western hemlock (*Tsuga heterophylla*). There are 2,530 trees in this type, ranging in size from 8 to 40 inches DBH. Tree conditions range from 'Dead' to 'Good' with most trees described as being in 'Fair' condition or better. One thousand eight hundred and fifteen (1,815) of the 2,530 trees are healthy significant trees.

Photo 1. View of typical trees in Type I on Sandstone Ridge site.

The understory vegetation consists of dense shrubs including Indian plum (*Oemleria cerasiformis*), sword fern (*Polystichum munitum*), Oregon grape (*Mahonia nervosa*), evergreen huckleberry (*Vaccinium ovatum*), Himalayan blackberry (*Rubus* armeniacus), grasses and broadleaved weeds.

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	16 – 36	90	0	90
Douglas-fir	8 – 40	619	0	619
Red Alder	11 – 35	217	647	864
Western Hemlock	16 – 28	17	68	85
Western Red Cedar	10 – 38	857	0	857
Western White Pine	26	15	0	15
Summary	**8 – 38**	**1,815**	**715**	**2,530**

Type II. -- Cover Type II is located in the southeast corner of the site, within the stream buffer. Tree species include Douglas-fir, western redcedar, and bigleaf maple. The trees in this type are large conifers or clumps of bigleaf maple re-sprouts. There are 303 trees in this type, ranging in size from 6 to 48 inches DBH. Tree conditions range from 'Dead' to 'Good' with most trees described as being in 'Fair' condition or better. The redcedar in the type is dying from the top down and could be retained as wildlife trees. Two hundred and sixty-one (261) of the 303 trees are healthy significant trees (≥6" DBH). All trees in this type could be retained if they are not hazardous to surrounding targets.

Photo 2. View of typical trees in Type II on Sandstone Ridge site.

The understory vegetation consists of moderately stocked shrubs including sword fern, Oregon grape, Indian plum, salmon berry (*Rubus spectabilis*) and broadleaved weeds.

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
Bigleaf Maple	6 – 18	242	0	242
Douglas-fir	17 – 24	19	0	19
Western Red Cedar	13 – 48	0	42	42
Summary	**6 – 48**	**261**	**42**	**303**

Potential Tree Retention

The site plan shows 3.83-acres of Open Space that will be areas of potential tree retention. An additional 2.71-acres of critical area buffer will be retained as well. All of these areas are forested with quality long-term trees. An estimated 886 trees will be retained in the open space and buffer areas. Tree tracts on the northern, southern and western boundaries will need to be staked to complete a full inventory of those save tree areas. These tracts

contain large conifers that will require a large root protection area, notably on the interior of the site where grading will occur.

Impacts to Off-Site Trees

Residential properties to the north and west of the project area contain trees near the property line that may be affected by site clearing and development. Property lines need staking to properly inventory the edge trees.

Discussion

There are 2,076 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:	2,833 Trees
Number of Unhealthy Trees:	757 Trees
Number of Healthy Trees:	2,076 Trees
Required Tree Retention (25% of 2,076 trees):	519 Significant Trees
Planned Tree Retention:	886 Significant Trees
Excess of Tree Retention Requirement:	367 Significant Trees
Required Replacement Trees:	**0 Trees**

Tree Replacement Plan

No tree replacement is required since the planned tree retention is 367 trees over the 25% retention requirement.

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 with in 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.

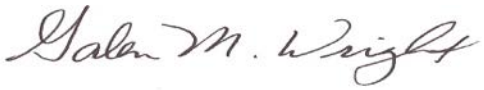
Summary

There are 2,076 healthy significant trees on the subject parcel. Eight hundred and sixty-six significant trees are planned to be retained in the designated Open Spaces and Critical Areas. These trees exceed the required 519 trees by 367 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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ISA Tree Risk Assessor Qualified
ASCA Tree and Plant Appraisal Qualified

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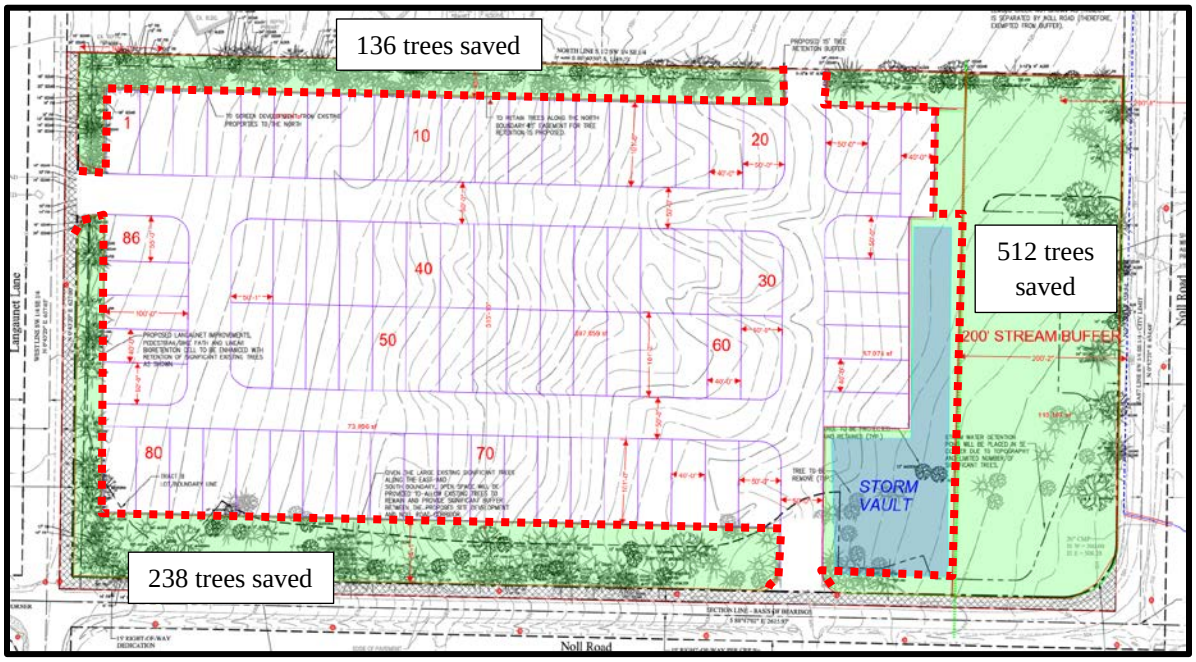
Attachment 1. Aerial Photo of Project Area

(Kitsap County Parcel Viewer 2021)

Project Boundary

Forest Cover Type Boundary

Attachment 2. Sandstone Ridge Site Plan



▪▪▪▪▪▪ **Tree Protection Fence Location**

Attachment 3. Stand Summary Reports by Type

(3 pages attached)

Stand Summary Report

State, County:

Species: GEN WEST

Project: KITSAP COUNTY

Plots: 16

Sort: ACI SORTS-SPECIES

Date: 04/01/2024

Tract: SANDSTN

Trees: 84

Grade: NW SCALE GRADES

Cruised: 03/20/2024

Stand: 0001

Measured Trees: 84

Price: ACI-2018

Grown To:

Acres: 16.91

Count Trees: 0

Cost: ACI-2023

Edited: 03/20/2024

											Net Per Log		Net Per Acre			BdFt	Total Net		
Spp	St	Dbh	Smpl Trees	Avg Age	Avg FF	Avg Total Ht	Trees /Ac	BA /Ac	Logs /Ac	Ht/D Inches	CuFt	BdFt	Tons	CuFt	BdFt	Def %	Tons	Ccf	Mbf
RA	0	15	0	50	87	138	2.691	3.30	0.000	110.6						0.0			
RA	0	18	0	50	87	138	1.869	3.30	0.000	92.1						0.0			
RA-0			**0**	**50**	**87**	**138**	**4.561**	**6.61**	**0.000**	**103.0**	**0**	**0**				**0.0**			
RA	1	35	0	50	87	138	0.494	3.30	0.000	47.4						0.0			
RA-1			**0**	**50**	**87**	**138**	**0.494**	**3.30**	**0.000**	**47.4**	**0**	**0**				**0.0**			
RA	2	12	0	50	87	138	4.205	3.30	0.000	138.2						0.0			
RA	2	13	0	50	87	138	3.583	3.30	0.000	127.6						0.0			
RA-2			**0**	**50**	**87**	**138**	**7.789**	**6.61**	**0.000**	**133.3**	**0**	**0**				**0.0**			
RA	3	11	0	50	87	138	5.005	3.30	0.000	150.8						0.0			
RA	3	12	0	50	87	138	8.411	6.61	0.000	138.2						0.0			
RA	3	13	0	50	87	138	7.167	6.61	0.000	127.6						0.0			
RA	3	14	0	50	87	138	6.179	6.61	0.000	118.5						0.0			
RA-3			**0**	**50**	**87**	**138**	**26.762**	**23.12**	**0.000**	**133.1**	**0**	**0**				**0.0**			
RA	4	12	0	50	87	138	8.411	6.61	0.000	138.2						0.0			
RA	4	14	0	50	87	138	3.090	3.30	0.000	118.5						0.0			
RA-4			**0**	**50**	**87**	**138**	**11.501**	**9.91**	**0.000**	**132.9**	**0**	**0**				**0.0**			
RC	3	11	0	50	87	143	5.005	3.30	0.000	155.8						0.0			
RC	3	16	0	50	87	143	2.366	3.30	0.000	107.1						0.0			
RC	3	17	0	50	87	143	2.095	3.30	0.000	100.8						0.0			
RC	3	18	0	50	89	143	1.786	3.16	0.000	95.2						0.0			
RC	3	26	0	50	87	143	0.896	3.30	0.000	65.9						0.0			
RC	3	27	0	50	87	143	0.831	3.30	0.000	63.5						0.0			
RC	3	28	0	50	87	143	0.772	3.30	0.000	61.2						0.0			
RC	3	30	0	50	87	143	0.673	3.30	0.000	57.1						0.0			
RC	3	34	0	50	87	143	0.524	3.30	0.000	50.4						0.0			
RC-3			**0**	**50**	**87**	**143**	**14.948**	**29.58**	**0.000**	**109.6**	**0**	**0**				**0.0**			
RC	4	10	0	50	87	143	6.056	3.30	0.000	171.3						0.0			
RC	4	12	0	50	87	143	8.411	6.61	0.000	142.8						0.0			
RC	4	15	0	50	87	143	2.691	3.30	0.000	114.2						0.0			
RC	4	18	0	50	89	143	1.786	3.16	0.000	95.2						0.0			
RC	4	19	0	50	87	143	1.678	3.30	0.000	90.2						0.0			
RC	4	22	0	50	88	143	3.698	9.76	0.000	77.9						0.0			
RC	4	24	0	50	87	143	3.154	9.91	0.000	71.4						0.0			
RC	4	26	0	50	87	143	0.896	3.30	0.000	65.9						0.0			
RC	4	28	0	50	88	143	2.283	9.76	0.000	61.2						0.0			
RC	4	30	0	50	87	143	2.691	13.21	0.000	57.1						0.0			
RC	4	34	0	50	87	143	1.048	6.61	0.000	50.4						0.0			
RC	4	36	0	50	87	143	0.935	6.61	0.000	47.6						0.0			
RC	4	38	0	50	87	143	0.419	3.30	0.000	45.1						0.0			
RC-4			**0**	**50**	**87**	**143**	**35.746**	**82.13**	**0.000**	**107.7**	**0**	**0**				**0.0**			
DF	3	8	0	50	89	142	9.042	3.16	0.000	213.1						0.0			
DF	3	20	0	50	89	143	2.893	6.31	0.000	85.6						0.0			

Stand Summary Report

State, County:

Species: GEN WEST

Project: KITSAP COUNTY

Plots: 16

Sort: ACI SORTS-SPECIES

Date: 04/01/2024

Tract: SANDSTN

Trees: 84

Grade: NW SCALE GRADES

Cruised: 03/20/2024

Stand: 0001

Measured Trees: 84

Price: ACI-2018

Grown To:

Acres: 16.91

Count Trees: 0

Cost: ACI-2023

Edited: 03/20/2024

										Net Per Log		Net Per Acre			BdFt	Total Net		
Spp	St	Dbh	Smpl Trees	Avg Age	Avg FF	Avg Total Ht	Trees /Ac	BA /Ac	Logs /Ac	Ht/D Inches	CuFt	BdFt	Tons	CuFt	BdFt	Def %	Tons	Ccf	Mbf
DF	3	22	0	50	89	143	2.391	6.31	0.000	77.9						0.0			
DF	3	36	0	50	89	144	0.447	3.16	0.000	47.9						0.0			
DF-3			**0**	**50**	**89**	**142**	**14.773**	**18.94**	**0.000**	**161.2**	**0**	**0**				**0.0**			
DF	4	10	0	50	89	142	5.787	3.16	0.000	170.6						0.0			
DF	4	17	0	50	89	143	2.002	3.16	0.000	100.6						0.0			
DF	4	20	0	50	89	143	2.893	6.31	0.000	85.6						0.0			
DF	4	24	0	50	89	143	3.014	9.47	0.000	71.5						0.0			
DF	4	26	0	50	89	143	2.568	9.47	0.000	66.0						0.0			
DF	4	28	0	50	89	143	0.738	3.16	0.000	61.4						0.0			
DF	4	30	0	50	89	143	1.929	9.47	0.000	57.3						0.0			
DF	4	32	0	50	89	143	1.130	6.31	0.000	53.8						0.0			
DF	4	34	0	50	88	144	1.024	6.46	0.000	50.7						0.0			
DF	4	38	0	50	89	144	0.401	3.16	0.000	45.4						0.0			
DF	4	40	0	50	89	144	0.362	3.16	0.000	43.2						0.0			
DF-4			**0**	**50**	**89**	**143**	**21.848**	**63.27**	**0.000**	**97.2**	**0**	**0**				**0.0**			
BM	3	36	0	50	87	138	0.467	3.30	0.000	46.1						0.0			
BM-3			**0**	**50**	**87**	**138**	**0.467**	**3.30**	**0.000**	**46.1**	**0**	**0**				**0.0**			
BM	4	16	0	50	87	138	2.366	3.30	0.000	103.6						0.0			
BM	4	20	0	50	87	138	1.514	3.30	0.000	82.9						0.0			
BM	4	24	0	50	89	138	1.005	3.16	0.000	69.1						0.0			
BM-4			**0**	**50**	**87**	**138**	**4.884**	**9.76**	**0.000**	**90.1**	**0**	**0**				**0.0**			
WH	0	16	0	50	89	138	2.260	3.16	0.000	103.7						0.0			
WH	0	28	0	50	89	138	0.738	3.16	0.000	59.0						0.0			
WH-0			**0**	**50**	**89**	**138**	**2.999**	**6.31**	**0.000**	**92.7**	**0**	**0**				**0.0**			
WH	2	24	0	50	89	138	1.005	3.16	0.000	68.9						0.0			
WH-2			**0**	**50**	**89**	**138**	**1.005**	**3.16**	**0.000**	**68.9**	**0**	**0**				**0.0**			
WH	3	24	0	50	89	138	1.005	3.16	0.000	68.9						0.0			
WH-3			**0**	**50**	**89**	**138**	**1.005**	**3.16**	**0.000**	**68.9**	**0**	**0**				**0.0**			
WP	4	26	0	50	89	152	0.856	3.16	0.000	70.3						0.0			
WP-4			**0**	**50**	**89**	**152**	**0.856**	**3.16**	**0.000**	**70.3**	**0**	**0**				**0.0**			
Stands/Project:			**0**	**50**	**88**	**141**	**149.636**	**272.31**	**0.000**	**117.3**	**0**	**0**				**0.0**			

Stand Summary Report

State, County:

Species: GEN WEST

Page: 1/1

Project: KITSAP COUNTY

Plots: 2

Sort: ACI SORTS-SPECIES

Date: 04/01/2024

Tract: SANDSTN

Trees: 12

Grade: NW SCALE GRADES

Cruised: 03/20/2024

Stand: 0002

Measured Trees: 12

Price: ACI-2018

Grown To:

Acres: 1.62

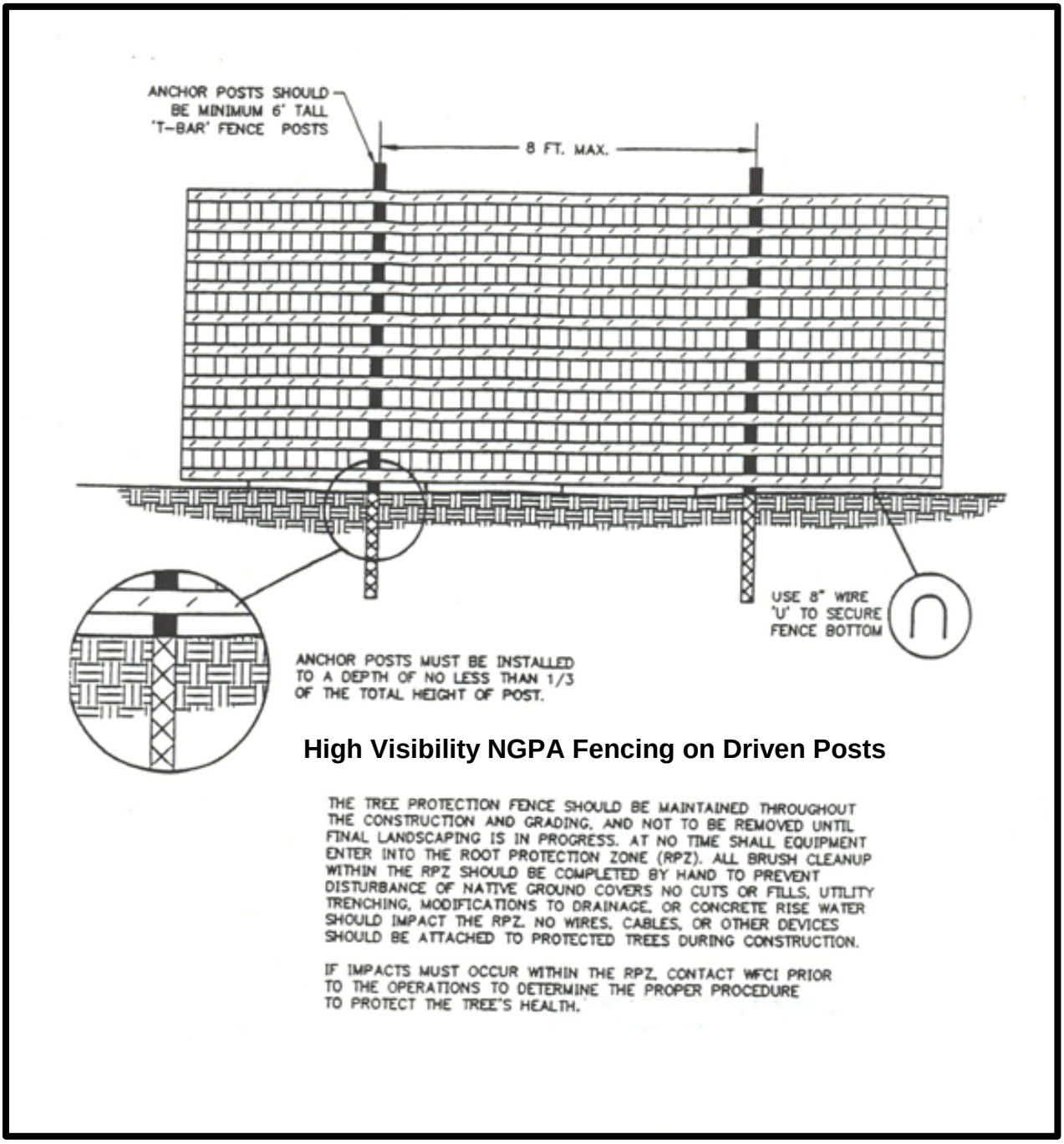
Count Trees: 0

Cost: ACI-2023

Edited: 03/20/2024

											Net Per Log		Net Per Acre			BdFt	Total Net		
Spp	St	Dbh	Smpl Trees	Avg Age	Avg FF	Avg Total Ht	Trees /Ac	BA /Ac	Logs /Ac	Ht/D Inches	CuFt	BdFt	Tons	CuFt	BdFt	Def %	Tons	Ccf	Mbf
BM	3	6	0	50	87	138	67.287	13.21	0.000	276.4						0.0			
BM	3	7	0	50	87	138	49.435	13.21	0.000	236.9						0.0			
BM	3	16	0	50	87	138	9.462	13.21	0.000	103.6						0.0			
BM	3	17	0	50	87	138	8.382	13.21	0.000	97.6						0.0			
BM	3	18	0	50	87	138	14.953	26.42	0.000	92.1						0.0			
BM-3			**0**	**50**	**87**	**138**	**149.519**	**79.27**	**0.000**	**224.0**	**0**	**0**				**0.0**			
RC	0	20	0	50	87	143	6.056	13.21	0.000	85.7						0.0			
RC	0	24	0	50	87	143	4.205	13.21	0.000	71.4						0.0			
RC-0			**0**	**50**	**87**	**143**	**10.261**	**26.42**	**0.000**	**79.8**	**0**	**0**				**0.0**			
RC	2	13	0	50	87	143	14.333	13.21	0.000	131.8						0.0			
RC	2	48	0	50	87	143	1.051	13.21	0.000	35.7						0.0			
RC-2			**0**	**50**	**87**	**143**	**15.385**	**26.42**	**0.000**	**125.2**	**0**	**0**				**0.0**			
DF	3	17	0	50	89	143	8.009	12.62	0.000	100.6						0.0			
DF-3			**0**	**50**	**89**	**143**	**8.009**	**12.62**	**0.000**	**100.6**	**0**	**0**				**0.0**			
DF	4	24	0	50	89	143	4.019	12.62	0.000	71.5						0.0			
DF-4			**0**	**50**	**89**	**143**	**4.019**	**12.62**	**0.000**	**71.5**	**0**	**0**				**0.0**			
Stands/Project:			**0**	**50**	**87**	**139**	**187.193**	**157.37**	**0.000**	**199.4**	**0**	**0**				**0.0**			

Attachment 4. Tree Protection Fence Detail



High Visibility NGPA Fencing on Driven Posts

THE TREE PROTECTION FENCE SHOULD BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND GRADING, AND NOT TO BE REMOVED UNTIL FINAL LANDSCAPING IS IN PROGRESS. AT NO TIME SHALL EQUIPMENT ENTER INTO THE ROOT PROTECTION ZONE (RPZ). ALL BRUSH CLEANUP WITHIN THE RPZ SHOULD BE COMPLETED BY HAND TO PREVENT DISTURBANCE OF NATIVE GROUND COVERS NO CUTS OR FILLS, UTILITY TRENCHING, MODIFICATIONS TO DRAINAGE, OR CONCRETE RISE WATER SHOULD IMPACT THE RPZ. NO WIRES, CABLES, OR OTHER DEVICES SHOULD BE ATTACHED TO PROTECTED TREES DURING CONSTRUCTION.

IF IMPACTS MUST OCCUR WITHIN THE RPZ, CONTACT WFCI PRIOR TO THE OPERATIONS TO DETERMINE THE PROPER PROCEDURE TO PROTECT THE TREE'S HEALTH.

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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3) Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, Washington Forestry Consultants, Inc. can neither guarantee nor be responsible for the accuracy of information.

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5) Loss or alteration of any part of this report invalidated the entire report.

6) Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of Washington Forestry Consultants, Inc.

7) Neither all or any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of Washington Forestry Consultants, Inc. -- particularly as to value conclusions, identity of Washington Forestry Consultants, Inc., or any reference to any professional society or to any initialed designation conferred upon Washington Forestry Consultants, Inc. as stated in its qualifications.

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9) Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

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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.

WASHINGTON FORESTRY CONSULTANTS, INC.
FORESTRY AND VEGETATION MANAGEMENT SPECIALISTS
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9136 Yelm Hwy SE
Olympia, WA 98513

February 6, 2025

Craig Steepy
Entitle Fund Four, LLC
PO Box 188
Puyallup, WA 98371

RE: Sandstone Ridge - Inventory of Tree Tracts

Dear Mr. Steepy:

We have assessed all significant trees in the perimeter tree tracts on the Sandstone Ridge site on Noll Road NE in Poulsbo, WA. The purpose was to determine the number of trees that could be retained in the tracts. An inventory was conducted on January 29, 2025.

Findings and Recommendations

Two perimeter tree tracts were inventoried for trees 6 inches and larger. Tract B is located on the northern side of the site and is 35-feet in width. Tract C is on the southern edge of the site and is 60-feet wide. Portions of the tracts that extend down the western side of the site are 30-feet wide. All tracts have a 10-foot grading easement extending into the tracts. See Attachment 1 for tract locations. The interior edge of the tracts was staked in the field at the time of the inventory.

The trees in the tracts are an older second growth stand of native trees. Tree species include Douglas-fir (*Pseudotsuga menziesii*), western redcedar (*Thuja plicata*), red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*), bird cherry (*Prunus avium*), Pacific dogwood (*Cornus nuttallii*), western white pine (*Pinus monticola*), and western hemlock (*Tsuga heterophylla*). Ranging in size from 8 to 40 inches DBH. Tree conditions range from 'Dead' to 'Good' with most trees described as being in 'Fair' condition or better.

A tree count summary for each tract is listed in below. Trees that have potential to be saved were counted as 'Save' trees. Trees that were unhealthy, hazardous, or would be negatively impacted by grading were counted as 'Not Save'.

Table 1. Sandstone Ridge Tract B Inventory Summary.

Species	'Save'	'Not Save'
Douglas-fir	28	4
Western Redcedar	65	19
Bigleaf Maple	5	4
Red Alder	31	19
Pacific Dogwood	1	0
Bird Cherry	1	0
Totals	**131**	**46**

The stand in Tract B has many smaller western redcedar growing in denser stands with Douglas-fir and red alder spread throughout. There are more trees not being saved due to poor health conditions than due to grading. A lot of the red alder is mature with significant decay in the stems. Most of the trees in this tract will make quality long-term trees if retained.

Table 2. Sandstone Ridge Tract C Inventory Summary.

Species	'Save'	'Not Save'
Douglas-fir	38	15
Western Redcedar	57	14
Bigleaf Maple	14	1
Red Alder	9	7
Bird Cherry	3	0
Western Hemlock	2	0
Western White Pine	1	0
Totals	**124**	**37**

The trees in Tract C are larger, more widely spaced Douglas-fir and western redcedar. The understory is dominated with smaller bigleaf maple and other minor species. The trees on this edge have been exposed to southern winds which will help them adjust to the newly exposed edge on the northern side of the tract. The Douglas-fir trees in particular are large, tall trees that will require as much protection as possible.

Revised Tree Retention Calculations

There are 2,076 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:	2,833 Trees
Number of Unhealthy Trees:	757 Trees
Number of Healthy Trees:	2,076 Trees
Required Tree Retention (25% of 2,076 trees):	519 Significant Trees
Planned Tree Retention:	
Tract A	512 Significant Trees
Tract B	131 Significant Trees
Tract C	124 Significant Trees
	767 Significant Trees
Excess of Tree Retention Requirement:	248 Significant Trees
Required Replacement Trees:	**0 Trees**

Seven hundred and sixty-seven (767) significant trees are planned to be retained in the designated Tree Tracts and Critical Areas. These trees exceed the required 519 trees by 248 trees. No replacement trees are required.

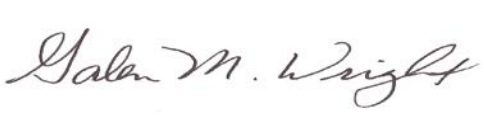
Summary

One hundred and thirty-one (131) significant trees in Tract B and 124 significant trees in Tract C were found to be quality long-term save trees. These trees in addition to the 512 save trees in Tract A exceed the minimum tree retention requirements for the project site. Non-save trees in the tracts should be removed during the land clearing phase of the project.

Please give us a call if you have any questions.

Respectfully submitted,

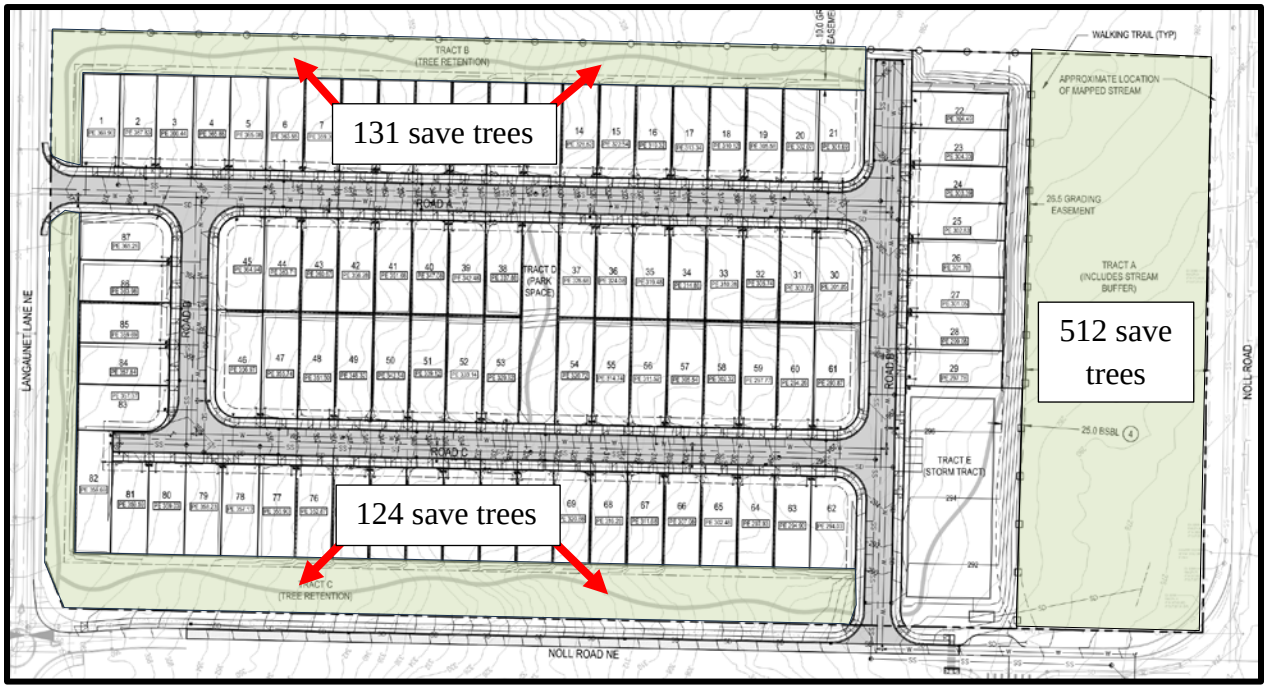
Washington Forestry Consultants, Inc.



Galen M. Wright, ACF, ASCA
ISA Bd. Certified Master Arborist PN-129BU
Certified Forester No. 44
ISA Tree Risk Assessor Qualified (2014-24)
ASCA Tree and Plant Appraisal Qualified

Joshua Sharpes
Professional Forester
ISA Certified Arborist®,
Municipal Specialist, PN- 5939AM
ISA Tree Risk Assessor Qualified

Attachment 1. Sandstone Ridge Grading Plan



Tree Tract Areas

Attachment 2. Assumptions and Limiting Conditions.

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Memo

To: Edie Berghoff, City of Poulsbo Associate Planner

From: Kevin M. McFarland, City of Poulsbo Contracted Arborist

Date: 11/11/2024

Re: Sandstone Ridge PRD & PP Tree Retention and Landscape Review

---

Upon the request of the City of Poulsbo, Sound Urban Forestry LLC has provided a review of the submitted materials associated with the Sandstone Ridge PRD & PP project. I have assessed the civil, landscape and preliminary tree protection plans as well as conducted an evaluation at the property. I was also asked to assess a big leaf maple tree along the northern perimeter of the project, just north of the proposed street stub between Lots 21 and 22. The adjoining property owner has requested this tree be retained to provide a buffer and I was asked to determine what measures could be taken to accomplish this. This memo presents my findings and comments.

Findings

Civil Plans, kpff, 9/18, 2024

- There are no tree protection fencing locations, details or notes included in the grading plans (Sheet 3.00).
- There are no details provided of the pathway installation that runs through all of the tree retention areas.

Landscape Plans, Nature by Design, 9/11/2024

- The proposed street and landscape trees are acceptable.

Preliminary Tree Protection Plan, Washington Forestry Consultants, 4/17/2024

- The forest cover types and collected plot samples data appear to be accurate.
- The Plan states that the project meets and exceeds the 25% significant tree retention. However, I have concerns whether the perimeter Tracts B & C actually contain the number of healthy and windfirm trees reported. The project arborist states on page 5 that these areas will need to be staked in order to complete a full inventory and I am requesting this be done prior to approval. Considering the large size of the trees within these tracts and actual tract widths, it is questionable that adequate protection of the critical root zones can be provided, especially if taking into account the 10' wide grading easement.
- The frontage improvements along Noll Road will likely impact the trees proposed for retention along the newly created edge. I recommend the project arborist assess these trees and take the potential impacts into account.

- Details should be provided that will address the installation of the pathways through tree retention areas. This should be done with minimal impacts to the adjacent trees and under the supervision of the project arborist.

Final Comments/Requests

- The tree retention areas need to be staked in the field so that the project arborist can determine the impacts on the trees, the locations of fencing that will provide adequate protection and provide an actual count of healthy, viable trees that can safely be retained. The Tree Protection Plan should be updated accordingly.

- Once the tree retention areas have been staked and Tree Protection Plan updated, the civil plans should be amended to include all tree protection fencing locations along with applicable construction notes and a fencing detail. Fencing locations should be reflective of the critical root zones of the individual and groups of trees to be retained. Construction notes should include wording that clearly states that the fencing shall be installed prior to any grading and that a pre-con meeting with the project arborist and project contractor is required to review the clearing limits and tree protection measures. I recommend that the tree protection measures (pg.7) and tree protection areas as noted in the WFCI Tree Protection Plan be used as reference.

- The civil and landscape plans should include notes regarding the trail construction that reflects recommendations provided by the project arborist. The arborist shall be involved with the layout of the trail and it's construction.

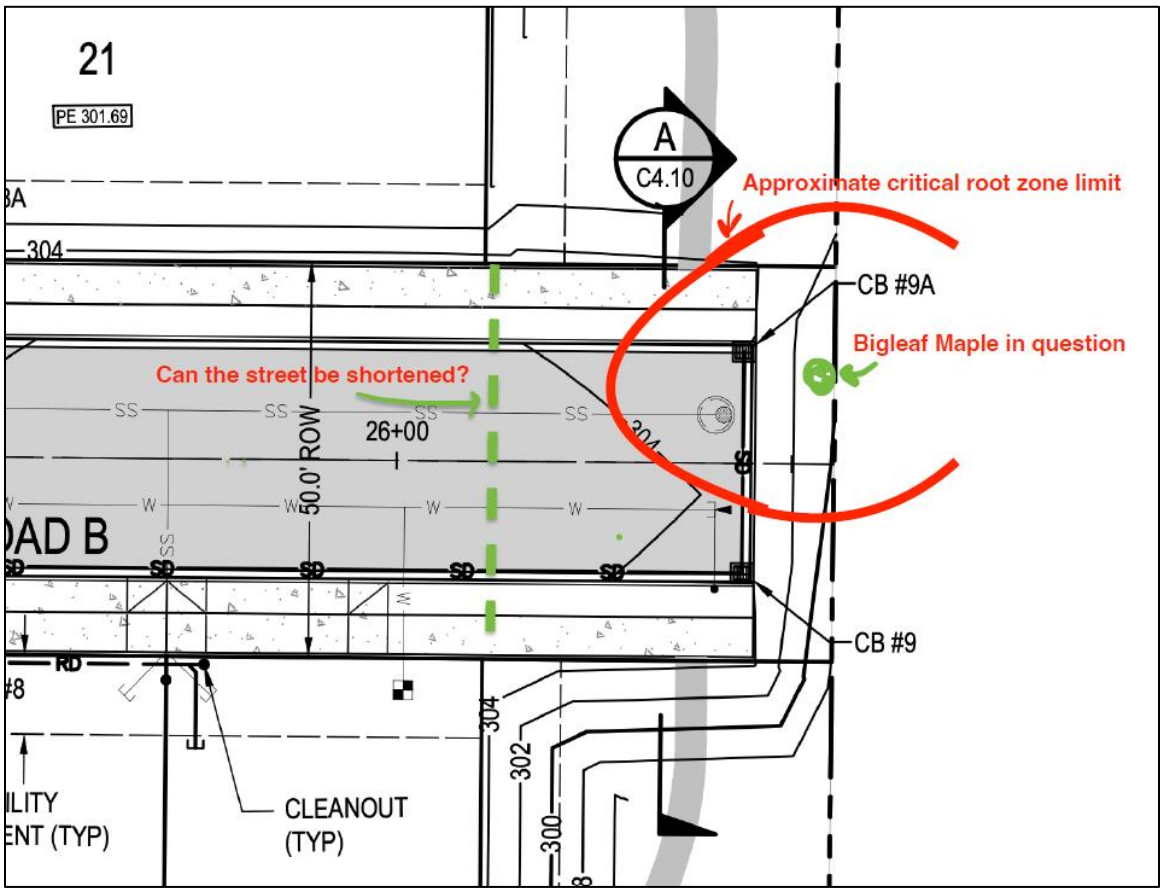
- The project arborist will work with the contractor on the locations and any necessary tree protection measures associated with the storm drain and dispersion trench to be installed within Tract A. The locations should be chosen based on causing minimal impacts on trees to be retained.

- The project arborist will need to assess adjoining off-site trees once the property lines have been surveyed and staked as mentioned in the plan. Protection measures should be determined so that no off-site trees are negatively impacted by this project. This information will be included in the updated tree protection plan and any recommendations included on the grading plans.

Big Leaf Maple North of Street Stub

The identified tree is a multi-stemmed big leaf maple measuring 16", 15", 14", 9" and 10" diameter and in good condition. It is located approximately 10' from the edge of the proposed street stub and maybe 5' from grading. With the current plan, this tree cannot be retained. In order to preserve the tree, the stub would need to be reduced by approximately 30' so that it's in line with the northern property lines of Lots 21 and 22 (see diagram below). If this is not possible, an option may be to reduce the stub by 15' and install a retaining wall along the northern edge to reduce the need for grading.

If you should have questions, please feel free to contact me at 360-870-2511 or suf1234@comcast.net


21
PE 301.69
A
C4.10
Approximate critical root zone limit
CB #9A
Bigleaf Maple in question
Can the street be shortened?
26+00
50.0' ROW
CB #9
CLEANOUT
(TYP)
304
302
300

Memo

To: Edie Berghoff, City of Poulsbo Associate Planner

From: Kevin M. McFarland, City of Poulsbo Contracted Arborist

Date: 3/25/2025

Re: Sandstone Ridge PRD & PP Review, P-10-01-24-01

Upon the request of the City of Poulsbo, Sound Urban Forestry LLC has provided a review of the recently submitted materials associated with the Sandstone Ridge PRD & PP project, specifically the Tree Retention and Landscape Review Comments provided by KPDD Consulting Engineers and the Site and Landscape Plans.

Tree Retention and Landscape Review Comments

- Row 1: I concur that the tree retention areas were staked and the project arborist has updated the inventory and retention calculations within the February 6, 2025 report.
- Row 2: The current preliminary Civil Plans dated 2/2025 do not include any reference or details for the tree protection fencing or required pre-con meeting.
- Row 3: Details for the trail layout and construction reflecting input from the project arborist have not been addressed.
- Row 4: No verbiage has been provided regarding tree protection measures associated with the storm drain and dispersion trench within Tract A. This needs to be include within the notes on Sheet C4.20 Vault Plan & Details.
- Row 5: The need for off-site adjacent trees has not been addressed by the project arborist or KPFF.

Landscape Plans

- The current Landscape Plans dated 2/12/2025 call for Pyramidal European Hornbeams along the Noll Road frontage. If the overheard powerlines are to remain, these trees will be in conflict due to their mature size and will require clearance pruning. A substitute will need to be provided unless the lines are to be placed underground.

Big Leaf Maple North of Road B Terminus

- There does not appear to be any modifications to the grading proposed to occur within the critical root zone of this tree. If this tree is to be retained, modifications will be mandatory.

If you should have questions, please feel free to contact me at 360-870-2511 or suf1234@comcast.net