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Columbia River Homes Development

Arboricultural Assessment and Survey

OBJECTIVES

1. Minimize and reduce the overall impact and any adverse effect the proposed development may have on the local tree population.
2. Provide recommendations to guide the proposed development to maximize opportunities for arboricultural preservation and allow opportunities for future tree planting.
3. Provide a basic arboricultural assessment of the tree population that considers tree health, structure and failure potential, tolerance to root loss, and preservation value.
4. Assess trees for preservation or removal considering proposed grading, trenching, paving, fencing, and other construction plans.

SUMMARY

An arboricultural survey and assessment was carried out on May 16th 2019 at approximately 4:00 pm in relation to the Columbia River Homes Development which proposes the construction of five luxury residential dwellings at 3210 SW 6th Avenue Camas, Washington. The trees were inspected from ground level only and are limited to visual tree assessment principles where no diagnostic equipment was used to determine trees risk, health, and structural stability. For the purposes of this report, a Level 1 Arboricultural assessment has been conducted and is limited to the time and date of assessment, and to the collection and extrapolation of arboricultural data.

This letter summarizes the assessment and survey of 24 trees located on the development site to comply with Camas Municipal Code **18.13.045** where a tree survey is required. Trees numbered 104 to 109 in the tree survey have been proposed for retention by the developer and Tree Protection Zones have been prescribed to comply with Camas Municipal Code **18.03.050** - Environmental Definitions, which in this case provides 1ft radial offset protection area from the center of each tree's trunk for every wood inch or 1"DBH. Of the 24 trees subject to formal arboricultural assessment 14 can be considered "Significant" under the City's Environmental Definitions, where it is proposed to preserve and protect six trees in relation to the development.

From an arboricultural and urban forestry perspective, I support the proposed development in this instance and have found no individual tree or stand of trees that should preclude appropriate development provided a suitable mitigation and density strategy is implemented and enforced. For the trees subject to retention, it is recommended that standard tree protect measures are implemented including the erection of 6ft chain-link tree protection fencing as delineated by the site plan.

RECOMMENDATIONS

It is recommended that each viable tree removed is subject to suitable arboricultural mitigation, which considers the value of native vegetation and local biodiversity. It should also aim to maximize tree canopy potential through the planting of large canopy trees where there is suitable growing space.

Where recommendations are made in regards to tree removal, it is encouraged that each tree is removed by a certified arborist and is not considered for ongoing preservation nor subject to mitigation that would otherwise be required.

Finally, the proposed development does involve the removal of trees where retention would otherwise be supported if not in the face of development. The guiding question in this instance becomes “does the proposed development appear fair and reasonable or in balance with arboricultural and urban forestry objectives?”. For the most part and provided viable trees are subject to suitable mitigation, I have no objections to the proposal as it has been presented.

The following is recommended in the interests of maximising future canopy and local amenity:

- Trees on the eastern and western boundaries of the lot be preserved and pruned by a suitably qualified arborist to provide screening between properties.
- All trees subject to retention should be pruned and properly maintained to improve their condition and overall longevity.
- Trees should be planted on the western boundary to provide screening between the neighboring property.
- Small and/or medium sized trees should be planted and included along the access road or front gardens to maximize canopy potential and ROW density requirements.

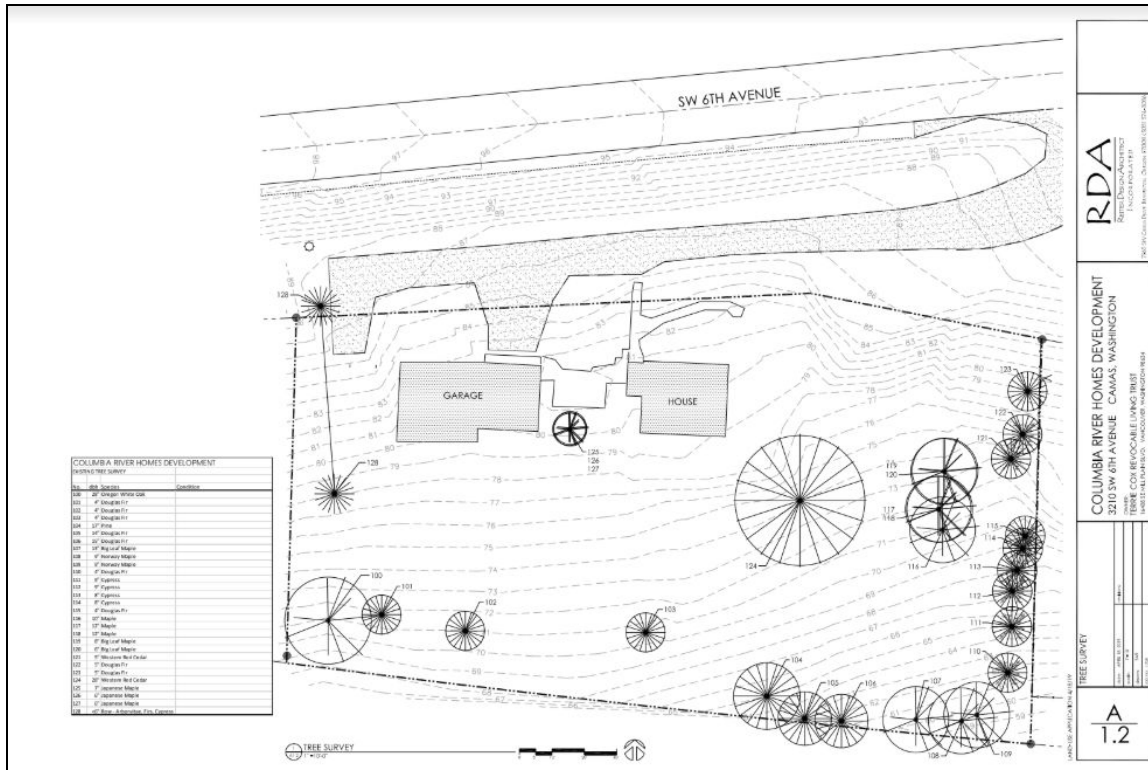
Thank you for the opportunity of preparing this letter of assessment and I hope it meets your requirement. Please do not hesitate to call me if I can provide any clarification or additional support for this project. Please use the link below to access the arboricultural survey if you require.

<https://docs.google.com/spreadsheets/d/1IW1vpQjYb6RtmSEv5K8g5MCPa-pQ5oFDfHh4EUK7Jpg/edit?usp=sharing>

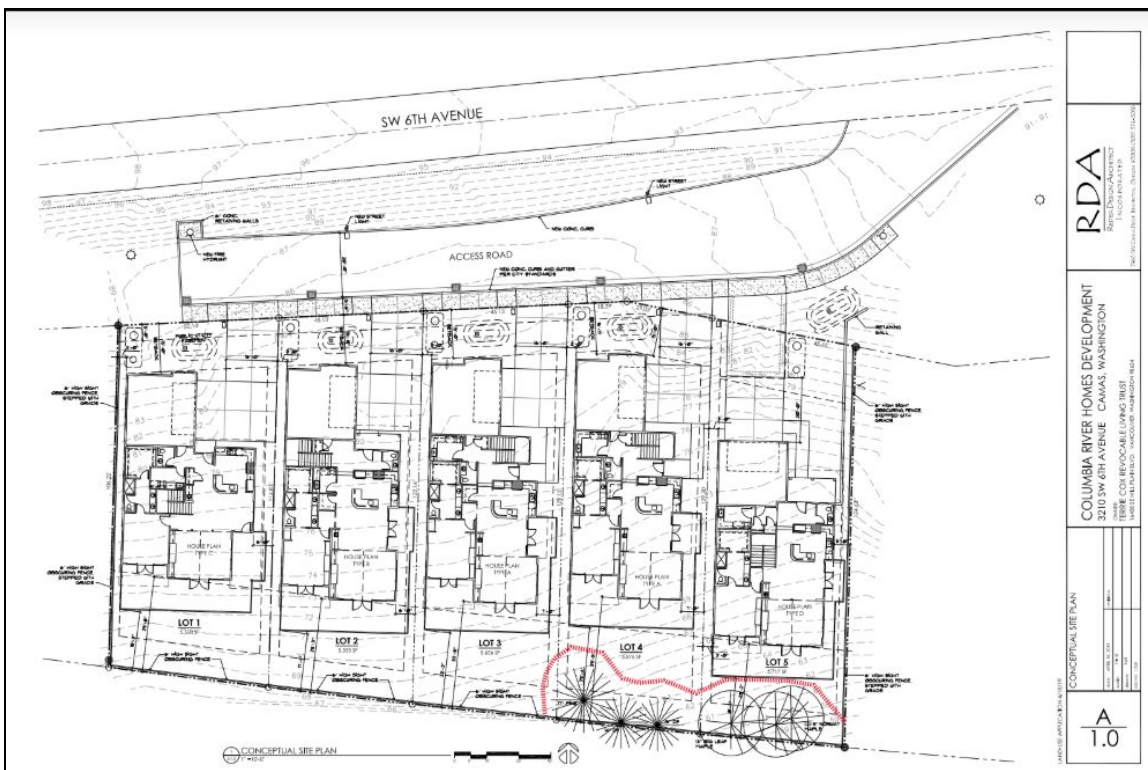
Sincerely,

Charlie Carroll

LANDSCAPE PLAN



TREE PROTECTION PLAN



Tree ID	Scientific Name	Common Name	DBH	Height	Spread	Condition (Health)	Condition (Structure)	ULE	Tree Age	Preservation Value	Retain Tree	Construct. Tolerance	RPZ	CRZ	Observations
100	<i>Quercus garryana</i>	Oregon White Oak	28"	55	10	poor	Fair	10-20	mature	high	TRUE	fair			crown dieback previous failure
101	<i>Pseudotsuga menziesii</i>	Douglas fir	4"	20	10	good	good	40+	immature	high	TRUE	poor			
102	<i>Pseudotsuga menziesii</i>	Douglas fir	4"	23	8	good	good	40+	immature	high	TRUE	poor			
102a	<i>Pseudotsuga menziesii</i>	Douglas fir	3"	17	8	good	good	40+	immature	high	TRUE	poor			Additional tree
103	<i>Pseudotsuga menziesii</i>	Douglas fir	4"	17		good	good	40+	immature	high	TRUE	poor			
104	<i>Pinus nigra</i>	Black Pine	17"	45	25	good	good	20+	mature	moderate	TRUE	poor	17'	8.5'	Visual evidence of pest infest - pitch moth mid trunk
105	<i>Pseudotsuga menziesii</i>	Douglas fir	14"	45	15	good	good	40+	mature	high	TRUE	fair	14'	7'	
106	<i>Pseudotsuga menziesii</i>	Douglas fir	15"	40	15	good	good	40+	mature	high	TRUE	fair	15'	7.5'	
106a	<i>Quercus garryana</i>	Oregon White Oak	21"	50	18	good	good	40+	mature	high	TRUE	fair	21'	10'	Additional tree on neighboring property - identified per code
107	<i>Acer macrophyllum</i>	Big-leaf Maple	13"	20	20	good	poor	20-30	mature	moderate	TRUE	poor	13'	6.5'	
108	<i>Acer platanoides</i>	Norway Maple	9"	22	12	good	poor	10-20	mature	low	TRUE	poor	9'	4.5'	
109	<i>Acer platanoides</i>	Norway Maple	9"	22	12	good	poor	10-20	mature	low	TRUE	poor	9'	4.5'	
110	<i>Pseudotsuga menziesii</i>	Douglas fir	10"	20	8	good	good	40+	immature	high	TRUE	fair			
111	<i>Cupressus x leylandii</i>	Leyland Cypress	9"	25	10	good	good	20-30	mature	very low	TRUE	poor			
112	<i>Cupressus x leylandii</i>	Leyland Cypress	9"	25	10	good	good	20-30	mature	very low	TRUE	poor			
113	<i>Cupressus x leylandii</i>	Leyland Cypress	8"	25	10	good	good	20-30	mature	very low	TRUE	poor			
114	<i>Cupressus x leylandii</i>	Leyland Cypress	8"	25	10	good	good	20-30	mature	very low	TRUE	poor			
115	<i>Pseudotsuga menziesii</i>	Douglas fir	4"	20	5	good	good	40+	immature	High	TRUE	fair			
116	<i>Acer macrophyllum</i>	Maple - stump regrowth	20"	15	15	poor	poor	0	over mature	none	FALSE	very poor	0	0	stump regrowth mod dbh
117	<i>Acer macrophyllum</i>	Big-leaf Maple (one 24" tree)	12"	55	30	very poor	very poor	0	over mature	none	FALSE	very poor	0	0	Visual evidence of fungal pathogen - 50% crown dieback - basal decay and wood degradation.
118	<i>Acer macrophyllum</i>	Big-leaf Maple (one 24" tree)	12"	55	30	very poor	very poor	0	over mature	none	FALSE	very poor	0	0	Visual evidence of fungal pathogen - 50% crown dieback - basal decay and wood degradation.
119	<i>Acer macrophyllum</i>	Big-leaf Maple (one 14" tree)	8"	25	15	good	poor	5-10	Immature	very low	FALSE	very poor	0	0	Regrowth or self sown
120	<i>Acer macrophyllum</i>	Big-leaf Maple (one 14" tree)	6"	25	15	good	poor	5-10	Immature	very low	FALSE	very poor	0	0	Regrowth or self sown
121	<i>Pseudotsuga menziesii</i>	Douglas fir	3"	8	4	good	good	40+	Immature	high	TRUE	moderate			species updated from wr cedar
122	<i>Pseudotsuga menziesii</i>	Douglas fir	5"	12	5	good	good	40+	Immature	high	TRUE	moderate			
123	<i>Pseudotsuga menziesii</i>	Douglas fir	5"	10	3	good	good	40+	Immature	high	TRUE	moderate			
124	<i>Thuja plicata</i>	Western Red Cedar	28"	65	25	fair	poor	20-30	Immature	high	TRUE	moderate			bifurcated crown - poor structure
125	<i>Acer palmatum var.</i>	Japanese Maple (one 19" tree)	7"	15	21	good	fair	10-20	Mature	low	TRUE	low			codom stem - topped previously
126	<i>Acer palmatum var.</i>	Japanese Maple (one 19" tree)	6"	15	21	good	fair	10-20	Mature	low	TRUE	low			codom stem - topped previously
127	<i>Acer palmatum var.</i>	Japanese Maple (one 19" tree)	6"	15	21	good	fair	10-20	Mature	low	TRUE	low			codom stem - topped previously
128	<i>Cupressus x leylandii</i>	hedge	<6"	hedge	hedge	fair	fair	40+		low	TRUE	low			mixed evergreen hedge