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Certified Arborist PN-6523A
TRAQ Certified

Arborist Report for Development Purposes
Re: Proposed Construction

Site Location: 2700 Avebury Ave., Victoria BC
Darryl Clark PN-6253A TRAQ Certified
August 5, 2019

August 5, 2019
For Kimberly Colpman
2326 Oak Bay Ave. V8R 1G9
Re. Proposed Construction
2700 Avebury Ave. Victoria BC V8R 3W4

Scope of Work

D. Clark Arboriculture has been retained by Kimberly Colpman to provide comments on trees impacted by a potential house construction, and a Tree Protection Plan for the property at 2700 Avebury Ave. as per the requirements of the City of Victoria.

Summary

Subdivision of the lot and construction of a new residence will impact the Protected Root Zone of (3) bylaw protected trees on the property, (1) bylaw protected tree at the property to the west at 1336 Kings Rd., and (2) trees to the north at 2710 Avebury. All other unprotected trees and vegetation are being cleared from the proposed site. Trees identified as to be retained in this report require tree protection measures for retention including tree protection fencing, root zone barriers and supervision of activities in the protected root zone of the trees. Construction can proceed following the recommendations in this report.

Introduction and Methodology

I (Darryl Clark) visited the site on April 24, 2018 at 1:30pm to perform an assessment of trees on-property and off-property that could potentially be impacted by proposed development. A design provided by our client in 2019 indicated some building changes and provided guidance regarding the servicing of the lot. A follow up visit was made to the site April 15, 2019 to verify conditions previously noted. A third site visit occurred on May 22 to verify locations of trees for a more accurate survey drawing, and a fourth site visit occurred on July 30, 2019 to verify the diameter of the 2 off property trees at 2710 Avebury as well as approximate the location of the smaller of those trees as it had not been captured in an earlier survey. Site conditions surrounding affected trees were favorable. This report was completed on August 5, 2019.

Tasks performed include:

- An aerial site map was marked indicating tree locations and location of existing services
- visual inspection of (3) protected trees on the property and (3) off-property protected trees, and notes were collected on health and structural condition
- Photos were taken to document the site and affected on-property and off-property trees
- Tree height was estimated to the nearest metre.
- A scaled survey map is included with tree protection overlaid for reference
- Photos of the site are included in this report

Tree Inventory

2700 Avebury							
Trees Potentially Impacted by Construction							
#	Species	cm/DBH	Height/m	PRZ/m	Structure	Health	Retain/Remove
op1	<i>Quercus garryana</i>	49	14	6	Good	Good	Retain
op2	<i>Quercus garryana</i>	36	12	4	Fair	Good	Retain
op3	<i>Quercus garryana</i>	50+40+40	10	12	Fair	Good	Retain
#1	<i>Quercus garryana</i>	38	13	5	Fair	Good	Remove
#2	<i>Quercus garryana</i>	>5	3	0	Fair	Good	Remove
#3	<i>Quercus garryana</i>	98	21	12	Good	Good	Retain

DBH-Diameter at Breast Height. Measured at 1.4m from the point of germination. Where the tree is multi-stemmed at 1.4m, the DBH shall be considered 100% of the largest stem and 60% of the sum of the remaining stems, rounded to the nearest cm.
PRZ-Protected Root Zone. The PRZ shall be considered 12x the DBH, rounded to the nearest whole meter.



Impacts of Construction

The project requires blasting and excavation in order to construct a new residence.

Tree #1 will require removal due to conflicts with building height and impacts to the PRZ of the tree.

Tree #2 will require removal due to conflicts with paved surfaces and long term impacts to the PRZ of the tree.

Fencing and other tree protection measures will be required to ensure low impacts to trees.

Equipment traffic in and out of the site is expected to impact the root zone of trees OP1, OP3 and #3. Access will be from the south.

Excavation for a new foundation may impact tree OP1 and will impact tree OP3.

Some pruning of branches may be required for tree OP1 and OP3.

Construction of a new walkway will impact tree OP3.

A patio area on the north side of the house may impact tree OP1.

Installations/excavations for services including sewer, storm, water, hydro and gas may impact trees OP3, and #3.

Landscaping may impact protected trees.

Tree Protection Plan

The Protected Root Zone (PRZ) of all protected trees recognized in this report shall be 12 times the diameter of the tree.¹

During construction protection fencing will be installed, the construction and location of which will be approved by the project arborist. Tree protection fencing must be anchored in the ground and made of 2x4 or similar material frame, paneled with securely affixed orange snow fence or plywood and clearly marked as TREE PROTECTION AREA- NO ENTRY (See appendix A for an example). The area inside the fence will be free of all traffic and storage of materials. Areas outside the tree protection fence but still within the protected root zone (PRZ) may be left open for access, as work areas and for storage of materials. These areas will be protected by vehicle traffic with either 3/4" plywood or a minimum 20cm of coarse wood chips (see Site Plan for suggested locations of each). Tree protection measures will not be amended in any way without approval from the project arborist. Any additional tree protection measures will be documented in a memo to Victoria and the developer. In anticipation of materials staging in the backyard of the proposed property coarse woodchips should be applied to the exposed PRZ of tree OP3. In anticipation of contractor parking coarse woodchips should be applied to the city boulevard areas where the PRZ of trees is exposed to compaction.

Blasting may be required inside the PRZ of protected trees. Dynamite, not ANFO, must be used and the smallest blast possible will be employed at all times. A blast plan will be drafted for and approved by the project arborist. All blasting inside the PRZ of protected trees must be supervised by the project arborist.

Excavation inside the Protected Root Zone of any tree identified in this plan for any reason will take place under the supervision of the project arborist or their designate. Working radially inward toward the tree, the excavator will remove the soil incrementally with a non-toothed shovel allowing any exposed roots to be pruned to acceptable standard by the project arborist. Roots that have been pruned are to be covered with a layer of burlap and kept damp for the duration of the project. Any excavation of the stump of a tree inside a PRZ must be supervised by the project arborist. As well, any excavation

¹Best Management Practices (BMP) - Managing Trees During Construction, Second Edition By Kelby Fite and E. Thomas Smiley

for underground services inside a PRZ will be supervised by the project arborist. Where applicable, a hydro-vac or Airspade® may be employed to expose critical roots and services.

Excavation of a new foundation as well as a patio area off the north side will require supervision where it impacts trees OP1 and OP3. Final depth of foundation and cut-slope requirements will be provided to the project arborist for review before the start of excavation. Amendments or revisions to this plan due to unanticipated changes will be documented in a memo to the developer and the district for approval before the start of excavation. All excavations for the foundation inside the PRZ of protected trees will be supervised by the project arborist.

Excavation for new services is expected. All underground services are located to the south. Natural gas is anticipated to come from the south and may impact tree OP2. Water services are currently anticipated on the west side of the new driveway and may impact tree OP3. Sewer and storm services are anticipated on the east side of the driveway and will not impact trees. Electrical service as well as other overhead services (tel, cable etc.) are anticipated to come from the southeast and will not impact protected trees. All excavations for services inside the PRZ of protected trees will be supervised by the project arborist.

Any pruning of protected trees will be performed by an ISA (International Society of Arboriculture) certified arborist, to internationally recognized best management practices. Final building heights will be provided to the project arborist for review before the start of construction. Any will be documented in a memo to the developer and the city. OP1 may require removal of a lower scaffold limb over the backyard/patio area. OP3 may require some elevation over a proposed municipal sidewalk.

Paved surfaces that are new and inside the PRZ of protected trees may employ alternative construction methods including loadbearing geotextile fabric or a geogrid/geocell system. A memo will be provided to the developer and the city after a construction method has been chosen to be approved before proceeding with construction of any paved surfaces. At present, none of the paved surfaces are anticipated to require special construction methods. During supervised excavations there will be an opportunity by the project arborist to make those determinations.

Landscaping may impact the PRZ of protected trees. The expectations for landscaping are the same as for construction.

Role of the Project Arborist

No aspect of this Tree Protection Plan will be amended in whole or in part without the permission of the project arborist. Any amendments to the plan must be documented in memorandums to the municipality and the developer.

The project arborist must approve all tree protection measures before demolition and/or construction is to begin.

A site meeting including the project arborist, developer, project supervisor and any other related parties to review the tree protection plan will be held at the beginning of the project.

The developer may keep a copy of the tree protection plan on site to be reviewed and/or initialed by everyone working inside or around the PRZ of trees.

The project arborist is responsible for ensuring that all aspects of this plan, including violations, are documented in memorandums to the municipality and the developer.

Replacement Trees

The City of Victoria requires two replacement trees be planted for every bylaw protected tree removed. Tree locations will be determined when a landscape plan is finalized, and a map of those locations will be submitted to Victoria and the developer in a memo before the completion of the project. Should suitable locations not be available, the developer may seek to donate the trees to a location determined by the municipality. Thank you for the opportunity to comment on these trees.

Should any issues arise from this report, I am available to discuss them by phone, email or in person.

Regards,

Darryl Clark
Certified Arborist PN-6523A
TRAQ Certified

Disclosure Statement

An arborist uses their education, training and experience to assess trees and provide prescriptions that promote the health and wellbeing, and reduce the risk of trees.

The prescriptions set forth in this report are based on the documented indicators of risk and health noted at the time of the assessment and are not a guarantee against all potential symptoms and risks.

Trees are living organisms and subject to continual change from a variety of factors including but not limited to disease, weather and climate, and age. Disease and structural defects may be concealed in the tree or underground. It is impossible for an arborist to detect every flaw or condition that may result in failure, and an arborist cannot guarantee that a tree will remain healthy and free of risk.

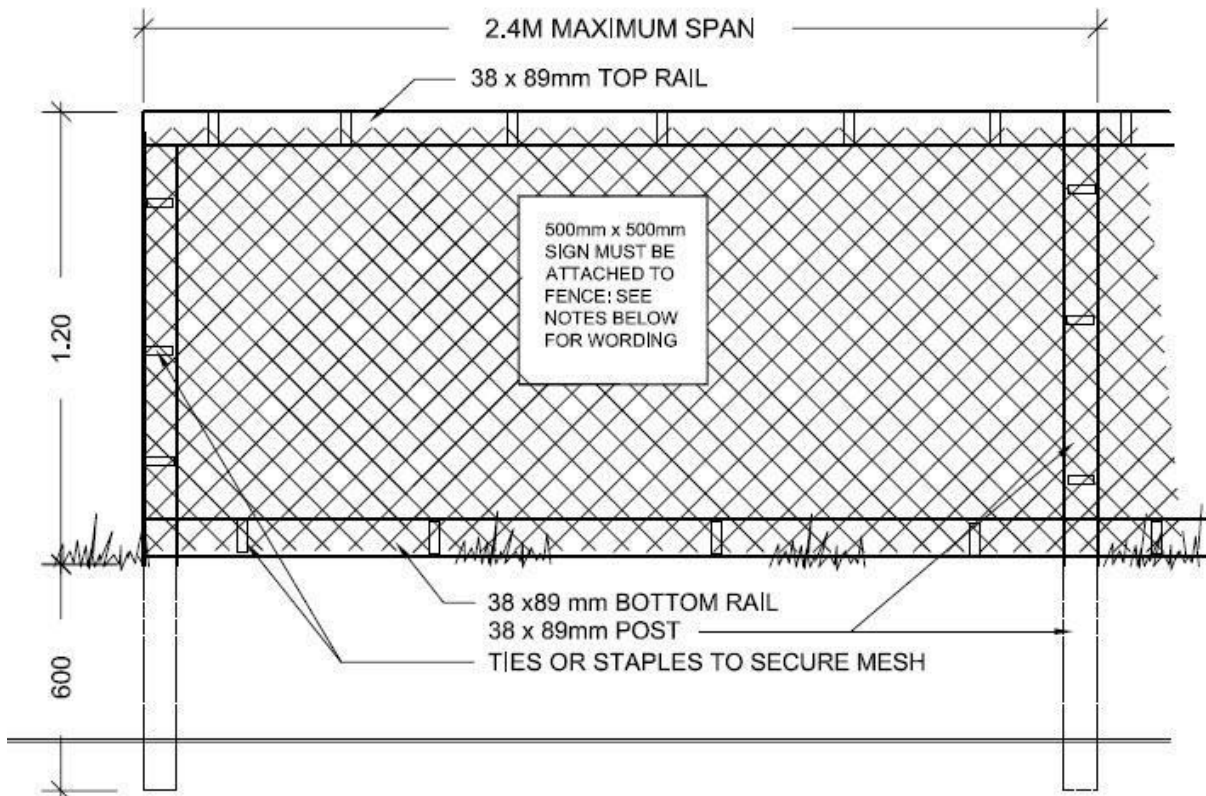
To live near trees is to accept some degree of risk. The only way to eliminate the risks associated with trees is to eliminate all trees.

Assumptions and Limiting Conditions

- Altering this report in any way invalidates the entire report.
- The use of this report is intended solely for the addressed client and may not be used or reproduced for any reason without the consent of the author.
- The information in this report is limited to only the items that were examined and reported on and reflect only the visual conditions at the time of the assessment.
- The inspection is limited to a visual examination of the accessible components without dissection, excavation or probing, unless otherwise reported. There is no guarantee that problems or deficiencies may not arise in the future, or that they may have been present at the time of the assessment.
- Sketches, notes, diagrams, etc. included in this report are intended as visual aids, are not considered to scale except where noted and should not be considered surveys or architectural drawings.
- All information provided by owners and or managers of the property in question, or by agents acting on behalf of the aforementioned is assumed to be correct and submitted in good faith. The consultant cannot be responsible or guarantee the accuracy of information provided by others.
- It is assumed that the property is not in violation of any codes, covenants, ordinances or any other governmental regulations.
- The consultant shall not be required to attend court or give testimony unless subsequent contractual arrangements are made.

- The report and any values within are the opinion of the consultant, and fees collected are in no way contingent on the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, or any finding to be reported.

Appendix A



TREE PROTECTION FENCING

Tree Protection Fencing Specifications:

1. The fence will be constructed using 38 x 89 mm (2" x 4") wood frame:
 - Top, Bottom and Posts. In rocky areas, metal posts (t-bar or rebar) drilled into rock will be accepted
 - Use orange snow fencing mesh and secure to the wood frame with "zip" ties or galvanized staples. Painted plywood or galvanized fencing may be used in place of snow fence mesh
2. Attach a roughly 500 mm x 500 mm sign with the following wording: **TREE PROTECTION AREA-NO ENTRY**. This sign must be affixed on every fence face or at least every 10 linear metres.

Appendix B - Photos

2700 Avebury Ave
April 24, 2018
tree #1 from east side



2700 Avebury Ave.
April 24, 2018
Tree #1 and op3 from the east



2700 Avebury Ave.

April 24, 2018

OP1 & 2 from the south and rock anticipated to be blasted



OP 1

OP 2

ROCK TO BE BLASTED

2700 Avebury Ave.
May 22, 2018
tree #2 from south

