RATHBURN ARBORIST CONSULTING INC.

TREE RETENTION ASSESSMENT:

Rathburn Arborist Inc. has been asked to complete an assessment of the trees on and adjacent to the following proposed project:

Civic address:	**2968 Mathers Crescent West Vancouver "Binning House"**
Project No.:	unknown
Client name:	Jesse Saniuk-Vice-President-Four Sails Realty Inc
Date of site visit:	March 28, 2017
Weather during visit:	Heavy Rain

The objective of this report is to ensure the proposed development is in compliance with the District of West Vancouver of Interim Tree Bylaw No. 4892, 2016. The bylaw trees at the site were assessed, including: species, diameter at breast height (dbh) measured to the nearest 1 cm at 1.4 m above natural grade (tree's base), estimated height and general health and defects. Critical root zones were calculated for each of the trees with the potential for development impacts. Tree hazards were assessed according to International Society of Arboriculture and WCB standards. Suitability for tree retention was evaluated based on the health of the trees and their location in relation to the proposed building envelopes and infrastructure. This report outlines the existing condition of the trees on and adjacent to the property, summarizes the proposed tree removals and retention trees as well as suggested guidelines for protecting the remaining trees during the construction process.

Scope of Assignment

- Our investigation is based solely on our visual inspection of the trees on our last site visit.
- Our inspection was conducted from ground level.
- We did not conduct soil tests or below grade, root examination to assess the condition of the root system of the trees.
- Only the trees specified in the scope of work were assessed and assessments were performed within the limitations specified.

Figure 1. Location of subject site – 2968 Mathers Crescent West Vancouver “Binning House”

Project Overview and Summary

The subject site consists of one residential lot that contains a heritage status home and garage. There is a mix of mature shrubs and trees throughout the landscape.

It is my understanding that the scope of this project is to restore the existing home and garage as well sub-dividing the lot to allow a new home to be constructed.

In the context of the proposed project, the majority of on-site trees cannot be accommodated in the proposed project.
Tree attributes, critical root zones and recommendations for the trees are listed below in **Table 2**.

Tree Inventory

The following inventory of assessed trees, each of which was marked with a numbered tag, includesree species, characteristics, comments, recommendations and required root protection zones have been suggested (Table 1). Their locations are illustrated on the accompanying map.

Overall Health and Structure Rating

- **Excellent =** Tree of possible specimen quality, unique species or size with no discernible defects, or heritage tree.
- **Normal =** Tree is in good condition with no significant structural weaknesses or health concerns, considering its growing environment and species.
- **Moderate =** Tree has noted health and/or minor structural weaknesses, however, treatments may be recommended to improve the health or structural condition of the tree.
- **Poor =** Tree is in serious decline from its typical growth habits and has multiple very definable health and/or structural weaknesses. These trees may have difficulty adapting to land use changes.
- **Dead/Dying =** Tree was found to be dead, and/or has severe defects and is in severe decline.

Table 1. On-site Tree Suitability Summary.
Note: tree suitability takes the overall tree health condition, tree retention value and proposed plans into consideration to ensure the retained trees can adapt to the proposed site changes.

Quantity	Suitability	Description
7	**Unsuitable**	A tree that is unsuitable for retention in the proposed land use due to advanced health decline or presence of significant structural defects. Unsuitable tree is not considered for retention as there is a significant chance that these trees will not survive or may become a hazard given the proposed future land use. Note: trees with this rating may be in very poor in health and structural condition and / or rated to have a high or extreme risk of failure rating (CTRA).
7	**Moderate**	A tree that has moderate structural defects or health issues and may be considered to be in poor overall health condition. The retention of this class of trees is not always successful or viable due to their pre-existing structural defects or health issues; however these trees may be viable for retention with the use of special measures and / or if they or retained in groups of other (groves) trees.
2	**Suitable**	A tree in fair, good or excellent health and / or structural condition with no obvious or identifiable structural defects or health issues based on VTA, and are worthy of consideration for retention in the proposed development.
Total Trees	**16**	

Photos

Showing the subject site frontage

Showing the apple tree to be restored

Showing the Japanese maple growing within the retaining wall.

Showing the large cavity in tree 508

Showing the topped on-site conifers

Showing the off-site tree stumps (south of chainlink fence)

Table 2. Tree Inventory Table
Note: off-site trees are not assessed for condition or suitability, dbh may be estimated.

Tag #	Common Name	Botanical Name	DBH[1] (cm)	Overall Condition	Tree Retention Value	Comments	Retain/ Remove	Tree Retention Comments	TPZ
501	Western redcedar	Thuja plicata	54	Poor	Unsuitable	This tree has been previously topped, resulting in the formation of multiple leaders. The replacement leaders originate from the historic topping site and are prone to failure.	Remove	Due to pre-existing poor structure.	
502	Western redcedar	Thuja plicata	55	Normal	Unsuitable	This tree has been previously topped, resulting in the formation of multiple leaders. The replacement leaders originate from the historic topping site and are prone to failure.	Remove	Due to pre-existing poor structure. Note: this tree appears to be shared ownership.	
503	Apple sp	Malus sp.	45	Normal	Suitable	This tree is in typical health and structural condition for its age and species, although it has not been pruned for a while. The tree will be pruned by an Arborist to restore a more natural condition and to ensure clearance for the garage.	Retain	Protect as shown on the TRP. Any repairs to the adjacent retaining wall must be done under the direction of the Project Arborist.	See Tree Plan

[1] Dbh is the tree's diameter measured in cm at the height of 1.4m above natural grade

Tag #	Common Name	Botanical Name	DBH[1] (cm)	Overall Condition	Tree Retention Value	Comments	Retain/ Remove	Tree Retention Comments	TPZ
504	English Holly	Ilex aquifolium	21	Poor	Unsuitable	This tree is growing within the laurel hedge and the crown is sparse. It appears to be infected with bacterial blight.	Remove	Due to pre-existing poor health	
505	English Walnut	Juglans regia	40	Moderate	Moderate	This tree appears to be a volunteer, and it is growing adjacent the retaining wall. This tree will need to be removed to accommodate the proposed construction.	Remove	In conflict with proposed construction.	
506	Japanese Maple	Acer palmatum	40	Normal	Suitable	This tree is growing in a small concrete cut out in the existing retaining wall / stair structure. This tree will be removed when the retaining wall and stairs are removed to accommodate the proposed construction.	Remove	In conflict with proposed construction.	
507	Pacific Dogwood	Cornus nuttallii	45	High Risk	Unsuitable	This tree has a large decay cavity at the base to 1m.	Remove	To mitigate safety risk to the subject site.	
508	Pacific Dogwood	Cornus nuttallii	36	Moderate	Moderate	Some symptoms of anthracnose and a sparse crown.	Remove	In conflict with proposed construction.	
509	Pacific Dogwood	Cornus nuttallii	28	Moderate	Moderate	Some symptoms of anthracnose and a sparse crown.	Remove	In conflict with proposed construction.	
510	Pacific Dogwood	Cornus nuttallii	45	Moderate	Moderate	Some symptoms of anthracnose and a sparse crown.	Remove	In conflict with proposed construction.	
511	Western redcedar	Thuja plicata	30	Moderate	Moderate	Asymmetric and sparse crown.	Remove	In conflict with proposed construction.	

Tag #	Common Name	Botanical Name	DBH[1] (cm)	Overall Condition	Tree Retention Value	Comments	Retain/ Remove	Tree Retention Comments	TPZ
512	Western Hemlock	Tsuga heterophylla	50	Poor	Unsuitable	This tree is comprised of 3 stems that are growing on the nurse log, and all stems have been previously topped.	Remove	In conflict with proposed construction.	
513	Western Hemlock	Tsuga heterophylla	40	Poor	Unsuitable	This tree is comprised of 2 stems that have been previously topped.	Remove	In conflict with proposed construction.	
514	Pacific Dogwood	Cornus nuttallii	47	Moderate	Moderate	Some symptoms of anthracnose and a sparse crown.	Remove	In conflict with proposed construction.	
515	Western redcedar	Thuja plicata	37	Poor	Unsuitable	Previously topped resulting in a bushy crown.	Remove	In conflict with proposed construction.	
516	Pacific Dogwood	Cornus nuttallii	40x2	Moderate	Moderate	Some symptoms of anthracnose and a sparse crown.	Remove	In conflict with proposed construction.	

Recommendations:

The site inventory identified 16 on-site trees, within the project scope that are to be identified as per the West Vancouver interim tree bylaw. Two trees exceed 75cm dbh when the stems are added together. One tree will be retained and protected, as detailed in this report and on the Tree Retention Plan. The majority of the on-site trees are in poor overall condition from topping and old age. In addition the majority of the trees will need to be removed to accommodate the proposed construction including the proposed driveway.

The District of West Vancouver requires that replacement trees be planted for trees that are removed. Ron Rule Landscape Architects have specified these replacement trees on their Landscape plan.

Tree Protection Zones (TPZ) for retained trees as well as those trees to be removed have been shown on the accompanying Tree Retention Plan.

Limitations:

- This report was prepared for and on the behalf of the client as addressed herein, and it is intended solely for their use, and in its’ entirety. Rathburn Arborist Consulting Inc. and its agents shall not accept any liability derived from the partial, unintended, unauthorized or improper use of this report. Once we receive payment of this account in full, this report becomes the property of the client.
- This report is restricted only to the subject trees as detailed in this report. Except as stated herein, no other trees were inspected or assessed as part of the work related to the preparation of this report. Unless otherwise stated off-site trees are not assessed for Risk or health and structural condition.
- The accuracy and ownership of the locations of trees, property lines and other site features were not verified by Rathburn Arborist Consulting Inc. We do not warrant or guarantee that third party information as correct. Third party information provided to the consultant may have been relied upon in the formation of the opinion of the consultant in the preparation of this report, and that information is assumed to be true and correct.
- The use of maps, plan, sketches, photographs and diagrams are intended only as a reference for the readers’ use and context in understanding the contents and findings of this study, and are not intended as a representation of fact.
- Approvals from a municipality, government agencies, and/or other private property owners may be required in relation to certain recommendations and/or treatments provided in this report. The owner (client) is fully responsible to make application for, pay related fees and costs for, and meet all requirements and conditions for the issuance of such permits, approvals or authorizations.

If you require any further information, please call me directly at 604 363-2053 to discuss.

Regards,

Max Rathburn

ISA Certified Arborist (PN0599A)

ISA Qualified Tree Risk Assessor (TRAQ)

BC Parks Wildlife and Danger Tree Assessor

Construction Guidelines for Protected Trees

The following are recommendations for risk mitigation and proper tree protection during the construction phase of the project.

Tree Retention Zones

Six to times the diameter was used in consideration to determine the optimal Tree Protection Zone (TPZ) setbacks, and adjusted to suit the specific needs of the tree and site conditions. The TPZ is the area around the tree that contains the tree's critical root zone, and these trees are crucial for stability. Please note that most trees will have root systems that extend outside of the TPZ setbacks and if excavation is to take place within 1.5 of the TPZ an arborist should be present to ensure the roots are properly inspected and pruned. The TPZ setback is an area which no grading or construction activity may occur without project arborist and / or Municipal approval.

The following are tree preservation guidelines and standards for the TPZs:

- No soil disturbance or stripping;
- The natural grade shall be maintained within the protection zone;
- No storage, dumping of materials, parking, underground utilities or fires;
- Any plan affecting trees should be reviewed by a consultant including demolition, erosion control, improvement, utility, drainage, grading, landscape, and irrigation;
- Special foundations, footings and paving designs are required if within the tree protection zone;
- Utilities should be routed around the TPZ;
- Excavation within the tree protection zone should be supervised by a consulting arborist;
- Surface drainage should not be altered so as to direct water into or out of the TPZ; and
- Site drainage improvements should be designed to maintain the natural water table levels within the RPZ.

Respecting these guidelines will prevent changes to the soil and rooting conditions, wounding of the trees and contamination due to spills and waste. Any plans for work or activities within the RPZ that are contrary to these guidelines should be discussed with the project arborist so that mitigation measures can be implemented.

Tree Protection Fences

Prior to any construction activity on site, tree protection fences must be constructed at the specified distance from the tree trunks. The protection barrier or temporary fencing must be at least 1.2 m in height and constructed of 2 by 4 lumber with orange plastic mesh screening. This must be constructed prior to tree removal, excavation or construction and remain intact throughout the entire period of construction. Further standards for fencing construction can be found at:
http://vancouver.ca/your-government/protection-of-trees-bylaw.aspx