Arboricultural Inventory and Report

For:
UBC Properties Trust

Site Location:
BCR Lot 9
Wesbrook Mall and Gray Avenue, UBC

To be submitted with Tree Management Plan dated September 3, 2020.

Submitted to:
Sean Ang
UBC Properties Trust
Suite 200 – 3313 Shrum Lane, Vancouver BC
Email: sang@ubcproperties.com

Date: April 15, 2020
Revised: September 1, 2020 (Per Received Site Plan, Transplanted Trees and BCR8 Tree Removal Approvals)
September 3, 2020 (Per Grading Conflicts with Trees OS-55 and OS-56 as shown on Engineering Plans)

Submitted by:

DIAMOND HEAD
3559 Commercial Street
Vancouver, BC 604.733.4886

The following Diamond Head Consulting staff conducted the on-site tree inventory and prepared or reviewed the report.

All general and professional liability insurance and staff accreditations are provided below for reference.

Project Arborist:

Dan Brown, B.Sc
ISA Certified Arborist (PN7785-A)
ISA Qualified Tree Risk Assessor (TRAQ)

Supervisor:

Trevor Cox, RPP, MCIP
ISA Certified Arborist (PN-1920A)
ISA Tree Risk Assessment Qualified (TRAQ)
BC Wildlife and Danger Tree Assessor

Revised September 3, 2020 by: Dean Bernasch, BLA, ISA Certified Arborist (PN-8676A), ISA Tree Risk Assessment Qualified (TRAQ)

Please contact us if there are any questions or concerns about the contents of this report.

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Insurance Information:

WCB: # 657906 AQ (003)
General Liability: Northbridge General Insurance Corporation - Policy #CBC1935506, $10,000,000
Errors and Omissions: Lloyds Underwriters – Policy #1010615D, $1,000,000

Scope of Assignment:
Diamond Head Consulting Ltd. (DHC) was retained to complete an arboricultural assessment to supplement the proposed development application for BCR Lot 9, Westbrook Mall at Grey Avenue, UBC, Vancouver. This report contains an inventory of protected on and off-site trees and summarizes management recommendations with respect to future development plans and construction activities. Off-site trees are included because pursuant to municipal bylaws, site owners must include the management of off-site trees that are within the scope of the development. This report is produced with the following primary limitations, detailed limitations specified in Appendix 7:

1) Our investigation is based solely on visual inspection of the trees during our last site visit. This inspection is conducted from ground level. We do not conduct aerial inspections, soil tests or below grade root examinations to assess the condition of tree root systems unless specifically contracted to do so.

2) Unless otherwise stated, tree risk assessments in this report are limited to trees with a *high* or *extreme* risk rating in their current condition, and in context of their surrounding land use at the time of assessment.

3) The scope of work is primarily determined by site boundaries and local tree-related bylaws. Only trees specified in the scope of work were assessed.

4) Beyond six months from the date of this report, the client must contact DHC to confirm its validity because site base plans and tree conditions may change beyond the original report's scope. Additional site visits and report revisions may be required after this point to ensure report accuracy for the municipality's development permit application process. Site visits and reporting required after the first submission are not included within the original proposal fee and will be charged to the client at an additional cost.

The client is responsible for:

- Reviewing this report to understand and implement all tree **risk**, removal and protection requirements related to the project.
- Understanding that we did not assess trees off the subject property and therefore cannot be held liable for actions you or your contractors may undertake in developing this property which may affect the trees on neighboring properties.
- Obtaining a tree removal permit from the relevant municipal authority prior to any tree cutting.
- Obtaining relevant permission from adjacent property owners before removing off-site trees and vegetation.
- Obtaining a timber mark if logs are being transported offsite.
- Ensuring the project is compliant with the tree permit conditions.
- Constructing and maintaining tree protection fencing.
- Ensuring an arborist is present onsite to supervise any works in or near tree protection zones.

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1.0 Introduction

1.1 Site Overview

The subject site has an area of approximately 0.44 ha. A dense stand of naturally regenerated native trees covers approximately one third of the site, to the north. The site has also been used as a tree nursery and some trees have now reached a significant size. Since our last site visit, some trees have been transplanted off-site (refer to DHC's Tree Management Plan for further). Site topography is even and slopes slightly from north to south.

1.2 Proposed Land Use Changes

The proposed development consists of a multi-storey condominium with associated below ground parking. In preparing this report, we have reviewed the following information:

- Site topographic survey: Murray and Associates Professional Land Surveyors, dated April 1, 2020.
- Site Ground Floor Plan by ZGF Architects Inc. dated August 25, 2020.

1.3 Report Objective

This report has been prepared to ensure the proposed development is compliant with UBC Technical Guidelines Section 32 01 93.01 for Tree and Shrub Preservation in relation to development. Protected trees identified on the subject site and documented in this report have a dimeter at breast height of 15 cm or greater.

This report outlines the existing condition of trees adjacent to the subject site that have a drip line or critical root zone that extends on to the subject site, summarizes the proposed off-site tree retention and removal, and suggests guidelines for protecting retained trees during the construction process.

2.0 Process and Methods

Dan Brown of DHC visited the site on April 8th and 9th, 2020. The following methods and standards are used throughout this report.

2.1 Tree Inventory

Trees on site and trees shared with adjacent properties were inventoried using the surveyor's numbered tags, or numbered independently for untagged trees, and assessed for attributes including: species; height measured to the nearest meter; and, diameter at breast height (DBH) measured to the nearest centimeter at 1.4 m above grade. Off-site trees were inventoried, but not tagged. The general health and structural integrity of each tree was assessed visually and assigned to one of five categories: *excellent; good; moderate; poor; or dying/dead*. Descriptions of the health and structure rating criteria are given in Appendix 3.

Tree retention value, categorized as *high, medium, low, or nil,* was assigned to each tree or group of trees based on their health and structure rating, and potential longevity in a developed environment. Descriptions of the retention value ratings are given in Appendix 4. Recommendations for tree retention or removal were determined by taking in to account a tree's retention value rating, its location in relation to proposed building envelopes and development infrastructure.

2.2 Tree Risk Assessment

Tree risk assessments were completed following methods of the ISA Tree Risk Assessment Manual[1] published in 2013 by the International Society of Arboriculture, which is the current industry standard for assessing tree risk. This methodology assigns risk based on the likelihood of failure, the likelihood of impact and the severity of consequence if a failure occurs. Only on-site hazard trees that had *high* or *extreme* risk ratings in their current condition and in context of their surrounding land use were identified and reported in section 3.2. Appendix 5 gives the likelihood and risk rating matrices used to categorize tree risk. DHC recommends that on-site trees be re-assessed for risk after the site conditions change (e.g. after damaging weather events, site disturbance from construction, creation of new targets during construction or in the final developed landscape).

2.3 Tree Protection and Replacement

Tree Protection Zones were calculated to be the six-times the diameter of each tree, but may be modified based on professional judgement of the project arborist to accommodate species specific tolerances and site specific growing conditions.

[1] Dunster, J.A., Smiley, E.T., Matheny, N. and Lilly, S. (2013). Tree Risk Assessment Manual. *International Society of Arboriculture*. Champaign, Illinois.

3.0 Findings: Tree Inventory and Risk Assessment

3.1 Tree Inventory

The tree inventory is summarized in Table 1 and the complete tree inventory is given in Appendix 1.

A total of 112 trees were inventoried and are included in this Report in the context of the proposed development, on the BCR 9 lot, in surrounding boulevards or on adjacent lots. 104 trees are proposed for removal due to their health and structural condition, or conflicts with the proposed development plans. 8 trees have been recommended for retention. All trees proposed for retention are growing in a grassed boulevard on Gray Street, to the north of the proposed development.

79 trees were inventoried and included in the last Arborist Report but have since been transplanted off-site. These trees have been removed from this revised Report as a result. Refer to the TMP for which trees have been transplanted off-site.

5 other trees (#'s 120, 121, 126, 127, 231) that were inventoried and included in the last Arborist Report have been requested and approved for removal in the second amendment of the BCR8 Arborist Report. These trees have also been removed from this revised Report as a result.

The trees inventoried were broadly of two main types; naturally regenerated, native, pioneer species, mostly growing in a dense stand to the north of the site, and tree nursery stock of common ornamental species (most of which have been transplanted off-site). Many of the native trees growing within the stand, in the north of the site, were dead, dying or in poor condition. The nursery stock trees were found to be in better condition, many of them moderate to good.

3.2 Tree Risk Assessment

There were no trees on this site that posed a *high* or *extreme* risk at the time of assessment.

Table 1: Summary of the tree inventory from BCR Lot 9, Wesbrook Mall at Gray Avenue containing the number of trees of each species and the recommended number to be retained, removed. The complete tree inventory is given in Appendix 1.

Tree Species	Recommendation		
	Retain	Remove	Total
Alnus rubra		31	31
Thuja plicata		40	40
Acer rubrum	8		8
Prunus emarginata		11	11
Rhamnus purshiana		1	1
Betula papyrifera		1	1
Acer macrophyllum		13	13
Populus balsamifera ssp. trichocarpa		1	1
Unknown deciduous		1	1
Salix sitchensis		1	1
Tsuga heterophylla		4	4
Totals	**8**	**104**	**112**

4.0 Discussion and Summary

A total of 112 trees were inventoried and are included in this Report in the context of the proposed development, on the BCR 9 lot, in surrounding boulevards or on adjacent lots. 104 trees are proposed for removal due to their health and structural condition, or conflicts with the proposed development plans. 8 trees have been recommended for retention. All trees proposed for retention are growing in a grassed boulevard on Gray Street, to the north of the proposed development.

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5 other trees (#'s 120, 121, 126, 127, 231) that were inventoried and included in the last Arborist Report have been requested and approved for removal in the second amendment of the BCR8 Arborist Report. These trees have also been removed from this revised Report as a result.

The 8 boulevard trees on Gray Avenue will require tree protection fencing for successful retention. Please refer to the corresponding DHC Tree Management Plan for the TPZ fencing alignments and other important notes.

Appendix 1 Complete Tree Inventory Table

The complete tree inventory below contains information on tree attributes and recommendations for removal or retention. Tree ownership in this inventory table is not definitive, its determination here is based on information available from the legal site survey, GPS locations, and field assessment during site visits. Tree Protection Zones are measured from the outer edge of a tree's stem. If using these measurements for mapping the tree protection zone, ½ the tree's diameter must be added to the distance to accommodate a survey point at the tree's center. Where tree protection fencing is proposed to vary from the minimum municipal TPZ, comments will be included in the Retention/TPZ comments and shown on the Tree Management Plan.

*TPZ is the tree protection zone size required by the relevant municipal bylaw or, if not defined, the project arborist.

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
8	NA	Red Alder	Alnus rubra	25	20	NA	4	Moderate		Low	Remove	Trees growing within the stand are not suitable for individual retention.	
9	NA	Red Alder	Alnus rubra	22	20	NA	4	Moderate		Low	Remove	Trees growing within the stand are not suitable for individual retention.	
10	NA	Red Alder	Alnus rubra	22	20	NA	4	Moderate		Low	Remove	Trees growing within the stand are not suitable for individual retention.	
11	NA	Red Alder	Alnus rubra	28	20	NA	4	Moderate		Low	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
12	NA	Red Alder	Alnus rubra	24	15	NA	4	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
65	NA	Red Alder	Alnus rubra	40	22	NA	6	Moderate	Mechanical damage to roots at base.	Low	Remove	Not suitable for retention in context of proposed development based on location, condition and species profile.	
74	NA	Bitter Cherry	Prunus emarginata	12	16	40-59%	4	Poor	Suppressed.		Remove	Not suitable for retention in context of proposed development based on location, condition and species profile.	
75	NA	Bitter Cherry	Prunus emarginata	32	20	20-39%	5	Moderate	Bulging at base, previously failed stem, decay at base, lean to northeast.		Remove	Not suitable for retention in context of proposed development based on location, condition and species profile.	
76	NA	Red Alder	Alnus rubra	18	18	20-39%	2	Moderate			Remove	Trees growing within the stand are not suitable for individual retention.	
77	NA	Red Alder	Alnus rubra	18	18	20-39%	NA	Dying	Failing to south.		Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
78	NA	Cascara	Rhamnus purshiana	19	20	20-39%	3	Moderate	Edge of stand.		Remove	Trees growing within the stand are not suitable for individual retention.	
79	NA	Red Alder	Alnus rubra	18	18	20-39%	2	Moderate	Edge of stand.		Remove	Trees growing within the stand are not suitable for individual retention.	
80	NA	Paper Birch	Betula papyrifera	30	NA	NA	NA	Dead	In dense, closed canopy stand.		Remove	Trees growing within the stand are not suitable for individual retention.	
81	NA	Western Red Cedar	Thuja plicata	20	12	NA	3	Moderate	Suppressed. Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
82	NA	Bitter Cherry	Prunus emarginata	38	27	NA	4	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
83	NA	Bitter Cherry	Prunus emarginata	25	20	NA	4	Poor	Growing at edge of dense, closed canopy stand. Failing to south.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
84	NA	Bitter Cherry	Prunus emarginata	45	25	NA	5	Moderate	20+25cm DBH. Growing at edge of dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
85	NA	Bitter Cherry	Prunus emarginata	15	12	NA	3	Poor	Growing at edge of dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
86	NA	Western Red Cedar	Thuja plicata	16	10	NA	2	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
87	NA	Bitter Cherry	Prunus emarginata	15	16	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
88	NA	Red Alder	Alnus rubra	15	18	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
89	NA	Red Alder	Alnus rubra	15	18	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	

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90	NA	Big-Leaf Maple	Acer macrophyllum	56	25	NA	NA	Poor	30+26cm DBH. Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
91	NA	Red Alder	Alnus rubra	21	18	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
92	NA	Red Alder	Alnus rubra	16	16	NA	NA	Dying	Growing in dense, closed canopy stand.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
93	NA	Western Red Cedar	Thuja plicata	15	10	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
94	NA	Western Red Cedar	Thuja plicata	12	8	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
95	NA	Western Red Cedar	Thuja plicata	11	8	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
96	NA	Big-Leaf Maple	Acer macrophyllum	19	8	NA	3	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
97	NA	Western Red Cedar	Thuja plicata	10	17	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
98	NA	Bitter Cherry	Prunus emarginata	21	18	NA	NA	Poor	Partially failed and hung up, extensive decay in stem at base.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
99	NA	Western Red Cedar	Thuja plicata	16	6	NA	NA	Dying	Top half dead.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
100	NA	Black Cottonwood	Populus balsamifera ssp. trichocarpa	20	20	NA	NA	Moderate		Low	Remove	Trees growing within the stand are not suitable for individual retention.	
101	NA	Red Alder	Alnus rubra	20	20	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
102	NA	Red Alder	Alnus rubra	20	18	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
103	NA	Red Alder	Alnus rubra	16	17	NA	NA	Poor	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
104	NA	Western Red Cedar	Thuja plicata	13	6	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
105	NA	Red Alder	Alnus rubra	15	18	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
106	NA	Western Red Cedar	Thuja plicata	13	6	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
107	NA	Red Alder	Alnus rubra	18	16	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	

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108	NA	Red Alder	Alnus rubra	13	15	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
109	NA	Red Alder	Alnus rubra	17	15	NA	NA	Dead	Partially failed and hung up.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
110	NA	Western Red Cedar	Thuja plicata	15	10	NA	2	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
111	NA	Big-Leaf Maple	Acer macrophyllum	10	10	NA	2	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
112	NA	Red Alder	Alnus rubra	15	14	NA	3	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
113	NA	Red Alder	Alnus rubra	10	14	NA	3	Poor	Growing in dense, closed canopy stand.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	

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114	NA	Unknown Deciduous	Unknown deciduous	20	10	NA	4	Dead	Partially failed.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
115	NA	Red Alder	Alnus rubra	18	18	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
116	NA	Western Red Cedar	Thuja plicata	10	7	NA	2	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
117	NA	Big-Leaf Maple	Acer macrophyllum	15	16	NA	3	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
118	NA	Big-Leaf Maple	Acer macrophyllum	16	20	NA	3	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
119	NA	Red Alder	Alnus rubra	12	16	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
122	NA	Western Red Cedar	Thuja plicata	10	12	NA	1	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
123	NA	Red Alder	Alnus rubra	15	18	NA	3	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
124	NA	Red Alder	Alnus rubra	16	18	NA	3	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
125	NA	Red Alder	Alnus rubra	20	18	NA	3	Poor	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
128	NA	Red Alder	Alnus rubra	40	25	NA	7	Poor	Union at 2m, stems approximately equal above, 1 dead. Large cavity with extensive decay between 2 stems.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
129	NA	Sitka Willow	Salix sitchensis	60	25	NA	7	Poor	22+21+17cm DBH. Edge of stand. Decay in main stems.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
130	NA	Big-Leaf Maple	Acer macrophyllum	20	20	NA	4	Moderate	Edge of stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
131	NA	Big-Leaf Maple	Acer macrophyllum	30	25	NA	6	Moderate	Edge of stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
341	NA	Western Red Cedar	Thuja plicata	110	25	<20%	6	Dying	3m from active construction site, with grubbing etc. A few yellowing branches remain near base.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
342	NA	Red Alder	Alnus rubra	38	20	NA	4	Dying		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
343	NA	Western Red Cedar	Thuja plicata	95	25	<20%	5	Dying	3m from active construction site, with grubbing etc. Top half dead.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
344	NA	Western Red Cedar	Thuja plicata	110	28	80-100%	7	Good	Live crown to base, single stem to top.	High	Remove	Tree is within building envelope.	
345	NA	Bitter Cherry	Prunus emarginata	20	17	20-39%	6	Moderate	Phototropic lean to south away from cedars.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
346	NA	Western Red Cedar	Thuja plicata	24	6	<20%	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
348	NA	Western Hemlock	Tsuga heterophylla	35	20	NA	3	Dead		NA	Remove	Trees growing within the stand are not suitable for individual retention.	
350	NA	Western Hemlock	Tsuga heterophylla	38	NA	NA	NA	Dead		NA	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
351	NA	Western Red Cedar	Thuja plicata	32	20	NA	3	Good	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
352	NA	Western Red Cedar	Thuja plicata	21	10	60-79%	3	Moderate		NA	Remove	Trees growing within the stand are not suitable for individual retention.	
353	NA	Red Alder	Alnus rubra	30	20	NA	3	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
354	NA	Western Red Cedar	Thuja plicata	35	25	NA	4	Dead	In dense, closed canopy stand.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
355	NA	Western Red Cedar	Thuja plicata	35	25	NA	4	Poor	60+30cm DBH. Growing in dense, closed canopy stand. Dead top.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
356	NA	Western Red Cedar	Thuja plicata	30	25	NA	3	Poor	Growing in dense, closed canopy stand. Dead top.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	

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357	NA	Western Red Cedar	Thuja plicata	34	18	NA	3	Moderate	20+14cm DBH. Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
358	NA	Western Red Cedar	Thuja plicata	45	25	NA	4	Dead	In dense, closed canopy stand.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
359	NA	Western Red Cedar	Thuja plicata	50	25	NA	4	Good	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
360	NA	Western Red Cedar	Thuja plicata	17	15	NA	3	Moderate	Suppressed. Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
361	NA	Big-Leaf Maple	Acer macrophyllum	30	18	NA	3	Poor	Growing from nurse stump, within dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
362	NA	Big-Leaf Maple	Acer macrophyllum	125	26	NA	8	Poor	5 stems from base, 17-35cm DBH. Large hollow/cavity at base in centre. Normal vigour, structure accounts for poor condition rating. Monitor.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
363	NA	Big-Leaf Maple	Acer macrophyllum	55	25	NA	NA	Dead	Decaying, K.deusta confirmed at base.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
364	NA	Western Red Cedar	Thuja plicata	22	8	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
365	NA	Western Hemlock	Tsuga heterophylla	35	22	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
366	NA	Western Red Cedar	Thuja plicata	26	18	NA	NA	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
367	NA	Bitter Cherry	Prunus emarginata	31	18	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
368	NA	Western Red Cedar	Thuja plicata	22	18	NA	NA	Dying	Growing in dense, closed canopy stand. Top half dead.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
369	NA	Red Alder	Alnus rubra	25	18	NA	NA	Moderate	Growing in dense, closed canopy stand.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
370	NA	Western Hemlock	Tsuga heterophylla	20	12	NA	NA	Dead	Decaying, stem broken at 8m with 6m of stem hung up in surrounding trees.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
371	NA	Western Red Cedar	Thuja plicata	20	12	NA	3	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
372	NA	Western Red Cedar	Thuja plicata	27	18	NA	NA	Dying	Growing in dense, closed canopy stand.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
373	NA	Western Red Cedar	Thuja plicata	34	18	NA	NA	Dying	Growing in dense, closed canopy stand. Top half dead.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
374	NA	Big-Leaf Maple	Acer macrophyllum	37	25	NA	NA	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
375	NA	Western Red Cedar	Thuja plicata	38	27	NA	4	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
377	NA	Big-Leaf Maple	Acer macrophyllum	140	26	40-59%	9	Poor	60+45+35cm DBH. Large hollow at base, previously failed stems.	Low	Remove	Trees growing within the stand are not suitable for individual retention.	
378	NA	Bitter Cherry	Prunus emarginata	40	20	20-39%	5	Moderate	Growing through crown of maple.	NA	Remove	Trees growing within the stand are not suitable for individual retention.	
379	NA	Big-Leaf Maple	Acer macrophyllum	80	23	40-59%	5	Poor	30+25+25cm DBH. Previously failed stem at base, k. deusta present.	NA	Remove	Trees growing within the stand are not suitable for individual retention.	
383	NA	Western Red Cedar	Thuja plicata	38	26	NA	4	Good	Edge of stand.	High	Remove	Trees growing within the stand are not suitable for individual retention.	
384	NA	Western Red Cedar	Thuja plicata	23	18	NA	3	Good	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
385	NA	Western Red Cedar	Thuja plicata	22	18	NA	3	Moderate	Growing in dense, closed canopy stand.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
386	NA	Western Red Cedar	Thuja plicata	16	10	NA	NA	Dead	Tagged but not shown on survey.	Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
387	NA	Western Red Cedar	Thuja plicata	20	12	NA	NA	Dead		Nil	Remove	Trees growing within the stand are not suitable for individual retention.	
388	NA	Western Red Cedar	Thuja plicata	16	12	NA	NA	Good	Growing in interdependent group of same species.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
389	NA	Western Red Cedar	Thuja plicata	25	12	NA	NA	Good	Growing in interdependent group of same species.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	
390	NA	Western Red Cedar	Thuja plicata	27	15	NA	NA	Good	Growing in interdependent group of same species.	Medium	Remove	Trees growing within the stand are not suitable for individual retention.	

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
OS-55	NA	Red Maple/Armstrong	Acer rubrum	20	15	60-79%	2	Good	Nursery tree.	NA	Remove	Tree is recommended for removal due to conflicts with grading shown on Engineering Plans. Must receive permission from owner prior to removal.	2
OS-56	NA	Red Maple/Armstrong	Acer rubrum	17	15	60-79%	2	Good	Nursery tree.	NA	Remove	Tree is recommended for removal due to conflicts with grading shown on Engineering Plans. Must receive permission from owner prior to removal.	2
UBC-18	On-site	Red Maple	Acer rubrum	11	8	60-79%	3	Good	In boulevard. Recent planting. Columnar form. 10 x 20 cm wound on lower trunk, 50% occluded. Foliage healthy.	High	Retain	Please refer to TMP.	2
UBC-19	NA	Red Maple	Acer rubrum	11	5	60-79%	1	Good	Growing in grass boulevard.	High	Retain	Please refer to TMP.	2
UBC-20	NA	Red Maple	Acer rubrum	12	5	60-79%	1	Good	Growing in grass boulevard.	High	Retain	Please refer to TMP.	2

Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	LCR	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
UBC-21	NA	Red Maple	Acer rubrum	12	5	60-79%	1	Good	Growing in grass boulevard.	High	Retain	Please refer to TMP.	2
UBC-22	NA	Red Maple	Acer rubrum	11	5	60-79%	1	Moderate	Growing in grass boulevard. Bleeding from main stem near base.	High	Retain	Please refer to TMP.	2
UBC-23	NA	Red Maple	Acer rubrum	10	5	60-79%	1	Good	Growing in grass boulevard.	High	Retain	Please refer to TMP.	2
UBC-24	NA	Red Maple	Acer rubrum	12	5	60-79%	1	Good	Growing in grass boulevard.	High	Retain	Please refer to TMP.	2
UBC-25	NA	Red Maple	Acer rubrum	12	5	60-79%	1	Good	Growing in grass boulevard.	High	Retain	Please refer to TMP.	2

Appendix 2 Site Photographs

Photo 1. View looking southwest towards the site from Gray Avenue.
Tree #341 is the large dead tree in the far left, with the row of boulevard trees in the foreground and the stand in the background.

Photo 2. Showing Group-1, of red maples. These trees have since been transplanted off-site. These trees were typical of the nursery stock that was found throughout the subject site.

Appendix 3 Tree Health and Structure Rating Criteria

The tree health and structure ratings used by Diamond Head Consulting summarize each tree based on both positive and negative attributes using five stratified categories. These ratings indicate health and structural conditions that influence a tree's ability to withstand local site disturbance during the construction process (assuming appropriate tree protection) and benefit a future urban landscape.

Excellent: Tree of possible specimen quality, unique species or size with no discernible defects.

Good: Tree has no significant structural defects or health concerns, considering its growing environment and species.

Moderate: Tree has noted health and/or minor to moderate structural defects. This tree can be retained, but may need mitigation (e.g., pruning or bracing) and monitoring post-development. A moderate tree may be suitable for retention within a stand or group, but not suitable on its own.

Poor: Tree is in serious decline from previous growth habit or stature, has multiple defined health or structural weaknesses. It is unlikely to acclimate to future site use change. This tree is not suitable for retention within striking distance of most targets.

Dying/Dead: Tree is in severe decline, has severe defects or was found to be dead.

Appendix 4 Tree Retention Value Rating Criteria

The tree retention value ratings used by Diamond Head Consulting provide guidance for tree retention planning. Each tree in an inventory is assigned to one of four stratified categories that reflect its value as a future amenity and environmental asset in a developed landscape. Tree retention value ratings take in to account the health and structure rating, species profile*, growing conditions and potential longevity assuming a tree's growing environment is not compromised from its current state.

High: Tree suitable for retention. Has a good or excellent health and structure rating. Tree is open grown, an anchor tree on the edge of a stand or dominant within a stand or group. Species of *Populus, Alnus* and *Betula* are excluded from this category.

Medium: Tree suitable for retention with some caveats or suitable within a group**. Tree has moderate health and structure rating, but is likely to require remedial work to mitigate minor health or structural defects. Includes trees that are recently exposed, but wind firm, and trees grown on sites with poor rooting environments that may be ameliorated.

Low: Tree has marginal suitability for retention. Health and structure rating is moderate or poor; remedial work is unlikely to be viable. Trees within striking distance of a future site developments should be removed.

Nil: Tree is unsuitable for retention. It has a dying/dead or poor health and structure rating. It is likely that the tree will not survive, or it poses and unacceptable hazard in the context of future site developments.

* The species profile is based upon mature age and height/spread of the species, adaptability to land use changes and tree species susceptibility to diseases, pathogen and insect infestation.

** Trees that are 'suitable as a group' have grown in groups or stands that have a single, closed canopy. They have not developed the necessary trunk taper, branch and root structure that would allow then to be retained individually. These trees should only be retained in groups.

Appendix 5 Risk Rating Matrices

Trees with a *probable* or *imminent* likelihood of failure, a *medium* or *high* likelihood of impacting a specified target, and a *significant* or *severe* consequence of failure have been assessed for risk and included in this report (Section 3.2). These two risk rating matrices showing the categories used to assign risk are taken without modification to their content from the International Society of Arboriculture Tree Risk Assessment Qualification Manual.

Matrix 1: Likelihood

Likelihood of Failure	Likelihood of Impacting Target			
	Very Low	**Low**	**Medium**	**High**
Imminent	Unlikely	Somewhat Likely	Likely	Very Likely
Probable	Unlikely	Unlikely	Somewhat Likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat Likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2: Risk Rating

Likelihood of Failure and Impact	Consequences of Failure			
	Negligible	**Minor**	**Significant**	**Severe**
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat Likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Appendix 6 Construction Guidelines

Tree management recommendations in this report are made under the expectation that the following guidelines for risk mitigation and proper tree protection will be adhered to during construction.

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

Tree Protection Zones

A Tree protection zone (TPZ) is determined using either dripline or a DBH multiplier to define a radius measured in all directions from the outside of a tree's trunk. It is typically determined according to local municipal bylaw specifications and may be modified based on professional judgement of the project arborist to accommodate species specific tolerances and site specific growing conditions. For retained trees, the TPZ and fencing indicated in this report are proposed as suitable in relation to the level of disturbance proposed on the site plan provided to the project arborist. Arborist consultation is required if any additional work beyond the scope of the plans provided is proposed near the tree. Work done in addition to the proposed impacts discussed in this report may cause the tree to decline and die.

Tree Protection Fencing: Tree protection zones (TPZs) will be protected by Tree Protection Fencing except where site features constrict roots (e.g., retaining walls or roads), where continual access is required (e.g., sidewalks), or when an acceptable encroachment into the TPZ is proposed, in which case the fencing will be modified. Tree Protection Fencing is shown on the Tree Protection Plan and, where it varies from the TPZ, the rationale is described in the inventory table in Section 3.1.

Within a TPZ, no construction activity, including materials storage, grading or landscaping, may occur without project arborist approval. Within the TPZ, the following are tree preservation guidelines based on industry standards for best practice and local municipal requirements:

- No soil disturbance or stripping.
- Maintain the natural grade.
- No storage, dumping of materials, parking, underground utilities or fires within TPZs or tree driplines.
- Any planned construction and landscaping activities affecting trees should be reviewed and approved by a consulting arborist.
- Install specially designed foundations and paving when these structures are required within TPZs.
- Route utilities around TPZs.
- Excavation within the TPZs should be supervised by a consultant arborist.
- Surface drainage should not be altered in such a way that water is directed in or out of the TPZ.

- Site drainage improvements should be designed to maintain the natural water table levels within the TPZ.

Prior to any construction activity, Tree Protection Fencing must be constructed as shown on the Tree Protection Plan. 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. Tree Protection Fencing must be constructed prior to tree removal, excavation or construction and remain intact for the entire duration of construction.

Tree Crown Protection and Pruning

All heavy machinery (excavators, cranes, dump trucks, etc.) working within five meters of a tree's crown should be made aware of their proximity to the tree. If there is to be a sustained period of machinery working within five meters of a tree's crown, a of line of colored flags should be suspended at eye-level of the machinery operator for the length of the protected tree area. Any concerns regarding the clearance required for machinery and workers within or immediately outside tree protection zones should be referred to the project arborist so that a zone surrounding the crowns can be established or pruning measures undertaken. Any wounds incurred to protected trees during construction should be reported to the project arborist immediately.

Unsurveyed Trees

Unsurveyed trees identified by DHC in the Tree Retention Plan have been hand plotted for approximate location only using GPS coordinates and field observations. The location and ownership of unsurveyed trees cannot be confirmed without a legal surveyed. The property owner or project developer must ensure that all relevant on- and off-site trees are surveyed by a legally registered surveyor, whether they are identified by DHC or not.

Removal of logs from sites

Private timber marks are required to transport logs from privately-owned land in BC. It is property owner's responsibility to apply for a timber mark prior to removing any merchantable timber from the site. Additional information can be found at: http://www.for.gov.bc.ca/hth/private-timber-marks.htm

Regulation of Soil Moisture and Drainage

Excavation and construction activities adjacent to TPZs can influence the availability of moisture to protected trees. This is due to a reduction in the total root mass, changes in local drainage conditions, and changes in exposure including reflected heat from adjacent hard surfaces. To mitigate these concerns the following guidelines should be followed:

- Soil moisture conditions within the tree root protection zones should be monitored during hot and dry weather. When soil moisture is inadequate, supplemental irrigation should be provided that penetrates soil to the depth of the root system or a minimum of 30 cm.
- Any planned changes to surface grades within the TPZs, including the placement of mulch, should be designed so that any water will flow away from tree trunks.

- Excavations adjacent to trees can alter local soil hydrology by draining water more rapidly from TPZs more rapidly than it would prior to site changes. It is recommended that when excavating within 6 m of any tree, the site be irrigated more frequently to account for this.

Root Zone Enhancements and Fertilization

Root zone enhancements such as mulch, and fertilizer treatments may be recommended by the project arborist during any phase of the project if they deem it necessary to maintain tree health and future survival.

Paving Within and Adjacent to TPZs

If development plans propose the construction of paved areas and/or retaining walls close to TPZs, measures should be taken to minimize impacts. Construction of these features would raise concerns for proper soil aeration, drainage, irrigation and the available soil volume for adequate root growth. The following design and construction guidelines for paving and retaining walls are recommended to minimize the long-term impacts of construction on protected trees:

- Any excavation activities near or within the TPZ should be monitored by a certified arborist. Structures should be designed, and excavation activities undertaken to remove and disturb as little of the rooting zone as possible. All roots greater than 2 cm in diameter should be hand pruned by a Certified Arborist.
- The natural grade of a TPZ should be maintained. Any retaining walls should be designed at heights that maintain the existing grade within 20 cm of its current level. If the grade is altered, it should be raised not reduced in height.
- Compaction of sub grade materials can cause trees to develop shallow rooting systems. This can contribute to long-term pavement damage as roots grow. Minimizing the compaction of subgrade materials by using structural soils or other engineered solutions and increasing the strength of the pavement reduces reliance on the sub-grade for strength.
- If it is not possible to minimize the compaction of sub-grade materials, subsurface barriers should be considered to help direct roots downward into the soil and prevent them from growing directly under the paved surfaces.

Plantings within TPZs

Any plans to landscape the ground within the TPZ should implement measures to minimize negative impacts on the above or below ground parts of a tree. Existing grass layer in TPZs should not be stripped because this will damage surface tree roots. Grass layer should be covered with mulch at the start of the project, which will gradually kill the grass while moderating soil moisture and temperatures. Topsoil should be mixed with the mulch prior to planting of shrubs, but new topsoil layer should not be greater than 20 cm deep on top of the original grade. Planting should take place within the newly placed topsoil mixture and should not disturb the original rooting zone of the trees. A two-meter radius around the base of each tree should be left unplanted and covered in mulch; a tree's root collar should remain free from any amendments that raise the surface grade.

Monitoring during construction

Ongoing monitoring by a consultant arborist should occur for the duration of a development project. Site visits should be more frequent during activities that are higher risk, including the first stages of construction when excavation occurs adjacent to the trees. Site visits will ensure contractors are respecting the recommended tree protection measures and will allow the arborist to identify any new concerns that may arise.

During each site visit the following measures will be assessed and reported on by a consulting arborist:

- Health and condition of protected trees, including damage to branches, trunks and roots that may have resulted from construction activities, as will the health of. Recommendations for remediation will follow.
- Integrity of the TPZ and fencing.
- Changes to TPZ conditions including overall maintenance, parking on roots, and storing or dumping of materials within TPZ. If failures to maintain and respect the TPZ are observed, suggestions will be made to ensure tree protection measures are remediated and upheld.
- Review and confirmation of recommended tree maintenance including root pruning, irrigation, mulching and branch pruning.
- Changes to soil moisture levels and drainage patterns; and
- Factors that may be detrimentally impact the trees.

Appendix 7 Report Assumptions and Limiting Conditions

1) Unless expressly set out in this report or these Assumptions and Limiting Conditions, Diamond Head Consulting Ltd. ("Diamond Head") makes no guarantee, representation or warranty (express or implied) regarding this report, its findings, conclusions or recommendations contained herein, or the work referred to herein.

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3) The findings, conclusions and recommendations made in this report reflect Diamond Head's best professional judgment given the information available at the time of preparation. This report has been prepared in a manner consistent with the level of care and skill normally exercised by arborists currently practicing under similar conditions in a similar geographic area and for specific application to the trees subject to this report on the date of this report. Except as expressly stated in this report, the findings, conclusions and recommendations it sets out are valid for the day on which the assessment leading to such findings, conclusions and recommendations was conducted. If generally accepted assessment techniques or prevailing professional standards and best practices change at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification if generally accepted assessment techniques and prevailing professional standards and best practices change.

4) Conditions affecting the trees subject to this report (the "Conditions", include without limitation, structural defects, scars, decay, fungal fruiting bodies, evidence of insect attack, discolored foliage, condition of root structures, the degree and direction of lean, the general condition of the tree(s) and the surrounding site, and the proximity of property and people) other than those expressly addressed in this report may exist. Unless otherwise stated information contained in this report covers only those Conditions and trees at the time of inspection. The inspection is limited to visual examination of such Conditions and trees without dissection, excavation, probing or coring. While

every effort has been made to ensure that any trees recommended for retention are both healthy and safe, no guarantees, representations or warranties are made (express or implied) that those trees will not be subject to structural failure or decline. The Client acknowledges that it is both professionally and practically impossible to predict with absolute certainty the behavior of any single tree, or groups of trees, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure and this risk can only be eliminated if the risk is removed. If Conditions change or if additional information becomes available at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification of Conditions change or additional information becomes available.

5) Nothing in this report is intended to constitute or provide a legal opinion and Diamond Head expressly disclaims any responsibility for matters legal in nature (including, without limitation, matters relating to title and ownership of real or personal property and matters relating to cultural and heritage values). Diamond Head makes no guarantee, representation or warranty (express or implied) as to the requirements of or compliance with applicable laws, rules, regulations, or policies established by federal, provincial, local government or First Nations bodies (collectively, "Government Bodies") or as to the availability of licenses, permits or authorizations of any Government Body. Revisions to any regulatory standards (including bylaws, policies, guidelines an any similar directions of a Government Bodies in effect from time to time) referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification if any such regulatory standard is revised.

6) Diamond Head shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

7) In preparing this report, Diamond Head has relied in good faith on information provided by certain persons, Government Bodies, government registries and agents and representatives of each of the foregoing, and Diamond Head assumes that such information is true, correct and accurate in all material respects. Diamond Head accepts no responsibility for any deficiency, misinterpretations or fraudulent acts of or information provided by such persons, bodies, registries, agents and representatives.

8) 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.

9) Loss or alteration of any part of this report invalidates the entire report.