

### **District of West Vancouver**

### **DEVELOPMENT PERMIT NO. 22-074**

CURRENT OWNERS: DARRIN AND MEGHAN DECOSTA

THIS DEVELOPMENT PERMIT APPLIES TO:

CIVIC ADDRESS:

1591 HAYWOOD AVENUE

LEGAL DESCRIPTION: 011-772-301

LOT 14 BLOCK 1 NORTH ½ OF DISTRICT LOT 1055

PLAN 4180 (THE "LANDS")

### 1.0 This Development Permit:

- (a) imposes requirements and conditions for the development of the Lands, which are designated by the Official Community Plan as a Development Permit Area to ensure that detached secondary suites meet a high quality of building and landscape design, and are compatible both with the principal dwelling on the lot, and the built form and character of the local neighbourhood and subject to Guidelines BF-3.1 specified in the Official Community Plan;
- (b) imposes requirements and conditions for the development of the Lands, which are designated by the Official Community Plan as a development Permit area to protect and enhance watercourses within the Existing Neighbourhoods, in accordance with the Guidelines NE13 specified in the Official Community Plan.
- (c) is issued subject to the Owner's compliance with all of the Bylaws of the District applicable to the Lands, except as specifically varied or supplemented by this Permit.
- 2.0 The following requirements and conditions shall apply to the Lands:
  - 2.1 Buildings, structures, and site development shall generally take place in accordance with attached **Schedule A**.
  - 2.2 Zoning Bylaw No. 4662, 2010 as amended, is varied in accordance with attached **Schedule A**.
  - 2.3 Riparian planting and Invasive Species Management in accordance with **Schedule B**.
  - 2.3 Removal of Trees #358, 170, and 169 within the riparian area of Vinson Creek in accordance with **Schedule C** attached hereto.
  - 2.4 To compensate for the removal of three protected trees in the riparian area of Vinson Creek, replanting of native species of trees and/or shrubs will be completed at a ratio of 2:1 for replacement trees, 4:1 for replacement shrubs, or a combination of both, within the riparian area of Vinson Creek.
  - 2.5 Removal of Protected Tree #167 outside of the riparian area of Vinson Creek in accordance with **Schedule C** attached hereto.

Page: 2 DP No. 22-074

2.6 Retention of the cluster of cedar trees in the northwest corner of the property in accordance with **Schedule C** attached hereto.

- 2.7 Protection of trees in accordance with the Tree Protection Specifications under the District's Tree Bylaw.
- 2.8 The nesting season for songbirds is from March 1 to August 31. This Permit does not constitute an approval under, or relieve the Permittee from complying with, any federal or provincial statute or regulation governing the Permittee's use and development of the Lands, including but not limited to the Fisheries Act, Water Sustainability Act and regulations, Species at Risk Act, Heritage Conservation Act, Wildlife Act, Migratory Birds Convention Act and regulations, and Weed Control Act.
- 2.9 In addition to implementing the Riparian Planting Plan (**Schedule C**) within the riparian area of Vinson Creek, landscaping shall be undertaken in accordance with **Schedule D**.
- 2.10 Prior to any site clearing, rock removal, grubbing, stripping, shrub or tree removal, re-contouring or construction on the Lands, sediment and erosion control works shall be installed and approved on-site by the Environmental Protection Officer.
- 2.11 The sediment and erosion control works and tree and riparian protection required under 2.6 and 2.9 above shall be removed only upon written approval by an Environmental Protection Officer.
- 3.0 Notwithstanding Conditions 2.1, 2.2 and 2.3 above, any amendments to this Development Permit may be considered by the Director of Planning and Development Services as delegated pursuant to the Development Procedures Bylaw where proposed changes do not materially affect the intent of the plans attached to Heritage Revitalization Agreement Bylaw No. 4943, 2017 and Heritage Designation Bylaw No. 4942, 2017.
- 4.0 Prior to Building Permit application and as security for the due and proper completion of the landscaping works and for the measures to preserve, protect, restore or enhance the environment and tree protection measures (the "Environmental Protection Measures") set forth in Section 2 of this Development Permit, the Owner shall:
  - (a) provide security in the amount of \$10,000 to the District in the form of cash or an unconditional, irrevocable auto-renewing letter of credit issued by a Canadian chartered bank or credit union; and
  - (b) maintain the security for a minimum of one year after completion of the landscaping works and Environmental Protection Measures, and not prior to the date on which the District Environmental Protection Officer authorizes in writing the release of the security.
- 5.0 Prior to final occupancy the applicant must submit documentation demonstrating that the "as-built" development complies with all requirements of this development permit. Any variations must be clearly identified with a rationale and explanation noting that planning staff review and approval may be needed for variations prior to final occupancy.

Page: 3 DP No. 22-074

6.0 In the event that the landscaping is not completed or trees retained as provided for in this Permit, the District may, at its option, enter upon, carry out and complete the landscaping or tree replacement so as to satisfy the terms of the Development Permit, and recover the costs of doing so from the security deposited, including the costs of administration and supervision.

7.0 This Development Permit lapses if the work authorized herein is not commenced within 24 months of the date this permit is issued.

THE COUNCIL OF WEST VANCOUVER APPROVED THIS PERMIT BY RESOLUTION PASSED ON NOVEMBER 20, 2023.

MAYOR

Deputy Corpurate

MUNICIPAL CLERK

Officer Pascal Cuk

THE REQUIREMENTS AND CONDITIONS UPON WHICH THIS PERMIT IS ISSUED ARE ACKNOWLEDGED AND AGREED TO. IT IS UNDERSTOOD THAT OTHER PERMITS / APPROVALS MAY BE REQUIRED INCLUDING PERMITS / APPROVALS FOR BUILDING CONSTRUCTION, SOIL AND ROCK REMOVAL OR DEPOSIT, BOULEVARD WORKS, AND SUBDIVISION.

THE DEVELOPMENT MUST ATTAIN REQUIREMENTS OF THE BC BUILDING CODE AND ANY VARIANCES TO THE ZONING BYLAW ARE THE RESPONSIBILITY OF THE OWNER AND MUST BE RECTIFED AT THE BUILDING PERMIT STAGE.

FOR THE PURPOSES OF SECTION 7.0, THIS PERMIT IS ISSUED ON NOVEMBER 20, 2023.

### Schedules:

- A Architectural Plans prepared by Focus Architecture Incorporated dated April 13, 2023
- B Environmental Report prepared by Sartori Environmental Inc. dated March 9, 2023
- C Arborist Report prepared by Silverback Treeworks Ltd. dated December 17, 2022 with staff markups
- D Landscape Plan prepared by Coastal Group dated April 7, 2023



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SCHEDULE 'A' TO DP 22-074







CLEGG HOUSE



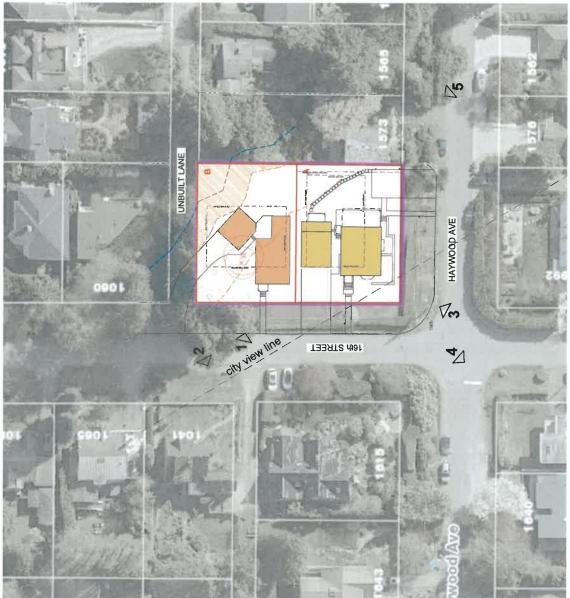
DW 2120

DATE DWN. CHK

1591 HAYWOOD STREET WEST VANCOUNTS, BC.
DRAWNO, TILLE
CONTEXT PLAN



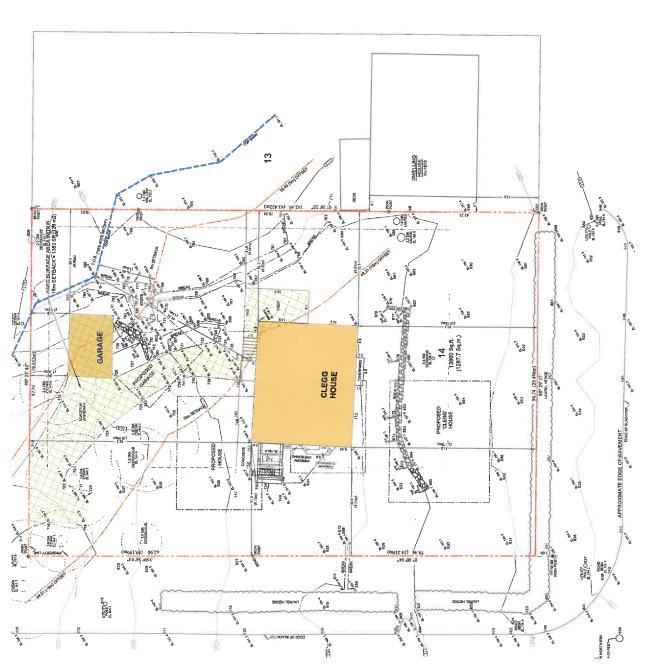




CLEGG HOUSE

SEAL





MANAGEMENT SERVICES

CLEGG HOUSE

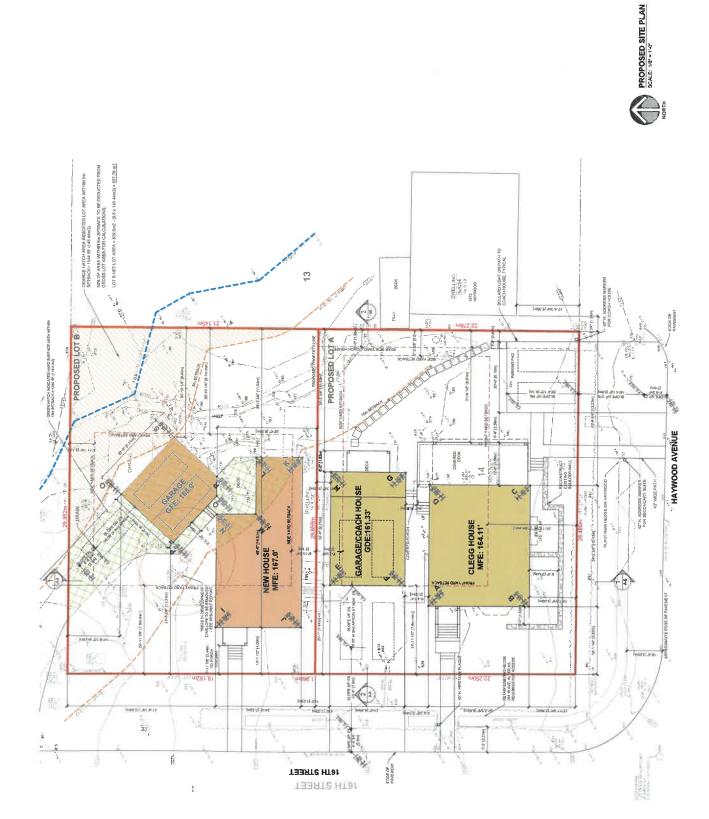
1341 HAYWOOD STREET WEST VANCOUVER, BC DRAVARYS TITLE

PROPOSED SITE PLAN

2022.02.34 FILE NO. CH 2120

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A-3



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2.87 m

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4,0 m Hans 50% x 32°0° façada = 18°0° langh naa 50% x 30°0° façada = 31°10° langh naa 50% x 10°0°0° façada = 11°10° langh		Rear Yard	щи	1.52 m (10% of width to a max of 3.0 m)		10.87 m	
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max 30% x 100-0" layade = 31-10" tength		absorption or office - services	8	APPL v XZAP faracta = 4PLP lancit	¥	Ł	
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(D) x (E) 2373.87 5120.00 3360.84 5142.56

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			TOTAL	125.08	_	19870.00
	AVERAGE	GRADE = 1	AVERAGE GRADE = 19970.00 / 125.00 =	5.00	157.36	
8	HOUSE	LOT B HOUSE + GARAGE	AGE			
REF.	BLEV.	REP.	ELEV.	DIST. (D)	AVO. (E)	(B) × (B)
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	159.30	a	164.00	22.00	161.05	3558,30
			TOTAL.	225.70		38405.22
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PROMOT DATA						PROMIC
	ZONING RE	ZONING REQUIREMENT	EXISTINGPROPOSED	OPOSED	VARIANCE	
PLOOR AREA CALCULATIONS (to ownide face of well	white face of	(Manual)				LOTA-
Exiging Lot UPPER PLOOR			920 94	98		1001
MAIN FLOOR			998,41	82.71 m2		- PLOTA -
LOWER PLOOR			967 sf	89,83 m2		
GARAGE Total Gross Area			3162 of	20.25 m2		SHORE
Deduce						LOT A -
BASEMENT.			241.75 af	22.46 m2		GRAG
GARAGE ALLOWANCE	MBK	41.00.m2	218 af	20.25 m2		1885
Total for PAR			2702.25 #	251.04 m2		Total G
LOT A (Clegg House)						BURBE
Melk Hoos			THE COLOR	BUND III		
DAVER ELOCK			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	82.71 m2		FOTA-
GARAGE			525 st	49.77 m2		MAN
CARRIAGE HOUSE (MAIN)			147 af	13,66 m2		UPPE
CARRIAGE HOUSE (UPPER)			872 ef	52.43 m2		
Total Gross Area			4288 €	388.35 m2		(SULD)
Ceduci						-Y 101
BASEMENT *			290.1 art	26.95 m2		HETGAC
GARAGE ALLOWANCE	X	41.00 m2	441,32 81	41,00 m2		Couch
Total for PAR			3555.58 #	330.41 m2		Seer Ye
LOT B						Prom D
UPPER FLOOR			013 st	84.82 m2		
MAIN FLOOR			983 sf	91.32 m2		DOMEDI
LOWER FLOOR			970 st	90.67 m2		
GARAGE			432 81	40.13 m2		0000
Total Gross Area			3304 6	306.94 m2		
Deduct						
BASEMENT -			263.52 ef	24.48 m2		
GARAGE ALLOWANCE	Mex	41.D0 m2	432 M	40,13 m2		4//
Total for PAR			2608.48 #	242.33 m2		2
H GOR AREA HATIO						LOTA
ESTENDIOT OT		203 m2	-	251 Cal m2		T. RE
				-		THOM

min 488 m2 528.3 m2 group lot area min 488 m2 557.8 m2 ret fot area 558.8 m 

D SETENACIO: 258.8 m 

Min (8.1m (farring lot) 23.498 m

" net ict area ramoves 50% of en arre width JAT FRONT YARD i Existing

28.486 m 22.250 m 21.160 m

min 18.1m (flanking lot)

Clegg House - Lot A y House - Lot B

mln 13.3m

max 4.5 x 22.250 = 100,125m 28.456 m max 4.6 x 21,158 = 95,211 29,862 m max 4.5 x 29,486 = 132 687m | 43.422 m

Clegg House - Lot A New House - Lot B

SITE DEPTH Existing

(corner flunking lot)
min 7.80 m (10% of wdth)
min 7.80 m (10% of wdth)
min 2.25 m (10% of wdth)
min 2.25 m (10% of wdth)
min 2.56 m (25% of wdth)

Glegg House - Lot A Front Yard (Noet) Rear Yard (Seat) Side Yard (South) Side Yard (North) Combined Side Yard

558.3 m2

min 488 m2

Clegg House - Lot A New House - Lot B

ZONING REQUIREMENT

LOTA - CLEGG HOUSE		204,4 m2	33%	330.41 m2	128.01 m2
LOT B - NEW HOUSE		204.4.m2	245	242.33 m2	37.83 m2
SITE COVERAGE					
EXISTING LOT	30% × 1	30% x 1287.7m2 = 386.31 m2	130	130.76 m2	
LOTA - CLEGG HOUSE	40% ×	40% x 858,2m2 = 283,26 m2	202	201,30 m2	
LOT 8 - NEW HOUSE	× %0*	557.8m2 = 223.12 m2	361	150.74 m2	
PRONT YARD IMPREMENTE BURFACE	ACE				
EXISTING LOT	\$0% × 4	50% x 499.01 m2 = 249.5 m2	æ	30.94 m2	
LOT A - CLEGIG HOUSE	\$08×	50% x 227.1m2 = 113.56 m2	6	81.28 m2	
LOT B - NEW HOUSE	\$0% ×	50% × 84.59 m2 = 42.30 .m2		8.17 m2	
BUILDING HEIGHY					
EDGSTING LOT	MAX	7.52 m	-	E 99	
LOT A - CLEGG HOUSE LOT A - GARAGE/COACH HOUSE	MAX	7,62 m		7.56 m	
LOT B - NEW HOUSE	MAX	7,62 m		E 55	E.71 m
MUMBER OF STOREYS	MAX	2 STOREY + BSMT	3 STOREY + BSMT		
LOT A - CLEGG HOUSE	MAX	2 STOREY + BSMT	2 STOREY + BSMT		
LOT B - NEW HOUSE	MAX	2 STOREY + BSMT	2 STOREY + BBMT		
HIGHEST BUILDING PACE ENVELOPE	M M				
EXISTING LOT	MAX	6.72 m	below	6.72 m	
LOT A - CLEGG HOUSE	MAX	6.72 m	wolad	6.72 m	
LOT A - GARAGE/COACH HOUSE	MAX	8.72 m	balow	8.72 m	
LOT 8 - NEW HOUSE	MAX	8.72 m	a poor	B.72 m	50% OF EAST FACADE
* SEE BASEMENT EXEMPTION CALCULATIONS	CULATION	2			

7.80 m 10.87 m 14.80 m 14.80 m 2.03 m 4.00 m 9.40 m 4.43 m 1.23 m 5.53 m

min 7.90 m min 2.25 m (10% of width) min 7.90 m (flanking) min 2.25 m (10% of width) min 1.20m

New Garage - Lot A Front Year (West) Rear Yard (East) Side Yard (South) Side Yard (North) From Dwelling

Intrafic as set investise per 100 min 7.60 m min 3.10 m (10% of well) min 2.12 m (10% of well) min 5.29 m (26% of well)

Hear House/Janage Lot D In Front Yard Rear Yard Ské Yard (North) Ské Yard (South) Combred Ské Yard

SPACES SPACES

MIN 1 SPACE

Lot A - CLEGG HOUSE

LOT B - NEW HOUSE

OFF STREET PARKING SPACES
EXISTING LOT WIN 1 SPACE

N SEW		18 18 18	
BASEMENT EXEMPTION CALCULATIONS	Average Grade - Basement Floor Elevation Main Floor Elevation - Basement Floor Elevation	157,38 - 154,44° 184,11' - 154,44°	Average Grade - Basement Floor Everation 2.76m
CALCIN	- Besem		F because
ATIONS	oor Elevation ant Floor Elevation	020	oor Everation

DW 2120

SITE CALCULATIONS

1591 HAYWOOD STREET WEST VANCOLVER, BC DRAWING TITLE

CLEGG HOUSE

CLIENT THE D-COSTA FAMILY

**A**4

	Average Grade - Basement Floor Elevation Main Floor Elevation - Basement Floor Elevation	- Basem	oor Elevation ant Floor Elevation
ig F	157.35 - 154.44° 184.11° - 154.44°		020
5	Aeroge Grade - Basemed Floor Eleration 2.76m	P P P P P P P P P P P P P P P P P P P	oor Elevation
8	46.98m - 48.21m 2.75m	٠	0.27

PROJECT DATA

CNIC Address 1591 Haywood Ave, West Vancouver, BC

Legal Description LOT 14 BLOCK 1 NORTH 1/2 OF DISTRICT LOT 1055 PLAN 4180

Survey By Hobbs Winter & McDonald BC Land Surveryors

Zone RS5

29.496 m

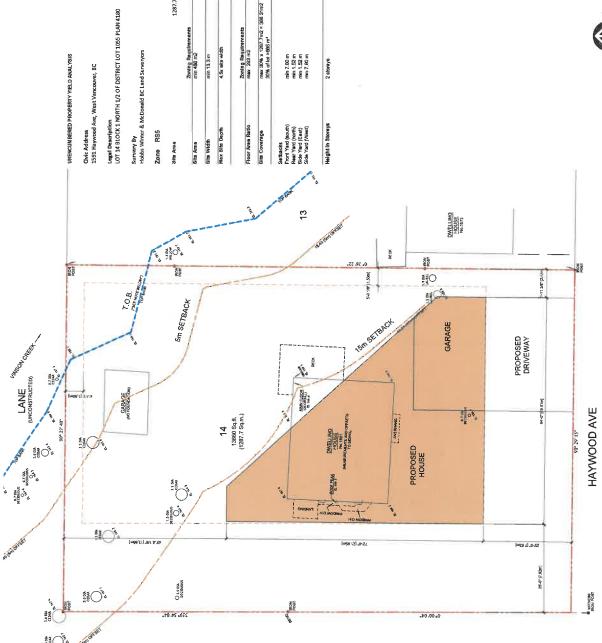
1287.7 m2

MES NEWSTONES A COST OF THAT HAVE

DATE 2022.02.24 FILE NO.

DAM. CH. 2120 UNENCUMBERED PROPERTY YIELD ANALYSIS CLEGG HOUSE 1581 HAYWOOD STREET WEST VANCDUVER, BC DRAWING TITLE

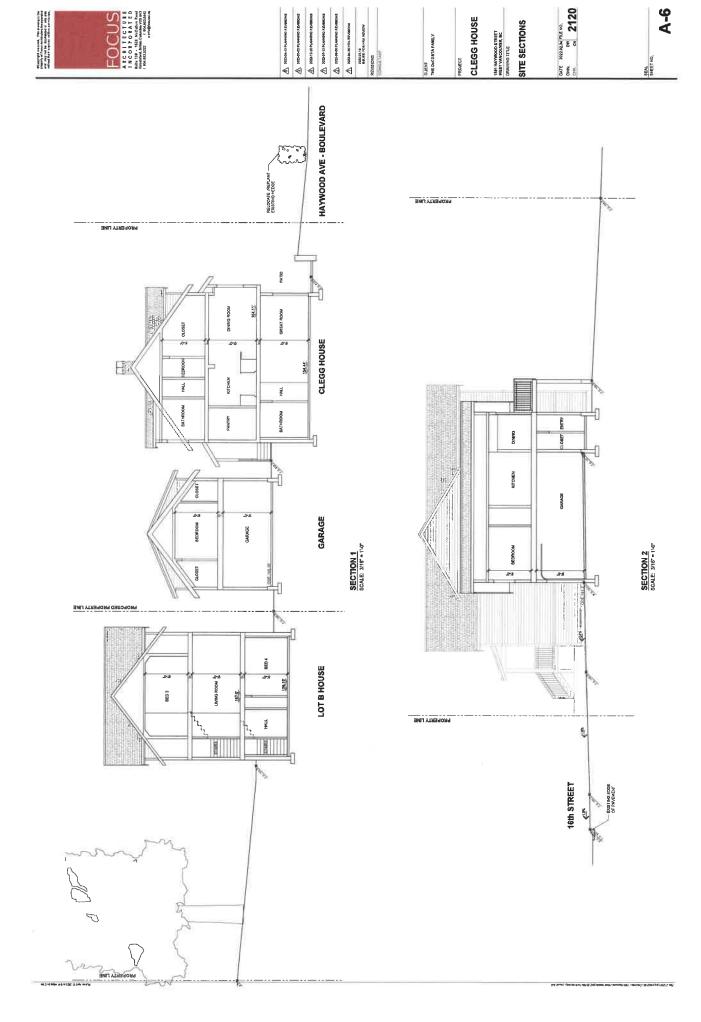


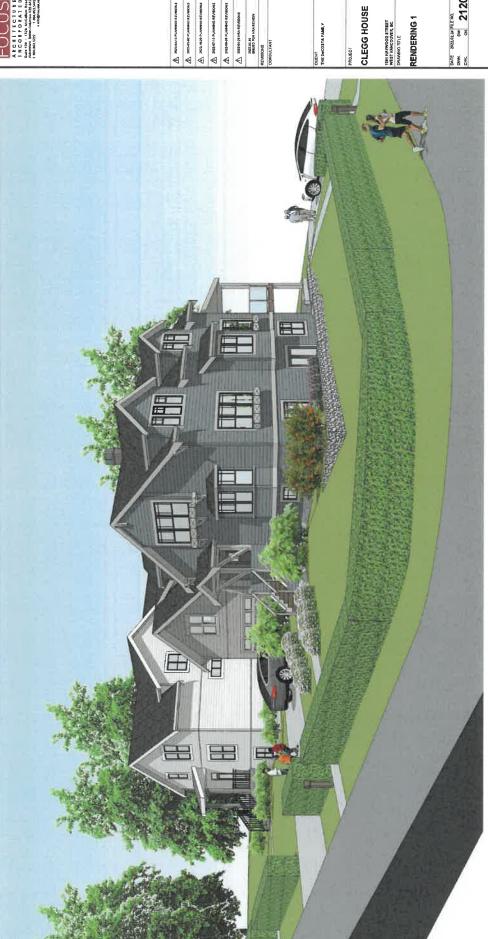


16th STREET

7.82 m 13.85 m 2.42 m 7.62 m

HAYWOOD AVENUE





SEAL SPEET NO.







**Trim:** Clegg House & Coach House : 'Benjamin Moore - Sonnet - AF - 55' Coach House: 'Benhamin Moore - Sonnet - AF - 55'

Front Porch: Clegg House : 'Pressure Treated Wood'

Doors: Clegg House: Benjamin Moore - Hearthstone Brown - 2109 - 20'

**Siding:**Clegg House - Wood Siding:
'Sherwin Williams - Point Grey - SW 7074'

Coach House - Cement Board Siding:
'Benjamin Moore - Nightingale - AF - 670'

Window Frames: Clegg House: 'Black'

Roofing: Clegg House: PABCO - Premier - Weathered Mood"

Coach House : 'PABCO - Premier - Weathered Wood'

LOT A

Coach House : 'White'

A-10

SEAL SHEET NO.

Railings: Clegg House - at Porch: 'Benjamin Moore - Sonnet - AF - 55'

**Deck:** Clegg House & Coach House : 'Duradek 60 mil Vinyl Membrane' Clegg House - at Deck & Coach House: 'Black'

DATE 2022.02.24 FILE NO.

DAMI. DW. 2120

COLOURED STREETSCAPES

CLEGG HOUSE





SEAL SHEET NO.

2120 CH 2120

LOWER FLOOR PLAN
SOALE: 14" - 15-0\*
NORTH RLOOR AREA: 967 SF

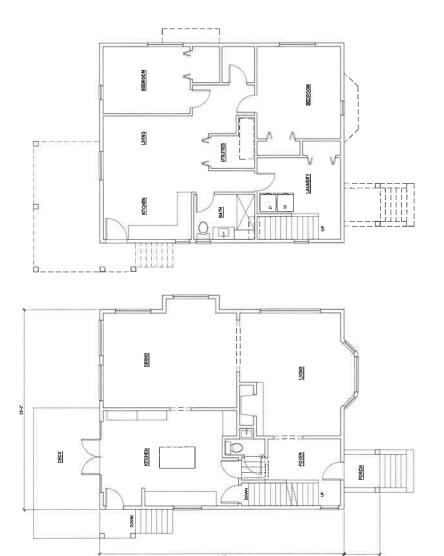
MAIN FLOOR PLAN SCALE: 114" = 1-0" FLOOR AREA: 988 SF

CLEGG HOUSE EXISTING FLOOR PLANS

1561 HAYWOOD STREET WEST VANCOUVER, BC DRAWNO TITLE

CLEGG HOUSE

CLENT THE D+COSTA FAMILY



UNE OF 8'CLG

802

CLOSET

ROOF LINE OVER

NEO MARKO SI COS OL MA MANU

CLOSET

CHOSET

BATH

CLOSET

CLOSÉT

DASHED LINE INDICATES —
WALL TO BE REMOVED,
TYPICAL

ACOUNT HOUSE OF THE ACT OF THE AC



UPPER FLOOR PLAN SCALE: 1/4" = 1'-0" FLOOR AREA: 979 SF

2120 CH 2120

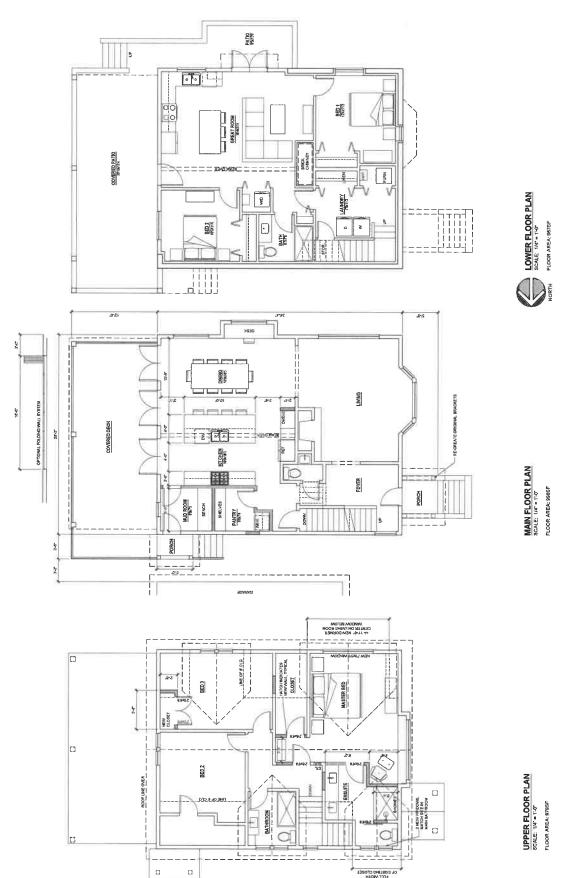
CLEGG HOUSE PROPOSED FLOOR PLANS

1391 HAYWOOD STREET WEST VANCOUVER, BC DRAWMG TITLE

CLEGG HOUSE



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SHEET NO.

DATE 39224234 FILE NO.

DAM. AM. 2120

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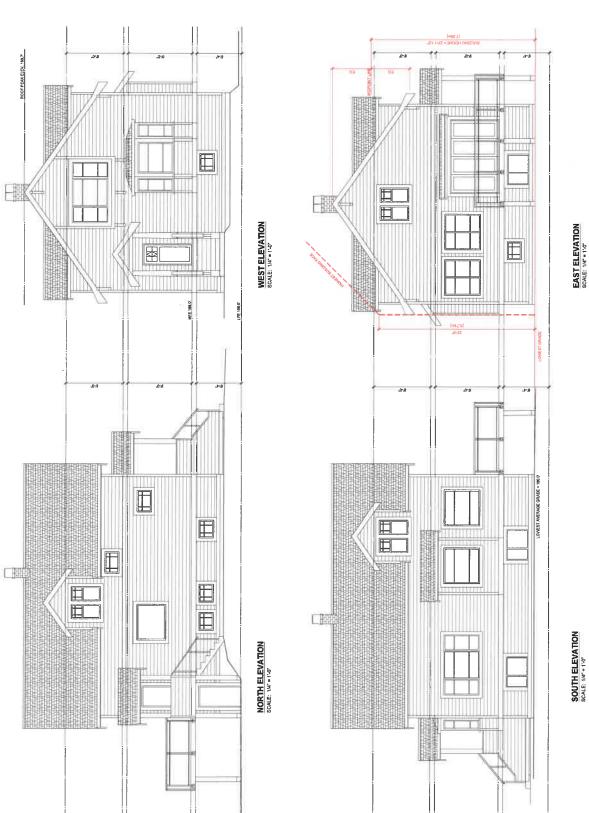
CLEGG HOUSE EXISTING ELEVATIONS

CLEGG HOUSE

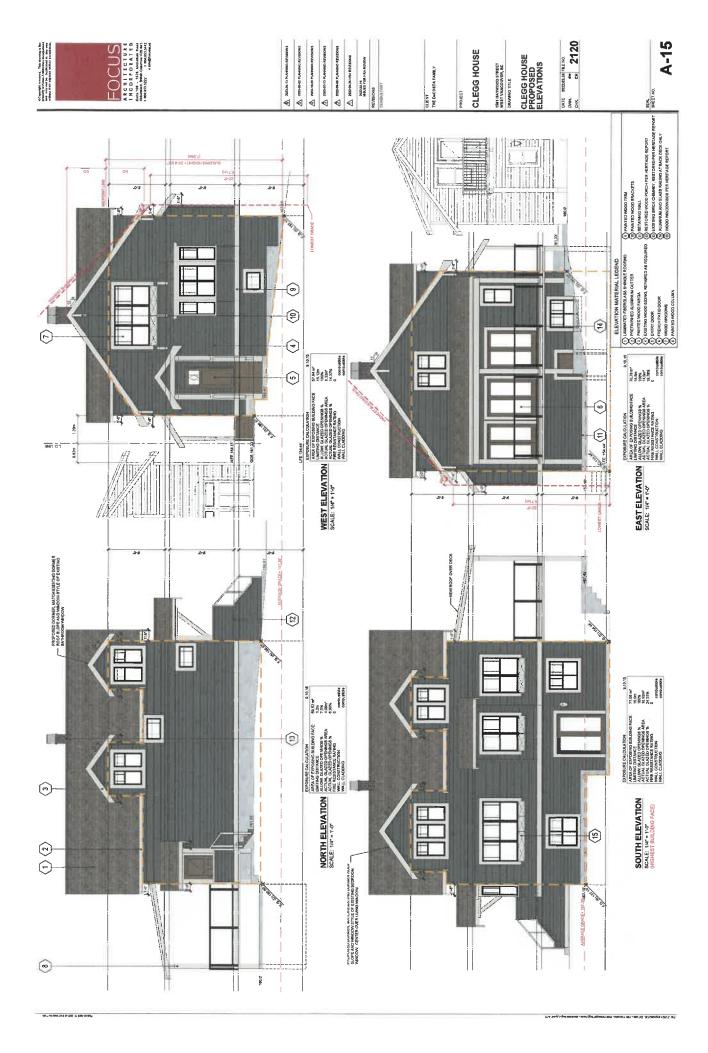
DLENT THE DeCOSTA FAMILY

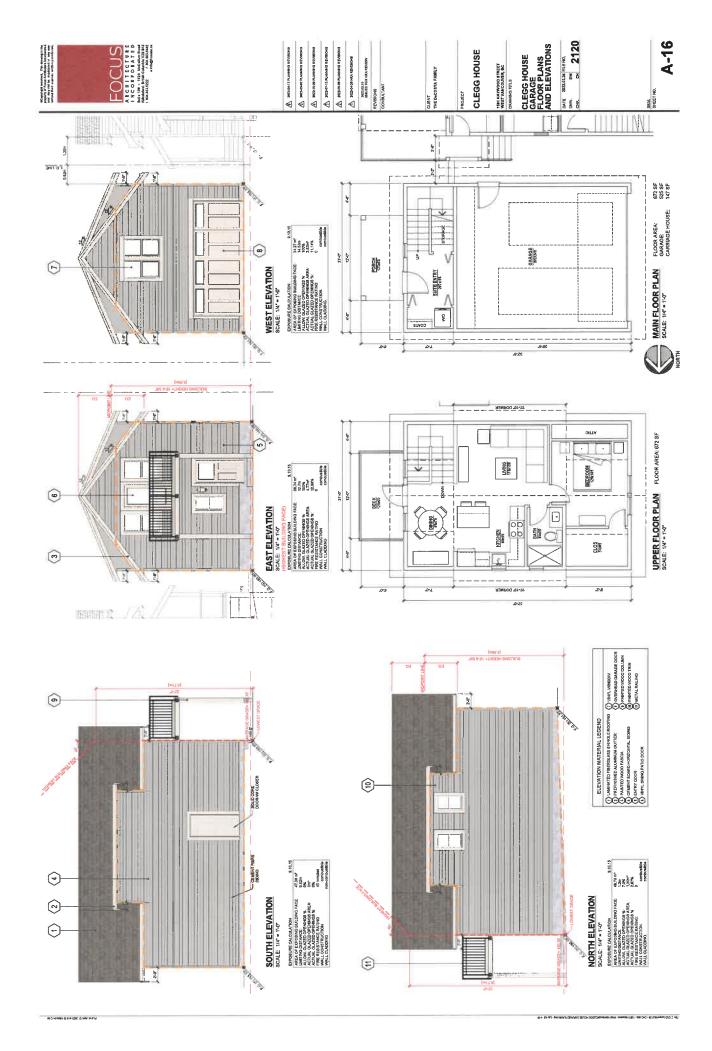


MATANAMA SALESSE OF THE WARP



EAST ELEVATION SCALE: 1/4" = 1'-0"





2120 CH 2120

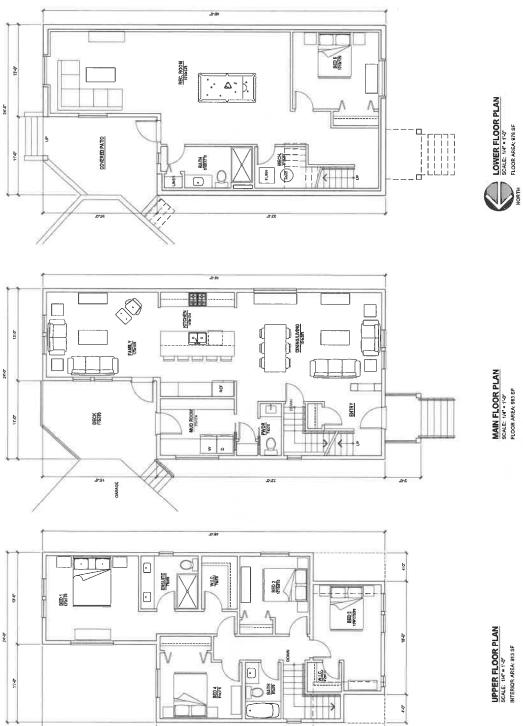
LOT B HOUSE FLOOR PLANS

1591 HAYWOOD STREET WEST VANCOUVER, BC DRAWAYS TITLE

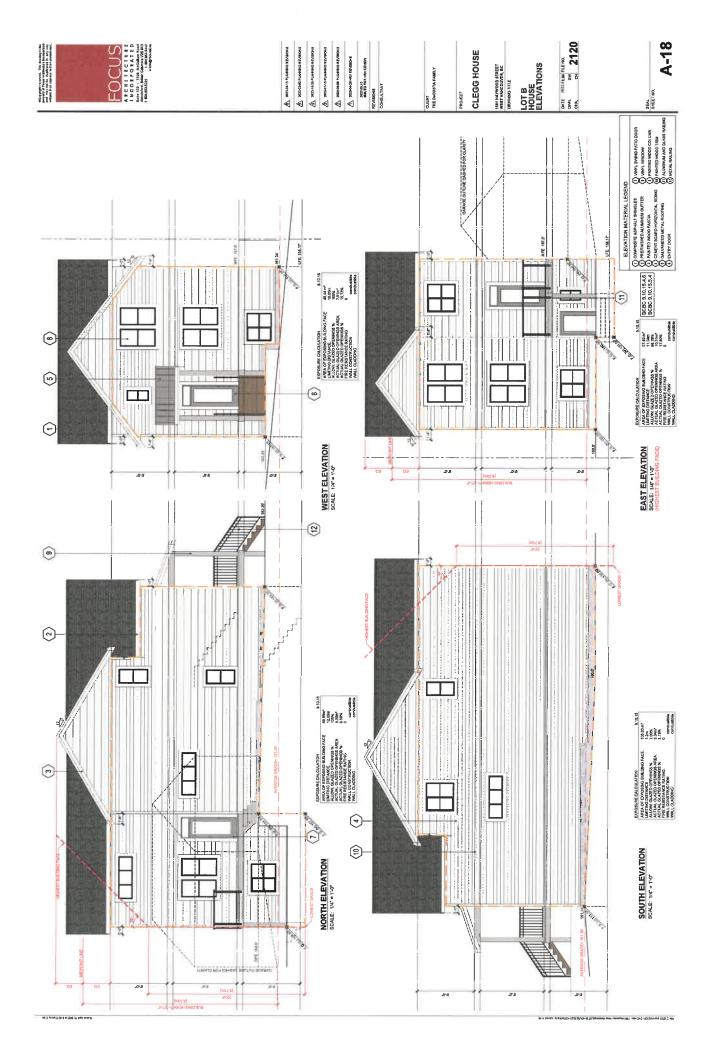
CLEGG HOUSE

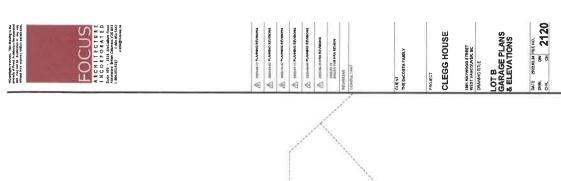


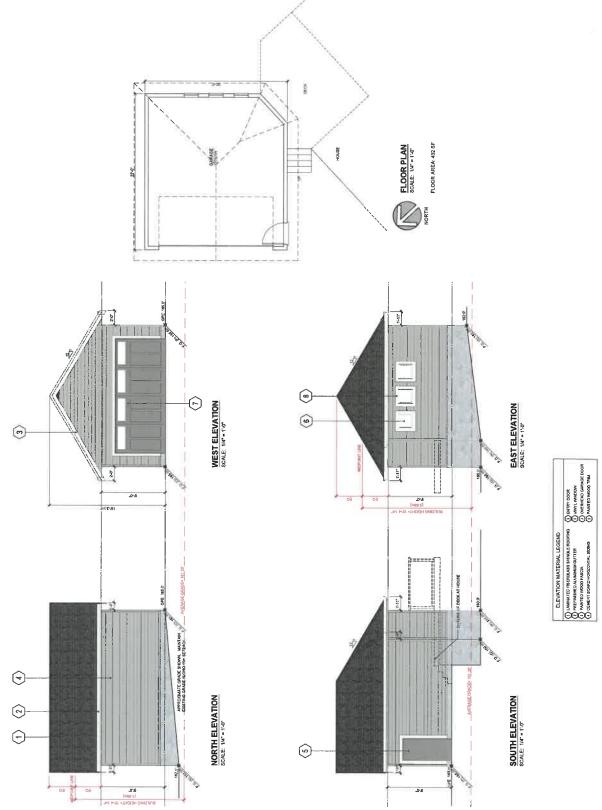
and reference to 8 as COSS of Brock being.



UPPER FLOOR PLAN SCALE: 14" - 1"-0" INTERIOR AREA: 913 SF







MOJAMIN DEPART COM SALM



### **Environmental Development Permit Application**

### March 09, 2023

Stephanie Louie Environmental Protection Officer District of West Vancouver 750 – 17th St. West Vancouver, B.C. V7V 3T3

Re: Proposed Subdivision for Development, 1591 Haywood Avenue, West Vancouver (REV03)

### INTRODUCTION

Sartori Environmental Inc. (SEI) has been retained by the owners of 1591 Haywood Avenue, West Vancouver (the Subject Property), to assess the environmental implications of subdividing the property into two single family lots for future development. This EDP is part of the Heritage Revitalization Agreement (HRA) preliminary development proposal as both lots would fall partially within the environmental setbacks of the west tributary to Vinson Creek (the Creek). This report and attached drawings form part of the District of West Vancouver's (DWV) Environmental Development Permit (EDP) application, which is required for development within 15 m of a watercourse according to DWV *Watercourse Protection (2015)* guidelines. The DWV *Watercourse Protection (2015)* guidelines restrict development between 0 m and 5 m, and 5 m and 15 m from ToB of a watercourse; herein called the 5-m and 15-m Setbacks, respectively. This revision addresses DWV comments regarding an error in the habitat balance and more specific wording for tree replacement on the Subject Property.

### **EXISTING CONDITIONS**

### Subject Property

SEI visited the Subject Property on February 15, 2022. The Subject Property is 1287.7 m² in size and contains a single-family dwelling, including a detached garage, asphalt driveway, and several grass areas.

The existing dwelling is centrally located on the Subject Property, with the driveway access from the northwest, off 16<sup>th</sup> Street. The Subject Property is bounded by Haywood Avenue to the south, an unused laneway to the north and a single-family residence to the east. The Creek bisects the north-east property corner; therefore, the northeastern half of Subject Property is predominantly overlapped by the DWV's 5-m and 15-m Setbacks. Structures and hard surfaces within the 5-m Setback include the existing garage and stone retaining wall. Evidence of a shallow stone retaining wall around the southern bank of the creek is present but appears to be eroding and falling into the creek. Structures and hard surfaces within the 15-m Setback include a small portion of the house and existing wooden staircase and concrete patio, the stone retaining wall, the driveway and concrete pathways around the house.



### Aquatic/Instream Conditions

The Subject Property contains a 13.5 m section of the Creek flowing from northwest to southeast. This reach of the Creek flows as an open channel with a bankfull width of 1 – 2 m. The banks are steeply cut, but shallow in height (approx. 0.5 m). The southern bank is shallow and flattens out within 0.5 m to become grassy lawn. The northern bank is steep and overgrown with numerous invasive species, including English ivy (Hedera helix), ornamental bamboo (Phyllostachys sp) and Knotweed (Fallopia sp). It is not possible to determine the state of the stream bank on the northern side due to overgrowth of these species. The substrate of the Creek consists of gravels, cobbles, and sand, with some mid-sized boulders, with a gradient of approximately 2 to 4%. Downstream of the Subject Property, the Creek flows predominantly as an open channel through residential properties to the outlet at Ambleside Beach, near the mouth of Burrard Inlet, with the exception of seven road crossing culverts. From the Subject Property to the confluence with Burrard Inlet is approximately 1.1 km, with a total stream length of 2.85 km.

A review of the BC Ministry of Environment Fish Inventory Data Queries database and BC Habitat Wizard did not result in gazetted fish occurrences, however, through conversation with an experienced RPBio, fish presence was confirmed within the lower reaches of the Creek. The results of this conversation are in Table 1 below:

Table 1: Historical evidence (information retrieved on 12-Mar-2022 from Alex Sartori, RPBio.

Common Name	Scientific Name
Rainbow Trout	Oncorhynchus mykiss
Coastal Cutthroat Trout	Oncorhynchus
Coho Salmon	Oncorhynchus kisutch

### Riparian Conditions

Riparian vegetation within the Subjects Property's 15-m Setback consists of lawn, non-native naturalized garden species and invasive species. Vegetation on the northern bank contains native shrubs (sword fern (*Polystichum munitum*)) and a variety of invasive species. The following invasive species were observed within the 15 m setback to Vinson Creek: English ivy (*Hedera helix*), yellow archangel (*Lamium galeobdolon*), Himalayan blackberry (*Rubus armeniacus*), cherry laurel (*Prunus laurocerasus*), ornamental bamboo (*Phyllostachys spp.*) English holly (*Ilex aquifolium*) and spurge laurel (*Daphne laureola*). SEI suspects a very small infestation of knotweed spp. (*Fallopia spp.*) exists on the northern bank. SEI observed three to five dead stems but has not been to site during the growing season. The existing garage proposed for removal is located adjacent to ToB (within 1.5 m) on the southern bank of the Creek.

### PROPOSED SUBDIVISION AND DEVELOPMENT

The proposed subdivision consists of dividing the existing single lot property (1287.7 m²) into two single family lots; Lot 'A' (658.2 m²) to the south and Lot 'B' (629.5 m²) to the North. On Lot



'A' a concept plan for moving the existing dwelling (under HRA) and building a new garage has been developed. On Lot 'B' a concept plan has been show for the future development of a single-family dwelling and detached garage with associated peripheral hard surfaces (driveway and walkway). The new house position and garage for Lot 'A' are proposed entirely outside of the 15-m Setback. The concept house and garage for Lot 'B' are located entirely outside the 5-m Setback, and partially within the 15-m Setback. Three trees on Lot 'B' within the 15-m Setback are proposed for removal as part of this development. An arborist report will be submitted under separate cover, and replacement trees have been included in the Riparian Restoration Plan.

### HABITAT BALANCE

Habitat gains and impacts between ToB and the 15-m Setback resulting from the proposed concept plans were calculated using AutoCAD and are presented in Table 2 below and attached in Figure 1: Habitat Balance & Invasive Species Management Area.

An assessment and habitat balance was completed for both Lot 'A' and Lot 'B' individually to demonstrate that the proposed subdivision and development on each Lot meets the DWV Watercourse Protection Guidelines.

Table 2: Habitat Balance calculation for Lot 'A'.

Habitat Impacts:	
No habitat Impacts	
Habitat Gains:	
5-m → 15-m Setback:	
Relocation of House	+ 7 m <sup>2</sup>
Net Habitat Gain:	$+7 \text{ m}^2$

### Table 3: Habitat Balance calculation for Lot 'B'.

Habitat Impacts:	
5-m → 15-m Setback:	
Construction of new garage and house	- 37 m <sup>2</sup>
Habitat Gains:	
ToB → 5-m Setback:	
Removal of garage	+ 10 m <sup>2</sup>
5-m → 15-m Setback:	
Removal of garage and relocation of house	+ 33 m <sup>2</sup>

### Net Habitat Gain:

### $+ 6 \,\mathrm{m}^2$

### RIPARIAN RESTORATION

Two riparian restoration planting polygons are proposed, one is located on the north bank and the second within the 5-m Setback on the south bank of the Creek for a total area of 120 m². Prior to planting, and in order to provide the best chance of successful plant growth and establishment, invasive species and non-native species, identified within the Invasive Species Management Area polygon (see Figure 1: Habitat Balance & Invasive Species Management Area) are proposed to be removed and disposed of according to best management practices. Material import and export activities to and from the Subject Property will implement invasive species best management practices to prevent the spread and proliferation of invasive species. A knotweed management plan has been included below and a certified herbicide applicator should be consulted to begin treatment within the growing period of this year (May to September).

The replanted vegetative buffer will help increase delineation of the riparian area, help prevent erosion of the property into the Creek and riparian area encroachment, whilst providing additional habitat for local flora and fauna, and higher quality food and nutrients to downstream reaches.

As two protected trees are proposed for removal within the 15-m setbacks, replanting of native trees at a 2:1 ratio is proposed to replace those trees within the riparian area of the Creek. A total of 2 conifers and 11 deciduous trees are included in the Riparian Restoration Plan. Tree replacement criteria for the two proposed trees has been included in the Riparian Restoration Plan.

### Knotweed Management Plan

The knotweed on-site is present in a tiny patch (three to five visible stems) along the east side of the Subject Property within the 5-m setbacks of the Tributary. As per the Invasive Species Council of BC's Knotweeds TIPS sheet (July 2016), knotweed infestations can generally be treated in three to five years using appropriately and systematically applied herbicides. To eradicate the knotweed infestations from the Subject Property and adjacent areas, the following recommendations shall be followed:

- Prior to the commencement of construction activities, the knotweed should be flagged to help prevent the treatment area from being disturbed. A certified herbicide applicator experienced in riparian area knotweed treatment should be retained to conduct treatments.
- 2. Knotweed treatment efforts should be conducted annually during a dry weather window in the early growing season each year for three years or until a Qualified Environmental Professional (QEP) advises that eradication efforts are complete and no further treatment is required. Treatments should be applied twice per year during the first to second years and may increase treatment program efficiency.



3. A knotweed treatment notice shall be sent to the District of West Vancouver on an annual basis during the three-year treatment period to confirm ongoing eradication efforts.

### CONSTRUCTION ENVIRONMENTAL MITIGATION MEASURES

### General Environmental Mitigation Measures

At a minimum, the following general environmental mitigation measures shall be implemented during demolition and construction:

- If off-site removal of invasive species is required, the material should be placed within a sealed container or bag or covered securely during transport to an appropriate disposal site;
- if off-site removal of soil is required along the east side of the house, this soil should be considered potentially contaminated with knotweed rhizomes and brought to an approved disposal location;
- street cleaning will be conducted if any sediment is tracked out onto paved surfaces;
- imported material will be clean and/or free of contamination;
- a spill kit will be kept on-site throughout the duration of the works;
- machinery will be inspected daily to identify any leaks and wearing parts before they fail;
- leaking equipment or wearing parts will be repaired/replaced before continuing service; and
- refueling of machinery and equipment will occur as far away from catch basins and watercourses as practical.

### CONCLUSIONS

In the opinion of SEI, the proposed renovation of the Subject Property addresses the DWV Watercourse Protection (2015) guidelines, as follows:

- Locate development on portions of the site that are least environmentally sensitive
  - Lot 'A' The new house location is entirely outside of the 15 m Setback.
  - Lot 'B' The new house and garage is proposed for construction entirely outside of the 5-m Setback.
- Avoid net loss of riparian habitat within 15 m of the top of the watercourse bank or edge
  of the wetland
  - Lot 'A' The habitat balance for the proposed development demonstrates a net gain of 7 m<sup>2</sup>.
  - Lot 'B' The habitat balance for the proposed development demonstrates a net gain of 6 m<sup>2</sup>.

- Within 15 m of the top of the watercourse bank or edge of wetland, locate new buildings, structures and impervious/semi-impervious surfaces at least as far from the watercourse or wetland as any existing development
  - Lot 'A' The closest hard surface is currently the existing back deck/concrete patio at 13.5 m from Vinson Creek at its closest point. The closest proposed hard surface is the retaining wall beside the garage, 16.3 m from Vinson Creek.
  - Lot 'B' The closest hard surface is the existing garage at 1.5 m from Vinson
     Creek. The closest proposed hard surface is the garage at 5 m from Vinson Creek.
- Keep free of new buildings, structures, and impervious/semi-impervious surfaces the
  area within 5 m of the top of the watercourse bank or edge of the wetland
   No new buildings, structures, or impervious/ semi-impervious surfaces are proposed
  within the 5-m Setback for Lot 'A' or Lot 'B'.
- Enhance, and where feasible, restore watercourses in already developed areas to improve watercourse quality from uplands to inlets
   The implementation of the Riparian Restoration Plan and Invasive Species
   Management Plan will serve to provide additional habitat for local flora and fauna suited to native riparian conditions and provide higher quality food and nutrients to downstream reaches of Vinson Creek.

Please contact the undersigned if you require any additional information or clarification of the above.

### **ENDORSEMENT**

Sartori Environmental Inc.

Authored by:

The undersigned certifies the work described herein fulfills standards acceptable of a Biologist in Training.

[Digital Copy, Original Signed]

Assunta McCullough, B.I.T., BSc.

Project Biologist

Reviewed and Endorsed by:

The undersigned certifies the work described herein fulfills standards acceptable of a Professional Biologist.



[Digital Copy, Original Signed]

Stephen Sims, RPBio

Senior Biologist

### Attachments (2):

- Figure 1: Habitat Balance & Invasive Species Management (2023-03-09; Rev03)
- Figure 2: Riparian Restoration Plan (2022-06-13; Rev01)



### PHOTOGRAPHIC DOCUMENTATION



Photo 1. Existing conditions looking west towards the existing garage (2022-02-15).



Subject Property (2022-02-15).



Photo 3. Existing house and stone retaining walls, benched areas within the 5-m Setback on the Subject Property (2022-02-15).



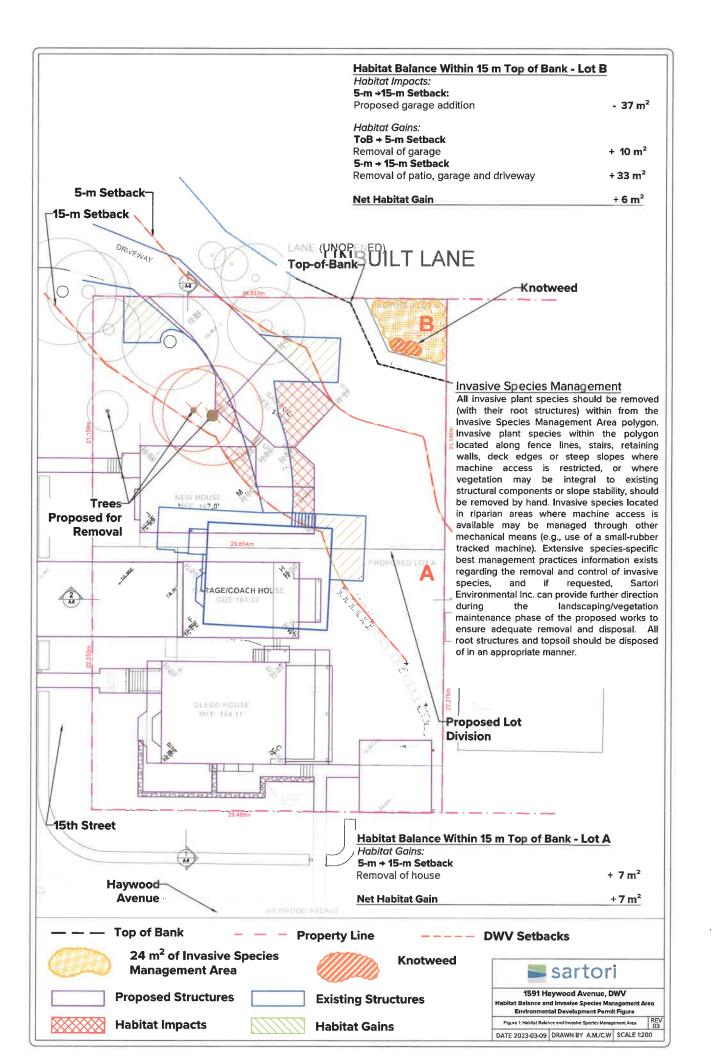
Photo 4. Riparian conditions and Creek on Subject Property within 15 m setback (2022-02-15).



Photo 5. Northern bank - invasive species proposed for removal (2022-02-15).



Photo 6. Existing garage proposed for removal (2022-02-15).





## parian Planting Plan

species should be selected with consideration to plant community, competitive nature, shade tolerance, growth rates and rate of spread. No more than Approximately 17 m² of planting is proposed at an average density of 1 plant per 1.5 m² within identified riparian planting areas to accommodate for 25% of one species may be selected from the plant list. Efforts will be taken to retain existing native vegetation in place or may be carefully removed, stored and transplanted to another area on the Subject Property. If plant species substitutions are desired due to reasons of aesthetics or plant stock calculated habitat gains, compensate for habitat impacts, and increase the overall biological productivity of the watercourses riparian zone. availability, Sartori Environmental Inc should be contacted at 604.987.5588 to review and comment.

Conflerous Trees

Conflerous trees, and

Col. 5.0 m Specing from other conflerous trees, and
purchased at a minimum height of 2.0 m, unless
otherwise specified)

Western red cedar (Thuja pilicata)
Doulgas fir (Pseudotsuga menzlesii)
Western hemlock (Tsuga heterophylla)
Shore pine (Pinus contorta var. contorta)

Shore pine (Pinus contorta var. contorta) TOTAL - 2\*

\*coniferous trees must be purchased at a height of at least 2.0  $\emph{m}$ 

Deciduous Trees

Configuration of the deciduous and configurations trees, and purchased at a minimum height of 1.2 m, unless otherwise specified)

purchased in minimum #1 or one gallan containers)

Shrubs (0.25 - 1.0 m spacing from other vegetation and

conflexus trees, and purchased at a minimu of 1.2 m, unless otherwise specified)
Red alder (Ahnus rubro)
Pecific willow (Solk tucidos sep, lasiandra)
Bitter cherry (Prunus emarginata)
Vine maple (Acer cricinatum)
Cascara (Aharmus purshiand)
Baaked Hazelhut (Conylus comuto)
Silke willow (Solk sicherensis)
Silke willow (Solk sicherensis)
Mourtrain Ash (Sofbus scopulina)

TOTAL - 11"
"deciduous trees must be purchased at a height of at least 1,2 m.

Salmonberry (Rubus spectabilis)
Red huckleberry (Vaccinium parviffolium)
Red-sier Ogwood (Connus stokonflera)
Western swordtern (Polysichum munitum)
Gregon gape i (Mahonia aquifolium)
Noaks rose (Rossa nulkana)
Noaks rose (Rossa nulkana)
Paelfic nihebark (Physocarpus capitatus)
Deer fem (Blechnum spicant)
Elderberry (Sambucus racemasa)

TOTAL - 67\*\*\*
"'No more than 25% of one species may be

# Purchasing, Site Preparation and Planting

stock should be tagged with species name, and tags should be left on after planting for the purpose of planting confirmation. Nursery stock should be a Botanical names should be referenced when purchasing to ensure accuracy and all specimens should be of guaranteed nursery stock. Purchased Holes should be dug 2-3 times larger than the size of the roots and soil should be non-compacted. Root ball untangling, pruning, splitting and burlap sack removal should be done in a means suitable to allowing the newly planted roots to spread and avoid root girdling. If in doubt, supplier planting minimum of two years old at purchase to ensure developed root systems and increase the likelihood of survival. Once plant stock is received onsite, Apr) for maximized probability of survival. Prior to planting, it should be ensured that adequate soil structure and nutrient contemt exist through appropriate storage of existing onsite material or import of organic growing medium. If growing medium is to be retained from onsite, consideration should be given to organic stockpile depth (no greater than 1.0m) and length of storage time (ideally less than 1 month) to maintain nutrient cycling, microbial activity and vlability of native seed stock. Once placed, factors affecting soil compaction (i.e. traffic, machine movement, material storage) should also be considered. If material import is required for growing medium, it should be inert and certified free of invasive or noxious weed species. specimens should be stored in a cool, shady location and watered regularly. Planting should be undertaken during the fall (Sep - Oct) or spring (Mar prescriptions should be consulted. Regular watering and/or fertilizer application may also be required to ensure adequate recruitment.

The following plant spacings are included as a guideline, and clustering of plants around preferred microstes (e.g., woody debris, large trees, wetted from other coniferous and deciduous trees, unless planted in a cluster. Shrubs should be purchased in minimum 1 gallon pots and planted 0.25 - 1.0 m away from other vegetation. Plant species locations should be selected in consultation with an experienced landscaper to determine shade and depressions on dry sites, drier mounds on wet sites, etc.) is preferred to a standard grid formation. Course woody debris (CWD), if locally available, should be placed within the panting area to promote nutrient cycling and wildlife habitat, and to serve as native seedbanks. Coniferous Treas should be 2.0 m (MIn) height and planted 3.0 - 5.0 m away from other confferous trees. Deciduous Trees should be 1.2 m (Min) height and planted 1.5 - 2.0 m away growing tolerances. All acquired plant materials shall be healthy, with well developed root systems and top growith, and shall be free of disease, insect infestation and the following defects at all times: broken tops, torn roots and abrasions of bark on trunk and branches; dried out root systems; prematurely opened or demaged buds; dry, loose or broken ball of earth; evidence of heating, moulding, or freezing damage; thin, poor root or top systems, and abnormal leaf



120 m²

Riparian Restoration Area (1 plant per 1.5 m²)

Environmental Inc. or the District of West Vancouver (DWV) should be contacted to resolve potential issues with compliance. As release of municipal environmental security deposits are subject to DWV inspections, facilitating easy auditing by DWV is likely to save time and money, and result in full deposit return. Therefore, Sartori recommends the owner should (1) retain a reputable landscape company to implement the Plan and provide "as-planted" figures, (2) consolidate and retain all documentation including plant purchase, landscaping and invasive plant removal receipts, and (3) Ensure all planted specimens are flagged (with species), or nursery tagged, and those tags remain in place until all conditions of the Development Permit are satisfied. NOTE TO CLIENT: It is integral that prescriptions provided within this Riparian Restoration Plan (the "Plan") are adhered to, and if questions or concerns arise during Plan implementation, Sartori

sartori

1591 Haywood Avenue, DWV Riparian Restoration Plan Environmental Development Permit

| Pigue 2 Reparter Restoration Plan | REV | DATE 2022-05-13 | DRAWN BY AM | SCALE 1:100 |

### TREE MANAGEMENT PLAN 1591 HAYWOOOD AVE, WEST VANCOUVER BC V7V 1W4

### DARRIN DACOSTA

### Submitted by:

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Version 1.0

December 17, 2022





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### 1. Property Location

One lot comprises the property 1591 Haywood Ave, West Vancouver, BC. as presented in Figure 1.

Figure 1. An aerial image of the site.



### 2. Scope and Purpose

This report is provided to you as a means of addressing the District of West Vancouver requirements for tree inventory and management plan in the permit application process associated with the proposed development at 1591 Haywood Ave. The purpose of this report is to provide a tree inventory for all trees on the property and within the building envelope (Table 1). This information is intended to assist permitting officers, landscape architects, engineers and project managers during the planning and implementation of this project.

The site survey is described in Figure 2 that includes identified trees highlighted in red. The proposed development will have 2 housing units and 2 garages.

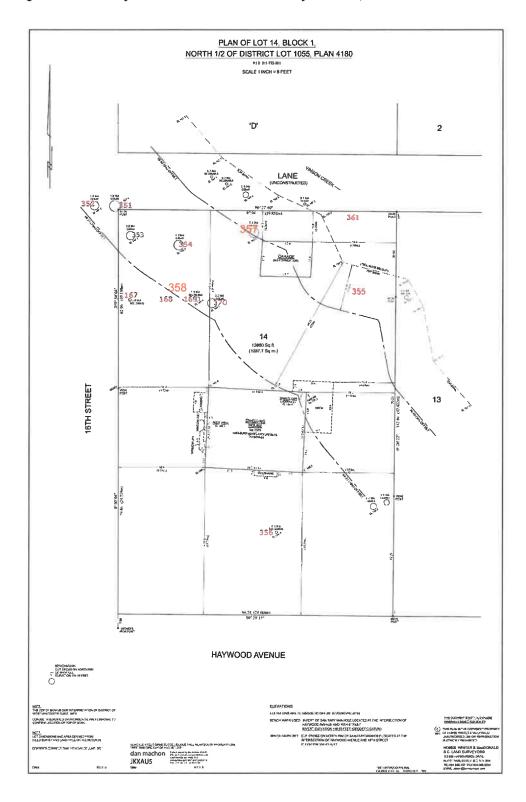


Figure 2. Site survey and inventoried trees at 1591 Haywood Ave, West Vancouver

PROPOSED SITE PLAN Tree protection barrier Tree recommended for removal PROPOSED LOT B 844.95.25 (938 Nation 34538 HAYWOOD AVENUE CLEGG HOUSE
MFE: \$5611 NEW HOUSE MFE; 167.0" 353 S DA

Figure 3. Proposed development and tree management at 1591 Haywood Avenue, West Vancouver.

Silverback Treeworks Ltd.

### 3. Site Assessment and Tree Inventory

A site visit was completed May 4, 2022. Haywood Avenue borders the property to the south, 16<sup>th</sup> Avenue borders the west side with residential properties located to the north and east.

The property is residential. A creek runs through the property from the north, southwest to the western property line. The creek is surrounded by native tree species such as Alders, Cedars and Pines.

Our report focused on the trees within the property line and two substantial Cedar Street trees on District of West Vancouver property. All trees on site with a DBH of 20 cm or greater on site have been recorded in this inventory. In total, 13 trees were identified including six Western Red Cedars, two Apple trees, one Arbutus, one Rowan, one Vine maple, one Alder and one Dogwood.

A tree protection zone (TPZ) is an arborist defined area around each tree intended to protect roots and soil within the critical root zone during development in order to ensure the health and stability for long term retention. The actual TPZ may be defined using many factors including the health and age of a tree, species and any existing factors that may have restricted root and / or canopy development.

Condition classifications included in Table 1 adhere to the following overall health and structure rating:

- Good Tree is in good condition with no significant structural weakness or health concerns, considering the location, site conditions and species.
- Fair Tree has noted health and / or minor structural weaknesses. Management strategies such as pruning, and modifications are reasonable to improve the health and / or condition of the tree.
- Poor Tree is in serious decline and has multiple very definable health and / or structural weaknesses.
- Dead / Dying Tree was found to be dead and/or dying and/or has sever defects

Table 1. Tree inventory and description of all trees on and within the building envelope.

Tree ID	species	DBH	height (m)	condition	comments
351	Western red cedar Thuja plicata	101	33	good	Street tree.co-dominant stem. topped but looks good.
352	Western red cedar Thuja plicata	88	34	good	Street tree. leaning towards 16 Ave.
353	Western red cedar Thuja plicata	92	34	good	
354	Western red cedar Thuja plicata	99	34	good	co-dominant top looks good
358	Vine maple Acer circinatum	30	8	poor	Recommended for removal because within within the buildin envelope. Tip dieback bark peeling off
357	Western red cedar Thuja plicata	91	32	good	co-dominant stem
355	Apple Malus	21	4	fair	
170	Western red cedar Thuja plicata	98	34	good	Recommended for removal because within the building envelope. Requires approval from the District of West Vancouver.
169	Dogwood Cornus	41	10	fair	Large cavity in the stem. Recommended for removal becaus within development footprint.
168	Rowan Sorbus	20	10	good	Recommended for removal because within the building envelope.
167	Arbutus (Arbutus)	31	8	poor	large cavity from old wound. suffocated my lvy. tip dieback. barely any living tips
356	Apple Malus	21	4	fair	Large cavity on stem. Recommended for removal because within the building envelope.
361	Alder Alnus	69	25	good	

### 4. Tree Management Plan

### 4.1. Street Trees

The survey (Figure 2) identified, two street trees, Cedars (Tag ID 351,352) present within the vicinity of the project (Table 1). The trees are in good condition and are located in the northeast corner between 16<sup>th</sup> Ave and the property (Figure 2). The trees are on municipal land and must not be harmed during construction.

Arborist recommendations: Retain with the following management practices:

 Restrict both foot and mechanized traffic over the TPZ of trees. TPZ size should incorporate the green space around the trees and reflect the hardscape boundary of surrounding the green space. Orange plastic fencing should be placed on the edge of the hardscape and is recommended as the barrier for its high visibility and size. The barrier should be at least 1.4m in height and re-enforced to last throughout the construction time frame.

### 4.2. Property Trees

The survey identified a total of 11 property trees (Table 2) on the project site. Of those, 4 trees are not suitable for retention and therefore are recommended for removal because they are within the development footprint. One of these trees, #170 is protected by the District of West Vancouver tree protection bylaw because it is caliper size over 75cm Dbh.

The remaining trees are outside of the development footprint and are recommended for retention because they are in good or fair condition.

<u>Arborist recommendations:</u> Subject to receiving permission from the District or West Vancouver regarding tree #170, remove the 3 trees because they are within the building envelope as depicted in Figure 3. A summary is provided in Table 2.

Tree #170 is a Cedar (*Thuja plicata*) in good condition. This tree is not suitable for retention because it is within the building envelope of the Lot B garage. Due to the size of the tree, it is not possible to move the garage as it would still likely impact more than a quarter of the tree's critical roots and therefore adversely effect the tree. Prior permission from the District of West Vancouver is required to remove the tree as it is protected.

Tree #169 is a Dogwood (*Cornus*) in fair condition. This tree is not suitable for retention because it within the construction footprint.

Tree #168 is a Rowan (Sorbus) in good condition. This tree is not suitable for retention because it is within the construction footprint.

Tree #356 is an Apple (*Malus spp*) in poor condition. This tree is not suitable for retention because it within the building envelope of the Lot A house.

Table 2. Property tree management

Total trees on property over 20cm Dbh	Trees proposed to be removed due to being within development footprint.	Trees proposed to be removed due to being in poor condition	Trees to be retained
11	4	0	7

The following mitigation measures are to be incorporated for construction.

Prior to construction, protect retained trees in the northern portion of the subject
property by establishing a TPZ as depicted in Figure 3. Restrict both foot and
mechanized traffic over the TPZs of the trees by using protective fencing around the
area. The TPZ must be well marked and be sufficient enough to deter all foot traffic
during the entire duration of the development project. Orange plastic fencing is

recommended as the barrier for its high visibility and size. No material storage or construction equipment storage should occur within the TPZ of the trees. The barrier should be at least 1.4m in height and re-enforced to last throughout the construction time frame.

 Retained trees that require pruning for development should be pruned by a certified arborist in accordance with Best Management Practices ANSI A30

### 5. Testing and Analysis:

The assessment completed on the trees defined within this report, consisted of a visual and physical inspection from the ground and was based upon the principals of Visual Tree Assessments. No invasive tests, such as using a resistograph or increment borer, where used during the testing for this report.

### 6. Assumptions and Limiting Conditions:

- The information contained in this report covers only those items that were examined and reflect the condition of these items at the time of inspection. The inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees or property in question may not arise in the future.
- The opinions in this Report are given based upon observations made using generally accepted professional judgment, however, because trees and plants are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this Report are valid only as at the date any such testing, observations and analysis took place. No guarantee, warranty, representation or opinion is offered or made by Silverback Treeworks Ltd. as to the length of the validity of the results, observations, recommendations and analysis contained within this Report.
- Care has been taken to obtain all information from reliable sources. All data has been
  verified insofar as possible; however, the appraiser/company can neither guarantee
  nor be responsible for the accuracy of information provided by others.
- All tree work is to be completed under the supervision of an ISA Certified Arborist and in compliance with ISA, BC Hydro and WCB standards.
- · Alteration of any part of this report invalidates the entire report.
- 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.
- Silverback Treeworks Ltd 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.

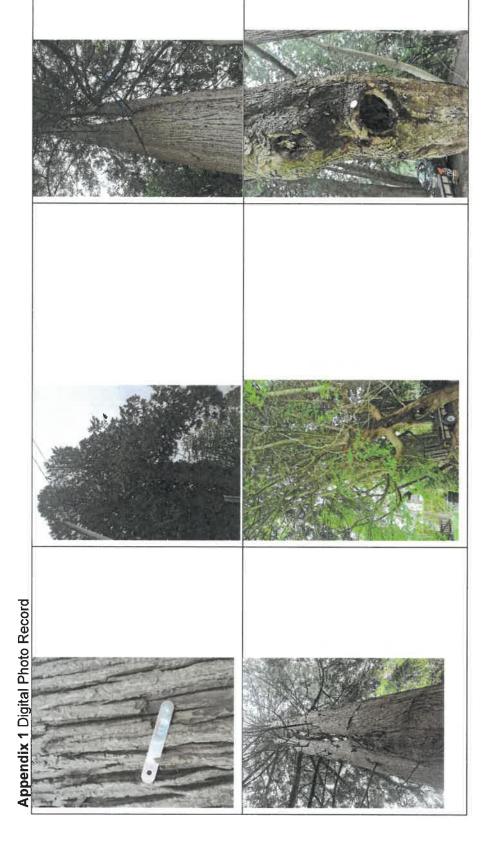
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### 7. CLOSURE

If there are any questions regarding any of the recommendations provided within this report, please feel free to contact me at any time.

Sincerely:	AHOO	December 17, 2022
	Andrew Hooper	Date
	Project Arborist	
	ISA Certification Number PN# 6307A	

1.1/



12/17/2022



Silverback Treeworks Ltd.