

ATTACHMENT 1 – SITE CONTEXT

LOCATION

Legal Description	LOT 19, SECTIONS 6 AND 24, PENDER ISLAND, COWICHAN DISTRICT, PLAN 32261
PID	001-080-865
Civic Address	6915 Pirates Road
Lot Size	4.04 hectares (9.99 acres)

LAND USE

Current Land Use	Rural
Surrounding Land Use	Rural and Water 1 (W1)

HISTORICAL ACTIVITY

File No.	Purpose
None	N/A

POLICY/REGULATORY

Official Community Plan Designations	Designated as Rural in the North Pender Island Official Community Plan No. 171, 2007 (OCP). Woodland Ecosystems (DPA 1), Herbaceous Ecosystems (DPA 2), and Cliff (DPA 5) located on parcel – see mapping
Land Use Bylaw	Zoned as Rural in the North Pender Island Land Use Bylaw No. 224.
Other Regulations	None
Covenants	None
Bylaw Enforcement	None

SITE INFLUENCES

Islands Trust Conservancy	This application has no considerations for the Islands Trust Conservancy.
Regional Conservation Strategy	This application has no considerations for the Regional Conservation Plan.
Species at Risk	Presence of <i>Crassula connata</i> (Erect Pigmyweed) in seaward portion of lot, not in development site Ecosystem at Risk - CDC: <i>Pseudotsuga menziesii</i> / <i>Mahonia nervosa</i> Sharp-tailed Snake - Potential Habitat – CRD - in seaward portion of lot, not in development site Southern Resident Killer whale critical habitat in adjacent Water 1 zone
Sensitive Ecosystems	Woodland: Conifer; Herbaceous Ecosystems
Hazard Areas	Moderate and steep slope – see mapping
Archaeological Sites	There are no registered archaeological sites identified on the provincial RAAD site in the immediate area, however there is archaeological potential identified in the area. By copy of this report, the owners and applicant

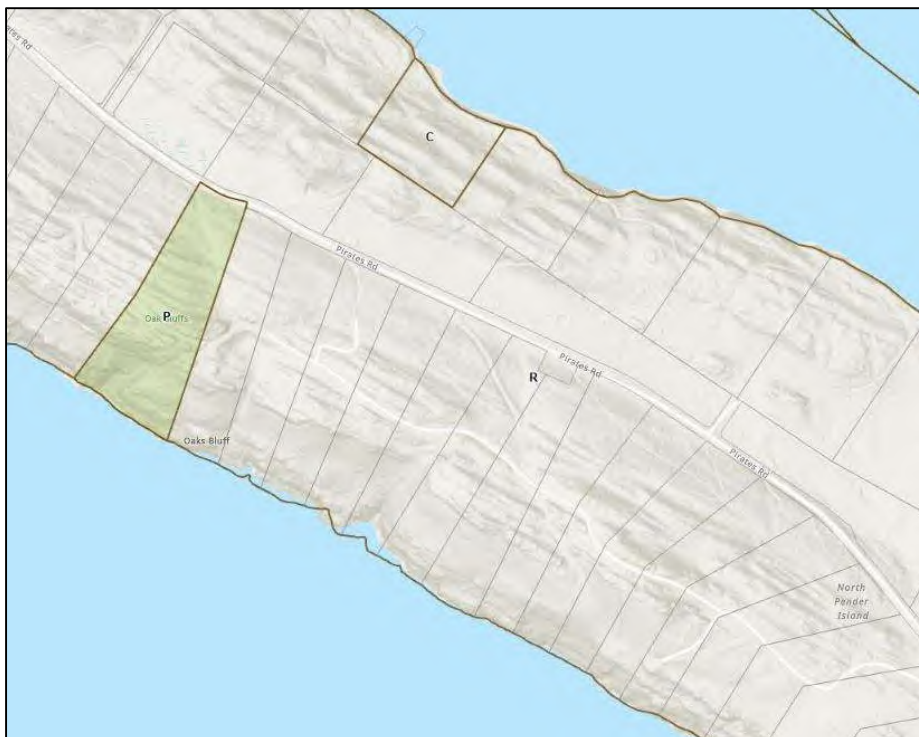
	should be aware that there is still a chance that the lot may contain previously unrecorded archaeological material that is protected under the <i>Heritage Conservation Act</i> .
Climate Change Adaptation and Mitigation	Tree removal mitigated by tree planting requirements in draft DP
Shoreline Type	Cliff

ATTACHMENT 2 – MAPS, PLANS

2.1 ORTHOPHOTO AND ZONING

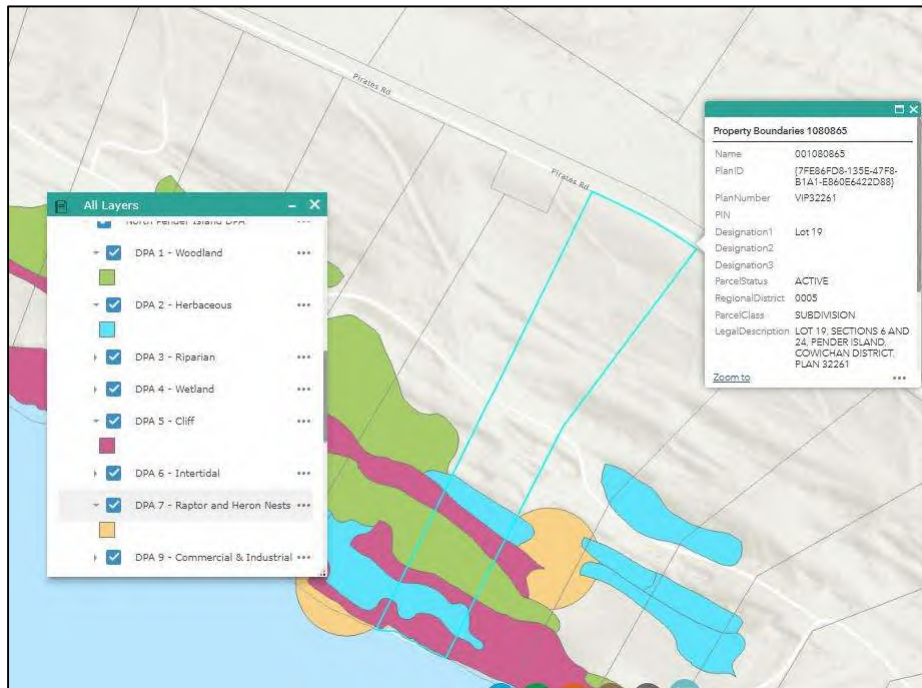


2.2 OCP DESIGNATION

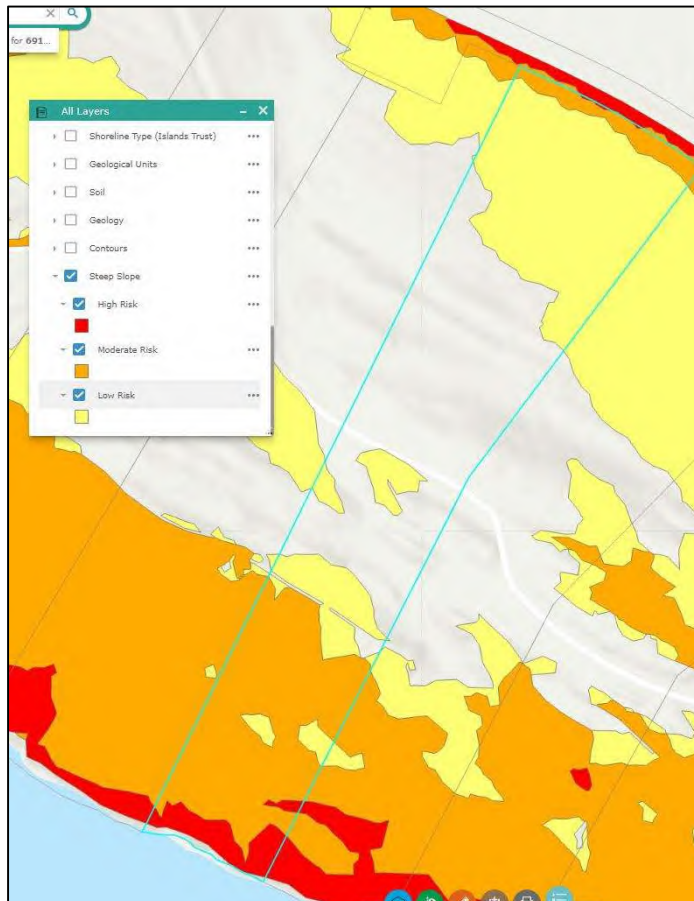


\\islandstrust.local\DFSMain\EDM\09 Current Planning\09 NP\3160 DP\25 Applications (P)\2025\NP-PLDP20250033 (Lansdowne)\06 Staff Reports\Att 2 Maps and Plans.docx

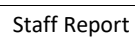
2.3 DEVELOPMENT PERMIT AREAS



2.4 Steep Slope



Islands Trust



SITE PLAN AND PARTIAL BOUNDARY STAKEOUT OF LOT 19, SECTIONS 6 AND 24,
PENDER ISLAND, COWICHAN DISTRICT, PLAN 32261

PID 001-080-865



The intended plot size of this plan is 562mm in width by 864mm in height (D-Size) when plotted at a scale of 1:500.

All distances are in metres and decimals thereof, unless otherwise noted.

Field survey completed on March 12, 2024.

The civic address is: 6915 Pirates Road, Pender Island, BC.

The following non-financial charges are shown on the current Certificate of Title and may affect the property:

H20561 - Easement
H20562 - Easement
H20563 - Easement
H20564 - Easement
H20565 - Easement
H20566 - Easement
H20567 - Easement
H20568 - Easement
H20569 - Easement
H20570 - Easement
H20571 - Easement

Elevations are assumed and are based on Traverse Hub 3100' with an elevation of 100.00 metres.

LEGEND

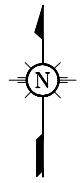
- denotes Top of Bank
- denotes Bottom of Bank
- denotes Bottom of Rock
- denotes Fenceline
- denotes Tree - Coniferous
- denotes Well
- denotes Spot Elevation
- denotes DPA Boundary
- denotes Standard Iron Post found
- denotes Spike placed
- denotes Yellow Ribbon placed

This document shows the relative location of the surveyed buildings and features with respect to the boundaries of the parcel described herein. This document shall not be used to define property lines or property corners.

Feature labels are descriptive. The user is encouraged to refer to the appropriate land use bylaw for specific feature definitions.

Potlatch Land Surveying Inc. accepts no responsibility or liability for any damages that may be suffered by a third party as a result of any decisions made, or actions taken based on this document.

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PIRATES ROAD

LOT 19
PLAN 32261

RIGHT-OF-WAY
PLAN 3565RW

LOT 20
PLAN 32081

LOT 18
PLAN 32081

SWANSON CHANNEL

DETAIL



Scale of enlargement is 1:200
at the intended plot size of plan

LOT 19
PLAN 32261

LOT 20
PLAN 32081



Mailing & delivery address:
204 - 149 Furlford-Gargner Road,
Salt Spring Island, BC, V8K 2T9
Tel: (877) 603 7398
Telephone: (250) 537 5502
334@polsi.ca
www.polsi.ca

This site plan is certified correct as of the 12th day of March, 2024.

Jordan Elliot Link, BCLS 805

Date: 2024-03-22
File: 4064-01
Drawing: 4064-01-SITE.dwg
Layout: D-Size

Kings

Lot Coverage	
House Structure Area	269 m ²
Collage Structure Area	N/A
Ttl. Accessory Structure Area	n/a
Total Structure Area	269 m ²
Lot Area	40,494 m ²
Lot Coverage	0.7%
Ttl. Structure Area/ Lot Area	

Produced from original digital file provided by:
Polaris Land Surveying Inc.
204-149 Fulford-Ganges Rd.
Salt Spring Is.
887-603-7398
www.plsi.ca

Site Plan of Lot 19, Sec. 6 & 24
Pender Island, Cowichan Dist.
Plan 32261

PID 001-080-865

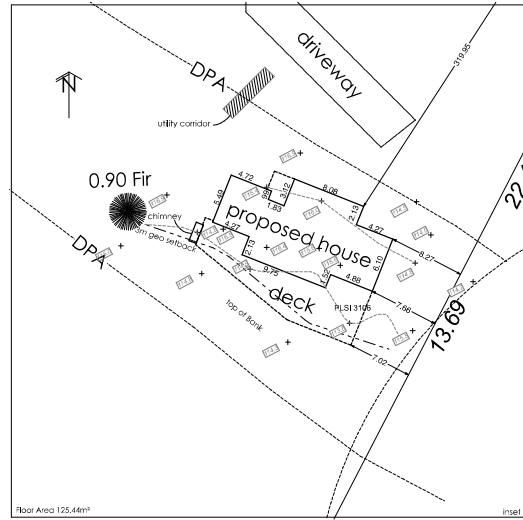
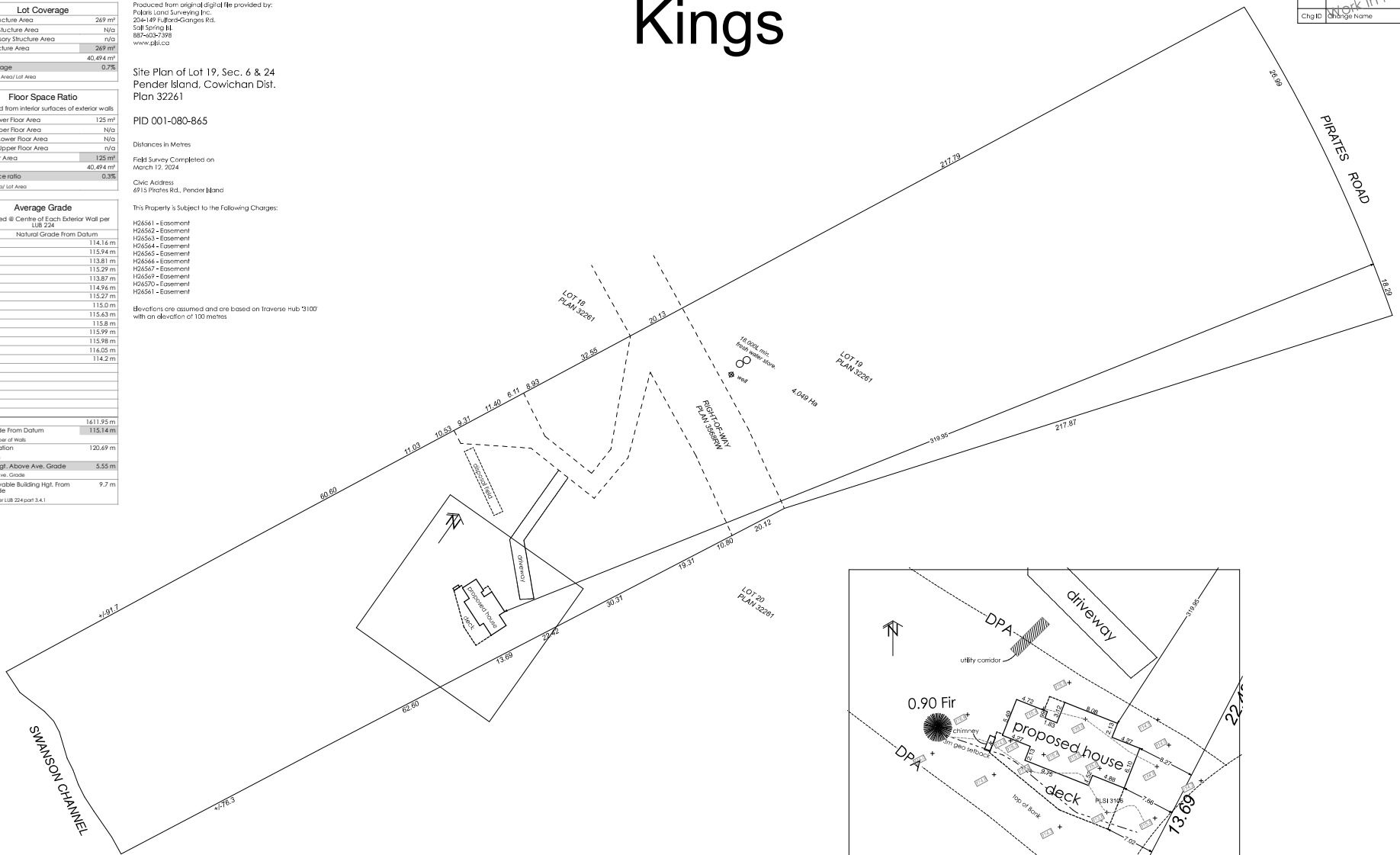
Field Survey Completed on 11/11/2011

Civic Address
6915 Pirates Rd., Pender Island

This Property is Subject to the Following Charges:

Average Grade		
Measured @ Centre of Each Exterior Wall per ULB 224		
Wall	Natural Grade from Datum	
1		114.16 m
2		115.94 m
3		113.81 m
4		115.29 m
5		113.87 m
6		114.95 m
7		115.27 m
8		115.05 m
9		115.63 m
10		115.8 m
11		115.99 m
12		115.98 m
13		116.05 m
14		114.2 m
15		
16		
17		
18		
19		
20		
Total		1611.95 m
Ave. Grade from Datum	Total Number of Walls	15.14 m
Roof	Elevation of	
From Datum		
Roof Blk. - Above Ave. Grade		5.55 m
Roof Blk. - Ave. Grade		
Max Allowable Building Hgt. From Ave. Grade		9.7 m
Per Lb. Fender (ULB 224 p.3.4.1)		

Elevations are assumed and are based on Traverse Hub '3100' with an elevation of 100 metres

[illegible]

planning only

lot 19, sec. 6-22
plan v/c32261
cow-g dist.
PID 001-080-86

7905 Bedwell Rd
Pender Island
V0N 2M2

5587 Hoason Rd.,
Pender Island, BC
V0N 2M1
250-361-5996

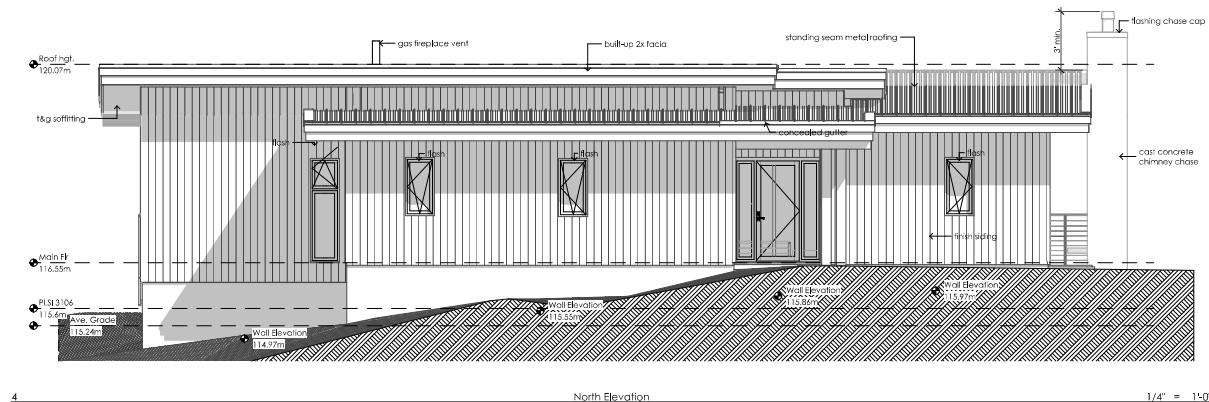
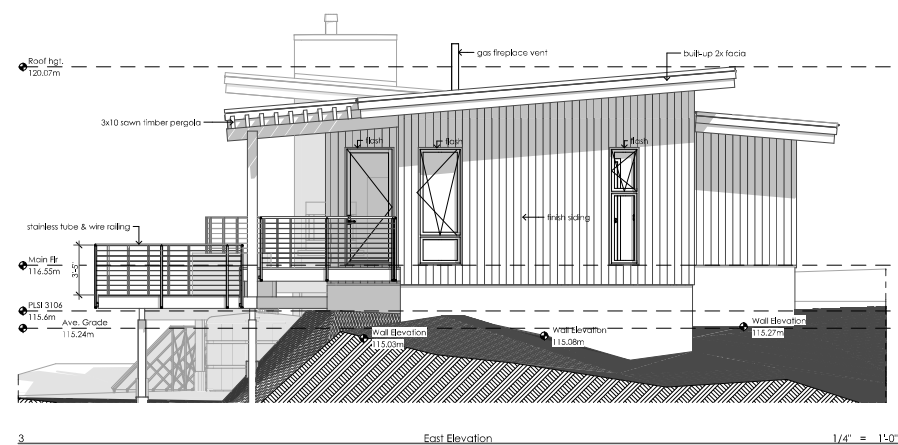
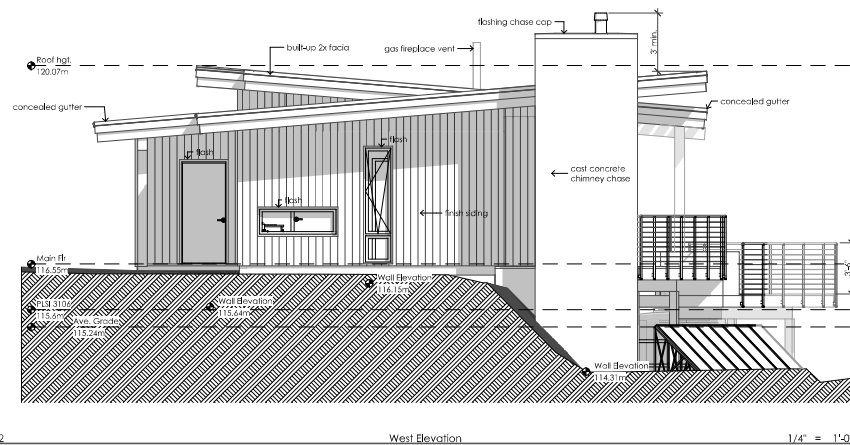
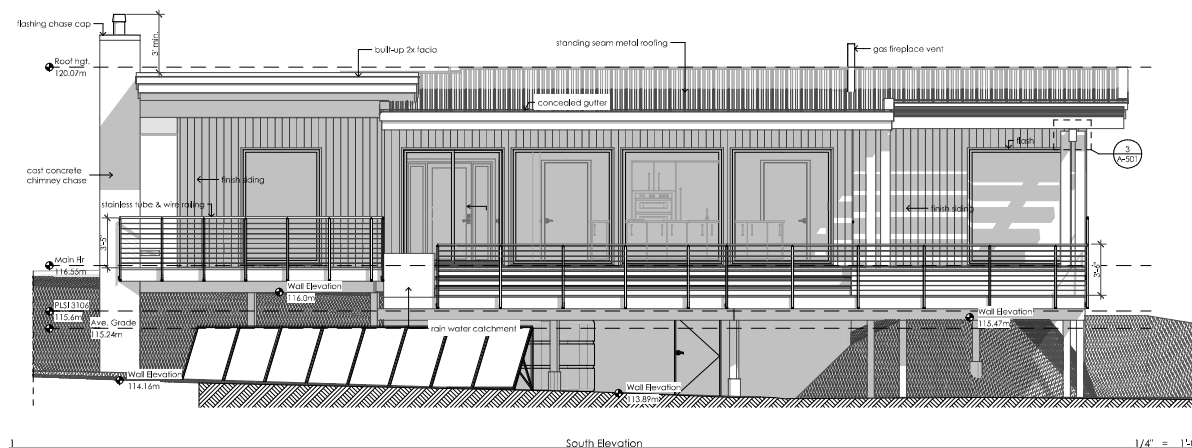


6915 Pirates Rd.
Pender Island BC
V0N 2M2

project	BLUNT HOUSE
title name	Kings
drawn by	health lansdowne
cbcc 2024 - Part 9 &	9.36.6

Architectural Site
Plan

AS-001



		2024-01-30
Chg ID	Change Name	Trans. Date



**NORTH PENDER ISLAND LOCAL TRUST COMMITTEE
DEVELOPMENT PERMIT
NP-PLDP20250033**

To: Jim Kings

1. This Development Permit (the "Permit") applies to the land described below and all buildings, structures and other developments therein:

LOT 19, SECTIONS 6 AND 24, PENDER ISLAND, COWICHAN DISTRICT, PLAN 32261
(PID: 001-080-865)

2. This Development Permit **NPPLDP20250033** authorizes the construction of a new dwelling and retroactive land restoration and mitigation resulting from land clearing for a utilities corridor and access stairway construction within **Development Permit Area 2 (DPA 2 2) - Herbaceous Ecosystems**, subject to the following requirements and conditions:

General

- a. All construction, land alteration, tree removal and site restoration shall be substantively consistent with Schedules 'A' 'B', 'C', 'D' and 'E' attached to and forming part of this permit.

Construction Management

- b. All contractors and construction personnel are to be notified of the development within DPA 2 and the conditions of this development permit by providing copies to all contractors.
- c. Storage of building materials must be limited to areas outside of DPA 2.
- d. Construction shall minimize disturbance and maintain undeveloped habitat in as natural a state as practicable.
- e. A spill control kit shall remain on site for the entire construction period if machines are being used.
- f. Foot traffic and access by machines shall be minimized to the extent possible in DPA 2 to avoid damage to the sensitive lichen and moss cover.

Sensitive Species Protection

- g. Denning and nesting sites of rare, threatened or endangered species, if detected in the future, shall be protected.
- h. A QEP shall monitor the Bald Eagle nest on the adjacent property and the lower nest near the shoreline between Mid-March to Mid-April prior to development to determine whether either nest site is in use.

- i. If a Bald Eagle nesting pair is discovered, the permit holder shall comply with the following buffers throughout the breeding season (until the end of August, or until the young fledge):
 - a. a 100 m radius from the nest site for all construction-related activities; and,
 - b. an added 100m radius from the nest site during the breeding season as a 'Breeding season quiet buffer' ((i.e. no mechanical equipment operation such as excavators, large trucks, tree felling and chainsaw work).
- j. A wildlife camera shall be installed by a QEP and directed toward the entrance of the potential turkey vulture nest cave in DPA 2 to ensure that no vultures are using the site for breeding. This monitoring shall begin during the last week of March and continue for one month, until the last week of April. Once a QEP has reviewed the images and recordings and can confirm that there are no nesting turkey vultures present, the project may proceed.
- k. If a Turkey Vulture nesting pair is discovered, the permit holder shall comply with the following buffers throughout the breeding season (until the end of August, or until the young fledge):
 - a. a 200 m radius from the nest site for all construction-related activities; and,
 - b. an added 100m radius from the nest site during the breeding season as a 'Breeding season quiet buffer' ((i.e. no mechanical equipment operation such as excavators, large trucks, tree felling and chainsaw work).
- l. Construction activity shall avoid disturbance of large woody material (decomposing logs), rock piles and boulder overhangs that provide microsites potentially used by snakes as refugia or basking areas.

Invasive Plant Management

- m. Contractors shall inspect their equipment and vehicles regularly to ensure they do not transport invasive plant species seeds onto or off the property. All equipment shall be washed prior to arrival. Manual removal of weeds from equipment shall be performed regularly. This shall be communicated to contractors prior to initiation of work onsite.
- n. Landscaping and restoration of natural areas throughout DPA 2 shall be conducted using only native plant species.
- o. The ongoing removal of invasive species (particularly Scotch broom) shall occur within DPA 2 to prevent its continued spread and improve the quality of natural areas. Where invasive plants occur along the cliff edge of DPA 2, ensure all stems are cut and not pulled to maintain stabilization of the bank. Keeping Scotch broom trimmed before flowering will also help reduce seed set and spread.

Erosion Control

- p. Prior to construction, contractors shall install silt fence as illustrated in Schedule B to prevent surface transport of soil or fill and other material toward the seaward edge of the Herbaceous Ecosystem DPA 2 beyond the immediate construction area.
- q. Contractors shall install silt barrier fencing as close as possible to the construction area and ensure no equipment crosses the barrier into adjacent areas of the DPA 2.
- r. Immediately stabilize area by any activity associated with the project using silt barrier fencing to prevent erosion and/or sedimentation, and subsequently through revegetation with native species suitable for the site.
- s. To further stabilize the bank from future erosion, ongoing invasive plant removal, paired with revegetation shall occur using native plant species in areas of disturbance to help avoid further introduction of non-native species. All restoration planting shall occur in the fall-

- spring (Nov-Feb) to allow for plant root establishment before being exposed to summer drought, and plantings should be mulched to enhance soil moisture retention
- t. Ensure no work involving ground disturbance is carried out during precipitation events.
 - u. Any soils exposed for prolonged periods, i.e., greater than 2 weeks, shall be covered. Covering may include tarping, or hydromulch (without seed mixture) and must be maintained.

Hydrology

- v. Any overflow shall be directed toward the southwest side of the rocky outcrop to permit the natural movement of water and terrestrial nutrients to flow toward the ocean, consistent with existing drainage patterns on the landscape.
- w. The proposed deck (Appendix 1) shall use a permeable and flow-through design to help mitigate the loss of seasonal precipitation inputs into the DPA 2 as a result of the proposed development.

Tree Removal and Protection of Existing Trees

- x. In addition to the one (1) Douglas-fir tree already removed, three (3) additional Douglas-fir trees are permitted to be removed as shown in Schedule C.
- y. If roots of any additional trees are required to be damaged, tree removal is only authorized after inspection and approval by a registered arborist.
- z. Temporary fencing shall be installed around all trees shown on Schedule C, except those trees to be removed, prior to and during all construction with the fencing distance consistent with the recommended Root Protection Zones (RPZs) as shown in Schedule D. Where incursion into the RPZs is required, construction activities within these RPZs shall be minimized as much as practicable.
- aa. All contractors must use the lightest possible equipment for lowest impact and avoid cutting or damaging large lateral anchoring tree roots.
- bb. All trees other than those identified for removal in Schedule C shall be retained and native plant species shall remain undisturbed within the DPA 2. This includes the retention of standing dead trees (snags), as these features provide critical habitat for many species of birds, bats, and invertebrates.
- cc. Existing seedlings or young trees shall be managed to provide the best opportunity for survival (e.g. removal of competing vegetation and non-native species as needed, protection from deer browsing).
- dd. Planting sites should be identified as areas with reasonably deep soils that would support seedling planting and browse protection cage installation.
- ee. Wire protective cages shall be installed over the naturally occurring juniper in the Herbaceous Ecosystem DPA 2 to allow these existing trees to grow.
- ff. The lightest possible equipment shall be used during excavation activities to ensure the lowest impact and to avoid cutting or damaging large lateral anchoring tree roots adjacent to the construction site.

Tree Planting

- gg. Seventeen trees (17) shall be planted in DPA 2 or the downslope Woodland DPA 1 to compensate for the four (4) Douglas-fir trees permitted to be removed (one retroactive).

- hh. A minimum of 9 of the planted trees must be Garry Oak trees. Garry Oak trees shall be planted in deeper soil pockets in DPA 2 to help stabilize slopes and provide nutrients through leaf litter fall.
- ii. Species type for the 8 other planted trees are at the discretion of the permit holder but must consist of only Garry Oak, Douglas-fir, arbutus or shoreline pine species. These eight trees may be planted in DPA 2 or in the Woodland DPA 1 to the south, downslope from the Herbaceous and Cliff DPA areas.
- jj. Planting of small seedlings shall occur as the best way to ensure tree root systems are able to develop undisturbed and to avoid transplant stress commonly associated with larger nursery stock.
- kk. All planted seedlings must be maintained and replaced as needed in the event of mortality.
- ll. Planting sites shall be identified as areas with reasonably deep soils that would support seedling planting and browse protection cage installation.
- mm. All replacement trees shall be protected from foraging by wildlife by the use of cages and/or netting (chicken wire, mesh etc.) until the trees are established. Cages must be expandable or sufficiently wide to allow for plant growth while still ensuring protection from browsing.
- nn. Mulching of trees and watering through drought months is required to ensure planting survival until root establishment (until trees reach a free-to-grow stage, approximately 1.5 m). Diversion of rainwater catchment to trees through dwelling design is recommended to maximize use for tree growth; manual watering may also occur.

Utilities Access Corridor Vegetation Protection and Remediation

- oo. Once all utilities have been installed, the area along the disturbed area and any other works related to utilities installation shall be topped with locally sourced, clean soil and replanted with groundcover species to restore and stabilize the slope.
- pp. Revegetation of rocky areas within the Herbaceous DPA 2 shall consist of ground cover species such as broadleaf stonecrop (*Sedum spathulifolium*), kinnikinnick (*Arctostaphylos uva-ursi*), nodding onion (*Allium cernuum*), woolly sunflower (*Eriophyllum lanatum*), Oregon gumweed (*Grindelia stricta*), camas (*Camassia quamash*), sea blush (*Plectritis congesta*) and small-flowered blue-eyed Mary (*Collinsia parviflora*), and drought-tolerant grasses such as native fescue (e.g. *Festuca roemerii*) should be planted in the localized cover soil. Seeding in addition to planting will help to ensure maximal coverage and minimize invasion by non-native disturbance-adapted species.
- qq. Any runoff from the new proposed dwelling shall be diverted away from any restoration area until plants become established, to ensure that heavy rainfall events do not washout any restoration work.

General Site Restoration and Replanting

- rr. Revegetation with native plant species must occur in areas of disturbance to help avoid further introduction of non-native species. All restoration planting shall occur during the fall and winter months (Sept through Mar) to allow for plant root establishment prior to summer drought.
- ss. Revegetation shall consist of shrubs such as oceanspray, red-flowering currant (*Ribes sanguineum*), Nootka rose (*Rosa nutkana*) and saskatoon (*Amelanchier alnifolia*), and ground cover species such as kinnikinnick, nodding onion, woolly sunflower (*Eriophyllum lanatum*), Oregon gumweed (*Grindelia stricta*), camas (*Camassia quamash*), and drought-tolerant grasses such as native fescue (e.g. *Festuca roemerii*).

- tt. Seeding in addition to planting will help to ensure maximal coverage and minimize invasion by non-native disturbance-adapted species. Seeding annual and perennial herbaceous species shall occur in all disturbed mossy and grassy areas of rock outcrops in the herbaceous ecosystem (e.g. nodding onion, sea blush, Hooker's onion, shooting star, small-flowered and bicoloured lupine, native fescues). A list of appropriate plants is included as Schedule D.
- uu. All replanting shall be maintained by the property owner including necessary irrigation for a period of 3 (three) years from the date of completion of the planting, or until they have reached a suitable 'free to grow' stage of 1.5 metres, to ensure survival. Unhealthy, dying or dead stock shall be replaced at the owner's expense in the next regular planting season.

Monitoring

- vv. Monitoring and guidance is to be conducted by a registered professional biologist (R.P. Bio.) to ensure that all construction management and restoration conditions herein have been met to the satisfaction of the R.P. Bio.
 - ww. The monitoring QEP(s) shall prepare and submit to the Islands Trust written confirmation of compliance with all conditions with this permit as issued within three months (3) of the development work being completed.
- 3. The area described herein shall be developed in accordance with the terms, conditions and provisions of this Permit, and any plans and specifications attached to this Permit, which shall form a part thereof.
 - 4. Any further development within the designated Development Permit Area will require a new Development Permit, or a Development Permit Amendment.
 - 5. This permit is not a building permit and does not remove any obligation on the part of the permittee to comply with all other requirements of North Pender Island Land Use Bylaw No. 103, 1996 and to obtain other approvals necessary for the lawful completion of the proposed development.

**AUTHORIZING RESOLUTION PASSED BY THE NORTH PENDER ISLAND LOCAL TRUST COMMITTEE THIS
__ DAY OF __, 2025.**

Deputy Secretary, Islands Trust

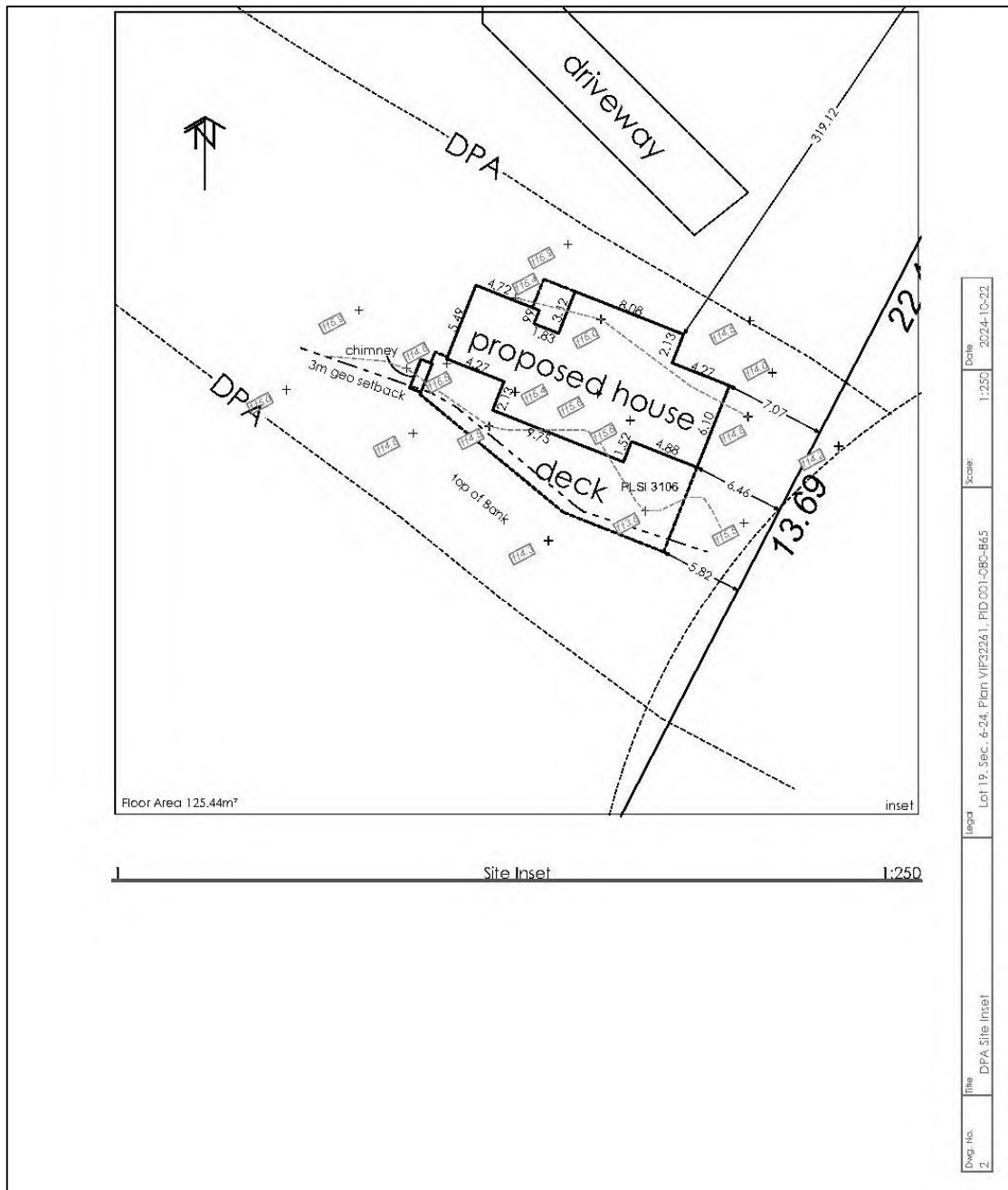
June 2, 2023
Date of Issuance

**IF THE DEVELOPMENT DESCRIBED HEREIN IS NOT COMMENCED BY THE DAY OF , 2027, THIS PERMIT
AUTOMATICALLY LAPSES.**

NORTH PENDER ISLAND LOCAL TRUST COMMITTEE

DEVELOPMENT PERMIT 2023.1

Schedule "A" - Site Plan (2 pages)





NORTH PENDER ISLAND LOCAL TRUST COMMITTEE

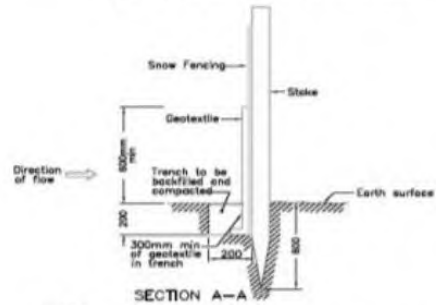
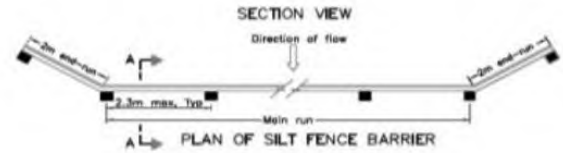
DEVELOPMENT PERMIT 2023.1

Schedule "B" - Silt Fence Diagram

EROSION AND SEDIMENTATION

- 1) PRE-STAKED SILT FENCE TO BE INSTALLED AS SHOWN PRIOR TO CONSTRUCTION AS DIRECTED BY THE ENGINEER.
- 2) TOPSOIL STRIPPED FOR REUSE TO BE STOCKPILED AWAY FROM WATER COURSES, DRAINAGE PATHS AND PROPERTY AND SHALL BE COVERED AND / OR SEEDED TO REDUCE EROSION.
- 3) ALL DISTURBED AREAS TO BE RESTORED AND LANDSCAPED AS SOON AS POSSIBLE FOLLOWING CONSTRUCTION.

TO BE
THROUGHOUT
TOP
34N GRODS
NO SHALL DIRECT
MITIGATION MEASURES



NOTE:

All dimensions are in millimetres or metres unless otherwise shown.

SILT FENCE WITH SNOW FENCE DETAIL

8/19

NORTH PENDER ISLAND LOCAL TRUST COMMITTEE

DEVELOPMENT PERMIT 2023.1 Schedule "C" - Tree Removal Plan

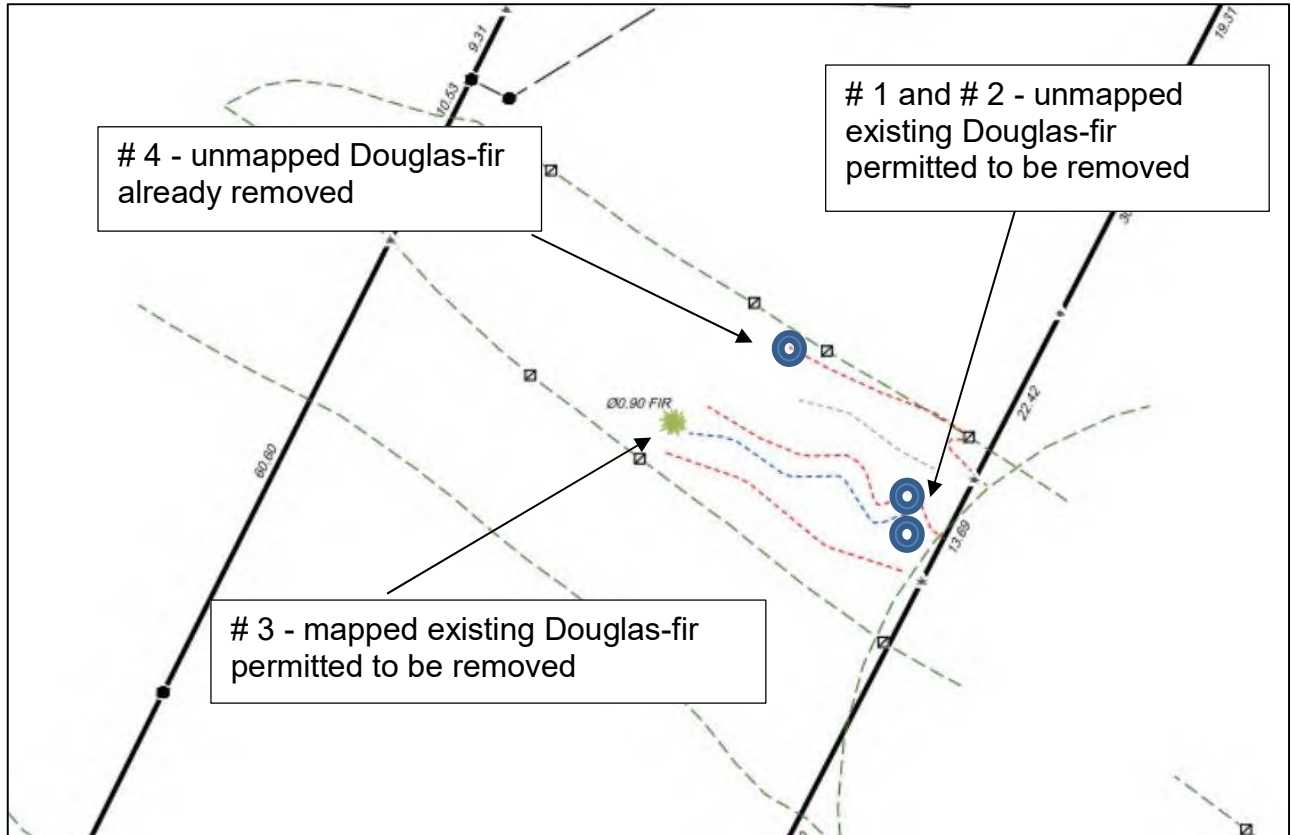


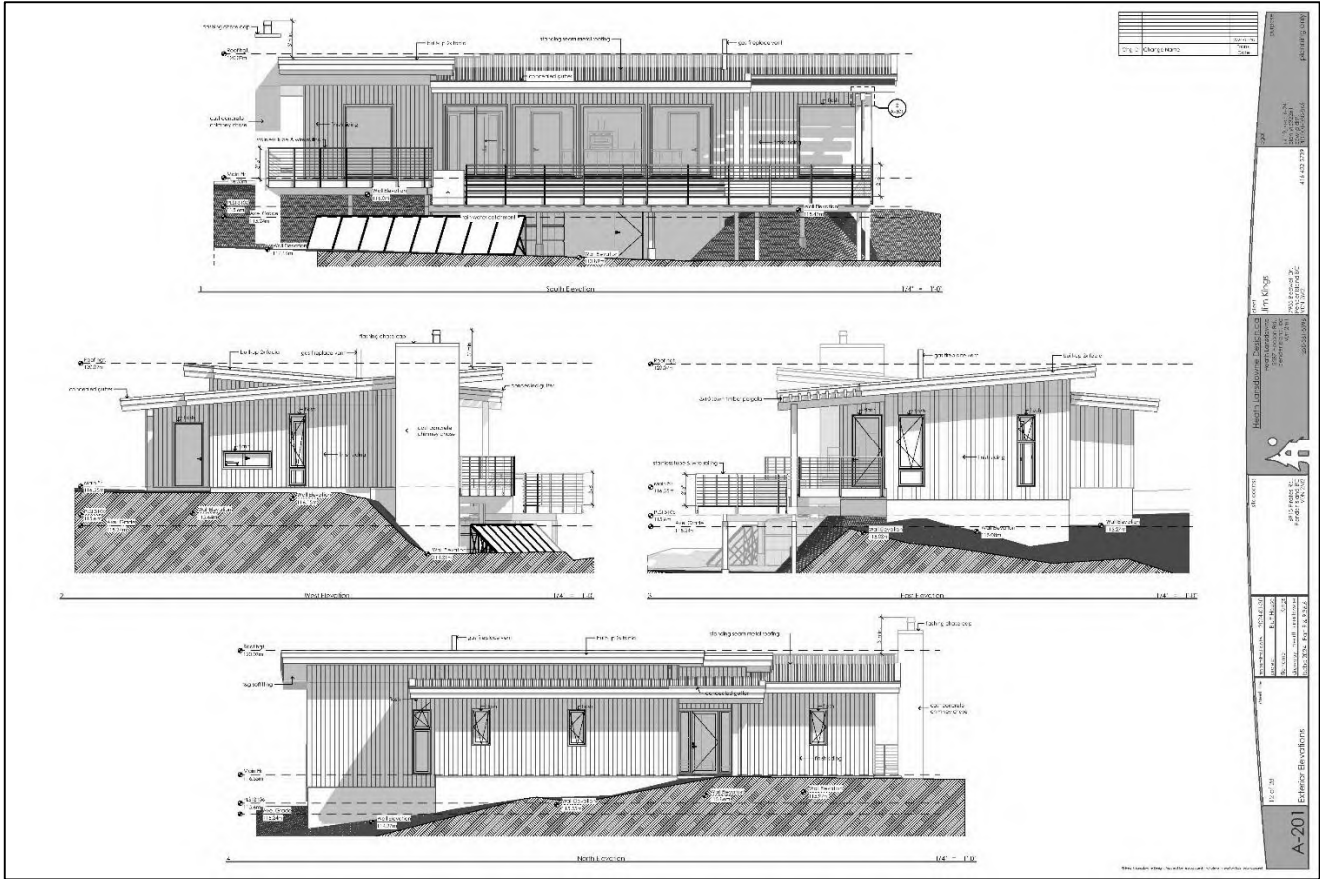
Table 1. Diameter of trees in the proposed dwelling site at 6915 Pirates Road, Pender Island, BC. (* DBH of 2 new trees to be removed in DPA)

Herbaceous Ecosystem DPA		
Tree Species	#	DBH (cm)
*Douglas-fir	1	20.7
*Douglas-fir	2	21.9
Douglas-fir	3	25.2
Douglas-fir (Stump)	4	83.0

Trees # 1 and 2

NORTH PENDER ISLAND LOCAL TRUST COMMITTEE

DEVELOPMENT PERMIT 2023.1
Schedule "D" – Elevation Drawings



NORTH PENDER ISLAND LOCAL TRUST COMMITTEE

DEVELOPMENT PERMIT 2023.1 Schedule "E" – List of Recommended Native Plants

The following species list is an example of the type of deep rooted, drought tolerant native plants that could be planted on the subject property as part of landscaping and post-construction site restoration:

Oceanspray - *Holodiscus discolor*
Red Osier Dogwood - *Cornus stolonifera*
Saskatoon - *Amelanchier alnifolia*
Twinberry - *Lonicera involucrata*
Sweet Gale - *Myrica gale*
Red Flowering Currant - *Ribes sanguineum*
Pacific Ninebark - *Physocarpus capitatus*
Highbush Cranberry - *Viburnum edule*
Mock Orange - *Philadelphus lewisii*
Snowberry - *Symphoricarpos albus*
Salal – *Gaultheria shallon*
Sword fern - *Polystichum munitum*
Nootka Rose - *Rosa nutkana*
Evergreen Huckleberry - *Vaccinium ovatum*
Nodding onion - *Allium cernuum*
Sea blush - *Plectritis congesta*
Hooker's onion - *Allium acuminatum*
Shooting star - *Dodecatheon sp.*
Small-flowered and bicoloured lupine - *Lupinus sp.*
Native fescues - *Festuca sp.*

Environmental Assessment of 6915 Pirates Road, North Pender Island, BC



Submitted To: Jim King

January 15, 2025

Prepared By: Dan Baxter and Erin O'Brien



Caurinus Project No.: CE202404

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1.0 Introduction

In November 2024, Caurinus Environmental was contacted by Jim King to complete an environmental inventory, condition and impact assessment in an Herbaceous Ecosystem DPA at 6915 Pirates Road on Pender Island (Figure 1). The purpose of this report is to provide a complete environmental inventory, impact assessment and strategies with other disciplines to guide the construction of a primary dwelling in an environmentally responsible manner.

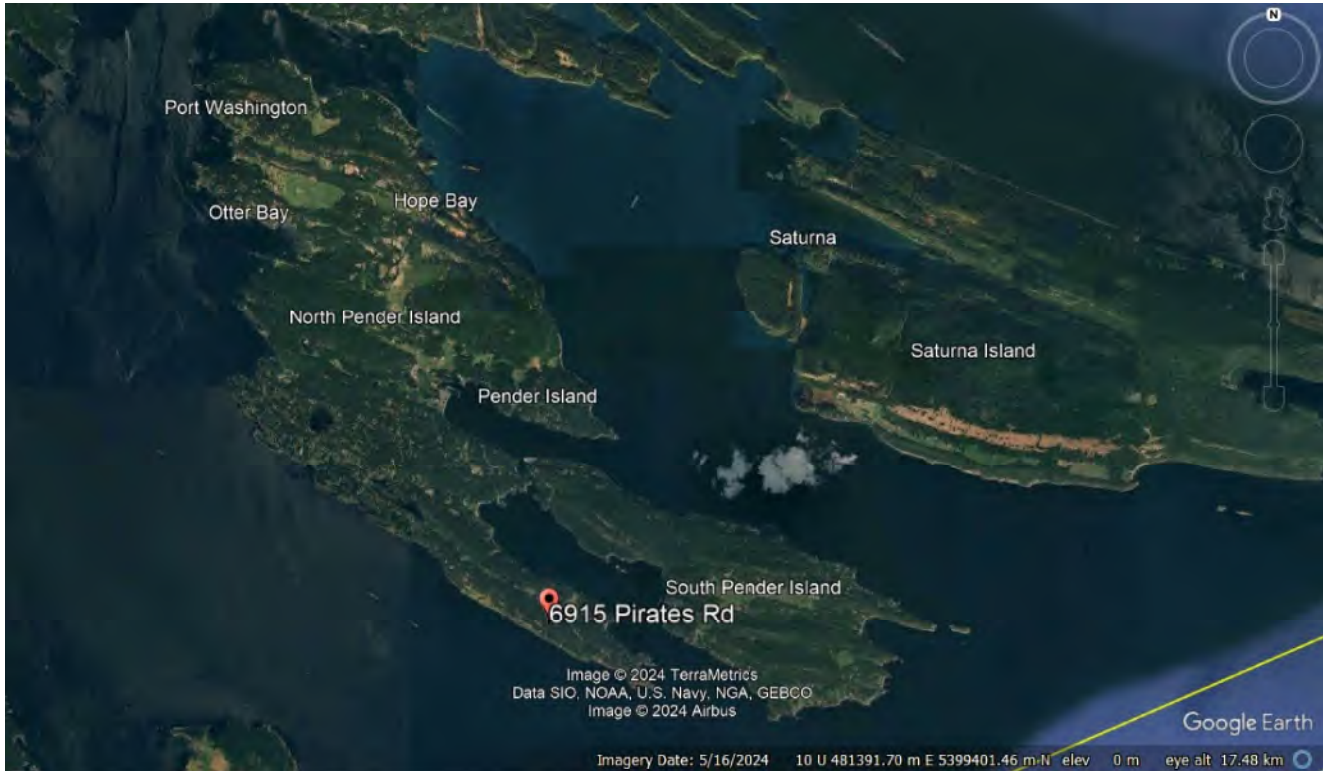


Figure 1. 6915 Pirates Road Pender Island, BC (Google Earth 2024).

The subject property is located in the North Pender Island Local Trust Area, Capital Regional District (CRD), and is approximately 4.05 ha (10 acres) in size. The property is located on 6915 Pirates Road, on the Southernmost tip of North Pender Island (Figure 2). The legal description for the parcel is:

- Lot 19 Plan, VIP32261, Section 6/24, Cowichan Land District, Portion Pender Island (PID: 001-080-865)



Figure 2. 6915 Pirates Road, Pender Island, BC (e-valueBC, BC Assessment 2024).

The subject property is currently zoned R (Rural) with adjacent properties to the north, east and west designated as Rural. The subject property falls under the jurisdiction of the North Pender Island Local Trust Area and consequently must conform to the North Pender Island Official Community Plan Bylaw No.171, 2007. Both phases of the environmental assessment are included in this report: Ecological Assessment Phase as well as Impact Assessment and Mitigation Phase. Other regulatory frameworks which also guide the assessments and strategies within this report include, but are not limited to:

1. Species at Risk Act (SARA) - Federal
2. Migratory Birds Convention Act – Federal
3. Wildlife Act – Provincial

2.0 Supporting Inventories

A review of current information pertaining to the subject property and surrounding areas was conducted using the following resources:

- Biogeoclimatic maps and online satellite imagery of the subject property
- BC Conservation Data Centre (CDC)
- Ecocat, Ecosystems Report Catalogue
- Terrestrial Ecosystem Mapping

2.1 Physical Resources

Humid Temperate Ecodomain

In British Columbia, the ecosystems of the Gulf Islands originate from the most southerly extent of the Humid Temperate Ecodomain extending from the continental slope and shelf, all the coastal islands, adjacent mountains, the central interior plateau, and the southern interior mountains. The climate is characterized by strong seasonal cycles of temperature and precipitation with a distinct winter (CPAWS 2005; Demarchi 2011).

Humid Maritime & Highlands Ecodivision

This Ecodivision occurs along the coast from the western edge of the Continental Slope eastward to the effective height of land on the Coast Mountains, including the Nass Basin and Nass Ranges. This Ecodivision's climate is temperate, with abundant rainfall throughout the year, but with reduced precipitation in summer. Coniferous tree species that occur include Douglas-fir (*Pseudotsuga menziesii*), Western redcedar (*Thuja plicata*), Western hemlock (*Tsuga heterophylla*), Sitka spruce (*Picea sitchensis*), amabilis fir (*Abies amabilis*), and yellow-cedar (*Chamaecyparis nootkatensis*). In the extreme south of the province, where it is much drier, it contains arbutus (*Arbutus menzeisii*) and Garry oak (*Quercus garryana*) communities (CPAWS 2005; Demarchi 2011).

Georgian Depression Ecoprovince (GED)

This ecoprovince lies between the Vancouver Island Mountains and Olympic Mountains to the west and the southern Coast Mountains and northern Cascade Ranges to the east. In British Columbia, the Georgia Depression Ecoprovince is a large basin that encompasses the southeastern Vancouver Island Mountains, the Nanaimo Lowlands, and the Gulf Islands in the west, the Strait of Georgia in the middle, and the Georgia Lowlands and Fraser Lowlands in the east (CPAWS 2005; Demarchi 2011).

SGI - Southern Gulf Islands Ecoregion

These islands occur from Newcastle and Gabriola Islands south to Chatman, Discovery and Chain Islands, including the inter-island channels and sounds that extend across the Strait of Georgia, and the San Juan Islands in Washington. The islands consist of folded and faulted shale and sandstone/conglomerate, with some volcanic stocks intermixed. This has resulted in the many linear valleys and island separations. The northwesterly aligned folded structure and the eroding power of southeasterly moving glacial ice have resulted in the prominent northwesterly-southeasterly alignment of the Gulf Islands. As the glaciers retreated, it resulted in very deep deposits of sediments on this lowland. Streams that originate here are short and often ephemeral, drying in the summer (CPAWS 2005; Demarchi 2011).

2.2 Topography

The bedrock geology plays a large role in the topography of the islands. North Pender bedrock is categorized as the Late Cretaceous Nanaimo Group with the strata consisting of alternating interbeds of sandstone, shale, siltstone, and conglomerate. This has led to the steep rugged topography following the trends of the major resistant bedrock units (sandstones and conglomerates), with the valleys being comprised of sandy or clay soils located over less resistant shale and along fault lines (Kenney *et al.* 1988; Kohut *et al.* 2001). Locally, the surveyed property has been incised heavily and scraped down to the bedrock with a thin layer of sediment throughout (Kohut *et al.* 2001). The subject area consists of a gentle downward slope beginning from the northwest property boundary and continuing steeply south towards the Salish Sea.

2.3 Hydrology

Soils, climate, vegetation cover, and surface topography work together in a complementary manner. Soils directly influence precipitation infiltration rate, the rate of surface runoff, and ultimately groundwater recharge/discharge as well as soil moisture content (Kenney *et al.* 1988). North Pender Island lies in the Coastal

Douglas-fir zone (Kenney *et al.* 1988) which is the driest mesothermal climate in British Columbia. The climate of the Gulf Islands is highly variable and annual precipitation averages 873.8 mm. Pender Island can be in drought conditions for long periods resulting in annual precipitation as low as 399.8 mm (Henderson 1998). Precipitation is the only source of groundwater replenishment and is the primary source of potable water on the island. Outflows of water consist of surface runoff, evapotranspiration, springs, and seepage to the ocean. The critical factors which influence hydrogeology include soil type and thickness, bedrock stratigraphy and structure, cultural interference, and vegetation type and density (Henderson 1998). The general low primary porosity and permeability of bedrock on North and South Pender Islands indicates the reduced potential for water storage and accessibility. Hydrograph and precipitation data from North Pender Island indicate that there is a very close relationship between climatic factors and groundwater recharge due to the short time between precipitation and groundwater recharge (Henderson 1998). The location of the islands in a tectonically active area has the potential advantage of enhanced secondary porosity and permeability (Kenney *et al.* 1988).

2.4 Biological

2.4.1 Biogeoclimatic Ecosystem

In British Columbia, resource managers have advocated Terrestrial Ecosystem Mapping (TEM) to establish natural resource baselines for planning and management purposes. Furthermore, these databases are to be used by stakeholders and resource planners to provide guidance for the private sector and all levels of government regarding conservation and management at a meaningful scale, such as community development plans, and to do so in a common language.

Climate, topography and surface geology influence the site hydrology, which in turn influences the biological resources on site. This ecological principle is fundamental to most Ecological Landscape Classifications. The vegetation assessment utilizes the Biogeoclimatic Ecosystem Classification (BEC) which is used extensively throughout British Columbia to report and describe terrestrial ecosystems. In the BEC system, climate is the most significant determinant of ecosystems, influencing soil characteristics which in turn influence the climax (old growth) vegetation, its composition and structure.

The subject property is located in the CDFmm - Moist Maritime Coastal Douglas-fir subzone occurring in the Southern Gulf Islands (Pojar and Mackinnon 1994). The Southern Gulf Islands ecosystems are heavily influenced by the rain shadow of the mountains on Vancouver Island and Washington's Olympic Peninsula. This results in warm, dry summers and mild, wet winters. The Southern Gulf Islands fall predominantly into the Coastal Douglas-Fir biogeoclimatic zone. The most common tree species found are Douglas-fir, Western redcedar and Garry oak. Other common species include salal (*Gaultheria shallon*) and Oregon grape (*Mahonia aquifolium*) in upland areas, Nootka rose (*Rosa nutkana*), snowberry (*Symphoricarpos albus*) and oceanspray (*Holodiscus discolor*) in rocky outcrops, and bigleaf maple (*Acer macrophyllum*), sword fern (*Polystichum munitum*), and salmonberry (*Rubus spectabilis*) in moister regions (Meidinger and Pojar 1991; Demarchi 2011).

The following ecosystems were noted within the subject property (Green and Klinka 1994; Figure 3):

- **CDFmm DS/01: Douglas-fir – Salal**
- **CDFmm RF/06: Western redcedar - Grand fir – Foamflower**
- **CDFmm DO/03: Douglas-fir - Oniongrass**
- **CDFmm SC/00: Cladina - Wallace's selaginella**
- **CDFmm RO: Rock Outcrop**

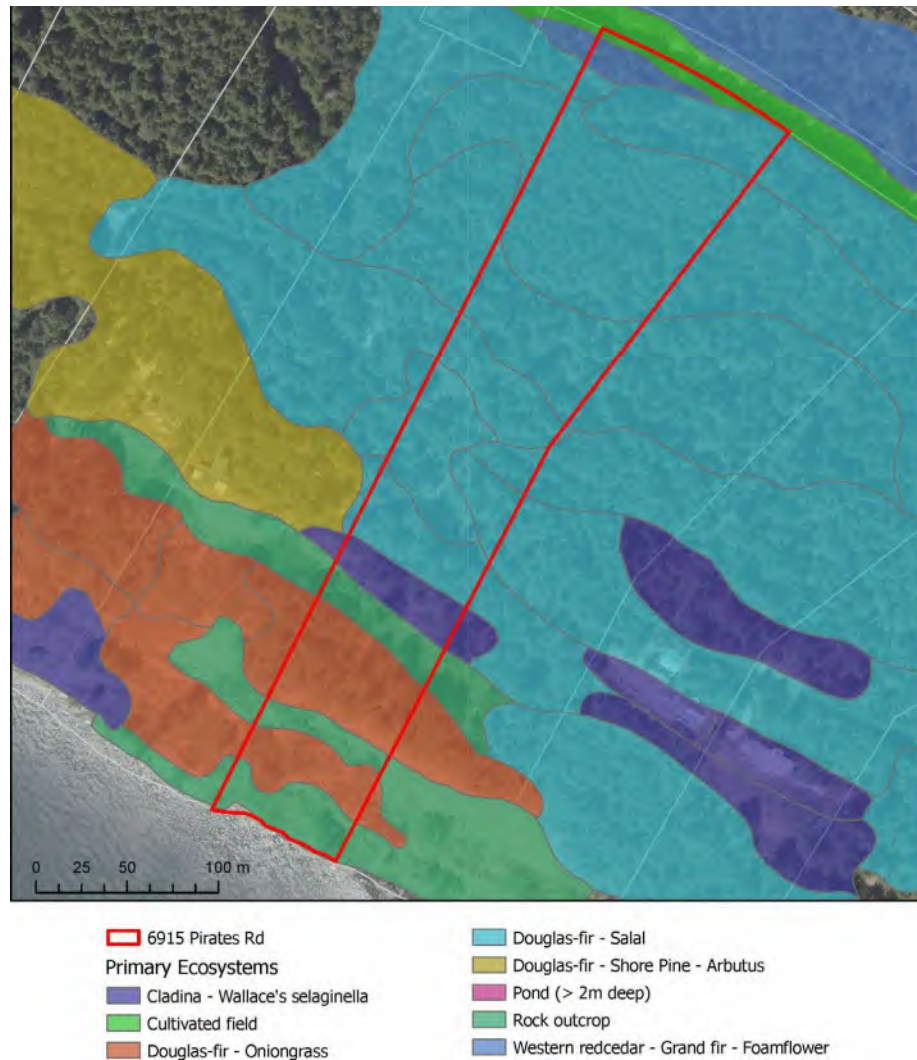


Figure 3. Property Ecosystems: (Douglas-fir Salal, Mature Forest/Young Forest; Western redcedar-Grand fir-Foamflower, Wetland/Mature Forest; Douglas-fir – Oniongrass, Mature Forest/Young Forest; Cladina - Wallace's selaginella, Herb; Rock Outcrop, Sparse/bryoid (Islands Trust (MapIT) 2024).

Woodland Ecosystem DPA

Woodland Ecosystems are one of the most threatened ecosystems in the region. Portions of the subject property have been locally designated as a Woodland Ecosystem DPA by the Islands Trust. This designation includes forest such as open deciduous and mixed deciduous conifer, and include snags, coarse woody debris, and downed trees that provide habitat niches for a variety of species. They are generally restricted to areas with shallow soils on south-facing slopes in areas with extremely dry summers. The Woodland Ecosystem DPA present is designated as Douglas-fir – Oniongrass (Figure 4).

Herbaceous Ecosystem DPA

Herbaceous Ecosystems are rare ecosystems, comprising open wildflower meadows and grassy hilltops, and are usually interspersed with moss-covered rock outcrops. Vegetation in these areas is generally low-growing, dominated by grasses and forbs. They are located from the salt spray zone near shorelines to the summits of local hills. Herbaceous ecosystems are characterized by shallow thin soils and rapidly draining soil conditions. Low rainfall, and extreme summer temperatures create drying conditions. These ecosystems are rare, fragile and

exceptionally vulnerable to all types of human disturbance. The Herbaceous Ecosystem DPA includes ecosystems designated as Cladina - Wallace's selaginella (Figure 4).

Cliff Ecosystem DPA

Cliff Ecosystems are rare ecosystems that consist of steep, vertical or overhanging rock faces where sparse vegetation may occur in crevices or on ledges. Although these ecosystems are generally robust and stable, the shallow soils are especially susceptible to erosion, damage from recreational activities, and human disturbances. Open ledges and horizontal fissures on cliffs can provide nesting sites for birds such as turkey vultures (*Cathartes aura*) and peregrine falcons (*Falco peregrinus*). Cliff crevices are used for roosting by bats, and the open cliff faces are used for foraging. Deep crevices are used for shelter and overwintering of snakes and lizards. The Cliff Ecosystem DPA includes ecosystems designated as Rock Outcrop (Figure 4).



Figure 4. Location of Herbaceous, Woodland and Cliff Ecosystem DPA on the subject property (Islands Trust (MapIT) 2024).

3.0 Site Inventory

Dan Baxter (B.Sc., R.P.Bio) and Erin O'Brien (Ph.D.) of Caurinus Environmental conducted a site visit and review of current information pertaining to the subject property and surrounding areas in November 2024. The review included online satellite imagery, reports, independent studies and recent Terrestrial Ecosystem Mapping (TEM). The subject property is accessed off Pirates Road from a private roadway (Figure 2). The property begins on the south side of the roadway and continues southwesterly until it ends at Swanson Channel in the Salish Sea. The property has been recently disturbed by the construction of a driveway, utilities corridor and stairway just north and along the edge of the Herbaceous Ecosystem DPA.

3.1 Conservation Data Centre

British Columbia Conservation Data Centre (CDC) is an extension of the Ministry of Environment and Climate Change Strategy and is the provincial coordinator of tracking rare and endangered species (native plants, animals, and natural plant communities) in British Columbia on provincial, national and international levels. Documented locations of sensitive (at-risk or endangered) and non-sensitive species were reviewed for the area using a 1 km search radius; no sensitive species occurrences have been documented on or within 1 km of the subject property (Data review: Dec 1, 2024).

3.2 Flora

The ecosystems on the property categorized by the Islands Trust (Figure 3) were as follows:

- **Development Permit Area 1: Woodland Sensitive Ecosystem - Douglas-fir – Oniongrass, Mature Forest/Young Forest**
- **Development Permit Area 2: Herbaceous Sensitive Ecosystem – 100% Cladina - Wallace's selaginella, Herb**
- **Development Permit Area 5: Cliff Sensitive Ecosystem – 100% Rock Outcrop, Sparse/bryoid**
- **Woodland - Douglas-fir Salal, Mature Forest/Young Forest**
- **Woodland/Marsh - Western redcedar-Grand fir-Foamflower, Wetland/Mature Forest**

The following section summarizes the provincial Terrestrial Ecosystem Mapping TEM - ecosystems found on the subject property. The following ecosystems were identified in a literature review and confirmed during the survey of the property:

Woodland - CDFmm: Coastal Douglas-fir Zone, Moist Maritime

- **CDFmm DO/03: Douglas fir – Onion Grass**

The tree layer of this ecosystem classification is dominated by Douglas-fir with Garry oak present on warm aspects; arbutus is the only other tree species present. It is typically found on crests to upper slopes where bedrock is near the surface or forms outcrops. Soils are shallow, mostly sandy loamy, often with moderate coarse fragments, but can be deeper where Garry oak is present. The shrub layer is sparse with small amounts of oceanspray and hairy honeysuckle (*Lonicera hispidula*) as well as regeneration of the overstory species. The herb layer is diverse with many annual and perennial species.

The Douglas-fir/onion grass plant community is provincially **Red** Listed (B.C. List Status 2024) and is ranked S1 (critically imperiled; Provincial Conservation Status 2024) in British Columbia. This rare ecological community occurs within a very small but highly urbanized range. Historically, this community has a very restricted range and occurs infrequently in mostly small patches within the natural landscape. Of the remaining ~1%, only 3 km² has been identified as mature or old forest (BC Ministry of Water, Land and Air Protection 2004). This ecological community has experienced significant declines as a result of permanent conversion to urban land cover, rural

developments, and road infrastructure. This ecosystem is found in areas with favourable scenic aspects and is in high demand for new and re-development in the region; hence, it has been depleted to near-extirpation in British Columbia. Threats include development, agriculture, fire suppression, invasive species, recreational use, grazing and browsing by domestic livestock and the overabundance of deer (BC Ministry of Water, Land and Air Protection 2004).

- **CDFmm RF/06: Western redcedar – Grand fir – Foamflower**

This forested ecosystem is dominated by mature to old forests of western redcedar and grand fir, with a moderate cover of Douglas-fir and western hemlock and a low occurrence of bigleaf maple and western yew (*Taxus brevifolia*). The canopy tends to have more complete closure and ingress of western redcedar, with few shade-tolerant shrubs and herbs persisting in the understory. This ecological community tends to occur on lower slopes on east to west aspects, over morainal and inactive fluvial materials. Soils are classified as moderate to fine-textured, Gleyed Dystric Brunisols and are often hummocky. Soil moisture is generally mesic and the soil nutrient regime is rich to very rich. The shrub layer consists of dull Oregon grape, salal, and red huckleberry (*Vaccinium parvifolium*). The herb layer is dominated by three-leaved foamflower (*Tiarella trifoliata*), vanilla leaf (*Achlys triphylla*) and western trillium (*Trillium ovatum*).

The Western redcedar – Grand fir – Foamflower plant community is provincially **Red Listed** (B.C. List Status 2024) and is ranked S1 (Critically Imperiled; Provincial Conservation Status 2024) in British Columbia. This system has been harvested throughout its range and much of the land alienated from forest re-establishment by agricultural, industrial and urban development. Less than 0.01% of this forested ecosystem is represented in the old climax stage with no known occurrences of intact forest with high ecological integrity (Cooke 2011). Due to the constant pressures from harvesting, primarily followed by development for urban/industrial use, invasive alien species and increasing Columbian black-tailed deer populations near developed areas have impacted the disturbed understory of this ecosystem resulting in a constantly disturbed community with little opportunity to recover (BC Conservation Data Centre 2013). Climate change impacts may result in summer drought becoming more common, changing actual soil moisture regimes over the long term, and possibly increasing fire, disease and insect hazards (Cooke 2011).

- **CDFmm DS/01: Douglas-fir – Salal**

Forested site dominated by Douglas-fir with association with grand fir (*Abies grandis*) and Western redcedar. Typical site conditions for zonal DS forests are mid to upper slope positions and gentle topography. Soils are most often moderately-well to well drained and medium-textured loamy soils. Understory species can include snowberry, pinegrass (*Calamagrostis rubescens*) and birch-leaved spirea (*Spiraea betulifolia*), salal, dull Oregon-grape, oceanspray, sword fern (*Polystichum munitum*) and Oregon beaked moss (*Eurhynchium oreganum*).

Herbaceous - CDFmm: Coastal Douglas-fir Zone, Moist Maritime

- **CDFmm DO/00: Cladina—Wallace’s selaginella**

The Cladina-Wallace’s selaginella ecosystem is a non-forested ecosystem occurring on shallow to very shallow soils typical of rock outcrops. Typically, it occurs on warm, south facing aspects but can also occur on cool aspects. This ecosystem can be subdivided into several associations, as some sites are dominated by broom moss, others by rock moss and yet others by Cladina and Wallace’s selaginella. Non-vascular flora dominates the unit with species such as Cladonia species, hoary and common rock moss, sidewalk moss, and Wallace’s selaginella.

The Cladina—Wallace’s selaginella plant community is provincially **Blue Listed** (B.C. List Status 2024) and is ranked S2 (special concern, vulnerable to extirpation or extinction; Provincial Conservation Status 2024) in British Columbia. This sparsely distributed, highly vulnerable and ecologically sensitive community is threatened by human disturbance that commonly occurs with recreational activities. These disturbances can cause lichen, forb

and moss cover to be easily separated from the shallow layers of humus growing on a thin layer of soil over rocky outcrops. Historically, clearing of habitat with favourable scenic aspects leading to invasive species introduction have been the main threat to this habitat, but increased summer drought due to climate change may result in loss of the vegetation community and erosion of the thin sensitive soils. The lichen layer is particularly vulnerable, as it requires very long periods to recover following disturbance (BC Conservation Data Centre 2024).

Cliff Coastal - CDFmm: Coastal Douglas-fir Zone, Moist Maritime

This ecosystem can be defined by having very steep slopes of exposed bedrock, which may include steep-sided sand bluffs. Generally, there are portions of rocky outcrops that are gentle to steep, bedrock escarpment or outcropping, with little soil development and sparse vegetation. The coastal cliff has a marine influence, generally near-vertical bedrock with accumulation of soil limited to fissures and ledges. These open ledges and horizontal fissures are known to provide avian nesting sites. Cliff crevices can be used for roosting bats while deep crevices are used for shelter and overwintering of snakes and lizards.

- **CDFmm SV/RO: Rock Outcrop: sparsely vegetated**

Rock outcrop are generally comprised of exposed bedrock, usually at the top of knolls or on portions of steeper slopes. Environmental factors influencing plant and animal establishment include steepness and activity of slopes; aspect and position on a slope; exposure to severe weather conditions; lack of moisture or continuous seepages; and whether the site is wind-blown or fully sheltered. Rapid drainage and the accumulation of soil organic matter that is limited to bedrock fissures and ledges results in shallow-rooted stunted trees such as Garry oak, arbutus and Douglas-fir. Patches of kinnikinnick (*Arctostaphylos uva-ursi*) may be present, and scattered baldhip rose (*Rosa gymnocarpa*) can also occur. Herbs can include Stonecrop (*Sedum sp.*), small-flowered alumroot (*Heuchera micrantha*), and nodding onion (*Allium cernuum*). Introduced grasses are typical, with mosses and lichens developing in the shallow soils. Sparsely vegetated ecosystems are areas of low vascular vegetation cover, generally 5 – 10%, usually discontinuous, interspersed with bare sand, gravel, or exposed bedrock. These unique landforms are often in a dynamic state of change due to factors such as water level changes, sediment deposition, sediment erosion and mass wasting. Although species diversity is low in these ecosystems in comparison to other sensitive ecosystems, they provide a variety of specialized wildlife habitats. They support slowly developing pioneer plant communities that are formed by species adapted to hostile environmental conditions (McPhee *et al.* 2000).

Habitat description

The subject property was assessed during the site visit for the possible occurrence of all provincially Red- and Blue-listed species as well as federal Species at Risk Act-scheduled species.

Site Inventory Description:

Most polygons on the property have been previously disturbed to some extent either from current or historical clearing for development or selective tree removal. We conducted a comprehensive vegetation survey throughout the Herbaceous Ecosystem DPA and assessed the Woodland Ecosystem DPA of the property for presence of invasive species that may spread into the Herbaceous Ecosystem DPA. The proposed dwelling is to be located on a long ridge that runs southeast parallel to Pirates Road and includes both open woodland and herbaceous components. Since the proposed development is only occurring within the Herbaceous Ecosystem DPA and these ecosystems are not characterized by significant tree cover, we only measured the diameter at breast height (DBH) of the trees within the DPA that would be directly impacted by the proposed development to determine tree replacement criteria (Table 1). The Herbaceous Ecosystem DPA is highly sensitive to ground disturbance, and the proposed dwelling construction and associated land alteration activities will cause net loss of this ecosystem from the landscape through the removal of the thin soils and vegetative ground cover in the

footprint of the proposed dwelling; hence our inventory focused on this ecosystem and its associated herbaceous species (namely non-vascular plants including mosses, clubmosses and liverworts, as well as lichens).

Currently only one Douglas-fir is proposed to be removed for the construction of the proposed dwelling. However, prior to our survey, a stairway leading up to the Herbaceous Ecosystem DPA was constructed, a veteran Douglas-fir (DBH 83.0) was felled, and the entire moss and lichen covering was removed from the rockface delineating the boundary of the Herbaceous DPA. This work was carried out by a local contractor while clearing an area for a driveway and utilities access corridor (Plates 1-4).

Plate 1. Newly constructed stairway against the bedrock surface in the Herbaceous Ecosystem DPA at 6915 Pirates Road, Pender Island, BC. Felled veteran Douglas-fir stump also visible in front of stairs.



Plate 2. Loss of herbaceous cover from the bedrock surface in the Herbaceous Ecosystem DPA due to construction of utilities access corridor at 6915 Pirates Road, Pender Island, BC. Also visible is the felled veteran Douglas-fir stump at the top of the ridge.



Plate 3. Disturbance to the Herbaceous Ecosystem DPA with exposed tree and shrub roots (inset), causing erosion risk following construction of utilities access corridor at 6915 Pirates Road, Pender Island, BC.



Plate 4. Stump of Douglas-fir (DBH 83.0) tree that was removed from the Herbaceous Ecosystem DPA during construction of utilities access corridor at 6915 Pirates Road, Pender Island, BC.



Plant species detected during the site survey are presented in Table 2; non-native and invasive species detected included Scotch broom (*Cytisus scoparius*), common foxglove (*Digitalis purpurea*), dovefoot geranium (*Geranium molle*), sheep sorrel (*Rumex acetosella*), hedgehog dogtail grass (*Cynosurus echinatus*) and Hairy cat's ear (*Hypochaeris radicata*). No species at risk were detected during the vegetation survey. However, the timing of our inventory (late fall) would not preclude the potential occurrence of rare species at another point during the growing season, particularly annual plants that typically occur in herbaceous ecosystems early in the growing season.

Table 1. Diameter of trees in the proposed dwelling site at 6915 Pirates Road, Pender Island, BC.

Herbaceous Ecosystem DPA		
Tree Species	#	DBH (cm)
Douglas-fir	1	25.2
Douglas-fir (Stump)	2	83

Table 2. List of plant and lichen species detected in the Herbaceous Ecosystem DPA at 6915 Pirates Road, Pender Island, BC.

Common Name	Scientific Name	Origin Status ¹	BC Status ²	BC List ³	COSEWIC ⁴
Lichens					
Coastal reindeer	<i>Cladina portentosa</i>	Native	S5	Yellow	Not Listed
False pixie cup	<i>Cladonia chlorophaea</i>	Native	S5	Yellow	Not Listed
Questionable rockfrog	<i>Xanthoparmelia cumberlandia</i>	Unlisted	SNA	Unlisted	Unlisted
Frog pelt	<i>Peltigera neopolydactyla</i>	Native	S5	Yellow	Not Listed
Dragon pixie	<i>Cladonia squamosa</i>	Native	S5	Yellow	Not Listed
Xanthoria	<i>Xanthoria sp.</i>	Native	-	-	-
Clubmosses					
Wallace's selaginella	<i>Selaginella wallacei</i>	Native	S5	Yellow	Not Listed
Mosses					
Rough-moss	<i>Claopodium crispifolium</i>	Native	S4S5	Yellow	Not Listed
Haircap moss	<i>Polytrichum sp.</i>	Native	-	-	-
grey rock-moss	<i>Racomitrium canescens</i>	Native	S4S5	Yellow	Not Listed
Broom moss	<i>Dicranum scoparium</i>	Native	S5	Yellow	Not Listed
Long rock-moss	<i>Racomitrium elongatum</i>	Native	S4S5	Yellow	Not Listed
Bottle-brush moss	<i>Amphidium lapponicum</i>	Native	S5	Yellow	Not Listed
Electrified cat's-tail moss	<i>Rhytidiadelphus triquetrus</i>	Native	S5	Yellow	Not Listed
Liverworts					
Tree ruffle liverwort	<i>Porella navicularis</i>	Native	S5	Yellow	Not Listed
Other plant sp.					
Hairy honeysuckle	<i>Lonicera hispidula</i>	Native	S5	Yellow	Not Listed
Licorice fern	<i>Polypodium glycyrrhiza</i>	Native	S5	Yellow	Not Listed
Goldenback fern	<i>Pentagramma triangularis</i>	Native	S5	Yellow	Not Listed
Oregon boxwood	<i>Paxistima myrsinites</i>	Native	S5	Yellow	Not Listed
Mountain sweet-cicely	<i>Osmorhiza berteroi</i>	Native	S5	Yellow	Not Listed
Miner's lettuce	<i>Claytonia perfoliata</i>	Native	S5	Yellow	Not Listed
Dull Oregon grape	<i>Berberis nervosa</i>	Native	S5	Yellow	Not Listed
Tall Oregon grape	<i>Berberis aquifolium</i>	Native	S5	Yellow	Not Listed
Fescue sp.	-----	----	----	----	----
Brome sp.	-----	----	----	----	----

Common Name	Scientific Name	Origin Status ¹	BC Status ²	BC List ³	COSEWIC ⁴
Trees					
Garry oak	<i>Quercus garryana</i>	Native	S5	Yellow	Not Listed
Douglas-fir	<i>Pseudotsuga menziesii</i>	Native	S5	Yellow	Not Listed
Arbutus	<i>Arbutus menziesii</i>	Native	S5	Yellow	Not Listed
Invasive/non-native					
Common foxglove	<i>Digitalis purpurea</i>	Exotic	SNA	Exotic	Not Listed
Scotch broom	<i>Cytisus scoparius</i>	Exotic	SNA	Exotic	Not Listed
Hairy cat's-ear	<i>Hypochaeris radicata</i>	Exotic	SNA	Exotic	Not Listed
Dovefoot geranium	<i>Geranium molle</i>	Exotic	SNA	Exotic	Not Listed
Sheep sorrel	<i>Rumex acetosella</i>	Exotic	SNA	Exotic	Not Listed
Hedgehog dogtail grass	<i>Cynosurus echinatus</i>	Exotic	SNA	Exotic	Not Listed

¹Origin Status: <https://ibis.geog.ubc.ca/biodiversity/eflora/>

²BC Status: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/status-ranks>
<https://explorer.natureserve.org/AboutTheData/Statuses>

³BC List: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/red-blue-yellow-lists>

⁴COSEWIC: <http://www.cosewic.ca/index.php/en-ca/assessment-process/wildlife-species-assessment-process-categories-guidelines/status-categories>

3.3 Fauna

During the site visit, all provincially Red- and Blue-listed species as well as Species at Risk Act-scheduled species were assessed for possible occurrence on the subject property. This wildlife assessment only considers vertebrate animals. The study area was carefully assessed for evidence of recent or past use by wildlife species. The following species were detected during the survey of the property:

Birds

Six bird species were observed on or adjacent to the property during the site visit (Table 3). A small cave with 2 entrances is located on the property adjacent to the proposed building site (within 25 m) that has the potential to be used by Turkey vultures as a nesting site (Plates 4a,b). No evidence of recent occupancy (within the past breeding season) such as feathers or scat were present; however, vultures commonly move between nest sites within a territory in successive years (David Manning, personal communication). The birds detected on site are typical for the area in late fall. No heron nests were detected during the site visit; however, there are two documented bald eagle (*Haliaeetus leucocephalus*) nests located 52 m and 155 m from the proposed dwelling (Wildlife Tree Stewardship Atlas 2024; Figure 5). Notable migratory birds that are highly likely to occupy the Herbaceous DPA and surrounding bluffs during summer months include common nighthawk (*Chordeiles minor*), which is Blue listed in BC and federally listed as Schedule 1 (Special Concern) under SARA. This species is declining rapidly across its range; declines are attributed to factors including loss of bluff nesting habitats to residential development.

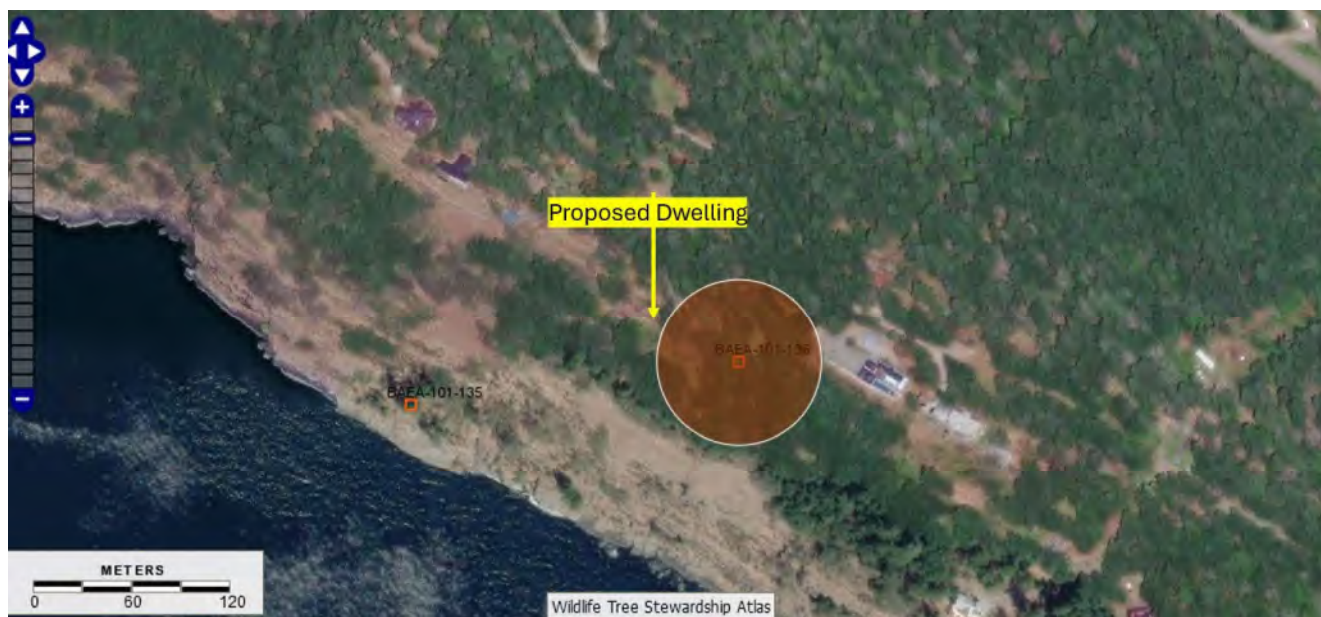


Figure 5. Bald eagle nest locations (red squares; BAEA-101-136 (52m), BAEA-101-135 (155m), relative to the proposed dwelling on Pender Island, BC. Data are from the BC Wildlife Tree Stewardship Atlas (accessed Dec 2024).

Table 3. List of bird species detected at 6915 Pirates Road, Pender Island, BC.

Common Name	Scientific Name	Origin Status ¹	BC Status ²	BC List ³	COSEWIC ⁴
Pine siskin	<i>Spinus pinus</i>	Native	SB5	Yellow	Not Listed
Red-breasted nuthatch	<i>Sitta canadensis</i>	Native	S5	Yellow	Not Listed
Pileated woodpecker	<i>Dryocopus pileatus</i>	Native	S5	Yellow	Not Listed
Northern Flicker	<i>Colaptes auratus</i>	Native	S5	Yellow	Not Listed
Dark-eyed Junco	<i>Junco hyemalis</i>	Native	S5	Yellow	Not Listed
Flyover Species					
Common Raven	<i>Corvus corax</i>	Native	S5	Yellow	Not Listed

¹Origin Status: <https://ibis.geog.ubc.ca/biodiversity/efauna/>

²BC Status: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/status-ranks>

https://explorer.natureserve.org/AboutTheData/Statuses*

³BC List: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/red-blue-yellow-lists>

⁴COSEWIC: <http://www.cosewic.ca/index.php/en-ca/assessment-process/wildlife-species-assessment-process-categories-guidelines/status-categories>

Plate 4a. Entrance to potential Turkey Vulture nest site adjacent to the proposed dwelling building site at 6915 Pirates Road, Pender Island, BC.



Plate 4b. Interior and visible back entrance to potential Turkey Vulture nesting site adjacent to the proposed dwelling building site at 6915 Pirates Road, Pender Island, BC.



Turkey Vultures: Nesting site and timing summary

Breeding pairs of vultures arrive in the Southern Gulf Islands region in March, but most return to their nest sites during the first half of April. The most important factor in nest site selection appears to be isolation from disturbance by humans and potential predators (Kirk and Mossman 1998). Nest sites are located in caves, alcoves and/or crevices in rock cliffs and bluffs, among large rock rubble, and occasionally on the forest floor (Campbell *et al.* 2005). Once a nest site is selected, the breeding period can last up to 4 months with peak egg-laying

occurring from mid-May to early June. Incubation can last up to 40 days with the eggs hatching from late June through early July; by September most of the young have fledged. Any disturbance during this time – particularly from the nest site selection through early nestling periods – can lead to nest abandonment (Coleman and Fraser 1987).

Mammals

Two mammal species were detected during our site visit (Table 4), with no species at risk detected. We detected the presence of black-tailed deer (*Odocoileus hemionus columbianus*) in the form of pellets and trails at multiple locations on the property. Evidence of river otters (*Lontra canadensis*) was present in the form of scat within the Herbaceous Ecosystem DPA. Other mammals that may be on site, but which were not directly surveyed include small rodents and bats. Suitable habitat for bat roosting and nursery sites includes clefts in steep rock outcrops and standing dead trees with hollow interiors or flaking bark (Lausen *et al.* 2022); these features are present on the subject property and may support roosting or hibernating bats.

Table 4. List of mammal species detected at 6915 Pirates Road, Pender Island, BC

Common Name	Scientific Name	Origin Status ¹	BC Status ²	BC List ³	COSEWIC ⁴
Terrestrial					
Black-tailed Deer	<i>Odocoileus hemionus columbianus</i>	Native	S5	Yellow	Not Listed
River Otter	<i>Lontra canadensis</i>	Native	S5	Yellow	Not Listed

¹Origin Status: <https://ibis.geog.ubc.ca/biodiversity/efauna/>

²BC Status: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/status-ranks>

<https://explorer.natureserve.org/AboutTheData/Statuses>

³BC List: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/red-blue-yellow-lists>

⁴COSEWIC: <http://www.cosewic.ca/index.php/en-ca/assessment-process/wildlife-species-assessment-process-categories-guidelines/status-categories>

Amphibians and Reptiles

No reptiles or amphibians were detected during our site visit but several reptile species are likely to occur in the warmer months. The Herbaceous Ecosystem DPA portion of the property (Figure 5) has a suitable southern exposure with a rocky outcrop (Plate 5) that can provide shelter and protection from predators as well as possible basking sites. The most common species found within this type of habitat are the Northern Alligator Lizard (*Elgaria coerulea*) and Garter snakes (*Thamnophis sp.*), as they are more likely to persist within disturbed landscapes, provided that critical habitat features for their survival are maintained. Any crevices in rocky outcrops like those present on the subject property can provide excellent breeding nursery and hibernation habitat for a variety of reptiles, including the **red-listed** sharp-tailed snake (*Contia tenuis*) as well as alligator lizards (Rutherford and Gregory 2003; Ovaska *et al.* 2004). Indeed, the entire southwest-facing ridge above Swanson Channel is classified as high-quality sharp-tailed snake habitat (Figure 6). No hibernacula were detected on the subject property during the site assessment.

Plate 5. Rocky outcrop and shelter area in Herbaceous Ecosystem DPA with suitable snake and alligator lizard habitat located at 6915 Pirates Road, Pender Island, BC.



Figure 6. Potential sharp-tailed snake habitat (red polygon) at 6915 Pirates Road, Pender Island, BC (CRD Regional Map 2024).

3.4 On Site Land Use

The majority of the subject property consists of Douglas-fir – Salal forest, with a major change in habitat at the boundary of the Herbaceous Ecosystem DPA. There is a short, recently built driveway on the north side of the property ending on the edge of the Herbaceous Ecosystem DPA (Plate 6). Most of the recent site disturbance has occurred just inside the boundary of the new driveway along the edge of the Herbaceous DPA (Plates 1-4). The proposed dwelling site is composed of open herbaceous habitat (Plate 7) and has been left relatively undisturbed, except for a pruned Douglas-fir (DBH 25.2; Plate 8) tree. A developed residential property exists on the northwest side of the subject property, with dwellings located in the open herbaceous habitat, while the property to the southeast, which contains the bald eagle nest, is forested and undeveloped (Plates 9,10).

Plate 6. Newly constructed driveway and adjacent utilities corridor along the boundary of the Herbaceous Ecosystem DPA at 6915 Pirates Road, Pender Island, BC.



Plate 7. Herbaceous Ecosystem DPA with open habitat at proposed dwelling site at 6915 Pirates Road, Pender Island, BC.



Plate 8. Douglas-fir (DBH 25.2) with evidence of pruning at the proposed dwelling location within the Herbaceous Ecosystem DPA at 6915 Pirates Road, Pender Island, BC.



Plate 9. Northwest side of subject property (6915 Pirates Road, Pender Island, BC) showing view of adjacent development. House is located on the other side of boulders and trees.



Plate 10. Southeastern side of subject property (6915 Pirates Road, Pender Island, BC) showing view of adjacent forested property.



4.0 Impact Assessment

The newly constructed stairway leading to the Herbaceous Ecosystem DPA has had little impact on the overall health and ecological integrity of this sensitive ecosystem, with the landing and associated supports installed with minimal disturbance to the underlying moss and vegetation layer. The majority of the damage has occurred during the building of the utilities access corridor adjacent to the north side of the DPA (Plates 2,3). This disturbance will result in localized erosion and sediment transport from the top of the bluff down to the driveway, as soil and supporting tree roots have been disturbed or fully removed. Elsewhere in the DPA, soil and vegetation cover are generally intact. Critically for herbaceous ecosystems, much of the vegetative cover can take from 50 to well over 100 years to recover (average growth rates of 4.8 to 11.1 mm/year and average ages of over 100 years for lichens, Ahti 1959; up to 50 years for liverwort regeneration, Peck and Muir 2001); hence, disturbance to ground cover during all activities must be minimized in severity and extent. Potential impacts of this proposed development on the Herbaceous Ecosystem DPA centre around the movement of equipment and materials, excavation activity, direct net loss of habitat in dwelling footprint, subsequent reclamation, and redirection of rain and groundwater as part of the dwelling design. To safeguard from erosion, planting or seeding will be necessary to help restore any disturbed areas.

Tree Removal

During the construction of the utilities access corridor adjacent to the Herbaceous DPA, a local excavating company removed a large veteran Douglas-fir (DBH 83.0; Plate 4) from the DPA. In addition, a second Douglas-fir (DBH 25.2; Plate 8) is proposed to be removed as it lies within the proposed dwelling footprint. Although both trees must be replaced following Provincial government tree replacement criteria (See Mitigations and Recommendation), the proposed tree removal for dwelling construction will not significantly alter the ecological function of the Herbaceous Ecosystem DPA as these ecosystems tend to be areas of low growing ground cover, dominated by grasses, forbs, mosses and lichens.

Slope Stability / Erosion

The open rocky area of the Herbaceous Ecosystem DPA where the proposed dwelling is to be located is sparsely vegetated with patches of invasive and other non-native plant species such as Scotch broom, Hairy cat's-ear and common foxglove. The lower section of the Herbaceous DPA adjacent to the Cliff DPA is stable with minimal soil erosion as evidenced by well-rooted grasses and other vegetation along the edge, as well as a diverse cover of nonvascular plants and lichens on the rock outcrops (Plate 11).

Plate 11. Stable rocky outcrop with minimal soil erosion evident in the Herbaceous DPA at 6915 Pirates Road, Pender Island, BC



Although generally stable, there is the potential for disturbance due to construction activities involving rock removal that could result in erosion and reduced slope stability within the DPA (Appendix 1).

Hydrology

The installation of proper drainage will be needed to ensure water flow is directed away from the proposed dwelling. Any overflow should be directed toward the southwest side of the rocky outcrop to permit the natural movement of water and terrestrial nutrients to flow toward the ocean, consistent with existing drainage patterns on the landscape. The proposed deck (Appendix 1) should use a permeable and flow-through design to help mitigate the loss of seasonal precipitation inputs into the DPA as a result of the proposed development, as these seasonal inputs are critical for persistence of this sensitive ecosystem on the landscape.

Excavation and Root Damage

Given the shallow soil depth on the property, it is important to reduce the likelihood of potential for damage to lateral anchoring roots of trees growing within or adjacent to the Herbaceous Ecosystem DPA. Root damage due to equipment or soil compaction can compromise tree health and stability; this has the potential to impact the integrity of the Herbaceous Ecosystem DPA and could result in risk of tree fall damage to structures, necessitating future tree removal. Of particular concern are any impacts to tree roots caused by large equipment operation during construction; if root damage occurs, this will lead to the loss of these stabilizing trees and further erosional losses, as well as associated detrimental reduction in carbon storage, biodiversity, and groundwater impacts.

Introduction of Non-native Flora

Because invasive plants can readily disperse into sensitive ecosystems following their introduction in adjacent areas of disturbance, areas that have undergone ground disturbance near the Herbaceous Ecosystem DPA must be kept clear of invasive plants to prevent introduction of non-native species into the sensitive DPA ecosystem. Any construction activities involving the use of heavy equipment, as well as revegetation of disturbed areas using commercial reseeding preparations, have the potential to introduce non-native vegetation to immediate and surrounding areas. The DPA already supports significant growth of Scotch broom which will readily spread and exclude native plant species from establishing in disturbed areas. Section 5.0 provides suggestions for native species that should be seeded or planted to enhance the biodiversity and resilience of the DPA.

Septic Field

The proposed septic site will be located outside of the Herbaceous Ecosystem DPA (Appendix 1). The location of the septic field must comply with sewerage system regulations regarding well setbacks.

Wildlife Impacts

Bald Eagles

Two documented bald eagle nests are located near the subject property (Figure 5):

- **BAEA-101-136 (52m)**
- **BAEA-101-135 (155m)**

Although a Raptor and Heron DPA does cross into the property, the location of the proposed dwelling will be located just outside the Islands Trust OCP designated 50 m buffer. However, Provincial guidelines for rural development state that no development should occur within 100 m of an active eagle nest, with an additional 100 m “quiet buffer” during the nesting season to minimize disturbance (Jan 5 – Aug 31; BC Ministry of Forests, Lands and Natural Resource Operations 2013). This places nest BAEA-101-135 outside of the Provincial guideline development buffer (though within the quiet buffer), whereas nest BAEA-101-136 is located within development and quiet buffers. It is noteworthy that adult eagles have been observed in the area flying over or immediately adjacent to the subject property, and several veteran Douglas-firs in the area are suitable eagle perch trees. Hence, the importance of the subject property within a larger territory of habitat use by nesting bald eagles should be recognized, and construction activities adjusted according to Provincial guidelines (see Section 5.0).

Turkey Vultures: Nesting site and timing summary

Turkey vulture nest sites are very difficult to find due to the secretive behaviour and sensitivity to disturbance of this species. Although often seen foraging in developed areas, Turkey Vultures need undisturbed areas for nesting and roosting. Very few nesting sites are known in the province, making it difficult to protect nests (Campbell *et al.* 2005). The breeding season window for turkey vultures in our region is between April 10 and August 31. High or even low-level disturbance and habitat destruction has been implicated in historical nest site abandonment. In particular, disturbance from human activity can cause turkey vultures to temporarily abandon breeding attempts, allowing predators to take eggs (Coleman and Fraser 1987). The Province of British Columbia recommends an undisturbed buffer of at least 500 m in undeveloped areas, 200 m in rural areas, and 60 m in urbanized areas. An additional 100 metre ‘quiet’ buffer is recommended during the nesting season (BC Ministry of Forests, Lands and Natural Resource Operations 2013).

Sharp-tailed snakes

Species at risk that likely occur in the project area include sharp-tailed snakes (*Contia tenuis*; Figure 6). Although this species is thought to spend most of its time in open, rocky habitats (both above and below ground), recent tracking studies on Vancouver Island have shown that individuals can move up to 80 m in their active seasons,

and up to 150 m between years, often moving between open and forested habitats (C. Engelstoft, personal communication). Hence, this species may be present in the forested and open bluff sections of the property during at least some time of the year.

5.0 Mitigation and Recommendations

Vegetation protection and remediation

Herbaceous Ecosystem DPAs provide habitat for rare plants, nesting sites for terrestrial and marine birds and serve as a refuge for species susceptible to habitat disturbance. Following the proposed development, no further work or development should occur in the Herbaceous Ecosystem DPA on the subject property, and any further activities on the upland portion of the property must prevent disturbance to soil and existing native vegetation in order to maintain soil stability and minimize erosion and sediment transport into the DPA. We particularly recommend revegetation of the Red-listed Douglas-fir – Onion Grass ecosystem located below the Herbaceous Ecosystem DPA. Revegetation should consist of Garry oak, arbutus and Douglas-fir as canopy tree species, shrubs such as oceanspray, red-flowering currant (*Ribes sanguineum*), Nootka rose (*Rosa nutkana*) and saskatoon (*Amelanchier alnifolia*), and ground cover species such as kinnikinnick, nodding onion, woolly sunflower (*Eriophyllum lanatum*), Oregon gumweed (*Grindelia stricta*), camas (*Camassia quamash*), and drought-tolerant grasses such as native fescue (e.g. *Festuca roemerii*).

The proposed development includes a deck that can potentially reduce soil water inputs from precipitation and increase shading. Designing the deck surface to be as permeable as possible, allowing maximum flow-through of precipitation, will minimize loss of soil water. Directing overflow of precipitation from the rainwater collection system into the DPA beyond the dwelling will also help to compensate for any loss of soil water due to the siting of the deck in the DPA. The proposed height of the deck (up to 1.5 m) will ensure a reasonable amount of light reaches the ground below, and so will minimize light stress on vegetation.

Ongoing invasive plant removal is recommended for species such as Scotch broom, Daphne, and any other invasive species detected on the property (See Table 2), as well as revegetation with native plant species in areas of disturbance to help avoid further introduction of non-native species. Scotch Broom modifies soil chemistry and prevents native species from establishing, shades out native species, and competes with native plants for access to water, nutrients and pollinators and hence it is critical that it be eliminated from this landscape to restore it to a diverse and resilient native plant community (Slesak *et al.* 2022). Removal should be achieved by cutting the plants at or just below the ground (just below the root collar) to avoid soil disturbance and erosional loss, as well as to reduce the chance of germination of seeds contained in the soil seed bank. (Germination is enhanced in newly disturbed soil.) Cutting plants when they are in full bloom in the spring will minimize resprouting, as all nutrients have been moved from roots into above ground parts. Cut plants can be piled and composted in shady, moist forest areas elsewhere on the property to minimize fire risk. It will take many years before Scotch broom will be fully removed from this landscape as there will be a considerable seed bank that can persist for many decades. Replanting of native shrubs and trees should be accompanied by deer browse exclusion fencing and irrigation to allow plantings to establish.

Site Specific Recommendations

Tree Replacement

Two trees will require replacement in the Herbaceous Ecosystem DPA or adjacent Woodland DPA on the subject property. These include the Douglas-fir (DBH 83 cm) removed prior to our site survey, and a second Douglas-fir (DBH 25.2 cm) that lies within the footprint of the proposed new dwelling. It should be noted, of course, that planting of any number of seedlings does not actually compensate for the ecological function of one century-old veteran tree.

Tree species used in compensatory planting should be selected to suit the soil, light and groundwater conditions of the site, should be native to the region, and should consider wildlife habitat values where possible. The subject property is south facing and very exposed, with thin soils that are seasonally dry. The neighbouring property to the northwest supports among the largest stands of Garry oak on North Pender Island, and the Herbaceous DPA on the Subject Property would benefit from the addition of Garry oak in deeper soil pockets to help stabilize slopes and provide habitat and nutrients through leaf litter fall. Additional trees such as Douglas-fir, arbutus or shore pine could be planted in the Woodland DPA to the south, downslope from the Herbaceous and Cliff DPA areas (see Figure 4). These measures would help to enhance canopy species diversity in the sensitive ecosystems on the Subject Property; while building structures in Herbaceous Ecosystem DPAs invariably represents a net loss of this highly sensitive and microsite-limited ecosystem, enhancing native biodiversity and resilience of remaining Herbaceous ecosystems through targeted planting and invasive species removals can functionally offset this net ecosystem loss to some extent.

The general criteria below apply to the replacement of trees for the forestry industry under the Fisheries Act, Wildlife Act or Land Title Act by the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (Ministry of Forests, British Columbia 1999):

- **0 mm - 151 mm (6") DBH - 2 replacement trees or 4 shrubs (for up to 50% of trees being replaced in this range);**
- **152 mm - 304 mm (12") DBH - 3 replacement trees**
- **305 mm - 456 mm (18") DBH - 4 replacement trees**
- **457 mm - 609 mm (24") DBH - 6 replacement trees**
- **610 mm - 914 mm (36") DBH - 8 replacement trees**
- **Trees > 914 mm DBH (36") - will require individual approval and replacement criteria prior to removal.**

With one Douglas-fir of 83 cm DBH removed from the DPA, and another proposed for removal in the dwelling footprint of 25.2 cm DBH, the above prescription requires 11 trees to be replaced as compensation. Planting sites should be identified as areas with reasonably deep soils that would support seedling planting and browse protection cage installation. All planted seedlings must be maintained and replaced as needed in the event of mortality. We further recommend mulching of plantings and diversion of rainwater catchment from the constructed dwelling to plantings – either as part of the dwelling design or via manual watering through drought months to ensure planting survival until root establishment (until trees reach a free-to-grow stage, approximately 1.5 m). All plantings must be protected from deer browsing by enclosing seedlings in wire cages until the trees are established and have reached a height sufficient to ensure their leading stems are beyond the reach of deer (~1.5 – 2 m; Plate 12). In the Herbaceous DPA, there are regions of deeper soil (e.g. flat area shown in Plate 11) that should support planting of small Garry oak seedlings (1-gallon pots).

Retention of the remaining trees present in the Woodland and Herbaceous Ecosystem DPAs on the subject property will maintain carbon storage capacity, slope stability, nutrient inputs and help stimulate the natural tree regeneration process on the property, since mature trees provide a source of seed for future regeneration. In addition, snags (standing dead trees) provide nest sites and a source of insect food for many avian species [brown creeper (*Certhia americana*), red-breasted nuthatch (*Sitta canadensis*), and woodpeckers] as well as providing shelter for Pacific tree frogs (*Pseudacris regilla*), several species of bats, and many invertebrates. Hence all remaining live and dead trees should be retained within the Woodland and Herbaceous Ecosystem DPAs on the subject property in the future.

Plate 12. Example of protective barrier that should be installed around planted seedlings to prevent deer browsing, consisting of galvanized wire fencing anchored with rebar.



Wildlife considerations

Bald eagles

The subject property is largely outside of the 50 m DPA associated with the bald eagle nest located on the adjacent property to the southeast; however, Provincial guidelines recommend that an additional 100 m 'quiet zone' be implemented during the breeding season in rural areas. Hence, to follow provincial recommendations informed by disturbance and stress ecology of this species, and to ensure compliance with the Provincial Wildlife Act, a QEP should monitor the nest on the adjacent property and the lower nest near the shoreline until mid-April to determine whether either nest site is in use. According to the records of David Manning, local naturalist monitoring eagle nests on North and South Pender Island for nearly 20 years, the nesting attempt at the adjacent site in 2021 was not successful, and the site has not been used in any subsequent year despite the presence of a breeding pair of birds within the territory (following, perhaps coincidentally, the installation and operation of a helicopter landing area on the adjacent property to the southeast, within 200 m of the nest). It is therefore unlikely the adjacent nest will be occupied again; however, we recommend a precautionary approach given the long occupancy history for this nesting territory, and in an effort to balance human land use with wildlife values.

Turkey Vultures

We recommend installing a wildlife camera directed toward the entrance of the potential turkey vulture nest cave to ensure that no vultures are using the site for breeding. This monitoring should begin during the last week of March and continue for one month, until the last week of April. Once a QEP has reviewed the images and recordings and can confirm that there are no nesting turkey vultures present, the project may proceed.

If a nesting pair are discovered, following the Provincial guidelines is highly recommended to comply with the Migratory Birds Convention Act and BC Wildlife Act. For turkey vulture nest sites in rural, low-density areas, the

Province of BC recommends the following buffers throughout the breeding season (until the end of August, or until the young fledge):

- i. a 200 m radius from the nest site for all construction-related activities; and
- ii. an added 100m radius from the nest site during the breeding season as a 'Breeding season quiet buffer' (i.e. mechanical equipment operation such as excavators, large trucks, tree felling and chainsaw work).

As with bald eagles (above), the ongoing operation of a private helicopter within 200 m of the subject property will likely generate sufficient acoustic and visual disturbance to preclude nesting by turkey vultures; however, monitoring of this potential nest site should be conducted prior to any development activity on the subject property to ensure the site is not in use.

Sharp-tailed snakes

The site inventory was conducted during the late fall, when sharp-tailed snakes are overwintering well below-ground; hence there was no potential for detection of this species at risk. Given the suitability of the habitat along the entire ridge for this species (Figure 6), however, any construction activity should avoid disturbance of large woody material (decomposing logs), rock piles and boulder overhangs that provide microsites potentially used by snakes as refugia or basking areas.

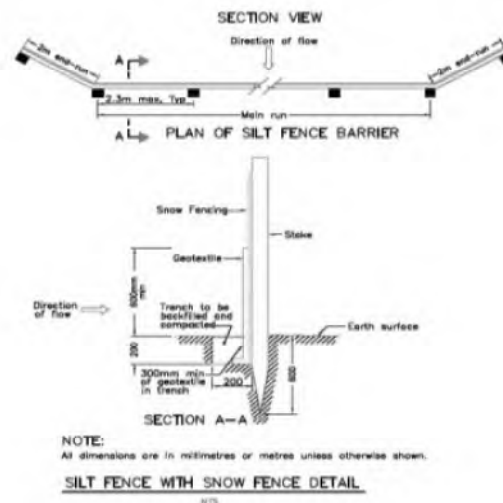
Site Specific Recommendations

Slope Stability / Erosion

1. Prior to construction, install silt fence as illustrated below to prevent surface transport of soil or fill and other material toward the seaward edge of the Herbaceous Ecosystem DPA beyond the immediate construction area.

EROSION AND SEDIMENTATION

- 1) PRE-STAKED SILT FENCE TO BE INSTALLED AS SHOWN PRIOR TO CONSTRUCTION AS DIRECTED BY THE ENGINEER.
- 2) TOPSOIL, STRIPPED FOR REUSE TO BE STOCKPILED AWAY FROM WATER COURSES, DRAINAGE PATHS AND PROPERTY AND SHALL BE COVERED AND / OR SEEDED TO REDUCE EROSION.
- 3) ALL DISTURBED AREAS TO BE RESTORED AND LANDSCAPED AS SOON AS POSSIBLE FOLLOWING CONSTRUCTION.



2. Install silt barrier fencing as close as possible to the construction area and ensure no equipment crosses the barrier into adjacent areas of the Herbaceous Ecosystem DPA. Storage of building materials must be limited to areas outside of the Herbaceous Ecosystem DPA as is practical.
3. Immediately stabilize area by any activity associated with the project using silt barrier fencing to prevent erosion and/or sedimentation, and subsequently through revegetation with native species suitable for the site. This is of extreme importance for the subject property to maintain a low risk of erosion through the

DPA and especially along the cliff edge. Any increase in sediment runoff would cause increased sedimentation of nearshore waters, and increased turbidity can impact many nearshore species, including restricting the growth of photosynthetic macroalgae along the shore. Swanson Channel below the subject property is an Interim Sanctuary Zone for Southern Resident Killer Whales because it is an important feeding area where chinook salmon occur, and any damage to slopes and increased risk of erosional inputs would negatively impact this critically endangered species.

4. To further stabilize the bank from future erosion, we recommend ongoing invasive plant removal, paired with revegetation using native plant species in areas of disturbance to help avoid further introduction of non-native species. All restoration planting should occur in the fall-spring (Nov-Feb) to allow for plant root establishment before being exposed to summer drought, and plantings should be mulched to enhance soil moisture retention.
5. Ensure no work involving ground disturbance is carried out during precipitation events.
6. Any soils exposed for prolonged periods, i.e., greater than 2 weeks, shall be covered. Covering may include tarping, or hydromulch (without seed mixture) and must be maintained.

Excavation and Root Damage

7. Use lightest possible equipment for lowest impact and avoid cutting or damaging large lateral anchoring tree roots.

Revegetation

8. Based on our professional opinion and in consultation with a professional forester: post construction, we recommend planting small seedlings as the best way to ensure tree root systems can develop undisturbed and to avoid transplant stress commonly associated with larger nursery stock. Planting small seedlings is also less invasive and can be done by hand rather than bringing in equipment to plant larger trees. This is especially relevant because some of the replanting will be occurring in the sensitive Herbaceous Ecosystem DPA and adjacent woodland areas.
9. Newly planted trees and shrubs require little care; however, until they reach a sufficient height, protection from wildlife browsing will be necessary. It is recommended that wire cages (e.g. galvanized wire fencing) be used to protect new seedlings and shrubs from animal damage. Cages need to be expandable to allow for plant growth while still ensuring protection from browsing. Barriers should start close to the ground and extend past the reach of deer, at least 1.5 m in height. Alternatively, larger sections of the property where planting will occur could be fenced, ensuring that the newly planted trees and shrubs will grow without the risk of browsing.
10. All plantings (trees, shrubs and ground cover) should be maintained by the property owner to ensure survival. For canopy trees, this is typically required until they have reached a suitable “free to grow” stage of 1.5 m. Maintenance will require browsing exclusion fencing (see #10 above), removal of invasive weeds (e.g., common foxglove, Scotch broom), and some irrigation may also be necessary to ensure seedling establishment; however, the species we have recommended for planting are generally drought tolerant once established. Unhealthy, dying or dead stock should be replaced in the next regular planting season.
11. The removal of invasive species (particularly Scotch broom) is recommended throughout the entire property, including the Herbaceous Ecosystem DPA, to prevent their continued spread and improve the resilience and biodiversity of natural areas. See above for specific removal recommendations.

Introduction of Non-native Flora

12. Contractors should inspect and clean their equipment to ensure they do not transport invasive plant species seeds onto or off the property. All equipment should be washed prior to arrival. Manual removal of weeds from equipment should be performed regularly.
13. Landscaping and restoration of disturbed areas should be conducted using *only* native plant species.

14. The removal of invasive species is recommended throughout the entire property. Where invasive plants occur along the cliff edge of the Herbaceous Ecosystem DPA, ensure all stems are cut and not pulled to maintain stabilization of the bank. Keeping Scotch broom trimmed before flowering will also help reduce seed set and spread.

Downslope Contamination

15. The construction plan for the proposed septic system installation will require approval by Island Health. Providing the plan is implemented as proposed, there should be no potential for contamination of the surrounding Herbaceous Ecosystem DPA.

The following measures will help to retain or enhance ecological value of the property as a whole:

16. To maintain ecological integrity of the Herbaceous Ecosystem DPA and the subject property as a whole, all existing canopy trees should be maintained. This includes standing dead trees (snags), as these features provide critical habitat for many species of birds, bats, and invertebrates. Existing seedlings or young trees should be managed to provide the best opportunity for survival (e.g. removal of competing vegetation and non-native species as needed, protection from herbivore browsing). Retention of all mature trees in the Herbaceous Ecosystem DPA on the property will help stimulate the natural tree regeneration process, since mature Douglas-fir, Garry oak and arbutus provide a source of seed for future regeneration.
17. For project planning in the Gulf Islands region, the songbird nesting window is March 12 to August 17 across all habitat types, with peak nesting occurring between May 1 and July 22 (Department of Environment and Climate Change 2020). All construction activities involving ground or tree disturbance should be avoided during this peak nesting period, or affected areas should be surveyed for nesting birds prior to works being initiated.

The following species list is an example of the type of deep rooted, drought tolerant native plants that could be planted on the subject property as part of landscaping and post-construction site restoration:

Oceanspray - *Holodiscus discolor*
Red Osier Dogwood - *Cornus stolonifera*
Saskatoon - *Amelanchier alnifolia*
Twinberry - *Lonicera involucrata*
Sweet Gale - *Myrica gale*
Red Flowering Currant - *Ribes sanguineum*
Pacific Ninebark - *Physocarpus capitatus*
Highbush Cranberry - *Viburnum edule*
Mock Orange - *Philadelphus lewisii*
Snowberry - *Symphoricarpos albus*
Salal – *Gaultheria shallon*
Sword fern - *Polystichum munitum*
Nootka Rose - *Rosa nutkana*
Evergreen Huckleberry - *Vaccinium ovatum*
Nodding onion - *Allium cernuum*
Sea blush - *Plectritis congesta*
Hooker's onion - *Allium acuminatum*
Shooting star - *Dodecatheon sp.*
Small-flowered and bicoloured lupine - *Lupinus sp.*
Native fescues - *Festuca sp.*

6.0 Monitoring and Restoration

A follow-up site visit by a Qualified Environmental Professional (QEP) is recommended in the future, to assess the effectiveness of the proposed mitigation procedures. A restoration plan is not necessary, but the applicant is encouraged to work with local professionals to develop a plan that will guide their ongoing restoration efforts on the property.

7.0 Conclusion

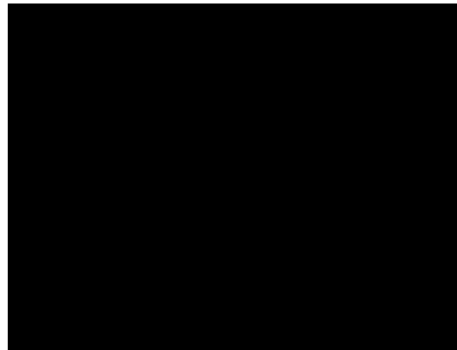
The proposed new dwelling at 6915 Pirates Road, Pender Island, BC is proposed to be constructed within the designated Herbaceous Ecosystem DPA (Figure 3, 4). It is our opinion that the guidelines and recommendations we have outlined above will ensure that detrimental impacts to the highly sensitive and threatened ecosystems on the subject property can be avoided as much as possible. If you have any questions or comments, please contact the undersigned at your convenience.

Respectfully Submitted,

Dan Baxter (B.Sc., R.P.Bio.) and Erin O'Brien (Ph.D.)



Caurinus Environmental



8.0 References

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APPENDIX 1

Kings

Lot Coverage	
House Structure Area	269 m ²
Cottage Structure Area	N/A
TII, Accessory Structure Area	n/a
Total Structure Area	269 m ²
Lot Area	40,494 m ²
Lot Coverage	0.7%
TII, Structure Area/ Lot Area	

Produced from original digital file provided by:
Polaris Land Surveying Inc.
204-149 Fulford-Ganges Rd.
Salt Spring Is.
887-603-7398
www.plsi.ca

Site Plan of Lot 19, Sec. 6 & 24
Pender Island, Cowichan Dist.
Plan 32261

PID 001-080-865

Distances in Metres

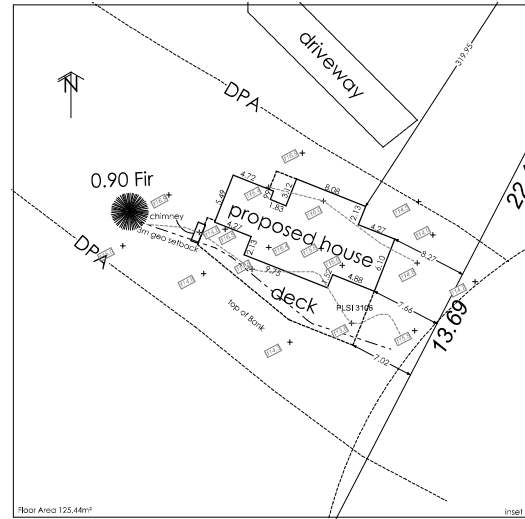
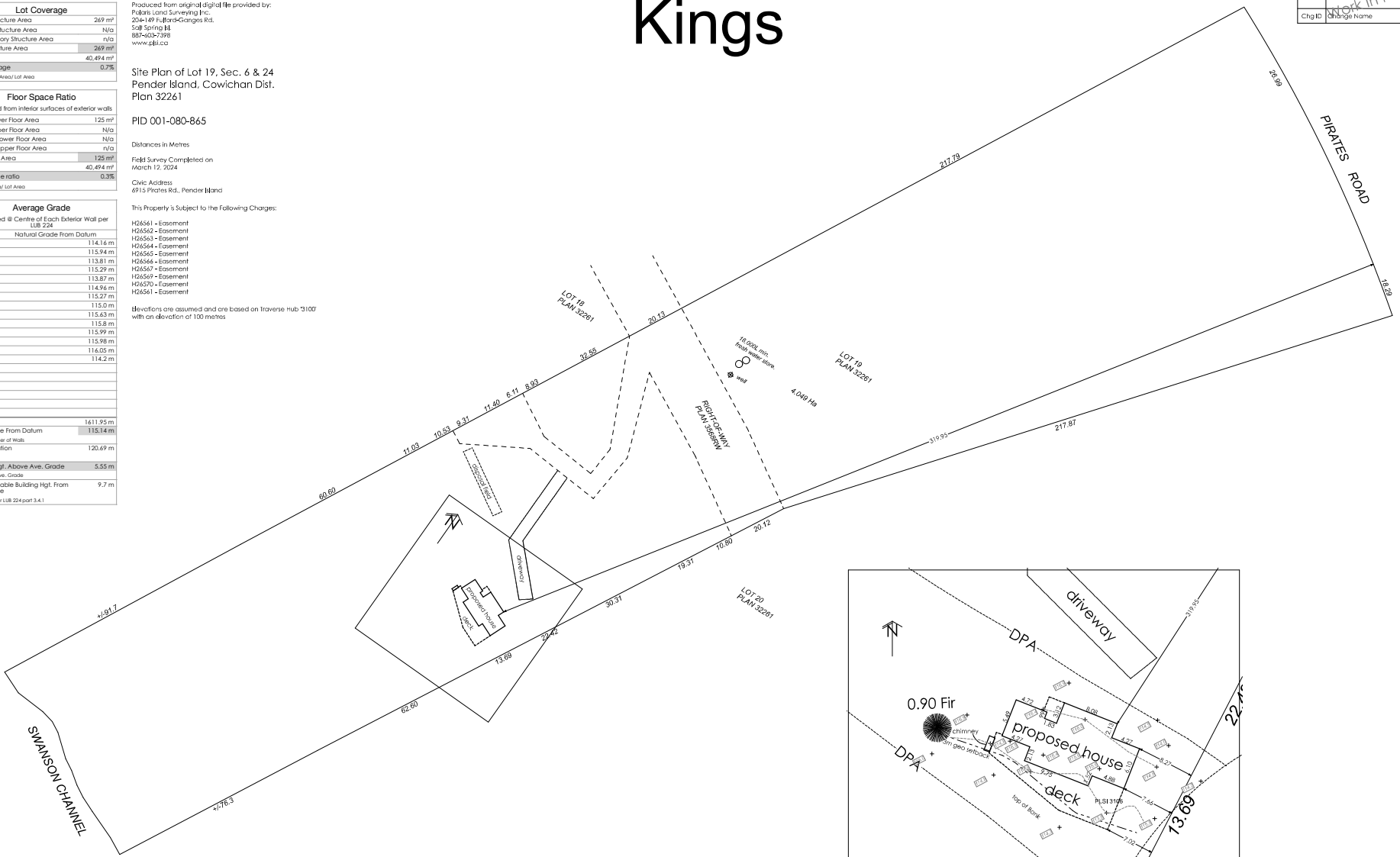
Field Survey Completed on
March 12, 2024

Civic Address
6915 Pirates Rd., Pender Island

This Property is Subject to the Following Charges:

Average Grade		
Measured @ Center of Each Exterior Wall per ULS 224		
Wall	Natural Grade From Datum	
1		114.16 m
2		115.94 m
3		113.81 m
4		115.29 m
5		113.87 m
6		114.96 m
7		115.27 m
8		115.0 m
9		115.43 m
10		115.8 m
11		115.99 m
12		115.98 m
13		116.05 m
14		114.2 m
15		
16		
17		
18		
19		
20		
Total		1611.95 m
Ave. Grade From Datum		115.14 m
Natural Grade		
Roof Elevation		120.49 m
From Datum		
Building Hgt. Above Ave. Grade		5.55 m
Roof Hgt. Above Grade		
Max Allowable Building Hgt. From Ave. Grade		9.7 m
Per L. Pender (ULS 264 par 3.4.1)		

Elevations are assumed and are based on Traverse Hub '3100' with an elevation of 100 metres

[illegible]

purpose
planning only

lot 19, sec. 6-24
plan vip32261
cow-g dist.
PID 001-080-865

7905 Bedwell Dr
Pender Island
V0N 2M2

5587 Hooson Rd.,
pender island, bc
v0n 2m1

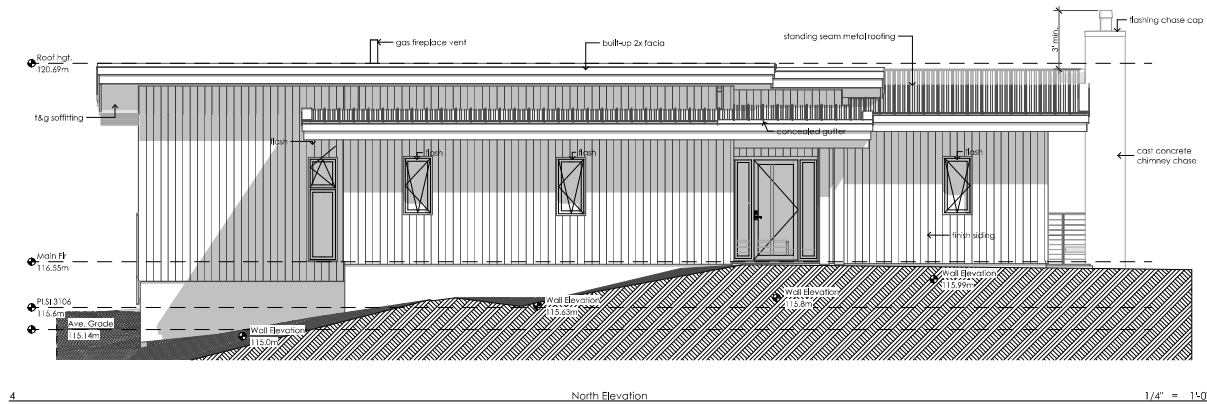
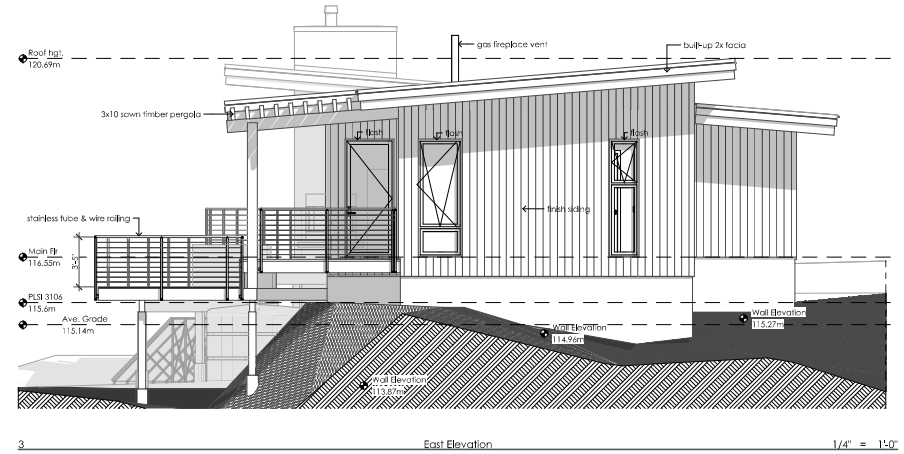
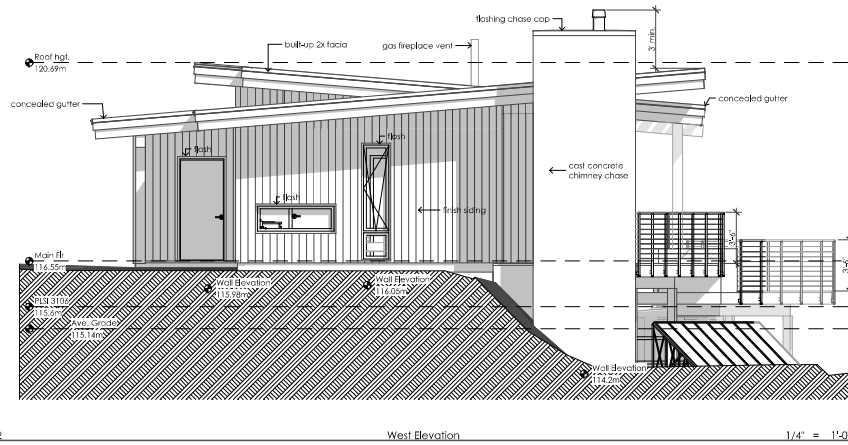
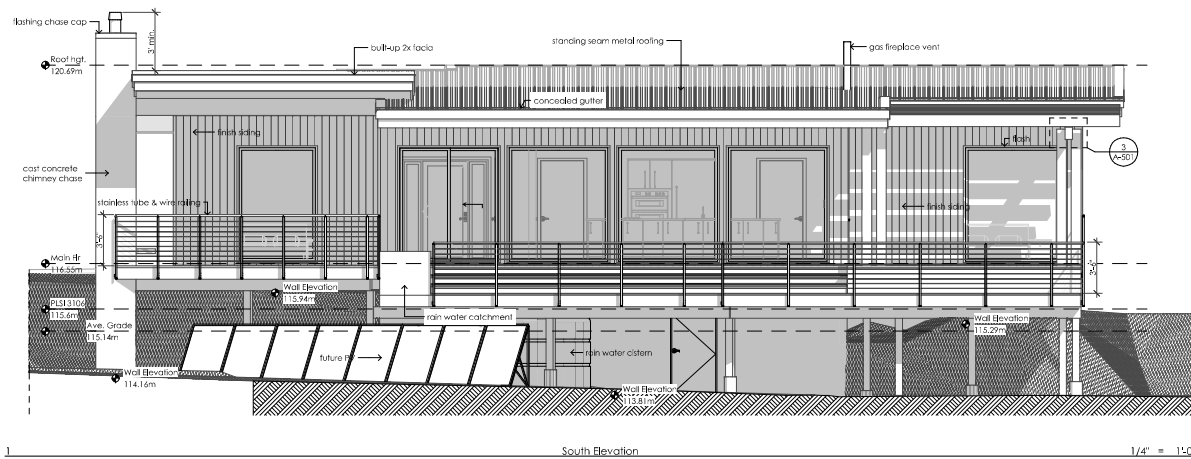


6915 Pirates Rd.
Pender Island BC
V0N 2M2

project	Bluff House
file name	Kings
drawn by	health lansdowne
bcbc 2024 - Part 9 & 9.36.6	

Architectural Site
Plan

AS-001



Chg ID	Change Name	Work In Progress Trans. Date

[illegible]

North Pender Island Local Trust Committee

Development Approval Information Checklist

Development Permit Area Applications

The attached checklists are intended to assist consulting professionals in submitting complete and relevant reports. A completed checklist(s) for each relevant Development Permit Area should be submitted to the Islands Trust along with all professional reports.

Instructions

Landowners/applicants should ensure that:

1. The relevant checklist(s) is provided to all their consulting professionals
2. A completed checklist is submitted with the professional reports
3. If not all information is provided in the report or with the application, that the professional has consulted with, and obtained prior approval, of the Islands Trust.

Consulting Professionals:

1. Complete and attach the relevant checklist(s) to your professional report indicating that the report has addressed all relevant development approval information requirements.
2. Where the professional is of the opinion that because of the nature of the site or the development proposal specific information is not relevant, the professional should:
 - a. Contact the planner as early as possible and consult on the need for the particular information;
 - b. Describe clearly in the report why the particular information is not relevant; and
 - c. Indicate on the checklist that the information is not applicable (N/A)
3. Where a site is designated within two or more DPAs, all relevant checklists should be completed.

Note: it is at the determination of the Islands Trust planner whether or not specific information is required. Failure to provide complete information without prior consultation with and the approval of the Islands Trust may result in delays in processing an application or requirements for additional information.

Pursuant to North Pender Island Local Trust Committee Development Approval Information Bylaw No 134, the applicant shall provide, as part of a development permit application, a report prepared by a qualified professional with relevant experience containing the following information. Where a professional is of the opinion that any of the following information requirements are not relevant for the proposal in question, the professional shall indicate the rationale for such an opinion, either in the body

of the report or in a separate certification. The determination of whether and what extent that development approval information is required is at the discretion of the Islands Trust official.

File No: _____

SENSITIVE ECOSYSTEMS DEVELOPMENT PERMIT AREA (DPA ONE THROUGH SIX AND FOR NPAI SHORELINE DPA)			Office Use only
	Information and Documentation Required	✓	
Site Plan	Professionally prepared plan at an appropriate scale and based on a legal survey, containing the following:	✓	
	▪ The proposed development and associated features	✓	
	▪ The development permit area boundary	✓	
	▪ Existing buildings and structures	✓	
	▪ Roads and driveways	✓	
	▪ Topographic features	✓	
	▪ Significant features identified in the site inventory	N/A	
	Where development would occur on slopes exceeding 20% grade: site profiles and cross sections demonstrating terrain conditions prior to disturbance	N/A	
Site Inventory	A site inventory providing information on the ecosystem classification, based on current best practices, providing information on: ▪ existing plant communities ▪ marine, aquatic and terrestrial habitats ▪ sensitive ecosystems ▪ nesting trees ▪ the presence of rare species and rare plant communities ▪ current on-site and adjacent land uses ▪ slope stability ▪ erosional processes ▪ hydrology and flood potential ▪ topography	✓	
	Site background analysis that includes the following known information: ▪ A check for observed species and ecosystems at risk ▪ A description of the context of the site including the use of adjacent lands and proximity to protected areas ▪ A check for the presence of raptor and heron nests ▪ A check for the presence of fish-bearing water courses	✓	
	A conservation evaluation that identifies environmentally valuable features on or near the proposed development. The evaluation should be based on current best practices, such as the RISC standard	✓	
Development Proposal	A description of the proposed development detailing construction, cut and fill, blasting, road or driveway construction, vegetation clearing, alteration to hydrological systems, alterations affecting the marine foreshore, septic field installation, landscaping, or other land alteration during or after the development phase. Alternative development options.	✓	
Impact Assessment	An assessment of the nature and extent of the impact of the proposed development, consisting of anticipated impacts on the following:	✓	
	▪ Sensitive ecosystems	✓	
	▪ Rare plant communities	✓	
	▪ Rare species habitat	✓	
	▪ Site hydrology	✓	

SENSITIVE ECOSYSTEMS DEVELOPMENT PERMIT AREA (DPA ONE THROUGH SIX AND FOR NPAI SHORELINE DPA)			Office Use only
	Information and Documentation Required	✓	
	The assessment should identify impacts stemming from the construction phase, the intended long-term use of the site, and any cumulative impacts of development in the area	✓	
Measures	A description of all recommended measures to limit, mitigate and manage the impacts of the development on environmentally valuable features	✓	
	A description of mitigation measures and their anticipated effectiveness in maintaining the health, form and function of environmentally valuable features.	✓	
Monitoring	Recommended monitoring requirements, identifying actions that will be taken to ensure all proposed activities are completed as described, a monitoring schedule and process for resolving any non-compliance	✓	
Restoration	Recommended actions to restore or enhance ecosystem functions or habitat that have been degraded prior to development or that would be impacted by the proposed development	✓	



3601 Masthead Cr.
Pender Island BC Canada
V0N 2M0
250-222-4571
caurinusenvironmental@gmail.com

12 March 2025

Attn: Brad Smith

Re: Addendum to report for the Herbaceous Ecosystem Development Permit Area (DPA) located at Lot 19 Plan, VIP32261, Section 6/24, Cowichan Land District, Portion Pender Island (PID: 001-080-865) - 6915 Pirates Road, Pender Island, BC.

Caurinus Environmental was retained to review a plan to adjust the placement of the primary dwelling in the Herbaceous Ecosystem Development Permit Area (DPA) located at 6915 Pirates Road on North Pender Island. The purpose of the Herbaceous Ecosystem DPA is to offer protection to the remaining herbaceous ecosystems on North Pender Island by guiding any new development that might occur within them. Portions of the property at 6915 Pirates Road have been locally designated as an Herbaceous Ecosystem DPA by the Islands Trust. This designation includes rare ecosystems, comprising open wildflower meadows and grassy hilltops, and are usually interspersed with moss-covered rock outcrops. Vegetation in these areas is generally low-growing, dominated by grasses and forbs. They are located from the salt spray zone near shorelines to the summits of local hills. Herbaceous ecosystems are characterized by shallow thin soils and rapidly draining soil conditions. Low rainfall, and extreme summer temperatures create drying conditions. These ecosystems are rare, fragile and exceptionally vulnerable to all types of human disturbance. The Herbaceous Ecosystem DPA (Figure 1) includes ecosystems designated as Cladina - Wallace's selaginella.



Figure 1. Location of Herbaceous, Woodland and Cliff Ecosystem DPA on the subject property (Islands Trust (MapIT) 2024).

Tree Removal and Mitigation

As previously stated in the primary assessment report, during the construction of the utilities access corridor in the Herbaceous DPA, a local excavating company removed a large veteran Douglas-fir (*Pseudotsuga menziesii*; DBH 83.0) from the DPA. In addition, a second Douglas-fir (DBH 25.2) was proposed to be removed as it lies within the proposed dwelling footprint. The current proposed adjustment to the placement of the dwelling will result of the loss of two additional Douglas-fir tree in the vicinity of the proposed dwelling (Table 1; Plate 1).

Plate 1. Location of the two Douglas-fir trees to be removed with the readjustment of the proposed primary dwelling in the Herbaceous Ecosystem DPA at 6915 Pirates Road, Pender Island, BC.



Table 1. Diameter of trees in the proposed dwelling site at 6915 Pirates Road, Pender Island, BC. (* DBH of 2 new trees to be removed in DPA)

Herbaceous Ecosystem DPA		
Tree Species	#	DBH (cm)
*Douglas-fir	1	20.7
*Douglas-fir	2	21.9
Douglas-fir	3	25.2
Douglas-fir (Stump)	4	83.0

The initial assessment report recommended that compensatory plantings should consist of tree species suited to the soil, light and groundwater conditions of the site, should be native to the region, and should consider wildlife habitat values where possible. With the removal of two more Douglas-fir trees in the proposed dwelling site, compensatory planting should be increased from 11 to **17** trees. It should be noted, of course, that planting of any number of seedlings does not actually compensate for the ecological function of one centuries-old veteran tree. Although the four trees must be replaced following Provincial government tree replacement criteria (See Mitigations and Recommendation in initial assessment report), the proposed tree removal for dwelling construction will not significantly alter the ecological function of the Herbaceous Ecosystem DPA as these ecosystems tend to be areas of low growing ground cover, dominated by grasses, forbs, mosses and lichens.

Utilities access corridor and vegetation protection and remediation

As stated in the initial assessment report, much of the damage has occurred during the building of the utilities access corridor adjacent to the north side of the Herbaceous DPA. This disturbance will result in localized erosion and sediment transport from the top of the bluff down to the driveway, as soil and supporting tree roots have been disturbed or fully removed (Plate 2).

Plate 2. Recently disturbed utilities corridor from top (left) and bottom (right), adjacent to the proposed building area in the Herbaceous Ecosystem DPA at 6915 Pirates Road, Pender Island, BC.



Critically for herbaceous ecosystems, much of the vegetative cover can take from 50 to well over 100 years to recover (average growth rates of 4.8 to 11.1 mm/year and average ages of over 100 years for lichens; up to 50 years for liverwort regeneration (see initial assessment report for references)).

Herbaceous Ecosystem DPAs provide habitat for rare plants, nesting sites for terrestrial and marine birds and serve as a refuge for species susceptible to habitat disturbance. Following the proposed development, no further work or development should occur in the Herbaceous Ecosystem DPA on the subject property.

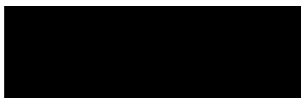
The previously constructed utilities access corridor running from the driveway to the top of the rockface must be restored as much as possible to its original state. Once all utilities have been installed, the area along the disturbed area and any other works related to utilities installation should be topped with locally sourced, clean soil and replanted to restore and stabilize the slope. Revegetation of rocky areas within the Herbaceous DPA should consist of ground cover species such as broadleaf stonecrop (*Sedum spathulifolium*), kinnikinnick (*Arctostaphylos uva-ursi*), nodding onion (*Allium cernuum*), woolly sunflower (*Eriophyllum lanatum*), Oregon gumweed (*Grindelia stricta*), camas (*Camassia quamash*), sea blush (*Plectritis congesta*) and small-flowered blue-eyed Mary (*Collinsia parviflora*), and drought-tolerant grasses such as native fescue (e.g. *Festuca roemerii*) should be planted in the localized cover soil. Seeds of most of these species are also locally available; seeding in addition to planting will help to ensure maximal coverage and minimize invasion by non-native disturbance-adapted species. Any runoff from the new proposed dwelling should be diverted away from any restoration area until plants become established, to ensure that heavy rainfall events do not washout any restoration work.

It is our opinion that the guidelines and recommendations we have outlined above and in the initial assessment report will ensure that impacts to the highly sensitive and threatened ecosystems on the subject property can be minimized as much as possible. If you have any questions or comments, please contact the undersigned at your convenience.

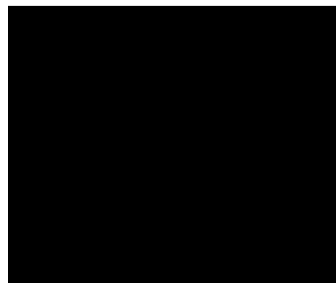
Please do not hesitate to contact me if you have any additional questions or concerns, or if you require additional information.

CAURINUS ENVIRONMENTAL

Per:



Dan Baxter, B.Sc., R.P.Bio. #1999
Project Manager





Development Permit application Re:

6915 Pirates Road, Pender Island

To whom it may concern,

We are applying for a Development Permit for a single family home of 125m² single story with super energy efficient construction designed and built with Passive House method. Though the goal is not PH certification, the design and construction is expected to bring the performance very close to PH levels.

The site is approximately 4 ha and as with all other lots in this development, has fantastic southern views out over Swanson Channel. The topography of the lot is a rock ridge more or less bisecting the lot east to west. From the ridge, a steep cliff falls to the water facing south and, slopes down to Pirates road to the north. While the northern portion of the lot has potential for development, and will support accessory structures for the proposed home, the primary location for an SFD is along the top of the ridge to take advantage of the views. Due to the topography with steep cliffs on south of the ridge that preclude any development and steep rock faces with very difficult terrain along the ridge to the west and north, the proposed siting is the only area on the ridge of this property that presents the most practical location to take advantage of the views. The proposed location is set as far east as possible due to the very rough terrain to the west and for better access to the site. Access to the house will be by footpath only with the driveway and parking terminating outside the DPA.

We deeply appreciate and value the sensitive nature of the site and the DPA intended to protect these locations. A site visit will impress upon the board and public concerned, that other siting options do not exist if the owner is to enjoy one of the principle reasons for wanting to live on this property. The owner does not view the rough, natural state of the lot as something that needs to be developed or "fixed" but greatly values and appreciates the very nature of the site and feels that it is just as important in its natural state as is the view itself.

The footprint of the proposed home is small, and every effort will be made to protect the surrounding vegetation from damage. We want to nestle the home into the site and create a natural, rustic, wild setting for the owner to enjoy what "is" without trying to impose on it.

On behalf of myself and the owner Jim Kings, thank you for your consideration.

Heath Lansdowne

North Pender Island Local Trust Committee

Development Approval Information Checklist

Development Permit Area Applications

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of the report or in a separate certification. The determination of whether and what extent that development approval information is required is at the discretion of the Islands Trust official.

File No: _____

SENSITIVE ECOSYSTEMS DEVELOPMENT PERMIT AREA (DPA ONE THROUGH SIX AND FOR NPAI SHORELINE DPA)			Office Use only
	Information and Documentation Required	✓	
Site Plan	Professionally prepared plan at an appropriate scale and based on a legal survey, containing the following:	✓	
	▪ The proposed development and associated features	✓	
	▪ The development permit area boundary	✓	
	▪ Existing buildings and structures	✓	
	▪ Roads and driveways	✓	
	▪ Topographic features	✓	
	▪ Significant features identified in the site inventory	N/A	
	Where development would occur on slopes exceeding 20% grade: site profiles and cross sections demonstrating terrain conditions prior to disturbance	N/A	
Site Inventory	A site inventory providing information on the ecosystem classification, based on current best practices, providing information on: ▪ existing plant communities ▪ marine, aquatic and terrestrial habitats ▪ sensitive ecosystems ▪ nesting trees ▪ the presence of rare species and rare plant communities ▪ current on-site and adjacent land uses ▪ slope stability ▪ erosional processes ▪ hydrology and flood potential ▪ topography	✓	
	Site background analysis that includes the following known information: ▪ A check for observed species and ecosystems at risk ▪ A description of the context of the site including the use of adjacent lands and proximity to protected areas ▪ A check for the presence of raptor and heron nests ▪ A check for the presence of fish-bearing water courses	✓	
	A conservation evaluation that identifies environmentally valuable features on or near the proposed development. The evaluation should be based on current best practices, such as the RISC standard	✓	
Development Proposal	A description of the proposed development detailing construction, cut and fill, blasting, road or driveway construction, vegetation clearing, alteration to hydrological systems, alterations affecting the marine foreshore, septic field installation, landscaping, or other land alteration during or after the development phase. Alternative development options.	✓	
Impact Assessment	An assessment of the nature and extent of the impact of the proposed development, consisting of anticipated impacts on the following: ▪ Sensitive ecosystems ▪ Rare plant communities ▪ Rare species habitat ▪ Site hydrology	✓	

SENSITIVE ECOSYSTEMS DEVELOPMENT PERMIT AREA (DPA ONE THROUGH SIX AND FOR NPAI SHORELINE DPA)			Office Use only
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	The assessment should identify impacts stemming from the construction phase, the intended long-term use of the site, and any cumulative impacts of development in the area	✓	
Measures	A description of all recommended measures to limit, mitigate and manage the impacts of the development on environmentally valuable features	✓	
	A description of mitigation measures and their anticipated effectiveness in maintaining the health, form and function of environmentally valuable features.	✓	
Monitoring	Recommended monitoring requirements, identifying actions that will be taken to ensure all proposed activities are completed as described, a monitoring schedule and process for resolving any non-compliance	✓	
Restoration	Recommended actions to restore or enhance ecosystem functions or habitat that have been degraded prior to development or that would be impacted by the proposed development	✓	