



**DEVELOPMENT PERMIT NO. DP001020**

**JOHN HUNTER and RONNI MARBACK**  
Name of Owner(s) of Land (Permittee)

**3100 HAMMOND BAY ROAD**  
Civic Address

1. This development permit is issued subject to compliance with all of the bylaws of the municipality applicable thereto, except as specifically varied or supplemented by this permit.
2. This development permit applies to and only to those lands within the municipality described below, and any and all building structures and other developments thereon:

Legal Description:

**THAT PART OF SECTION 9, WELLINGTON DISTRICT, SHOWN OUTLINED IN RED ON PLAN 1206-R, LYING TO THE SOUTH OF HAMMOND BAY ROAD, AS SAID ROAD IS SHOWN ON PLAN 13866**

**PID No. 009-432-442**

3. The land described herein shall be developed strictly in accordance with the following terms and conditions and provisions of this permit and any plans and specifications hereto which shall form a part thereof.

**Schedule A Location Plan**

**Schedule B Environmental Report**

**Schedule C Site Plan**

**Schedule D Landscape Plan and Maintenance Plan**

- a) If the applicant does not substantially commence the development permitted by this permit within two years of the date of this permit, the permit shall lapse.
4. This permit is not a building permit nor does it constitute approval of any signage. Separate applications must be made for a building permit and sign permit.

### TERMS OF PERMIT

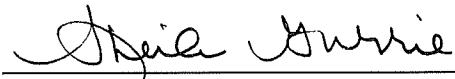
The City of Nanaimo "ZONING BYLAW 2011 NO. 4500" is varied as follows:

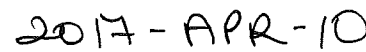
1. *Section 6.3.1.2.* – to reduce the watercourse setback measured from the natural boundary of the ocean from 15m to 6.5m to permit the proposed development as shown on the Site Plan prepared by Turner Land Surveying Inc., dated March 2, 2017 and contained in Schedule C.

### CONDITIONS OF PERMIT

1. The subject property shall be developed in accordance with the Environmental Assessment and Supporting Documents (Schedule B) prepared by Aquaparian Environmental Consulting Ltd., dated March 6, 2017.
2. The subject property shall be developed in accordance with the Site Plan prepared by Turner Land Surveying Inc., dated March 2, 2017 and contained in Schedule C.
3. The landscaping improvements shall be completed and maintained in substantial compliance with the Landscape Plan and Vegetation Management Plan prepared by Victoria Drakeford Landscape Architect and included with Schedule D.
4. A landscape bond is required for 100% of the landscape estimate prepared by Victoria Drakeford Landscape Architect dated March 2, 2017 and contained in Schedule D. A certified letter of completion of the installation of the proposed restoration area and blackberry removal from the landscape architect is required before 75% of the landscape bond will be released. The remainder of the landscape bond may be released following a two year maintenance period beginning post installation upon a certified letter of completion from the landscape architect and satisfactory final inspection of the landscape area and blackberry removal area.
5. The construction of the proposed lower level deck addition must not occur until the landscape installation and blackberry removal is completed in accordance with the Landscape Plan prepared by Victoria Drakeford Landscape Architect, dated March 2, 2017.

AUTHORIZING RESOLUTION PASSED BY COUNCIL  
THE 3RD DAY OF APRIL, 2017.

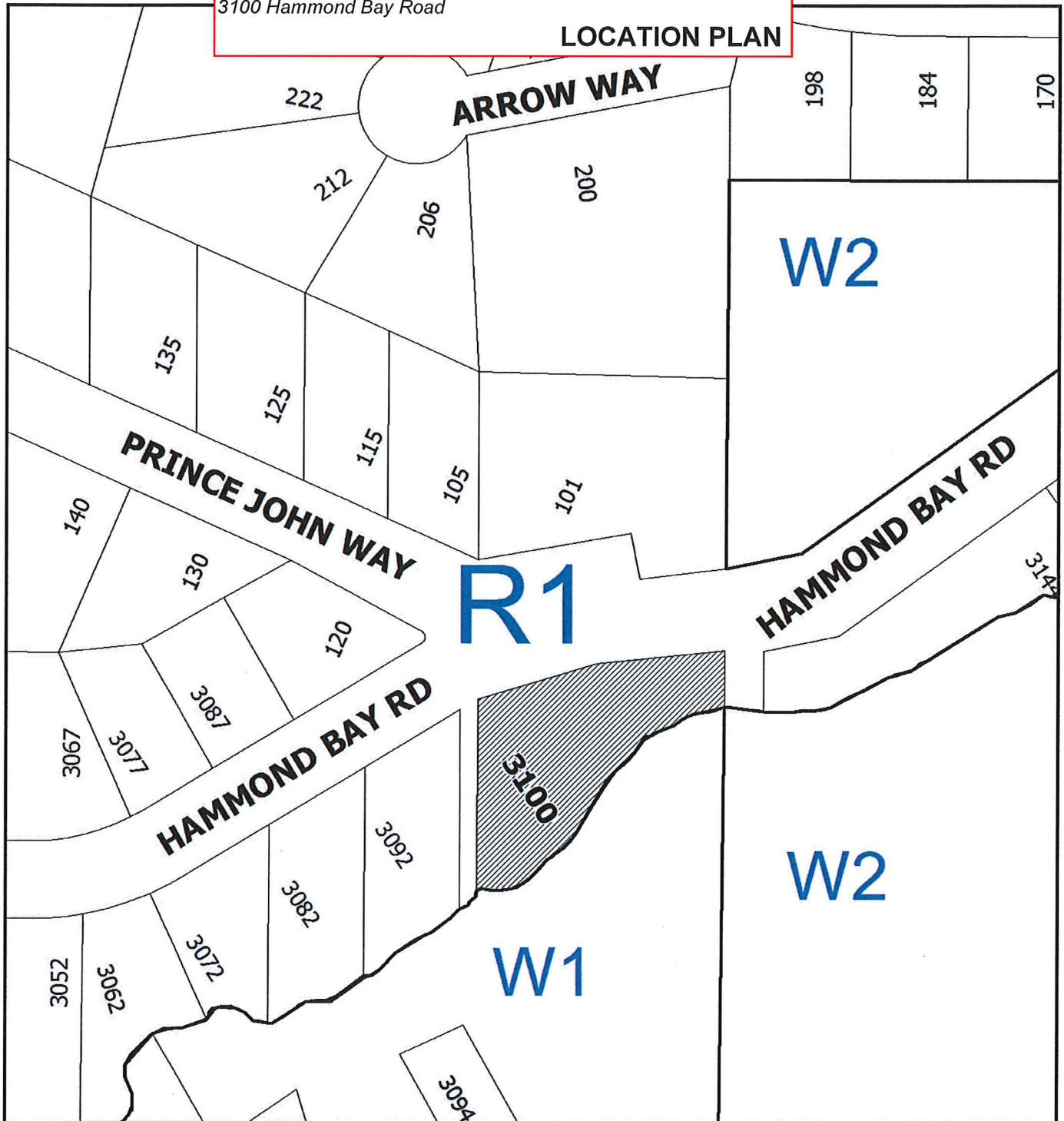
  
Corporate Officer

  
Date

Development Permit DP001020  
3100 Hammond Bay Road

Schedule A

**LOCATION PLAN**



DEVELOPMENT PERMIT NO. DP001020

**LOCATION PLAN**



 **Subject Property**

Civic: 3100 Hammond Bay Road  
That part of Section 9, Wellington District shown outlined in red on  
Plan 1206-R lying to the South of Hammond Bay Road as  
said Road is shown on Plan 13866



**ENVIRONMENTAL REPORT**



October 27, 2016

Ronni Marback  
3100 Hammond Bay Road,  
Nanaimo BC

VIA EMAIL: ronni@360inc.ca

**RE: ENVIRONMENTAL SERVICES - WATERFRONT DEVELOPMENT PERMIT AREA  
VEGETATION MANAGEMENT PLAN**

## **1.0 INTRODUCTION**

Aquaparian Environmental Consulting Ltd (Aquaparian) was retained by Ms. Ronni Marmack and Mr. John Hunter to complete an assessment of a residential property located at 3100 Hammond Bay Road, Nanaimo BC. A site location map has been included as Figure 1. Site photographs have been included as Appendix A.

The property is situated on a steeply sloping section of the shoreline overlooking Departure Bay and is designated with a 15m Waterfront Development Permit Area (DPA). The parcel has an existing house and detached garage. As understood, you recently purchased the property and started a house renovation on the existing footprint. Because a portion of the house is within the 15m DPA, the City of Nanaimo imposed a stop work order until you obtain a Development Permit with Variance (DPV) to allow the work to continue. In order to approve a variance to the 15m setback, the City is requiring habitat restoration to be completed to offset the footprint of development inside the setback. This report has been prepared as an attachment to the DPV application form.

## **2.0 SITE DESCRIPTION**

The parcel is situated on a steep, south facing aspect of shoreline overlooking Departure Bay. Approximately 72% of the parcel is within the 15m DPA. A site plan showing the existing structures with the 15m DPA has been included as Figure 2. A site plan overlaid on Google Earth showing the proposed habitat restoration area has been included as Figure 3. An illustration of the proposed planting plan has been included as Figure 4. Because the site is an irregular shape, areas have been estimated as best as possible.

The following table has been used to determine the area for habitat restoration offsetting:

**Table 1. Habitat Offsetting Estimate**

Area Description	Area m <sup>2</sup>
Parcel Area (approximate)	1755m <sup>2</sup> (0.18ha)
DPA Area (approximate)	1260m <sup>2</sup>
Developed Area – including deck and stairs	156.5m <sup>2</sup>
Developed Area Inside the DPA	53.1m <sup>2</sup>
Habitat Compensation Area ~1:1 (rounded up)	55m <sup>2</sup>

The house, parking area and garage are positioned mid-slope within the parcel on a narrow bench. A "U" shaped driveway cuts across the slope from Hammond Bay Road down to the house and garage and back up to Hammond Bay Road. Between Hammond Bay Road and the driveway is a steep slope vegetated with mature trees. Below the house on the west half of the parcel is a gradually sloping lawn extending to the beach. A partially exposed shell midden was observed near the west end of the shoreline where the soils are thin overlying bedrock which has experienced some erosion. The erosion is likely to continue without protection.

A steep, narrow, concrete stairway leads to the shoreline from the east end of the covered patio. The east half of the parcel is steeper and completely vegetated with Himalayan blackberry starting from the edge of the stairway and extending to the eastern property line. The shoreline is formed by bedrock with a gravel and sand pocket beach with exposed bedrock extrusions forming the intertidal zone.

### 3.0 VEGETATION MANAGEMENT PLAN

The proposed remediation includes removal of approximately 55m<sup>2</sup> of Himalayan blackberry from the slope below the east end of the house starting at the concrete stairs. The parcel becomes more steeply sloping toward the east; further blackberry remediation is desirable but potential impacts to slope stability would first need to be determined once the initial blackberry is removed.

Plant species have been selected for the site conditions within the restoration area which is south facing in full sun and steeply sloping with well drained and likely poor soil conditions. The plant number estimate assumes a soil layer over the proposed remediation area. If areas of exposed rock are found after the blackberry cover is removed, plant numbers can be adjusted accordingly to fit into the soil areas. Similarly, if the slope toward the east is found to be stable enough to remediate, the blackberry it should be removed and replanted as far as possible. Plant numbers should be added as necessary to achieve the 1/m<sup>2</sup> recommendation.



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Overall planting density to be achieved is a minimum of one plant per square meter with the goal of 100% cover within 2-3 years. Chosen species are expected to infill over time. Refer to Appendix B for an illustrative planting plan. The following table is a recommended list of species and number to restore the proposed remediation area.

**Table 2. Planting Plan**

Planting Area	Common Name	Species	Spacing	Size	Quantity
Area: 55m <sup>2</sup>					
	Nootka rose	<i>Rosa nutkana</i>	1 m <sup>2</sup>	1 Gal	25
	Snowberry	<i>Symphoricarpos albus</i>	1 m <sup>2</sup>	1 Gal	25
	Oceanspray	<i>Holodiscus discolor</i>	5 m <sup>2</sup>	1 Gal	3
	Tall Oregon grape	<i>Mahonia aquifolium</i>	5 m <sup>2</sup>	1 Gal	3
	Garry oak	<i>Quercus garryana</i>	10m <sup>2</sup>	1 Gal	2
<b>Total Plants:</b>	<b>58</b>				

### 3.1 PLANT SOURCES

#### **Green Thumb Nursery**

6261 Hammond Bay Road, Nanaimo BC,

250-758-0944

Email: [info@greenthumbgardencentre.com](mailto:info@greenthumbgardencentre.com)

#### **Nanaimo & Area Land Trust (NGO)**

3145 Frost Road, Cassidy BC

*The Natural Abundance* Native Plant Nursery – call to check when open  
250-714-1990 or 250-668-7670.

#### **Streamside Native Plants**

7455 Island Highway West, Bowser, British Columbia V0R 1G0

Phone/Fax: 250-757-9999 / Toll Free: 877-570-3138

[http://members.shaw.ca/nativeplants/streamside\\_home.html](http://members.shaw.ca/nativeplants/streamside_home.html)

E-mail: [Richard@streamsidenativeplants.com](mailto:Richard@streamsidenativeplants.com)

The nursery is located at 7455 Island Highway West (Highway 19A) Bowser B.C.

### 3.2 INSTALLATION RECOMMENDATIONS

- Removal of the Himalayan blackberry should be completed only during the late dry summer months to stress the root system as much as possible and to avoid potential erosion and sedimentation of the marine environment. Cut the plants off near the root and dispose of the brush at the landfill. Root removal should be completed by hand



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(mattock/shovel) and removal of as much of the root systems as possible is critical to reduce re-growth.

- Installation of native plants should be completed in early fall just before the rains begin to optimize survival.
- Soil conditions under the blackberry are unknown at this time but are expected to be poor and overlying bedrock. There is a potential to uncover areas of exposed bedrock. Pocket planting is recommended: if possible dig a hole 1.5 times the size of the pot. Prepare the planting hole with topsoil and a handful of bone meal (reduces transplant shock). Water the plants immediately after planting. Water as necessary through the first two dry seasons until the plants are well established.
- Mulch should be applied using natural materials such as composted leaf litter, composted bark mulch or straw to prevent moisture loss and soil erosion.
- Overall shrub density should be a minimum of 1 per m<sup>2</sup> and plant placement should mimic a natural growth pattern i.e. clusters of same species. Plant the Garry oak close to the shoreline so that they will eventually overhang the beach.
- Every year the site will need to be inspected for invasive species re-growth – probably several times throughout the growing season. Invasives are to be removed as often as necessary.
- Although the midden area appears to be restricted to the low slope grass area within the western shoreline and no excavations are planned for that area, the following chance find procedure have been provided below to give guidance in case archaeological finds are uncovered during replanting efforts on the slope:
  - No soil disturbance is to occur in the known midden area – measures to protect the midden from further erosion have been provided in Section 3.4 of this report.
  - Archaeological sites are protected under the *Heritage Conservation Act*. If archaeological evidence is found during excavation work of the slope remediation area, activities **must** be halted and the Archaeology Branch contacted at 250-953-3334 for direction.
  - For further information please visit the Property Owners and Developers web page at [http://www.for.gov.bc.ca/archaeology/property\\_owners\\_and\\_developers/index.htm](http://www.for.gov.bc.ca/archaeology/property_owners_and_developers/index.htm).



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### 3.3 HABITAT COMPENSATION BUDGET ESTIMATE

Based on the on-line price list on the Streamside Native Plants website and past experience, Aquaparian has provided the following cost estimate for purposes of a Bond calculation that the City of Nanaimo will require to ensure the restoration is carried out and successful over two years following installation. Typically, the majority of the bond will be released upon completion of planting with the remainder released following the maintenance period. Exact costs may vary from the estimate based on the chosen source of plants, materials and labour cost.

**Table 3. Cost Estimate for Bond Calculation**

Item	Cost Estimate
Labour: invasive removal and planting 50hrs @ \$20/hr	\$1000
Plants: 58 plus 10% contingency for die-off	\$350
Bone meal, delivery cost, other materials/tools	\$100
Mulch	\$100
<b>Total</b>	<b>\$1550</b>

### 3.4 SHORELINE EROSION MITIGATION

As previously identified, a section of the shoreline near the western side of the parcel appears to be a shell midden that is experiencing erosion. Approximately 1m of midden appears to have eroded along approximately 5m of shoreline length. The soil profile along the eroded section is approximately 30cm deep overlying bedrock and comprised of fine, dark soils mixed with fractured bedrock and shells. Vegetation cover appears to be dominated by a sparse, low growing herbaceous species. Further erosion is likely to occur without erosion control measures.

Selection of the erosion control recommendation has taken into consideration the following:

- Site conditions - shallow soil over bedrock on the shoreline requires a low impact design;
- No excavation of the midden is to occur – therefore a site disturbance permit is not expected to be required;
- Erosion controls are to be installed in the late spring during daytime low tide conditions;
- The erosion control will be located at the edge of the existing soils above the high water line. No negative impacts to fish or fish habitat are likely to occur therefore no submission for Fisheries and Oceans Canada is required;
- No encroachment beyond the parcel boundary is expected therefore no application to provincial crown lands is required; and
- Installation will be by hand – no heavy machines are to be used.

Aquaparian recommends using a vegetated geotextile soil sock or geogrid product such as Filtrex, Deltalock or similar product seeded with shoreline grass (Dune grass) and shrub



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species. The soil socks are to be positioned along the toe of the eroding bank and backfilled with soil. Soil is to be brought in to fill the soil socks and to backfill and cover the midden area for surface erosion protection. Installing small size shoreline grasses and shrubs (4" pots) into the soil socks may occur but no excavation into the backshore midden area is to occur. The backshore soil placement is to be seeded with grass immediately and covered with a layer of straw to prevent surface erosion and retain moisture to promote seed germination. Reinstating a vegetation buffer along the shoreline will reduce the potential for erosion over the long term.

#### 4.0 MAINTENANCE & MONITORING

- Removal of new Himalayan blackberry shoots is likely to require annual maintenance as there will be seed bank and root fragments in the restoration area as well as a large areas of thick Himalayan blackberry extending to the east property line.
- Plants are to be maintained for two years with replanting if die-off occurs with the end goal of allowing the plants to grow and in-fill the new vegetation area.
- Aquaparian should be notified prior to the commencement of vegetation installation works as well as the shoreline work to protect the midden. At least one site monitoring visit is expected to be required for each activity to ensure mitigation measures are implemented and working effectively for the site conditions at the time.
- Aquaparian will need to complete a post vegetation installation report to be submitted to the City of Nanaimo to release the majority of the Bond. A final report after the maintenance period will be required to release the final portion of the Bond.

#### 5.0 VARIANCE REQUIREMENT

A variance of the 15m DPA is required to bring the house and garage into conformity and to allow the house renovation to continue. As per the site plan, the closest corner of the garage is 6.5m from the Present Natural Boundary (PNB) of the shoreline while the closest corner of the house is 9.5m from the PNB. The area of the buildings inside the DPA is 53.1m<sup>2</sup>.

The restoration area as well as the shoreline erosion area are located within the DPA but may be approved as a condition of the DPV as "works within the DPA".



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## 5.0 CLOSURE

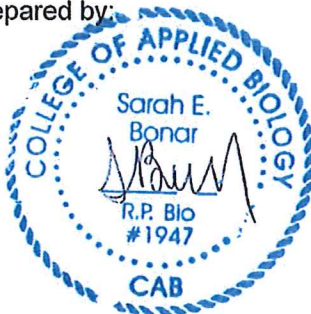
This Vegetation Management Plan report has been completed using Best Management Practices for construction in and around the marine environment. This report has also been completed in accordance with generally accepted biological practices. No other warrantee is made, either expressed or implied.

Aquaparian Environmental Consultants Ltd. trusts that the information provided in this report meets your requirements. Any questions regarding information provided in this document, please contact the undersigned at (250) 591-2258 or by cell at (250) 714-8864.

Respectfully submitted

**AQUAPARIAN ENVIRONMENTAL CONSULTING LTD**

Prepared by:



Sarah Bonar, B.Sc., R.P.Bio.  
Project Biologist/Principal

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SARAH BONAR 250-714-8446 CHRIS ZAMORA 250-714-8864

SITE PLAN

B.C. Land

That Part Of Section 9, Wellington District, Shown Outlined In Red  
On Plan 1206-R Lying To The South Of Hammond Bay Road As  
Said Road Is Shown On Plan 13866.

P.I.D. 009-432-442

Civic Address: 3100 Hammond Bay Road

This document was prepared for municipal and mortgage purposes  
and is for the exclusive use of our client, John Hunter.

This document shows the relative location of the surveyed structures  
and features with respect to the boundaries of the parcel described above.

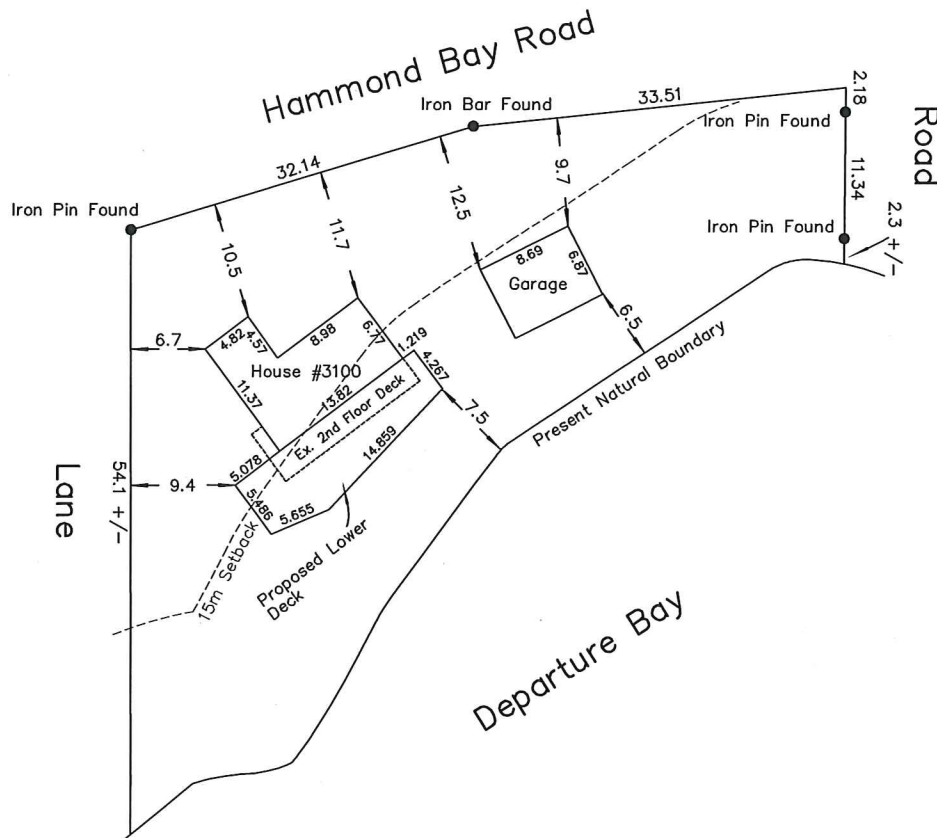
This document shall not be used to define property lines or property corners.

R.J. Turner Land Surveying Inc. accept no responsibility for and hereby disclaim all  
obligations and liabilities for damages arising out of or in connection with any  
direct or indirect use or reliance upon the plan beyond it's intended use.

Certified correct this 2nd day of March, 2017.

Matthew D. Schnurch, B.C.L.S.

(This document is not valid unless originally signed and sealed.)



Area of house and proposed deck within 15m setback = 123.6 m<sup>2</sup>  
Garage area = 59.7 m<sup>2</sup>

Scale 1:500  
Distances shown are in metres.

Turner Land Surveying Inc  
605 Comox Road  
Nanaimo, B.C.  
V9R 3J4  
250-753-9778  
File: 16-056

Note:  
This property is affected by  
the following registered documents:  
D23415.

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## **VICTORIA DRAKEFORD LANDSCAPE ARCHITECT**

236 Pine Street, Nanaimo, B.C. Canada V9R 2B6 Phone/Fax (250) 754-4335

# **VEGETATION MANAGEMENT AND MAINTENANCE**

## **1.0 OBJECTIVES**

- To remove invasive plants and prevent their future establishment
- To plant indigenous vegetation on the site to aid in shoreline stabilization and increased bird and insect habitat

## **1.1 MAINTENANCE AND MONITORING**

### **.1 General:**

- Monitoring and maintenance will take place for two years from the time of acceptance of Substantial Completion of the project.
- Appropriate measures shall be taken to ensure that no spillage of fuels, fertilizers, toxic construction materials, or other toxic wastes occurs, and where use of such materials is necessary, to ensure that adequate containment facilities and clean-up equipment are utilized.
- No toxic or waste materials, fuels and fertilizers shall be stored adjacent to or dumped into the ocean or any other water body either on or off the job site, or in a location where spillage could result in seepage into the water.
- All toxic wastes and other material shall be disposed of in a manner acceptable to the Owner and in accordance with municipal, provincial and federal regulations.

### **.2 On-going removal and monitoring invasive species**

- Removal of invasive species by hand:  
On going removal of the Himalayan blackberry should be completed only during the late dry summer months to stress the root system as much as possible and to avoid potential erosion and sedimentation of the marine environment. Cut the plants off near the root and dispose of the brush at the landfill. Root

removal should be completed by hand (mattock/shovel) and removal of as much of the root systems as possible is critical to reduce re-growth.

- Monitor health of all new plants and naturally regenerating seedlings.
- Do not remove fallen leaves, leave as mulch and allow to compost in situ.

### **.3 Monitoring newly planted areas**

- Appearance Standards: The area is intended to be wild so an informal appearance is desirable with the weeds kept to a minimum. Plants should be kept healthy. Plants should not be trimmed. There should be a routine maintenance of moderate frequency and intensity, with regular monitoring to avoid deterioration. See table below.
- Maintenance operations for the planted shrubs and ground covers shall include:
  - (a) Watering
  - (b) Weeding, being careful not to weed out naturally regenerating native plants; These weeding sessions should be done on a regular basis, at least four times a year.
- Maintenance operations should, where possible, follow ecologically sound practices such as:
  - (a) Integrated Pest Management (IPM)
  - (b) Plant Health Care (PHC)
  - (c) Composting
  - (d) Application of Organic Mulches

### **.4 Maintenance Procedures and Frequencies**

Procedure	M	A	M	J	J	A	S	O	Frequency
Inspection				x					Once a year by Landscape Arch.
Weeding		x		x		x		x	4 times a year minimum** see note below
Reporting				x					Once a year by Landscape Arch.
Invasive		x		x		x			3 times a year



removal									
repair									As required
Replacement planting	x						x		Survival rate of 95% is required at the end of the maintenance period
Mulch									Leave fallen leaves on the area as mulch

\*\*Weeding must be done when isolated weedy patches have a width of 20cm. Weeding shall remove 80% of weeds. "Isolated" means a weed distribution of no greater than four patches per 5m<sup>2</sup>.

## 2.0 PLAN REVIEW

As part of the monitoring process, an adaptive management approach will be applied to this Vegetation Management Plan. As inspections take place the health of the scheme will be determined and changes may be made, if necessary, to ensure the success of the planting.