



**DEVELOPMENT PERMIT NO. DP001033**

**GARY GEORGE TUTHILL**  
Name of Owner(s) of Land (Permittee)

**271 HARWELL 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:

**LOT 77, SECTION 11, RANGE 7, MOUNTAIN DISTRICT PLAN 25146**

**PID No. 002-883-031**

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 Site Survey**

**Schedule C Executive Summary**

**Schedule D Vegetation Management 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:

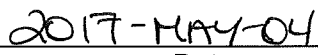
- *Section 6.3.1.5* – to reduce the watercourse setback measured from top of bank from 15m to 4.7m to the proposed carport and second storey deck.

### CONDITIONS OF PERMIT

1. The subject property shall be developed in accordance with the Site Survey prepared by Turner Land Surveying Inc., dated 2017-JAN-13, as shown on Schedule B.
2. The subject property shall be developed in accordance with the recommendations of the Geotechnical Report prepared by Simpson Geotechnical Ltd., dated 2017-APR-03.
3. The subject property shall be developed in accordance with the recommendations of the Executive Summary prepared by Aquaparian Environmental Consulting Ltd., dated 2017-APR-04, as shown on Schedule C.
4. The re-vegetation shall be completed in Spring 2017, and maintained in substantial compliance with the recommendations of the Vegetation Management Plan prepared by Aquaparian Environmental Consulting Ltd., dated 2017-MAR-16, as shown on Schedule D.
5. A two year maintenance period is required as per the Vegetation Management Plan prepared by Aquaparian Environmental Consulting Ltd. dated 2017-MAR-16. A certified letter of completion is required from the Qualified Environmental Professional upon initial installation of the required planting.

AUTHORIZING RESOLUTION PASSED BY COUNCIL THE  
24TH DAY OF APRIL, 2017.

  
Corporate Officer

  
Date

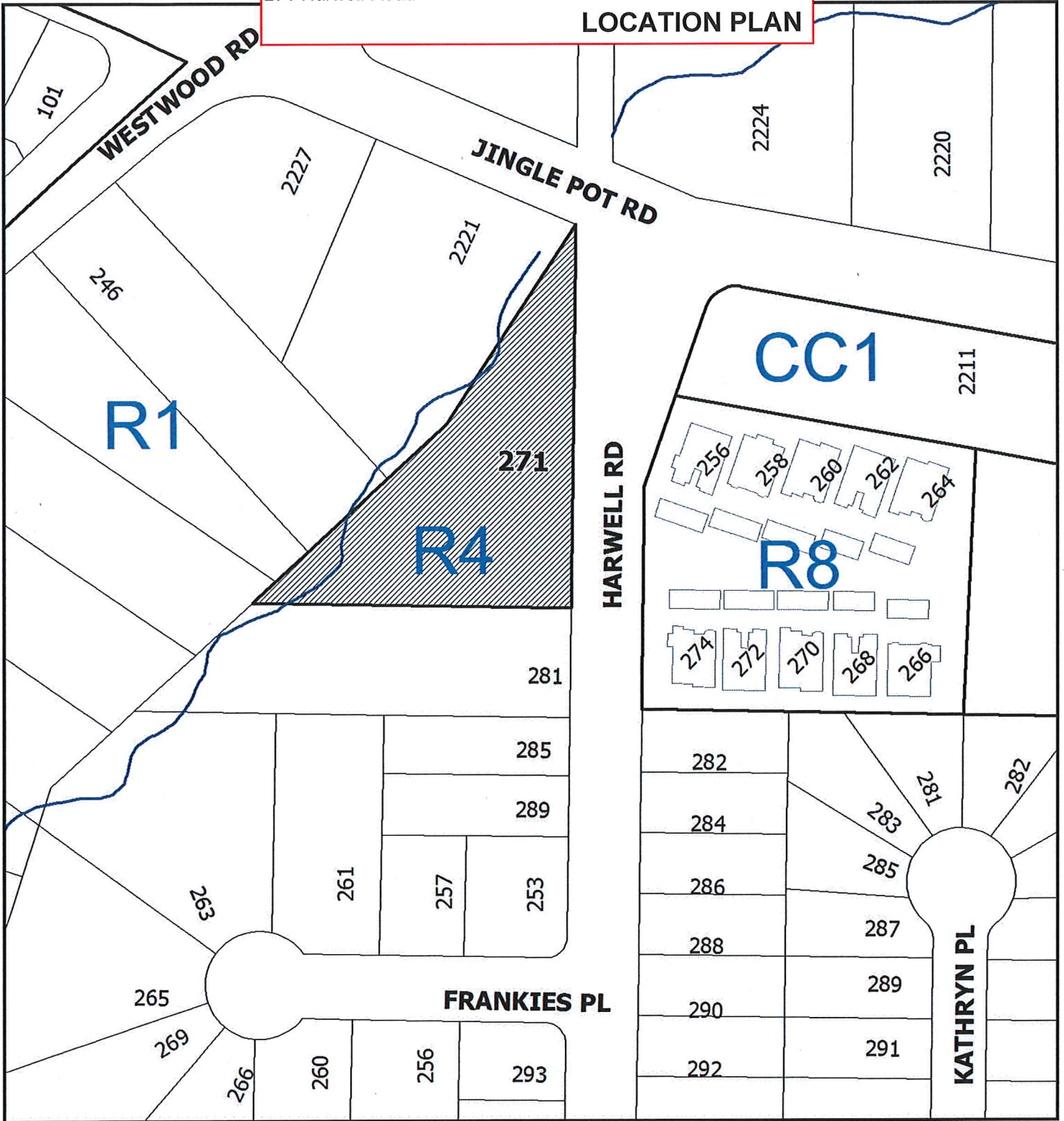
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Prospero attachment: DP001033

Development Permit DP001033  
271 Harwell Road

Schedule A

LOCATION PLAN



DEVELOPMENT PERMIT NO. DP001033



LOCATION PLAN



Subject Property

Civic: 271 Harwell Road  
Lot 77, Section 11, Range 7,  
Mountain District, Plan 25146

Site Plan showing proposed  
Lot 77, Section 11, Range 7  
Mountain District, Plan 25146

Development Permit DP001033

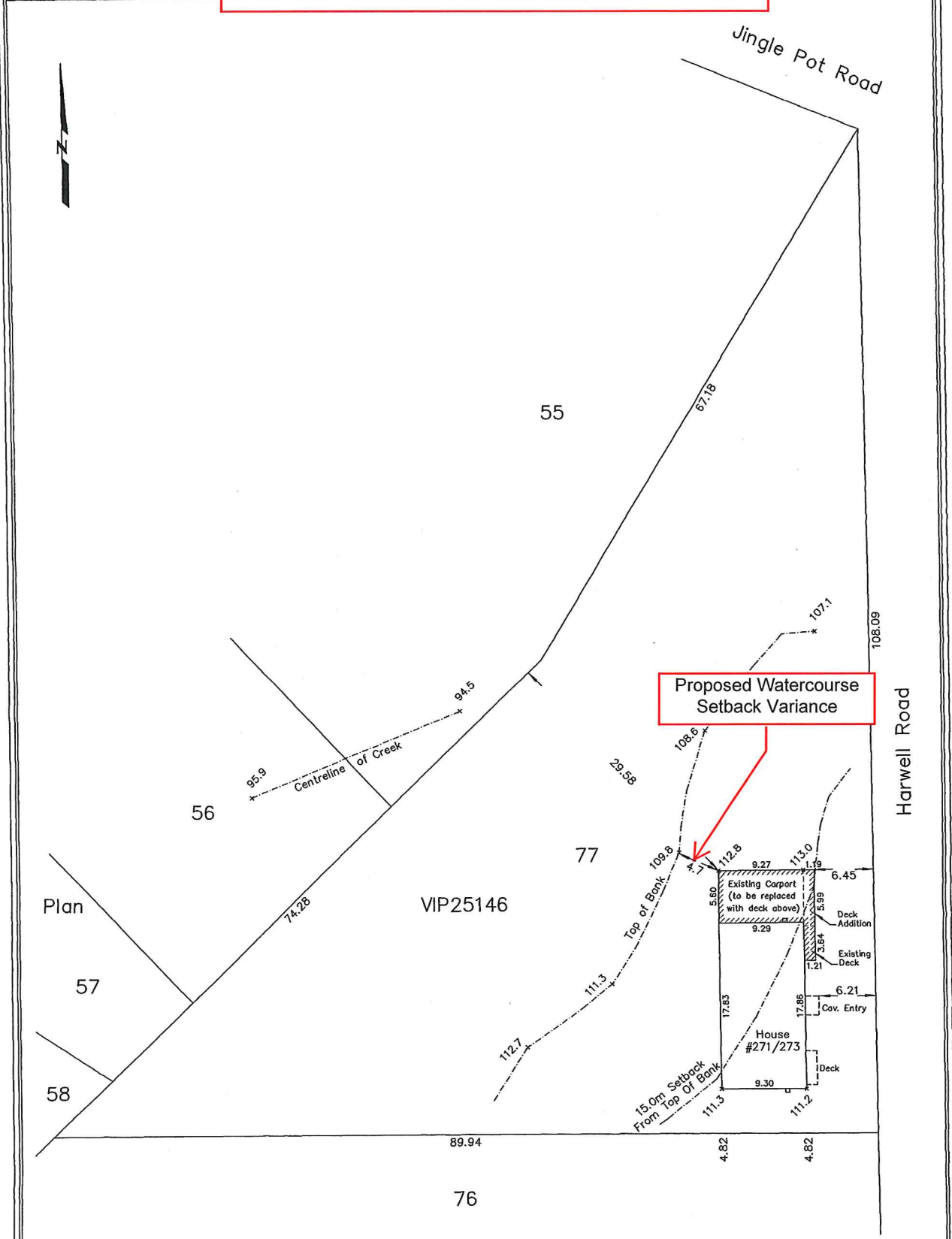
Schedule B

271 Harwell Road

# SITE SURVEY

h, 2017

Drawn by: DRW



**Note:**  
This property is affected by  
the following registered document:  
A40466.

Distances and elevations are in metres.  
Geodetic elevations are derived from control monument 90H6352.

**Turner** *land surveying*

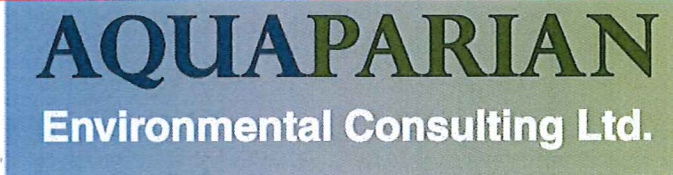
250.753.9778  
605 Comox Road  
Nanaimo, BC V9R 3J4

Certified correct this 13th day of January, 2017.

*[Signature]*

B.C.I.S.  
(This document is not valid unless originally signed and sealed.)

**EXECUTIVE SUMMARY**



January 20, 2017

RECEIVED  
DP001033  
2017-APR-10  
Current Planning & Subdivision

Gary Thuthill  
273 Harwell Road.  
Nanaimo, BC, V9R 6T9.

**Attn:** tuthillgary@yahoo.ca

**Re: 271 Harwell Road, Nanaimo, BC  
Riparian Vegetation Setback, Variance Process  
Riparian Areas Assessment – Variance Application**

**1.0 SUMMARY BACKGROUND**

Aquaparian Environmental Consulting Ltd. (Aquaparian) was retained by Gary Tuthill (property owner) to complete a Riparian Areas Regulation (RAR) Assessment as part of a property construction development permit requirement. The subject property at 271 Harwell Road includes a single family dwelling (271m<sup>2</sup> in size) located immediately adjacent to a ravine top of bank (TOB). The ravine is bisected by Darrough Creek. The property has supported a single family dwelling for more than 40 years, and has been cleared of most native vegetation to support a lawn up to the edge of the ravine.

The property is also located within a City of Nanaimo (CON) Watercourse Development Permit Area (DPA1) and Steep Slopes (DPA5). As is currently understood the carport is in disrepair and the owner would like to reconstruct it. Because of the DPA's, the house is deemed Legal but non-conforming. The footprint of the carport will remain the same however a new concrete pad may need to be poured. It is also understood that a recent geotechnical assessment on the property has been completed by Simpson Geotechnical.

Aquaparian completed a Riparian Area's Assessment of the property on January 16, 2017. The intent of this RAR assessment is to determine the Streamside Protection and Enhancement Area (SPEA) setbacks and bring the existing home into legal conformant status; thus allowing the decommissioning of the existing carport and the development of a new carport in its place and to permit future repairs to the home should they be required.

**2.0 RESULTS AND RECOMMENDATIONS**

At this time It was determined that the width of the ravine is approximately 80 to 90m wide from the opposite top of banks. As per the Riparian Area Regulations (RAR) assessment

methodology (page 6 of RAR user manual) – riparian assessment areas (RAA) for a ravine 60m wide or greater: “A strip on both sides of the stream measured from the High Water Mark (HWM) to a point that is 10m beyond the ravine”. Therefore, the Streamside Protection and Enhancement Area (SPEA) is set to 10m from the HWM of Darrough Creek. Most of house sits within the CON 15m DPA1. The northwest corner of the carport encroaches as close as 4.7m from the ravine TOB. Replacement of the carport would still result in encroachment of the 15m Watercourse DPA1 by 10.3m. As such, a Development Permit Application (DPA) with a Variance of 10.3m is required to allow for the replacement of the carport and future repairs to the home and will bring the current house into compliance with the zoning by-law. No impacts to fish habitat or the health of the ravine is expected with reconstruction of the carport

Additional measures to protect the SPEA with the construction of a new carport and future home repairs include:

- No soil or vegetation disturbance is to occur within the 10m SPEA, except those areas permitted by the variance, during any part of construction of the carport or future repairs to the home;
- No yard waste is to be disposed down the ravine bank. Yard waste currently present near the top of the ravine bank is to be removed and disposed of offsite in an appropriate location;
- Where small points of erosion do exist, it is recommended that the owner plant native shrubs (i.e. sword ferns, dull-Oregon grape). No other planting works is recommended;
- No deleterious substances are to enter Darrough Creek; and,
- Roof leaders that catch rain water should continue to be directed to Harwell Road and not towards the ravine edge.

If you have any questions regarding the results of the RAR assessment, or the above recommendations, please contact the undersigned.

Sincerely,

**AQUAPARIAN ENVIRONMENTAL CONSULTING LTD.**



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Chris Zamora, R.P.Bio  
Senior Biologist / Principal

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503 COMOX ROAD, NANAIMO, BC V9R 3J2  
SARAH BONAR 250-714-8446 CHRIS ZAMORA 250-714-8864

**VEGETATION MANAGEMENT PLAN****AQUAPARIAN****Environmental Consulting Ltd.**

March 16, 2017

Gary Thuthill  
271 Harwell Road  
Nanaimo, BC V9R 6T9**VIA EMAIL:** tuthillgary@yahoo.ca**RE: VEGETATION MANAGEMENT PLAN  
271 HARWELL ROAD, NANAIMO BC****1.0 INTRODUCTION**

Aquaparian Environmental Consulting Ltd. (Aquaparian) was retained by Gary Tuthill (property owner) to complete a Riparian Areas Regulation (RAR) Assessment as part of a property construction development permit requirement. The subject property at 271 Harwell Road includes a single family dwelling (271m<sup>2</sup> in size) located immediately adjacent to a ravine top of bank (TOB). The ravine is bisected by Darrough Creek. The property has supported a single family dwelling for more than 40 years, and has been cleared of most native vegetation to support a lawn up to the edge of the ravine. The following Vegetation Management Plan has been submitted to support the Riparian Areas Assessment.

The property is also located within a City of Nanaimo (CON) Watercourse Development Permit Area (DPA1) and Steep Slopes (DPA5). As is currently understood the carport is in disrepair and the owner would like to reconstruct it. Because of the DPA's, the house is deemed Legal but non-conforming. The footprint of the carport will remain the same however a new concrete pad may need to be poured.

Aquaparian completed a Riparian Area's Assessment of the property on January 16, 2017. The intent of the RAR assessment was to determine the Streamside Protection and Enhancement Area (SPEA) setbacks and bring the existing home into legal conformant status; thus allowing the decommissioning of the existing carport and the development of a new carport in its place and to permit future repairs to the home should they be required.

A small but narrow pocket of soil erosion was noted where the lawn meets the ravine edge due to deposition of yard waste. Aquaparian is recommending the re-instatement of native plants

within the erosion spots resulting in the restoration of an 8m<sup>2</sup> area. The native plantings will help to stabilize the ravines top of bank and the retention of native trees.

## 2.0 VEGETATION MANAGEMENT PLAN

The Vegetation Management Plan (VMP) for this property will include the replacement of a narrow strip of lawn with native vegetation and will add to the enhancement of the 15m Watercourse DPA. The total planting area is 1m wide x 8m in length. Figure 1 shows the planting plan area.

Upon completion, the total restoration footprint will be 8m<sup>2</sup>.

## 2.1 RESTORATION CALCULATION

**Table 1. Estimated Riparian Restoration Requirement:**

Stream DPA Area & SPEA	Area Estimate m <sup>2</sup>
Total DPA area within the parcel (15m setback)	~3360m <sup>2</sup>
Total SPEA in parcel (10m setback) – No Build Area	~370m <sup>2</sup>
<b>Total proposed restoration area</b>	<b>~8m<sup>2</sup></b>

## 2.2 PLANTING PLAN

The following species have been selected for each restoration area. Overall planting density to be achieved is a minimum of one plant per square meter depending on species size with the goal of 100% cover within 2-3 years.

**Table 2. Planting Plan**

Planting Area	Common Name	Species	Spacing	Size	Quantity
8m <sup>2</sup>					
	Western redcedar	<i>Thuja plicata</i>	5 m <sup>2</sup>	5 Gal	3
	Dull Oregon grape	<i>Mahonia nervosa</i>	1.0 m <sup>2</sup>	1 Gal	4
	Sword fern	<i>Polystichum munitum</i>	1.0 m <sup>2</sup>	1 Gal	4
<b>Total Plants:</b>					<b>11 plants</b>



271 Harwell Road VMP  
March 2017

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## 2.3 PLANT SOURCES

### 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.

### 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.

## 2.4 INSTALLATION RECOMMENDATIONS

Timing:

- Installation of native vegetation will be completed in spring of 2017.
- For riparian vegetation plantings, 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.
- Topsoil will be added to areas where native species plantings are to occur; a layer of top soil (~1ft deep) will be required for the planting area with composted bark mulch or straw layer on top to prevent moisture loss and soil erosion.
- Overall shrub density should be a minimum of 1.0 per m<sup>2</sup> and plant placement should mimic a natural growth pattern i.e. clusters of same species.
- Plants kept watered and inspected weekly by home owner.

## 2.5 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. Aquaparian “Strongly” recommends that “No-Bonding” be required for the planting works. The planting will not improve riparian habitat conditions for Darrough Creek and is a prescription to treat “minor” soil erosion only.



201-321 Wallace St, Nanaimo, BC V9R 5B6  
SARAH BONAR 250-714-8446 CHRIS ZAMORA 250-714-8864

**Table 3. Cost Estimate for Native Plantings**

Item	Cost Estimate
Labour: planting @ \$20/hr	\$40
Plants: 11 and 10% contingency for die-off	\$92
Bone meal, delivery cost, other materials/tools	\$20
Topsoil	\$30
Mulch (composted bark)	\$25
<b>Total</b>	<b>\$ 207</b>

### 3.0 MAINTENANCE & MONITORING

- Plants are to be maintained for two years with replanting as necessary with the end goal of allowing the plants to grow and in-fill the new riparian area.
- If more than 10% of the plants die off in a given area within the first two years, they are to be replaced.

### 4.0 CLOSURE

This Vegetation Management Plan report has also been completed in accordance with generally accepted biological practices and with a full understanding of site conditions within the property. 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:

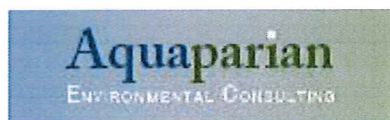
Reviewed/Revised by:



Crystal Campbell  
Environmental Technician

Chris Zamora, B.Sc., R.P.Bio.  
Project Biologist/Principal




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# 271 HARWELL ROAD PLANTING PLAN

## LEGEND

-  Western redcedar tree
-  Sword fern
-  Dull Oregon grape

