

#### **DEVELOPMENT PERMIT NO. DP001031**

#### 1085479 BC LTD Name of Owner(s) of Land (Permittee)

#### 3200 SINGLETON 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 1, SECTION 5, WELLINGTON DISTRICT, PLAN 17638**

PID No. 003-961-231

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 Riparian Management & Restoration 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 6.3.1.5 – to reduce the watercourse setback measured from top of bank from 15m to 10m.

#### CONDITIONS OF PERMIT

- 1. The subject property shall be developed in accordance with the Site Survey prepared by Turner Land Surveying Inc. dated 2016-NOV-03.
- 2. The subject property shall be developed generally in accordance with the Executive Summary prepared by Aquaparian Environmental Consulting Ltd. dated 2017-MAR-08.
- 3. The riparian area improvements shall be completed in substantial compliance with the Riparian Management & Restoration Plan prepared by Aquaparian Environmental Consulting Ltd. dated 2016-AUG-20.
- 4. A permanent fence shall be installed along the 10m watercourse setback boundary as identified on the Site Survey prepared by Turner Land Surveying Inc. dated 2016-NOV-03.
- 5. A landscape bond is required for 100% of the landscape estimate prepared by Aquaparian Environmental Consulting Ltd., and contained in the Riparian Management and Restoration Plan dated 2016-AUG-20.
- 6. A two year maintenance period is required as per the Riparian Management & Restoration Plan prepared by Aquaparian Environmental Consulting Ltd. dated 2016-AUG-20. A certified letter of completion is required from the Qualified Environmental Professional at the end of the two year maintenance period.

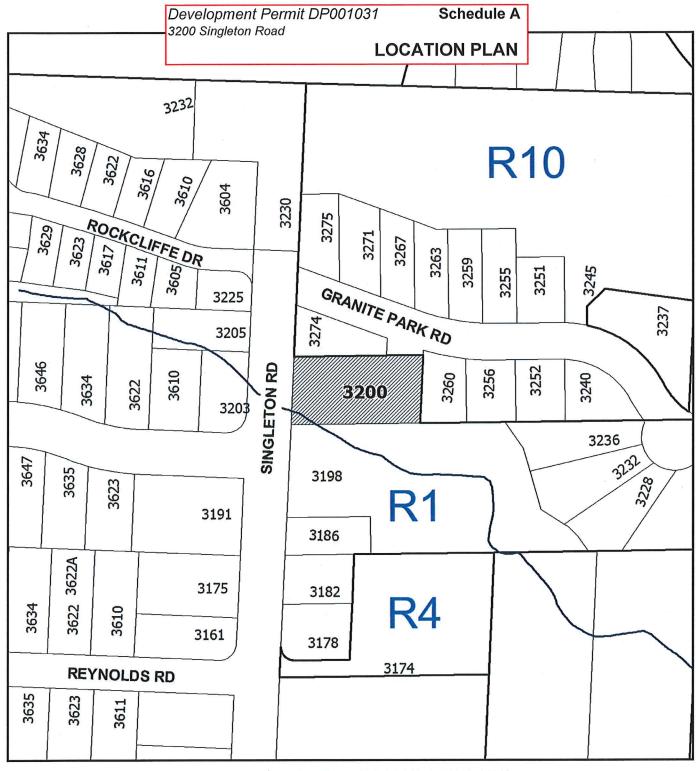
AUTHORIZING RESOLUTION PASSED BY COUNCIL THE **3RD** DAY OF **APRIL**, **2017**.

Corporate Officer

Date

TR/In

Prospero attachment: DP001031



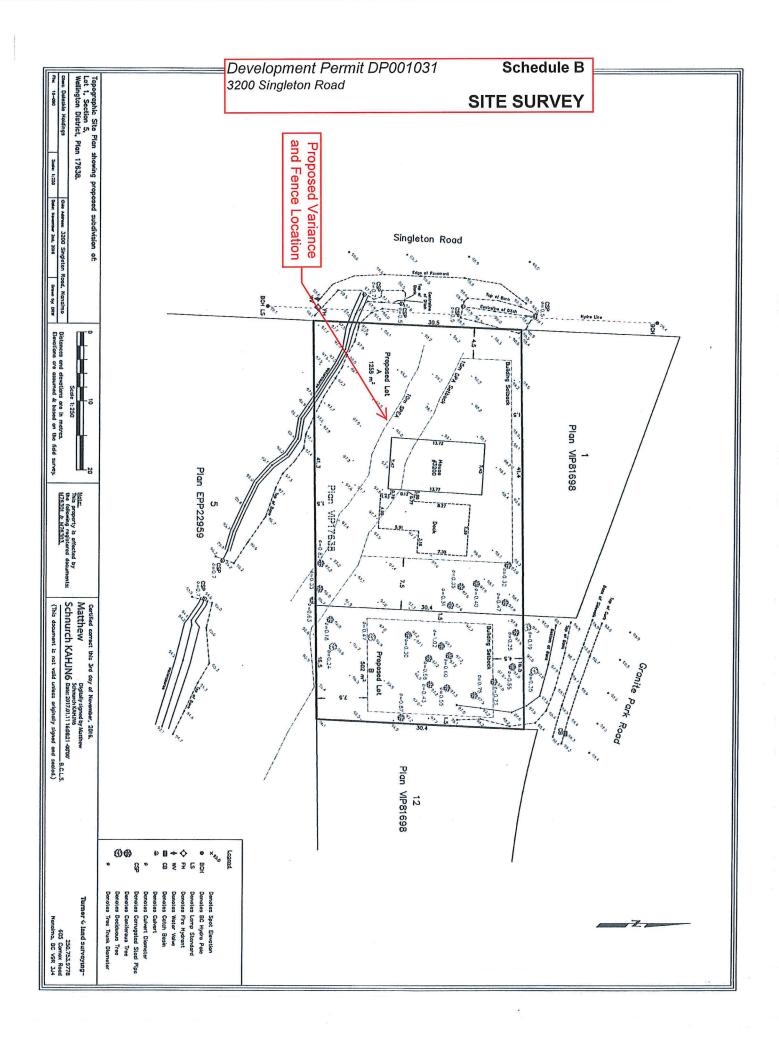
**DEVELOPMENT PERMIT NO. DP001031** 



#### **LOCATION PLAN**

Civic: 3200 Singleton Road Lot 1, Section 5, Wellington District, Plan 17638





**EXECUTIVE SUMMARY** 





March 8, 2017

City of Nanaimo 411 Dunsmuir Street Nanaimo, BC, V9R 0E4.

Attn: Brian Zuek

Subdivision Planner

Re: 3200 Singleton Road, Nanaimo, BC

**Executive Summary Watercourse Development Permit and** 

**Application Addendum** 

#### 1.0 SUMMARY BACKGROUND

Aquaparian Environmental Consulting Ltd. (Aquaparian) was retained by Jay Deleskie to complete a Development Permit submission 3200 Singleton Road in Nanaimo. Mr. Deleskie is the owner of the property and would like to subdivide the lot. The property presently has a single family residence (approximately 30 years old) and Mr. Deleski would like to construct an additional single family residence towards the back of the property. The subject property is a 1765m² lot that is 30m wide and 58m long and zoned RI Single Dwelling Residential within the City of Nanaimo. The house within the property is within a Development Permit Area (DPA1); a 15m riparian setback from Keighley Creek. Presently, the house is surrounded by lawn right to the edge of the steam within the property. The house is considered Legal – Non-conforming.

Keighley Creek is small, only 1.4m wide and flows under Singleton Road through a 0.7m diameter culvert and then through the corner of the subject property for only 14m. The stream cuts across the front southwest corner of the subject property and its Top of Bank is approximately 11.5m from the corner of the house.

The existing 30 year-old house on the property is located near the front of the lot towards Singleton Road including a garage and driveway leading from Singleton Road and a small narrow (~1.0m wide) concrete sidewalk that wraps around the house to a backyard patio deck. The proposed development plan includes leaving the existing house and patio (Identified as Lot A), subdividing the back of the lot (Identified as Lot B) and constructing a new house and driveway entrance leading into the lot from Granite Park Road. The subdivided lot (Lot B) would be approximately 502m² in size.

Aquaparian completed a Riparian Areas Assessment (dated August 28, 2017) as part of the development permit requirement. Results from the watercourse assessment identified the 15m

503 COMOX ROAD NANAIMO, BC V9R 3J2, 250-591-2258
CELL SARAH BONAR 250-714-8446 CHRIS ZAMORA 250-714-8864

3200 SINGLETON
WATERCOURSE DEVELOPMENT PERMIT EXECUTUVE SUMMARY
JANUARY 2017

2

DPA to extend 3m into the existing garage (Lot A). The proposed subdivision of Lot B would be outside the 15m watercourse DPA. The riparian assessment determined the Streamside Protection Enhancement Area (SPEA) to be 10m starting from the creeks High Water Mark. The location of the 10m SPEA would not impact the garage or sidewalk of the residence.

The new 10m SPEA is to be considered a no-disturbance area. The 10m SPEA is to be clearly demarcated with fencing; either 4ft chain link or a wooden rail fence (split rail to be also allowed). The lawn within the SPEA is to be removed and replaced with a native plantings to restore the stream's riparian habitat. The riparian restoration plan is included in the Aquaparian Report tiled Environmental Services – Development Permit Area Riparian Restoration Keighley Creek and dated August 20, 2016.

By reducing the 15m DPA on Keighley Creek to 10m, it would bring the existing house into compliance with the City. It would also allow for improvements to the riparian community and created a direct improvement to fish habitat conditions from present riparian habitat conditions along the section of stream within the property.

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.

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

\\AQUAPARIAN\\Documents\\Projects\\Projects\\N237 3200 Singleton Rd\\3200 Singleton Rd DP Cover Letter.docx



RECEIVED

DP001031 2017-MAR-09

RIPARIAN MANAGEMENT & RESTORATION PLAN

### AQUAPARIAN

**Environmental Consulting Ltd.** 



Jay Deleskie 3200 Singleton Road Nanaimo, BC

VIA EMAIL: islandtimesforward@gmail.com

RE: ENVIRONMENTAL SERVICES - DEVELOPMENT PERMIT AREA

RIPARIAN RESTORATION KEIGHLEY CREEK



Aquaparian Environmental Consulting Ltd (Aquaparian) was retained by Jay Deleskie to complete a Riparian Areas Regulation (RAR) Assessment for a residential property located at 3200 Singleton Road, Nanaimo BC. The following Riparian Management and Restoration Plan has been prepared as an attachment to the RAR assessment document. A site location map of the property has been included as Figure 1. A selection of photographs taken of the site during the site assessment has also been included as Appendix A.

The RAR assessment is required for the proposed subdivision of the parcel at 3200 Singleton Road and to determine the buildable area of the subdivided land, protective streamside setbacks and mitigation/restoration measures for the riparian area. The property owner would like to subdivide the lot into two parcels (identified as Lot A and Lot B). A single residential house presently exists within Lot A. The house includes a back deck, and two small storage sheds in the backyard. A gravel driveway runs from Singleton Road to the front of the house. The backyard is accessible to Granite Park Road to the north. Lot A which contains the existing house will be 1258m² in size while Lot B, the subdivided section of the lot will be 502m² in size. Lot B will also include the construction of a new house and access driveway leading onto Granite Park Road.

Keighley Creek is a small fish-bearing watercourse that bisects the southwest corner of the subject property (identified within Lot A). The City of Nanaimo recognizes a Watercourse Development Permit Area (DPA) of 15m from the stream's top of bank. The DPA covers approximately one-third of Lot A.

201-321 Wallace St. Nanaimo, BC V9R 5B6, 250-591-2258 Cell SARAH BONAR 250-714-8446 CHRIS ZAMORA 250-714-8864 In order to subdivide the property, the new property owner will be applying for a Watercourse Development Permit Variance (See Figure 2). Keighley Creek only influences Lot A. The section of stream within the lot only includes a 14m long section of the stream. The stream was found to have an average width of only ~1.4m with the riparian habitat being regularly cut lawn. An RAR Assessment was completed to support development permit requirements for subdividing the property and with meeting City of Nanaimo Watercourse Development Permit requirements. As per the Riparian Areas Regulations (RAR), the minimum setback applied to all watercourses (Fish bearing or non-fish bearing) is 10m. The 10m riparian setback of Streamside Protection and Enhancement Area (SPEA) is to be considered a no build area and as sensitive habitat to support fish and fish habitat. The edge of the existing house and its sidewalk in Lot A is approximately 10.5m away from the creek's Top of Bank. The 15m riparian DPA setback bisects through the southwest third of the house (Lot A). A 5m variance to the 15m DPA would result in a 10m SPEA that would require removing a 10m wide strip of lawn (starting from the creeks TOB) and restoring it with native vegetation. Because the creek angles away from the back of the subject lot, the creek's 15m DPA will not affect the subdivided Lot B section.

Aquaparian is recommending an intensive riparian restoration of the 10m SPEA area that exists within the property boundary to compensate for the non-conforming house that was built thirty years ago partially within the DPA. The result will extend the existing narrow vegetation zone adjacent to the creek into the lawn area on the northeast side of the creek to a width of 10m from the Top of Bank and restore the small area to the southwest of the creek that is within the property.

#### 2.0 RIPARIAN SITE CHARACTERISTICS

Within the subject parcel the riparian area of Keighley Creek is mostly lawn. A narrow strip (approximately 2m wide) of riparian vegetation along a section of the creek towards the back of the property within Lot A is dominated by a western redcedar canopy with Sitka mountain ash, grand fir, Douglas-fir, red alder, bigleaf maple, and arbutus. Understory includes Nootka rose, bracken fern, sword fern, trailing blackberry, salal, golden aster, invasive laurel, daphne, Himalayan blackberry, and bent grass. Aquatic vegetation includes water buttercup, horsetail, herb-robert, and common rush. Approximately 10-15 trees are present near the eastern property boundary in the backyard including mature Douglas-fir, grand fir, western redcedar, bigleaf maple, and arbutus trees. A Tree Management Plan will be required prior to removal of trees for development of Lot B.

The creek is channelized within the subject parcel with a narrow strip of riparian vegetation. Its banks are almost vertical on both sides with concrete sandbags around the end of the metal road culvert that leads under Singleton Road. The creek runs through more than a dozen residential properties before crossing Departure Bay Road and joining Departure Creek to the southeast which then drains into Departure Bay.



#### 3.0 VEGETATION MANAGEMENT PLAN

The Vegetation Management Plan (VMP) for this property will include the removal of invasive plant species on subject property side of Keighley Creek, removal of a 10m strip of lawn (~14m in length) and enhancement of the lawn area with native shrubs and trees. The total planting area is approximately 10m wide x 20m in length (includes area of invasive plant removal). The restoration work to also include a 20m² area on the southeast side of the creek side up to the Singleton Road corner of the property. Figure 3 shows the planting plan areas.

The streamside restoration area is divided into two treatment zones as follows:

#### Planting Area A – 160m<sup>2</sup> northeast side of creek

To be cleared of invasive species and planted with native trees and shrubs. Native species should remain and invasive species removed. Enhancement plantings should be added where invasive plants have been removed amongst existing native vegetation. Streamside vegetation should be extended into the lawn as indicated in Figure 3.

#### Planting Area B - 20m<sup>2</sup> southwest side of creek

To be cleared of invasive species and planted with native trees and shrubs. Native species should remain and invasive species removed. Enhancement plantings should be added where invasive plants have been removed amongst existing native vegetation. Streamside vegetation should be extended into the lawn as indicated in Figure 3.

Upon completion, the total restoration footprint will be 180m<sup>2</sup>.

#### 3.1 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)	~500m²	
Total SPEA in parcel (10m setback) – No Build Area	~350m²	
Proposed Restoration to offset DPA Variance:		
Area A:	~160m²	
Area B:	~20m²	
Total proposed restoration area	~180m²	

#### 3.2 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
Area A: 160m <sup>2</sup>					
	Western redcedar	Thuja plicata	5 m <sup>2</sup>	5 Gal	6
	Grand fir	Abies grandis	5 m <sup>2</sup>	5 Gal	3
	Douglas-fir	Pseudotsuga menziesii	5 m <sup>2</sup>	5 Gal	3
	Red alder	Alnus rubra	5 m <sup>2</sup>	1 Gal	4
	Bigleaf maple	Acer macrophyllum	5 m <sup>2</sup>	1 Gal	2
	Pacific willow	Salix lucida	5 m <sup>2</sup>	1 Gal	2
	Nootka rose	Rosa nutkana	1 m <sup>2</sup>	1 Gal	20
	Snowberry	Symphoricarpos albus	1 m <sup>2</sup>	1 Gal	15
	Oceanspray	Holodiscus discolor	1 m <sup>2</sup>	1 Gal	10
	Mock orange	Philadelphus lewisii	5 m <sup>2</sup>	1 Gal	5
	Red-flowering currant	Ribes sanguineum	5 m <sup>2</sup>	1 Gal	5
	Indian plum	Oemleria cerasiformis	2m <sup>2</sup>	1Gal	5
	Dull Oregon grape	Mahonia nervosa	0.5 m <sup>2</sup>	1 Gal	10
	Salal	Gaultheria shallon	0.5 m <sup>2</sup>	1 Gal	30
	Sword fern	Polystichum munitum	0.5 m <sup>2</sup>	1 Gal	40
Sub-total:					160
Area B: 20m²					
	Sword Fern	Polystichum munitum	1 m <sup>2</sup>	1 Gal	15
	Sitka willow	Salix sitchensis	1 per 5m <sup>2</sup>	1 Gal	2
	Nootka rose	Rosa nutkana	1 m <sup>2</sup>	1 Gal	3
Sub-total:					20
Total Plants:	180 plants				

#### 3.3 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

E-mail: 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.



#### 3.4 INSTALLATION RECOMMENDATIONS

#### Timing:

- The removal of invasive species work and infilling will be completed only during periods of low flow and favourable weather (i.e. dry periods).
- Installation of other riparian vegetation will be completed in fall (October) after the rains begin to optimize survival.
- Remove invasive plant species including Himalayan blackberry, holly, morning glory, English ivy, stinging nettle, Daphne, and introduced grass species from all riparian areas.
- Silt fencing should be installed prior to any infilling, construction or riparian plantings activities to prevent materials entering the watercourse.
- Infilling will be required to bring the elevation of the new residence up to Flood Construction Level (refer to Regional District of Nanaimo Bylaw No. 1469).
- 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 area 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 all planting areas from the top of the bank to the boundaries of the remediation areas with composted bark mulch or straw layer on top to prevent moisture loss and soil erosion.
- The northeastern edge of the proposed remediation area facing the residence can be planted with Nootka rose and snowberry interspersed with other flowering species to increase visual appeal.
- 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.
- A permanent fence (e.g. split-rail or chain-link) should be installed along the northeast edge of the restoration area facing the residence to demarcate the SPEA and protect the area from encroachment.
- Every year the site will need to be inspected for invasive species re-growth. Invasives are to be removed as often as necessary.



#### 3.5 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 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. 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 @ \$20/hr	\$1200		
Plants: 180 and 10% contingency for die-off	\$1000		
Bone meal, delivery cost, other materials/tools	\$200		
Topsoil	\$500		
Mulch (composted bark)	\$350		
Total	\$ 3250		

#### 4.0 ENVIRONMENTAL PROTECTION PLAN

- All sediment and erosion control measures specified in the plan must be implemented by the Contractor prior to the start of site preparation and construction activities in order to prevent the release of any sediment-laden water to Keighley Creek. These measures will include, but not necessarily be limited to the installation of silt fencing along the top of the bank, the use of surface protection on exposed soils, and re-vegetation of all disturbed areas.
- The Contractor shall be responsible for the maintenance of all sediment and erosion controls to ensure that they are in good repair and are functioning as intended.
- Sufficient erosion and sediment control materials (i.e., silt fence, polyethylene sheeting, sandbags) must be readily available on site to provide emergency siltation protection prior to excavation of the banks.
- Topsoil piles are to be stockpiled away from the high water mark (outside of the SPEA) and either covered by tarps or surrounded by silt fencing to prevent migration of fines if a rain event occurs.
- The SPEA should be clearly defined prior to the commencement of any site work; under the provincial RAR, the SPEA is considered a no-go zone. A permanent fence/hedge



(low split-rail fence or chain-link fence) should be installed along the SPEA for long term identification.

- Use silt fencing along the Top of Bank on both banks prior to bank excavations; anchor the silt fence in a 0.3m trench and check fencing for disrepair over the course of the riparian area works. The silt fences should remain during and after plantings until the site is stable and mulch is applied but should be removed before the fall rainy season to prevent inundation.
- Heavy equipment is to be free of any leaks; a spill kit is to be accessible on site during works.

#### 5.0 MAINTENANCE & MONITORING

- Removal of invasive species is likely to require annual maintenance as adjacent areas contain invasive species.
- 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.
- As required under the RAR a post development assessment and letter report is to be completed and submitted to the provincial notification system by a Qualified Environmental Professional (QEP). Aquaparian will be available to complete the report upon request.
- A post vegetation installation completion report is to be submitted to the City of Nanaimo to release the Bond.



#### 6.0 CLOSURE

This Vegetation Management Plan report has been completed using Best Management Practices for construction in and around fish bearing watercourses. 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:

Reviewed/Revised by:

Crystal Campbell Environmental Technician

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

\\192.168.10.116\\Documents\\Projects\\Projects\\N237 3200 Singleton Rd\\3200 Singleton Road Stream VMP & EPP (rev).docx



# Site Location Map 3200 Singleton Road, Nanaimo BC

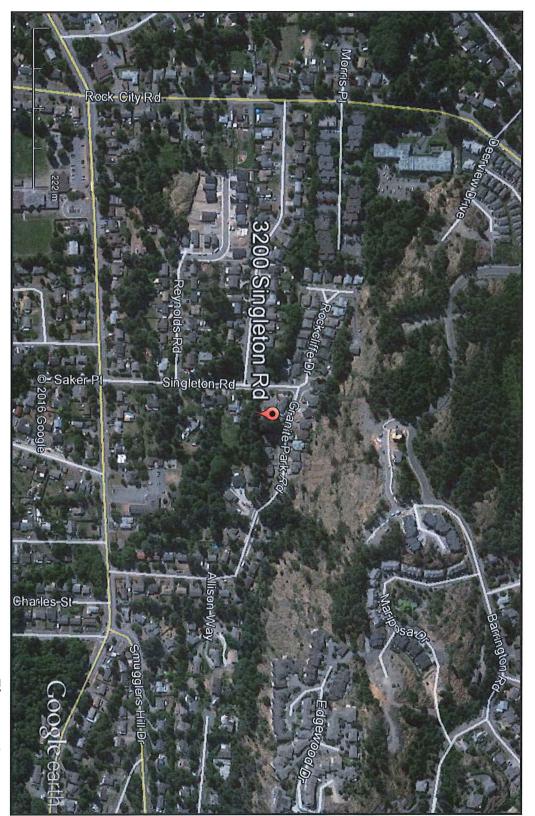


Figure 1

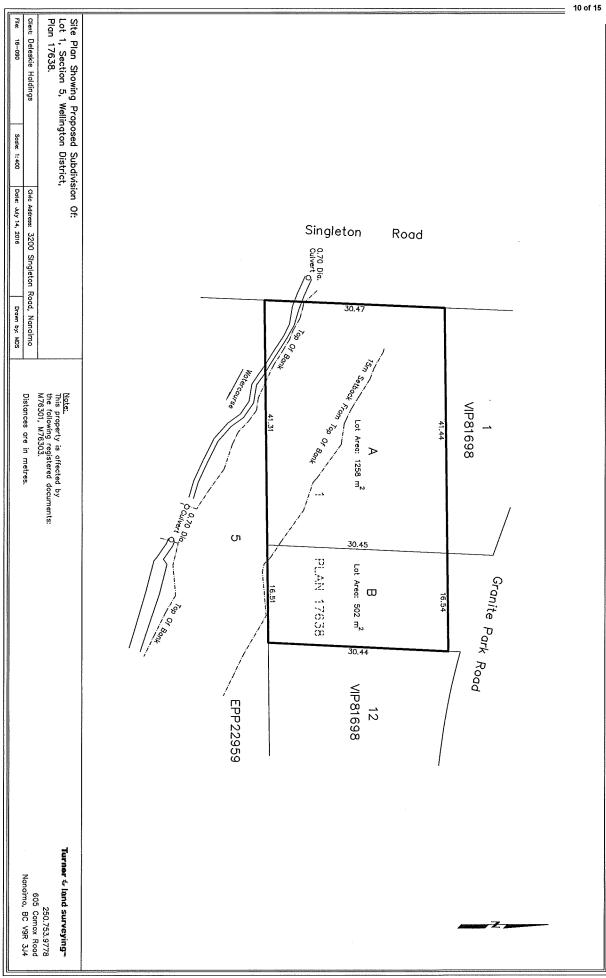
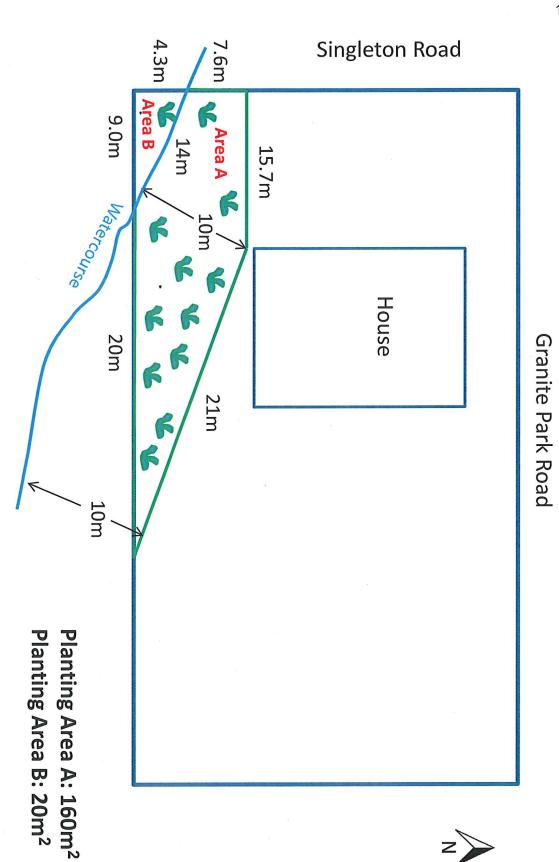


Figure 3: Planting Plan
3200 Singleton Road - Lot A



Note: Not to Survey Scale

# Planting Plan Areas 3200 Singleton Road

Planting Area A



Planting Area B

# APPENDIX A: PHOTO SHEET 1 3200 SINGLETON ROAD, NANAIMO



Photo 1. 3200 Singleton Road house frontage.



Photo 2. View of house from road.



Photo 3. Existing riparian strip along Keighley Creek.



Photo 4. Keighley Creek facing south.

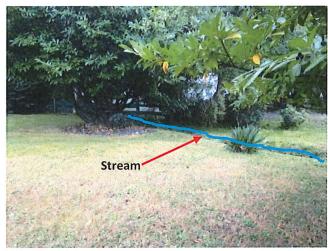


Photo 5. Proposed restoration area A.



Photo 6. Keighley Creek facing southwest.

#### APPENDIX A: PHOTO SHEET 2 3200 SINGLETON ROAD, NANAIMO



Photo 7. Keighley Creek facing west towards road.



Photo 8. Keighley Creek flow through culvert under Singleton Road.



Photo 9. Keighley Creek streambed.



Photo 10. Back deck and storage shed.



Photo 11. Proposed Lot B trees to be removed.



Photo 12. Keighley Creek upstream in neighbouring lot to the west.

# APPENDIX A: PHOTO SHEET 3 3200 SINGLETON ROAD, NANAIMO



Photo 13. Proposed restoration area A.



Photo 14. Riparian vegetation strip along Keighley Creek.



Photo 15. Proposed restoration area A.



Photo 16. Proposed restoration area A view from road.



Photo 17. Proposed restoration area B.



Photo 18. Downstream of subject property: stream ravine behind Departure Bay Baptist Church.