# Riparian Areas Protection Regulation: Assessment Report

Please refer to submission instructions and assessment report guidelines when completing this report.

| Date | June 8, 2020 |
|---|---|

## I. Primary QEP Information

| | | | | | |
|---|---|---|---|---|---|
| First Name | Rupert | | | | |
| Last Name | Wong | | | | |
| Designation | RP Bio | | Company: | Current Environmental Ltd. | |
| Registration # | 705 | | Email: | rwong@currentenv.ca | |
| Address | 558 England Ave | | | | |
| City | Courtenay | Postal/Zip: | V9N 2N3 | Phone #: | 250-871-1944 |
| Prov/state | BC | Country: | Canada | | |

## II. Secondary QEP Information (use **Form 2** for other QEPs)

| | | | | | |
|---|---|---|---|---|---|
| First Name | | | Middle Name: | | |
| Last Name | | | | | |
| Designation | | | Company: | | |
| Registration # | | | Email: | | |
| Address | | | | | |
| City | | Postal/Zip: | | Phone #: | |
| Prov/state | | Country: | | | |

## III. Developer Information

| | | | | |
|---|---|---|---|---|
| First Name | Rachel | | Middle Name: | |
| Last Name | Ricard | | | |
| Company | Broadstreet Properties Ltd. | | | |
| Phone # | 250-850-3212 | | Email: | Rachel.ricard@seymourproperties.ca |
| Address | 100 St. Ann's Road | | | |
| City | Campbell River | Postal/Zip: | V9W 4C4 | |
| Prov/state | BC | Country: | Canada | |

## IV. Development Information

| | | | |
|---|---|---|---|
| Development Type | High Density Multi-Family Residential | | |
| Area of Development (ha) | 0.49 | Riparian Length (m) | 48 |
| Lot Area (ha) | 2.0 | Nature of Development | New development |
| Proposed Start Date | April 1, 2021 | Proposed End Date | April 1, 2023 |

## V. Location of Proposed Development

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Street Address (or nearest town) | 801 Ryan Road | | | | | | |
| Local Government | City of Courtenay | | | City: | Courtenay | | |
| Stream Name | Stream 1, Stream 2 | | | | | | |
| Legal Description (PID) | 000-887-951 | | | Region: | Vancouver Island | | |
| Stream/River Type | Stream | | | DFO Area: | South Coast | | |
| Watershed Code | 920-553400 | | | | | | |
| Latitude | 49 | 41 | 53.3 | Longitude | 124 | 59 | 07.7 |

Completion of Database Information includes the Form 2 for the Additional QEPs, if needed. Insert that form immediately after this page.

## *Table of Contents for Assessment Report*

## *Section 1. Description of Fisheries Resources Values and the Development Proposal*

**Description of Fisheries Resource Values**

The subject property is a 2.01 hectare property located along Ryan Road within the City of Courtenay (CoC). The civic address of the property is 801 Ryan Road, Courtenay, BC and the PID is 000-887-951. The subject property is a cleared and empty lot. A small portion of the lot is paved (the southeastern section), while the remaining portion is unpaved (gravel) and dominated by grasses (Photos 1 and 2). Two paved roadways run west from the paved portion into the Superstore parking lot to the west. There is a narrow grassy and unpaved section of the property that extends east, which is located south of the Mexicana liquor store, Mex Pub, and Washington apartments (Photo 3). A soil berm covered in Himalayan blackberry thickets runs along the entire southern length of the subject property (Photo 4).

There are two unnamed streams south of the property, outside of the property boundary in the neighbouring agricultural fields. Stream 1 is part of CoC's constructed and regularly maintained stormwater system that flows northeast and received flow a stormwater retention pond near the southwest corner of the Superstore parking lot, adjacent to the North Island Highway (Photo 5). Stream 2 flows southeast of the subject property, through a culvert that extends south of the subject property (Photo 6). The 30 m Riparian Assessment Area (RAA) of both Streams 1 and 2 extends into the southern portion of the subject property. There is also a wetland to the east of Stream 2 and south of the project property. The 30 m RAA of this wetland extends for approximately 8 m into the subject property. The wetland was not assessed due to access issues, therefore the setbacks have been proposed based on aerial images. No wetted areas were observed while looking south of the berm in the southeastern portion of the lot (Photo 7). The agricultural fields to the south of the subject property through which Streams 1 and 2 flow are listed under the Sensitive Ecosystems Inventory as a seasonally flooded agricultural field with riparian areas[1]. The riparian area is partially fragmented by unofficial pedestrian trails that appear to be utilized regularly.

Stream 1 was dry during the site visit from CoC's stormwater retention pond until approximately 60 m upstream of Stream 2, where shallow water appeared with trace surface flow. It is a channelized watercourse, with fine silt/mud substrates with stagnant and seasonal hydrology (Photo 8). The channel is homogenous and lacks pools, in-stream large woody debris and spawning gravels, therefore it is poor fish habitat. While no fish were observed at the time of this survey we have observed rearing juveniles in this reach during previous surveys in late winter for CoC. There were several areas with undercut banks. The riparian vegetation is dominated by red alder, Pacific willow, and red-osier dogwood along both banks (Photo 9). Invasive species observed included Himalayan blackberry and English holly (Photo 9). The stream is overgrown with Himalayan blackberry, with canes across much of the channel (Photo 10). The left bank of Stream 1 was armoured with riprap adjacent to the culvert.

Stream 2 flows southeast through the culvert beneath the subject property. The riparian vegetation observed for Stream 2 is similar to that of Stream 1, with red alder, Pacific willow, and red-osier dogwood as the dominant species. Stream 2 is also overgrown with Himalayan blackberry. This channelized watercourse is straight and homogeneous and is dredged to remove accumulated bedload that is characterized by deep mud and organic substrates (Photos 11 and 12). The gradient of Stream 2 is relatively flat, with stagnant hydrology. Stream 2 flows southwest into Glen Urquhart Creek, which then flows into the Comox Estuary. While no salmonids were observed at the time of this survey we have observed rearing juveniles in this reach during previous surveys in late winter for CoC. Small schools of stickleback were observed in Stream 2 at the time of the site visit.

These streams are within the Glen Urquhart watershed. Glen Urquhart Creek originates in northeast Courtenay, and runs for approximately 6 km to its outlet at the Comox Estuary. This creek has documented

[1] Community Mapping Network (2020). Georgia Basin Habitat Atlas. https://cmnmaps.ca/GBHA/. Accessed June 7, 2020.

populations of chum salmon (*Oncorhynchus keta*), Chinook salmon (*Oncorhynchus tshawytscha*), Coho salmon (*Oncorhynchus kisutch*), pink salmon (*Oncorhynchus gorbuscha*), cutthroat trout (*Oncorhynchus clarkii*), and steelhead (*Oncorhynchus mykiss*)[2,3]. A Glen Urquhart watershed Sensitive Habitat Inventory and Mapping (SHIM) survey conducted by Project Watershed in 1999/2000 confirmed fish presence in both Streams 1 and 2, which is consistent with previous surveys completed for CoC prior to stormwater maintenance work.

The proposed development will be within the 30 m RAA of the streams, however it will not be within the SPEAs of the streams or wetland.

**Description of the Subject Property and Development Proposal**

The property is cleared and there are currently no buildings on-site. Proposed development on the subject property includes the construction of three multi-unit high density residential units (total area of approximately 0.49 hectares). Building A will have 59 units, Building B will have 96 units, and Building C will have 96 units. The remaining portion of the property will be landscaped areas and paved parking for the apartment buildings.

A CoC road dedication has been proposed for the southern portion of the lot, closest to the channelized watercourses and wetland. A fence will be constructed along the road dedication, separating it from the development. The road dedication is not part of this development, and no construction or work will be done within the road dedication by Broadstreet Properties Ltd. The site has previously been cleared, however there are two mature black cottonwood trees on the subject property that are outside of the SPEAs. (Photos 3 and 13). The black cottonwood tree in the southern portion of the lot between the paved and unpaved areas (Photo 13) will be removed as part of development. The black cottonwood tree in the southeastern grassy/gravel portion of the lot (Photo 3) may be retained if feasible, however this will be determined at the time of construction. There is also a row of mature black cottonwood trees between the western part of the subject property and Superstore (Photo 14). All of these mature cottonwood trees are outside of the SPEAs.

No work is being proposed in the Streamside Protection and Enhancement Area (SPEA) for the streams, ditches, or wetland.

## *Section 2. Results of Riparian Assessment (SPEA width)*

Date: June 2, 2020

Description of Water bodies involved (number, type) 2 streams and 1 wetland

**Stream 1:**

| | |
|---|---|
| Stream | 1 |
| Wetland | |
| Lake | |
| Ditch | |
| Number of reaches | 1 |
| Reach # | 1 |

### Channel width and slope and Channel Type

(use only if water body is a stream or a ditch, and only provide widths if a ditch)

[2] BC Ministry of the Environment. Fish Inventories Data Queries: Single Water Body Query. http://a100.gov.bc.ca/pub/fidq/infoSingleWaterbody.do. Accessed May, 2018.
[3] CVRD iMap 3.1. Sensitive Habitat Atlas. http://imap2.comoxvalleyrd.ca/imapviewer/. Accessed May, 2018.

| | Channel Width(m) | Gradient (%) |
|---|---|---|
| starting point | ~~2.8~~ | |
| upstream | 2.9 | 0.5% |
| | 3.3 | |
| | 3.2 | |
| | 3.4 | |
| downstream | ~~4.4~~ | |
| | 4.4 | |
| | 3.7 | 0.5% |
| | 4.0 | |
| | 3.8 | |
| | 4.1 | |
| Total: minus high /low | 32.8 | **0.5%** |
| mean | **3.64 m** | |

| | R/P | C/P | S/P |
|---|---|---|---|
| Channel Type | X | | |

I, Rupert Wong, hereby certify that:
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c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and
d) In carrying out my assessment of the development proposal, I have followed the technical manual to the Riparian Areas Protection Regulation.

## Site Potential Vegetation Type (SPVT)

| | Yes | No | |
|---|---|---|---|
| SPVT Polygons | | X | Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes |

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Polygon No: 1

| | LC | SH | TR |
|---|---|---|---|
| SPVT Type | | | X |

Method employed if other than TR
n/a

## Zone of Sensitivity (ZOS) and resultant SPEA

| | | |
|---|---|---|
| Segment No: | 1, left bank | If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons |
| LWD, Bank and Channel Stability ZOS (m) | 10.9 | |
| Litter fall and insect drop ZOS (m) | 10.9 | |
| Shade ZOS (m) max | n/a | South bank: Yes [ ] No [X] |

| | | |
|---|---|---|
| Ditch | Justification description for classifying as a ditch (manmade, no significant headwaters or springs, seasonal flow) | n/a |

| | Yes | n/a | No | n/a | If non-fish bearing insert no fish bearing status report | n/a |
|---|---|---|---|---|---|---|
| Ditch Fish Bearing | | | | | | |

| **SPEA maximum** | **10.9 m** | (For ditch use table 3-7) |
|---|---|---|

**Stream 2:**

| | Channel Width(m) | | Gradient (%) |
|---|---|---|---|
| starting point | ~~4.7~~ | | |
| upstream | 3.7 | | 0% |
| | 3.5 | | |
| | 4.0 | | |
| | 3.9 | | |
| downstream | 3.7 | | |
| | 3.5 | | 0.5% |
| | ~~3.3~~ | | |
| | 4.0 | | |
| | 3.8 | | |
| | 3.7 | | |
| Total: minus high /low | 33.8 | | **0.25%** |
| mean | **3.76 m** | | |

| | R/P | C/P | S/P |
|---|---|---|---|
| Channel Type | X | | |

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## Site Potential Vegetation Type (SPVT)

| | Yes | No | |
|---|---|---|---|
| SPVT Polygons | | X | Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes |

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Polygon No: 1

| | LC | SH | TR |
|---|---|---|---|
| SPVT Type | | | X |

Method employed if other than TR
n/a

## Zone of Sensitivity (ZOS) and resultant SPEA

| | | |
|---|---|---|
| Segment No: | 1, left bank | If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons |

| | | | | | |
|---|---|---|---|---|---|
| LWD, Bank and Channel Stability ZOS (m) | 11.3 | | | | |
| Litter fall and insect drop ZOS (m) | 11.3 | | | | |
| Shade ZOS (m) max | n/a | South bank | Yes | | No X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Segment No: | 2, right bank | If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons | | | | | |
| LWD, Bank and Channel Stability ZOS (m) | 11.3 | | | | | | |
| Litter fall and insect drop ZOS (m) | 11.3 | | | | | | |
| Shade ZOS (m) max | 11.3 | South bank | Yes | X | No | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ditch | Justification description for classifying as a ditch (manmade, no significant headwaters or springs, seasonal flow) | | | | n/a | |
| Ditch Fish Bearing | Yes | n/a | No | n/a | If non-fish bearing insert no fish bearing status report | n/a |

| | | |
|---|---|---|
| **SPEA maximum** | **11.3 m** | (For ditch use table 3-7) |

**Wetland 1:**

| | |
|---|---|
| Stream | |
| Wetland | 1 |
| Lake | |
| Ditch | |
| Number of reaches | 1 |
| Reach # | 1 |

## Site Potential Vegetation Type (SPVT)

| | Yes | No | |
|---|---|---|---|
| SPVT Polygons | | X | Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes |

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| | | | | |
|---|---|---|---|---|
| Polygon No: | 1 | | | Method employed if other than TR |
| | LC | SH | TR | n/a |
| SPVT Type | | | X | |

## Zone of Sensitivity (ZOS) and resultant SPEA

| | | |
|---|---|---|
| Segment No: | 1 | If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons |
| LWD, Bank and Channel Stability ZOS (m) | 15 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Litter fall and insect drop ZOS (m) | 15 | | | | | | |
| Shade ZOS (m) max | 30 | South bank | Yes | X | No | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ditch | Justification description for classifying as a ditch (manmade, no significant headwaters or springs, seasonal flow) | | | | n/a | |
| Ditch Fish Bearing | Yes | n/a | No | n/a | If non-fish bearing insert no fish bearing status report | n/a |

| | | | |
|---|---|---|---|
| **SPEA** | **maximum** | **15-30 m** | (For ditch use table 3-7) |

### *Comments*

The CoC road dedication along the southern portion of the property is not part of this development.

## *Section 3. Site Plan*

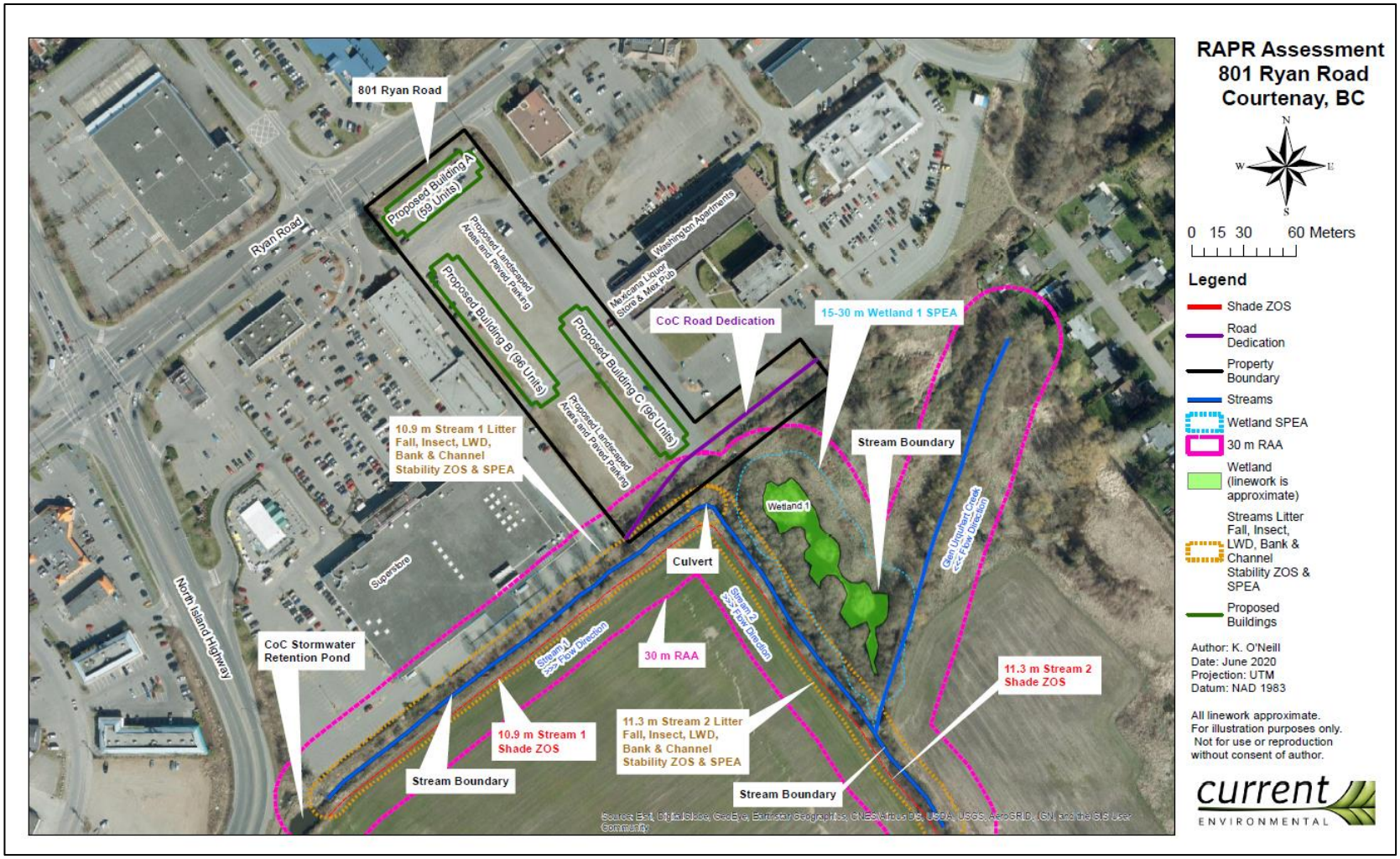


Figure 1. Overview map showing RAA and SPEAs of the streams and wetland. The locations of the proposed buildings and road dedication are also indicated on the map.

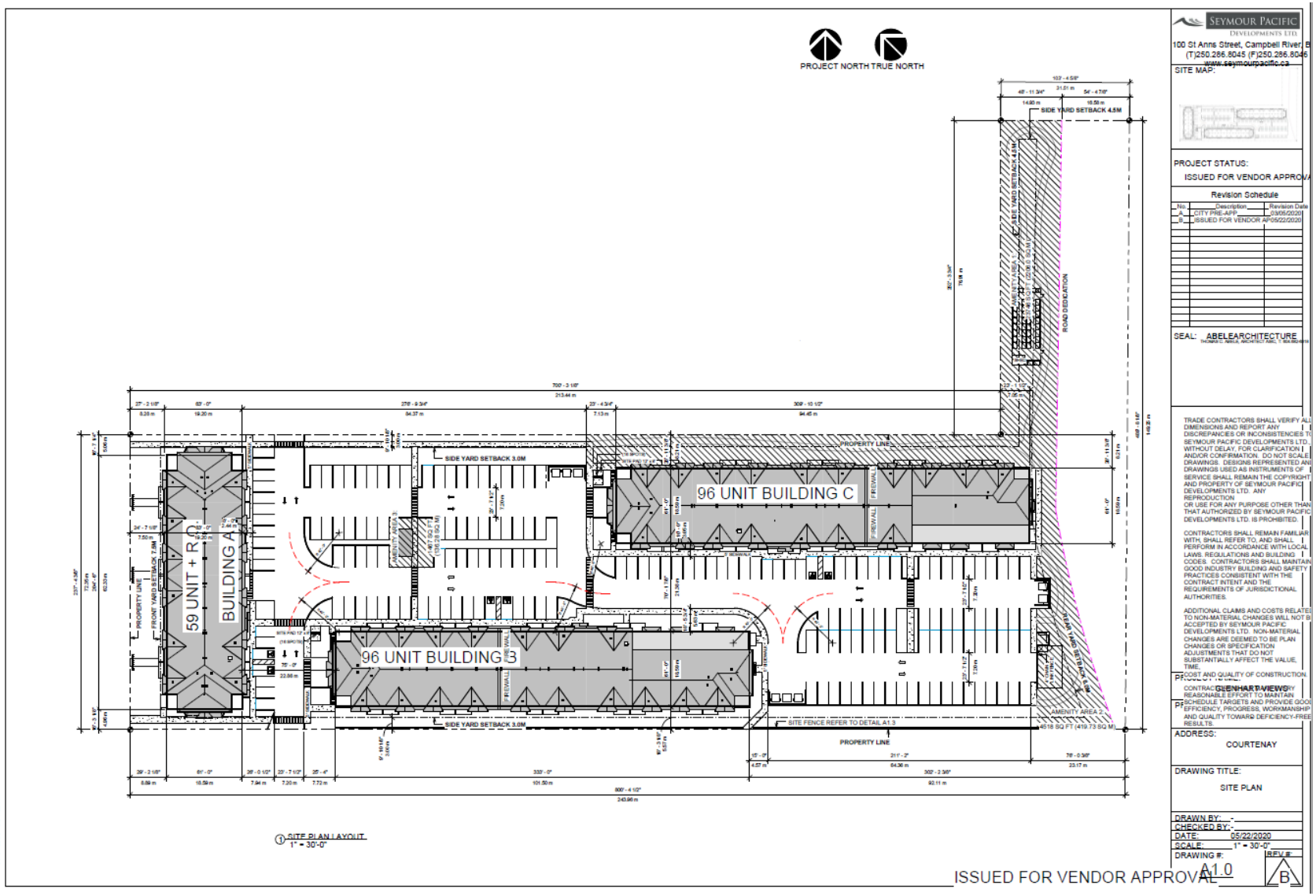


Figure 2. Site plan of proposed development.

## *Section 4. Measures to Protect and Maintain the SPEA*

**1. Danger Trees**

There are very few mature trees on the site, with the majority of trees (such as red alder and Pacific willow) located along the riparian areas of Streams 1 and 2. These trees are outside of the falling zone for the proposed development and there were no apparent issues with these trees at this time. There are several mature black cottonwood trees within the cleared portion of the subject property, north of the streams and agricultural fields. All of these mature trees are outside of the SPEAs of the streams and wetland. The black cottonwood tree in the southern portion of the lot between the paved and unpaved areas (Photo 13) will be removed as part of development. The black cottonwood tree in the southeastern grassy/gravel portion of the lot (Photo 3) may be retained if feasible, however this will be determined at the time of construction.

It is important to note that trees cannot be felled in the 10.9 m SPEA for Stream 1 or the 11.3 m SPEA for Stream 2 on the subject property unless they are deemed hazardous by a Certified Arborist qualified to assess danger trees. All non-hazard trees in the SPEAs must be retained and protected to maintain the features functions and conditions of the riparian habitats of the streams, ditches, and wetland.

***Disclaimer:***

Unless expressed otherwise: (1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.

I, Rupert Wong, hereby certify that:

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**2. Windthrow**

Several black cottonwood trees in the previously cleared portion of the lot may be removed as part of this proposed development, however the riparian trees along Streams 1 and 2 will not be removed. As a result, there will not be an increase in wind/weather exposure to the trees in the SPEA and in the RAA, and there are no concerns with regards to windthrow at this time.

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## 3. Slope Stability

The left bank of Stream 1 was armoured with riprap adjacent to the culvert, therefore they may be stability concerns in this location of Stream 1. As such, it is important that no trees are removed from the 10.9 m SPEA of Stream 1. There were no slope stability issues noted along Stream 2 or for the remaining Stream 1 reach to the southwest of the culvert.

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## 4. Protection of Trees

All trees and vegetation within the 10.9 m SPEA for Stream 1 and the 13.9 m SPEA for Stream 2 will need to be retained and protected, unless a tree is deemed hazardous by a certified arborist. Trees provide critical functions in riparian areas by providing shade, nutrient and leaf litter drop, large woody debris recruitment in both the forest floor and inputs to watercourses, and bank stability through their complex root networks. They also help retain soil and provide more favourable growing conditions for other understory shrubs and ground cover plants in the riparian area. Streams 1 and 2 do not appear to be good fish habitat, however fish presence has previously been confirmed in these streams, therefore riparian functionality should be maintained.

Several black cottonwood trees that are outside of the SPEAs may be removed from the subject property as part of this development. Specific measures to protect trees in the SPEAs of Streams 1 and 2 during development will include:

1) A root protection zone for all trees within the SPEA that may be impacted by construction must be established prior to project commencement. Temporary fencing will be set up around root protection zones to ensure no encroachment occurs into this area during construction. There can be no paving, trenching, change of ground level, parking, storage of materials, or release of concrete washout or other pollutants into these root protection zones.

2) Machines will not operate or travel within the SPEA. Heavy equipment will compact the soil around trees and can inhibit root growth and decrease oxygen in the soil that is essential to the growth and function of roots.

3) Tree protection plans will be communicated during the required pre-construction meeting.

4) If any roots are encountered during construction, they should be first avoided if possible, and if they must be cut they should be cut cleanly with a saw as opposed to shattered with machinery.

5) Care should be taken not to break any tree limbs during construction. If any limbs are accidentally broken, they should be cleanly cut with a saw.

6) Should any issues arise with regards to potential changes to the impact on trees during development, it is recommended that an arborist be retained to provide guidance on the least impact approach to development around trees.

7) The developer is to contact the project biologist three days prior to the commencement of construction activity for a pre work meeting/call to discuss all measures and BMP's to protect aquatic resources.

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## 5. Encroachment

It important that the 10.9 m SPEA for Stream 1 and 11.3 m SPEA for Stream 2 be protected from encroachment both during construction and in the long term. During construction, temporary fencing (i.e. snow fencing) will be set up along the SPEA and around tree protection zones that extend out from the SPEA as described previously. This will act as a visual barrier to all workers during construction so that no encroachment occurs into the SPEA. Specifically, encroachment includes all material storage, machinery, vehicles, release of hazardous materials, and even limiting foot traffic where possible. The developer is to contact the project biologist three days prior to the commencement of construction activity for a pre work meeting/call to discuss all measures and BMP's to protect aquatic resources.

In the long term, after construction is complete, it is important to maintain a barrier along the edge of the SPEA to prevent encroachment on a day to day basis.

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## 6. Sediment and Erosion Control

Sediment laden water that enters watercourses can seriously harm aquatic life. It is important to implement measures to prevent the release of sediment into waterbodies during construction. There is confirmed fish presence in Streams 1 and 2 and Stream 2 flows into Glen Urquhart downstream which is fish-bearing, therefore protecting the streams from sediment laden waters is crucial.

Specific measures to control sediment during construction will include:

1) Maintain all vegetation in the 10.9 m SPEA for Stream 1 and the 11.3 m SPEA for Stream 2;

2) Where there is a potential for silt runoff towards Streams 1 and 2, control devices will be installed prior to construction activities commencing;

3) Filter fabric dams, rock check dams, and silt fencing will be used as needed on a site-specific basis to control erosion. Filtration should be accomplished using filter fabric keyed into substrates and banks and elevated using stakes or straw bales. Silt fencing is not an acceptable mitigation technique to control erosion in flowing water however it is useful for containing slumping areas and

for use as baffles to slow water velocities.

4) Excavation will be stopped during intense rainfall events or whenever surface erosion occurs affecting nearby waterbodies.

5) Soil stockpiles will be placed a minimum of 15 m from any waterbody and in a location where erosion back into the marine environment cannot occur and will not impede any drainage.

6) Soil stockpiles with the potential to erode into waterbodies are to be covered with poly sheeting. Other techniques, such as terracing or surface roughening can greatly reduce surface erosion on steeper slopes.

7) Permanent exposed soil areas and erosion-prone slopes that may potentially erode into waterbodies are to be re-seeded immediately or covered with geotextile.

8) Any clearing will take place immediately prior to excavation and earthworks to minimize the length of time that soils are exposed. Vegetation in adjoining areas will not be disturbed.

9) Site re-vegetation measures are required to stabilize disturbed soils and areas where invasive plants have been removed to reduce erosion.

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**7. Stormwater Management**

Pursuant to CVRD Bylaw No. 337, an assessment of water quality and quantity impacts including recommendations to “ensure the pre-development or natural hydrologic regime is maintained or restored by the development” is required. Subsequently, future roof drains on the new development and driveway runoff will need to be directed through a proper drainage area that filters the runoff water and promotes infiltration back into the ground before reaching the SPEAs of the streams or wetland south of the property. The property owner should work with the project engineer to design a system for drainage that adheres to these general guidelines of filtering the runoff water and promoting infiltration where possible as opposed to piping the runoff water directly to the streams and/or wetland. Options may include an open vegetated swale or drain rock trench that filters runoff water prior to reaching waterbodies, however this drainage feature may not enter the SPEAs.

I, Rupert Wong, hereby certify that:

a) I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the Riparian Areas Protection Act;
b) I am qualified to carry out this part of the assessment of the development proposal made by the developer Broadstreet Properties Ltd;
c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and
d) In carrying out my assessment of the development proposal, I have followed the technical manual to the Riparian Areas Protection Regulation

**8. Floodplain Concerns (highly mobile channel)**

Streams 1 and 2 are incised with defined banks covered in thickets of Himalayan blackberry and the streams are maintained. Consequently, there are no concerns or mitigation measures with regards to floodplain protection for this assessment.

I, Rupert Wong, hereby certify that:

a) I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the Riparian Areas Protection Act;
b) I am qualified to carry out this part of the assessment of the development proposal made by the developer Broadstreet Properties Ltd;
c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and
d) In carrying out my assessment of the development proposal, I have followed the technical manual to the Riparian Areas Protection Regulation.

## *Section 5. Environmental Monitoring*

A QEP must be notified 3 days in advance of any construction on the subject property, with the following items to be discussed prior to construction:

1. Review work plan;
2. Ensure appropriate mitigation measures are/will be in place;
3. Review all Measures to Protect the SPEA stated in this report and ensure appropriate equipment to satisfy the measures are on-site or available;
4. Set up a contact system should a Biologist or Qualified Environmental Professional (QEP) be required on site in the event of sediment/erosion issues or some other type of risk to aquatic habitats that may arise during construction.

Immediately upon completion of the construction work, the proponent is to contact a QEP for a post-construction site inspection. Any deficiencies noted by the QEP are to be addressed by the proponent. A final post-construction report is to be submitted by the QEP to the BC RAPR Notification System.

## *Section 6. Photos*

Label | **Photo 1. Subject property looking southeast toward berm and Streams 1 and 2. Photo taken near Ryan Road, on northwestern part of property. Paved section seen on eastern side of property and unpaved section seen on western side of property adjacent to Superstore.**


Label | **Photo 2. Subject property on paved portion looking southeast toward berm and Streams 1 and 2. Unpaved portion of property on western side adjacent to Superstore.**

Label **Photo 3. Grassy southeast portion of subject property south of Washington apartments. Mature black cottonwood tree observed in left side of photo and berm with Himalayan blackberry thicket observed in right side of photo.**

Label **Photo 4. Himalayan blackberry thickets along berm adjacent to riparian area of Stream 1.**

Label **Photo 5. CoC stormwater retention pond to southwest of subject property, adjacent to North Island Highway.**

Label **Photo 6. Culvert running south beneath subject property, through which Stream 2 flows southwest. Photo taken from Stream 1, which flows northeast toward culvert.**

Label | **Photo 7. Looking south from berm in southeastern portion of subject property toward wetland observed on aerial image. No water observed from this location.**

Label | **Photo 8. Stream 1 looking northeast toward culvert showing straight and homogeneous channel with muddy substrates.**

**Photo 9. Riparian vegetation (Himalayan blackberry, red alder, and Pacific willow) along right bank of Stream 1, looking northeast. Photo taken from agricultural property to south of subject property.**

Label **Photo 10. Dry portion of Stream 1 looking southwest toward retention pond, showing Himalayan blackberry covering channel.**

| Label | **Photo 11. Stream 2 looking south showing straight and homogeneous channel overgrown with Himalayan blackberry. Red alder observed along banks.** |
|---|---|

| Label | **Photo 12. Stream 2 looking south showing straight and homogeneous channel overgrown with Himalayan blackberry. Red alder observed along banks.** |
|---|---|

**Photo 13. Mature black cottonwood trees between the paved and unpaved portion of the subject property, north of Streams 1 and 2.**


**Photo 14. Mature black cottonwood trees between western portion of subject property and Superstore.**

## *Section 7. Professional Opinion*

**Qualified Environmental Professional opinion on the development proposal's riparian assessment.**

Date June 8, 2020

1. I/We Rupert Wong, R.P.Bio.

hereby certify that:

a) I am/We are qualified environmental professional(s), as defined in the Riparian Areas Protection Regulation made under the *Riparian Areas Protection Act*;
b) I am/We are qualified to carry out the assessment of the proposal made by the developer Broadstreet Properties Ltd., which proposal is described in section 3 of this Assessment Report (the "development proposal"),
c) I have/We have carried out an assessment of the development proposal and my/our assessment is set out in this Assessment Report; and
d) In carrying out my/our assessment of the development proposal, I have/We have followed the specifications of the Riparian Areas Protection Regulation and assessment methodology set out in the minister's manual; AND

2. As qualified environmental professional(s), I/we hereby provide my/our professional opinion that:

a) [ n/a ] the site of the proposed development is subject to undue hardship, (**if applicable, indicate N/A otherwise**) and

b) [ X ] the proposed development will meet the **riparian protection standard** if the development proceeds as proposed in the report and complies with the measures, if any, recommended in the report.