



---

## STAFF REPORT

---

**TO:** CHIEF ADMINISTRATIVE OFFICER  
**FROM:** BRIGID REYNOLDS, CONSULTING TOWN PLANNER  
**SUBJECT:** DP2025-12  
**MEETING DATE:** DECEMBER 16, 2025  
**SUBJECT PROPERTIES:** LOT A, PLAN EPP103677, EXCEPT PART IN PLANS EPP104021, EPP109124, AND EPP138345 (PID 031-159-851) AND LOTS 2 THROUGH 7, PLAN EPP138345, ALL OF SECTION 6, RENFREW DISTRICT (PID 032-429-568, 032-429-576, 032-429-584, 032-429-592, 032-429-606, 032-429-614)

---

### PURPOSE

The purpose of this application is to approve DP2025-12 that includes a Conditions and Impact Assessment and Riparian Planting Plan for a previously approved 7 lot subdivision, phase 5 of the Slopes, all located within the Watercourse & Streamside Protection Development Permit Area (DPA 1).

### BACKGROUND/DISCUSSION

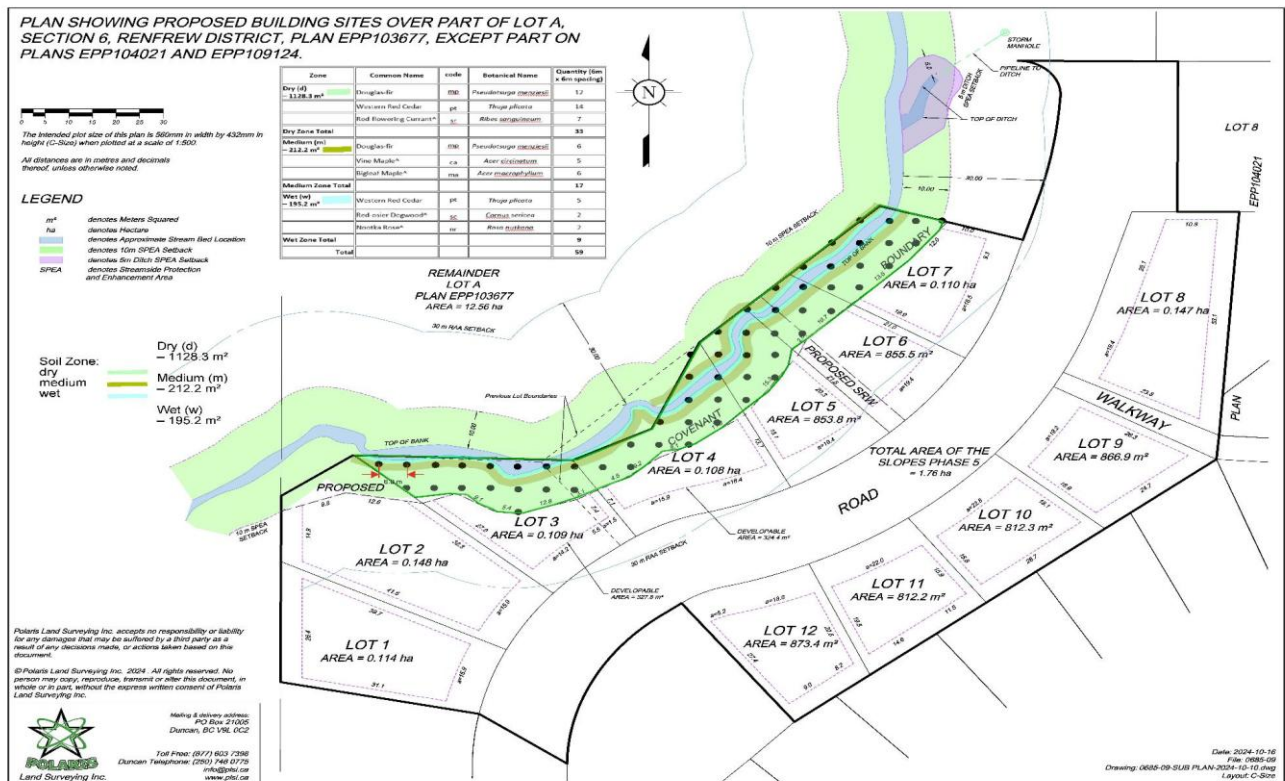
In 2020, phase 5 of the Slopes was approved. As required by the Province and as a condition of the Preliminary Layout Acceptance (PLA) letter, a Riparian Area Assessment Report was required to be prepared and submitted to the Province. In 2025, the Province reviewed the Assessment Report and determined that the area that was required to be replanted was larger than was previously reported. Provincial policy requires that a Conditions and Impact Assessment (CIA) & Riparian Planting Plan be completed to address this short coming. The CIA, dated August 17, 2025 was prepared by Brittany Brooks and Bob Crandall and has been submitted to the Province. This report is attached to this staff report. Provincial staff have confirmed that for CIA 'approval' is through the DP process.

The 7 lots that were created by the subdivision are now being developed and are subject to their own Riparian Area Assessment, per the Provincial Riparian Area Protection Regulations. Council has

already considered development permit applications for two properties in this phase of the subdivision.

The 1535.7 m<sup>2</sup> area that requires replanting is in the SPEA of Lots 2 through 7 of Plan EPP138345, and on portions of the parent lot, Lot A, Plan EPP103677 as shown below in figure 1.

Figure 1 – Replanting Area



The applicant has provided a planting plan in the CIA, confirmed the costs associated with replanting the area, and submitted a landscape bond in the amount of \$6,030.45.

This proposal is consistent with the DP guidelines for the Watercourse & Streamside Protection Development Permit Area (DPA 1).

**IMPLICATIONS**

**a. Financial:**

Application fees are collected to cover the cost of processing the application.

**b. Policy/Legislation:**

The subject property is located in Development Permit Area – 1 for watercourse protection pursuant to the Official Community Plan.

**c. Strategic Priority:**

N/A.

**d. Sustainability:**

N/A

**e. Communication:**

As required by the Development Approval Procedures Bylaw No. 1109, notice of the application was sent to neighbours within 50 m of the subject property a minimum of 10 days prior to Council's consideration of the request. The notice was mailed out on December 4, 2025, and staff have received inquiries from two property owners seeking clarification of the purpose of the application. No additional comments have been received.

**f. Staffing Implication:**

Processing this application is part of the Planning Department's regular duties.

**Options**

- 1) Approve the development permit for this application.
- 2) Approve the development permit with additional requirements.
- 3) Deny the development permit for this application.

**Recommendation**

The contract planner recommends approving DP2025-12 to accept the Conditions and Impact Assessment and Riparian Planting Plan, dated August 17, 2025 for portions of Lot A, Plan EPP103677, Except Part In Plans EPP104021, EPP109124, and EPP138345 (PID 031-159-851) and Lots 2 through 7, Plan EPP138345, all of Section 6, Renfrew District PID 032-429-568, 032-429-576, 032-429-584, 032-429-592, 032-429-606, 032-429-614 subject to the conditions detailed in the attached CIA report including the landscape bond of \$6,030.45.

Signed:

***Brigid Reynolds***

Brigid Reynolds RPP MCIP  
Contract Planner

Concurrence:

***John T***

John Thomas

Chief Administrative Officer

**ATTACHMENT 1**  
**CIA and Riparian Planting Plan,**  
**prepared by Brittany Brooks and Bob Crandall, dated August 17, 2025**

**CONDITIONS AND IMPACT ASSESSMENT**

**& RIPARIAN PLANTING PLAN**

PART OF LOT A, SECTION 6, RENFREW DISTRICT, PLAN EPP103677, EXCEPT PARTS

IN PLANS EPP104021 AND EPP10.

By: Brittany Brooks - R.P. Bio, QEP, Bob Crandall ASCT, QEP



August 17<sup>th</sup>, 2025

## Contents

1. Background & Site Context .....	3
2. Regulatory Framework.....	8
2.1 Federal Legislation.....	8
2.2 Provincial Legislation .....	8
2.3 Municipal Requirements .....	8
3. Ecological Importance of Riparian Vegetation .....	9
4. Impact Assessment .....	10
5. Riparian Restoration Plan .....	11
5.1 Objectives.....	11
5.2 Restoration Area Calculation: .....	12
5.3 Native Plant Volunteers.....	13
5.4 Planting Guide:.....	13
5.5 Budget for Labor – Planting .....	14
5.6 Budget for Plants .....	15
5.7 Total Budget: .....	15
5.8 Schedule .....	15
5.9 Planting Guide:.....	16
5.10 Planting Plan .....	17
5.11 Planting Methodology .....	18
5.12 Aftercare and Ownership Responsibility .....	20
6. Invasive Species Management.....	21
Photos.....	24
Conclusion.....	25

## 1. Background & Site Context

This report provides a Conditions and Impact Assessment (CIA) and Restoration Plan for a portion of the Slopes Development – Phase 5, located on Greenwell Drive (PID 031-159-851), with the approved (December 14, 2024) RAPR Submission #8805. The Ministry of Water, Land, and Resource Stewardship reviewed the RAPR submission and approved it. It was later determined while reviewing RAPR assessment #9288 that a comprehensive CIA and Riparian Planting Plan are required to address disturbances to regulated riparian areas per the Riparian Area Protection Regulation (RAPR) for the approved RAPR assessment #8805 would be required prior to any further review of #9288. A bond will be required for the securities related to replanting the riparian area and invasive species removal.

Historically, Provincial Habitat Officer Kevin Telfer and Peter D. Law, Provincial Senior Fisheries Biologist, visited the property in 2007 regarding the alteration of a series of braided channels passing through the property. Landowner Wayne Winter had altered the flow of the watercourses, which are connected to Beadnell Creek. Peter and Kevin informed Mr. Winter that he could no longer make any further stream changes, due to the new stream protection regulation and orders from the Province, and he ceased activity. In 2011, invasive species such as Himalayan Blackberry and Scotch Broom dominated the grubbed land. In 2024, Mr. Winter enlisted Bob Crandall- QEP, to flag the SPEA lines and stake the stream boundaries as part of RAPR Assessment #8805. Following this, on his own decision, Mr. Winter cleared the land outside of the SPEA but within the RAA of all invasive species to prevent the spread, as historically done to prepare lots for future development.

## **Original CIA Summary**

The initial CIA was prepared by Bob Crandall (QEP) and submitted under RAPR #8805. Key points from that submission include:

- Total restoration area identified: 85 m<sup>2</sup> within the RAA and a portion of the SPEA of Beadnell Creek, thus requiring a SPEA for the ditch – name: unnamed ditch.
- Disturbance was attributed to previous moon scaping and grading activities.
- Invasive species were reportedly removed during that process.
- Restoration was not proposed for the RAA due to the future development of Lots 2 – 7; however, seeding of disturbed areas outside of SPEA, yet within RAA, is advised to have native grass species seeding with roadside reclamation mix.
- Recommended actions: protect the SPEA from future urban encroachment and apply BC reclamation grass seed to stabilize the disturbed RAA.
- The SPEA of the unnamed ditch within the Greenwell Drive road allowance was not included in the restoration calculation because it is a roadway.

## **Ministry and Local Government Review**

Subsequent review revealed that the original CIA did not fully identify or assess the extent of riparian disturbances on site. Observations include:

- Significant tree clearing and vegetation removal (invasive species) occurred between 2006 and 2021 within the RAA of Beadnell Creek, SPEA disturbance is estimated at a minimum of

1,473 m<sup>2</sup>. Note: Mature tree clearing did take place prior to Ministry involvement in 2007.

- The CIA for the little storm water installation intrusion lacks a site-specific discussion of these other areas impacted much earlier (prior to 2007) and does not address the ecological impacts of SPEA loss.

A letter dated July 30, 2024, from the Town to the QEP and developer accepted the report conditionally, stating: "The Town approved the CIA for the little storm water pipe intrusion area. In addition, will accept the report as presented, subject to the conditions outlined below: The identification and rectification of all RAPR contraventions."

Swordfern Environmental prepared this report to:

- Document negative impacts on the features, functions, and conditions of Beadnell Creek's RAA and 10 m SPEA, and the unnamed ditch's RAA and 5 m SPEA.
- Address prior deficiencies & provide a comprehensive restoration plan.
- Support integration into a revised DP encompassing Phase 5 and Phase 6 works.

The subject parcel is legally described as follows: PROPOSED SUBDIVISION PLAN OF: PART OF LOT A, SECTION 6, RENFREW DISTRICT, PLAN EPP103677, EXCEPT PARTS IN PLANS EPP104021 AND EPP10.





Figure 2. 2021 Google Aerial of Beadnell Creek and unnamed ditch.



Figure 3. 2021 Google Earth imagery of Beadnell Creek fork SPEA

## 2. Regulatory Framework

### 2.1 Federal Legislation

**Fisheries Act – Section 35** As of August 28, 2019:

- No person shall carry on any work or activity (other than fishing) that results in the death of fish.
- No person shall carry on any work or activity that results in the harmful alteration, disruption or destruction (HADD) of fish habitat.

**Fisheries Act – Section 36** Administered by Environment and Climate Change Canada:

- Prohibits the deposit of deleterious substances into waters frequented by fish unless authorized.

### 2.2 Provincial Legislation

**Riparian Areas Protection Regulation (RAPR)** Applies to residential, commercial, and industrial development within 30 m of a stream.

- Requires assessment by a QEP.
- Aims to protect stream functions, including large organic debris, bank stability, vegetative cover, food inputs, and pollution buffers.

### 2.3 Municipal Requirements

**Official Community Plan (OCP) – Section 6.2** Designates riparian areas as Development Permit Areas.

- Requires a DP and supporting QEP report for work within 30 m of a watercourse.

### 3. Ecological Importance of Riparian Vegetation

Riparian vegetation for Beadnell Creek should support essential ecological functions such as:

- Temperature regulation through shade.
- Nutrient input via leaf litter and insect droppings.
- Habitat complexity through large woody debris.
- Bank stabilization and stormwater filtration.
- Wildlife habitat for birds, amphibians, reptiles, and small mammals.

Beadnell Creek is also the water source for the Cowichan Lake Salmonid Enhancement Society hatchery and a water source under a DFO water license, which raises Coho and chum salmon and supplies SD79 classrooms with salmon eggs.

Loss of riparian habitat leads to:

- Degraded fish habitat.
- Poor water quality and siltation (historical issues during the rainy season in the hatchery incubation trays.)
- Reduced species abundance – the creek runs dry or near dry in the summer.

Revegetation is the most effective strategy for improving degraded riparian zones and maintaining long-term ecological integrity.

## 4. Impact Assessment

- Tree clearing between 2018 and 2021 impacted a minimum of 1,473 m<sup>2</sup> (Suggested by Eric Newton, RAPR reviewer) of the fork of Beadnell Creek SPEA.
- The riparian length for segment 1(east side) is 150.3m, the riparian length for segment 2(west side) is 79.3m.
- Total Riparian length for Phase V restoration: 229.6m.
- Lot 1 does not have a SPEA and does not need restoration.
- Lot 2 SPEA is fully intact with large mature wood and is not included in the restoration calculation.
- The proposed 85 m<sup>2</sup> restoration area is specifically for the unnamed ditch that was fully restored. It is part of Phase VI.
- The omission of historical impacts from the report may lead to non-compliance with RAPR; however, this CIA has been developed to document such impacts.
- Restoration efforts must address the full disturbed area to meet regulatory requirements and support ecological recovery.
- The restoration is for the 10m SPEA only for Phase V because future development is within the 30m RAA, but not within the 10m SPEA.
- Meets Section 10(4) of the RAPR – there are no undue hardship lots in the Phase V development.

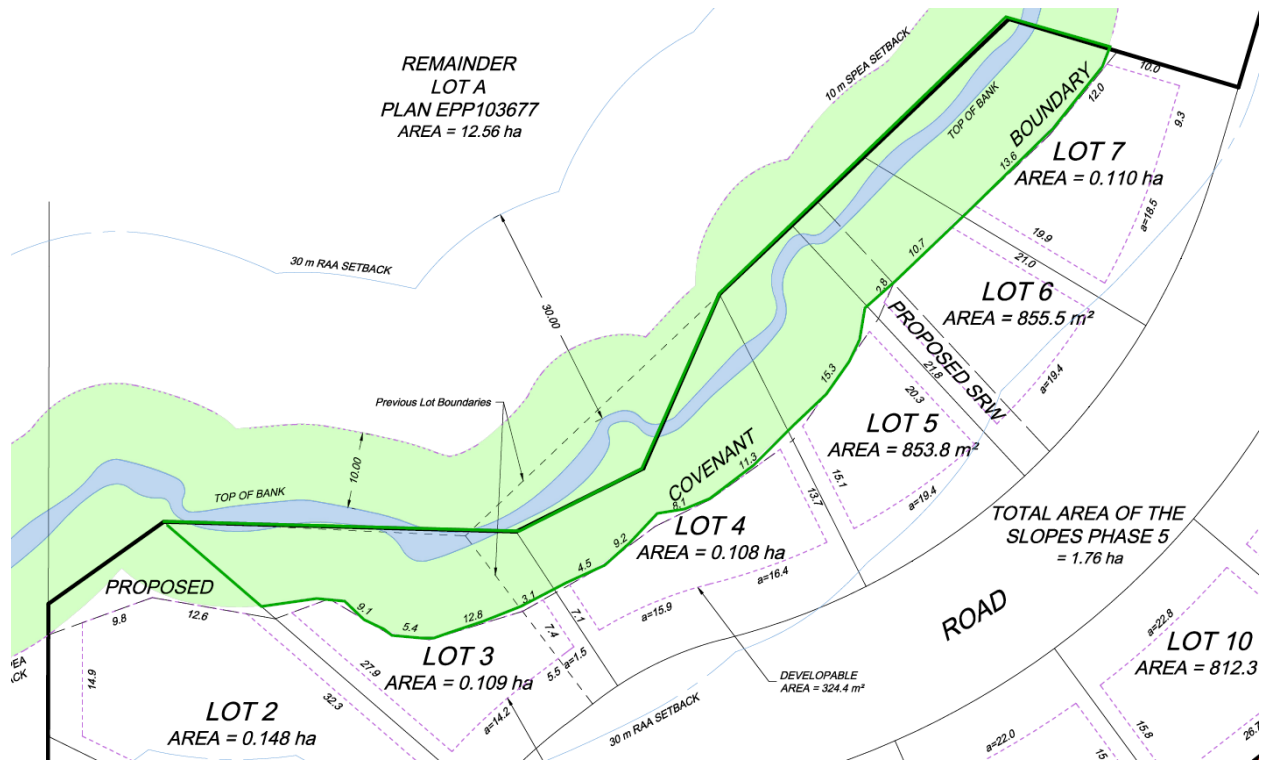


Figure 4. Restoration Area outlined in bold green (1850.0 m<sup>2</sup>).

## 5. Riparian Restoration Plan

### 5.1 Objectives

- Improve wildlife habitat and stream function.
- Stabilize soils and reduce erosion & Filter runoff and prevent sedimentation.

### Shade Restoration Recommendation (ZOS)

- It is recommended to restore the tree canopy for shade (ZOS) because native understory vegetation already exists abundantly on site.
- Sequence: (1) Remove invasive species; (2) Restore native trees to re-establish canopy and shade functions.

- Lot-by-lot checks: After each individual lot sale, assess the SPEA on that lot to determine whether additional restoration is required such as infill planting, browse protection, or invasive follow-up.
- Adequacy for Phase V SPEA: By restoring native tree species first, and given the existing native understory, this constitutes adequate restoration efforts for the Phase V SPEA, subject to survival monitoring and maintenance obligations.

## 5.2 Restoration Area Calculation:

DESCRIPTION	CALCULATION	AREA
Invasive Species Removal	229.6m riparian length (both segments) x 5m (avg)	1236 m <sup>2</sup>
RAA	229.6m (both segments, west side RAA is outside phase V) x 30 m RAA	6888 m <sup>2</sup>
SPEA in Phase V	(150.3 m (east segment) + 79.3 m (west segment)) x 10 m SPEA	1850.0 m <sup>2</sup>
Soil Zone (SZ)	Wet (w) (0-1 m from stream boundary)	195.2 m <sup>2</sup>
	Medium (m) (1-2 m from stream boundary)	212.2 m <sup>2</sup>
	Dry (d) (2-10 m from stream boundary)	1128.3 m <sup>2</sup>
Total SZ Area:	<b>Total Restoration Area:</b>	<b>1535.7m<sup>2</sup></b>

*Table 1: Soil Zone division and total Riparian Restoration Area Calculation*

Based on the numbers in Table 1, the total SPEA in Phase V is 1850.0 m<sup>2</sup>. The discrepancy between the Total soil zone and the total restoration area of 1537 m<sup>2</sup> is that some portions of the SPEA are within Phase VI. This CIA is specifically for Phase V, RAPR #8805.

### 5.3 Native Plant Volunteers

Native plants are abundant on the land, thriving and in healthy condition. Native vegetation observed within the riparian assessment area includes:

**Herbaceous and ground layer species:** Sedges (*Carex* spp.), Sword Fern (*Polystichum munitum*), Foxglove (*Digitalis purpurea*), Skunk Cabbage (*Lysichiton americanus*), and Horsetail (*Equisetum* spp.)

**Shrubs and small trees:** Nootka Rose (*Rosa nutkana*), Willow (*Salix* spp.), Red Huckleberry (*Vaccinium parvifolium*), Oregon Grape (*Mahonia* spp.), Thimbleberry (*Rubus parviflorus*), Salmonberry (*Rubus spectabilis*), and Mountain Ash (*Sorbus* spp.)

**Tree species:** Red Alder (*Alnus rubra*), Western Red Cedar (*Thuja plicata*), Grand Fir (*Abies grandis*), and Western Hemlock (*Tsuga heterophylla*)

### 5.4 Planting Guide:

Calculated at 6m × 6m, one plant at each grid intersection within permitted bands. Intersections that land on utilities/hardscape or outside permitted areas may be shifted ≤1 m while remaining in the same band. Rounded to the nearest whole plant. The following restoration plant species table 2 is based on the Riparian Plants of BC reference. It includes the most beneficial native shrubs and trees with corresponding soil zone for supporting stream health, habitat diversity, and water retention:

Zone	Common Name	code	Botanical Name	Quantity (6m x 6m spacing)
<b>Dry (d) – 1128.3 m<sup>2</sup></b>	Douglas-fir	mp	<i>Pseudotsuga menziesii</i>	12
	Western Red Cedar	pt	<i>Thuja plicata</i>	14
	Red-flowering Currant <sup>^</sup>	sr	<i>Ribes sanguineum</i>	7
<b>Dry Zone Total</b>				<b>33</b>
<b>Medium (m) – 212.2 m<sup>2</sup></b>	Douglas-fir	mp	<i>Pseudotsuga menziesii</i>	6
	Vine Maple <sup>^</sup>	ca	<i>Acer circinatum</i>	5
	Bigleaf Maple <sup>^</sup>	ma	<i>Acer macrophyllum</i>	6
<b>Medium Zone Total</b>				<b>17</b>
<b>Wet (w) – 195.2 m<sup>2</sup></b>	Western Red Cedar	pt	<i>Thuja plicata</i>	5
	Red-osier Dogwood <sup>^</sup>	sc	<i>Cornus sericea</i>	2
	Nootka Rose <sup>^</sup>	nr	<i>Rosa nutkana</i>	2
<b>Wet Zone Total</b>				<b>9</b>
<b>Total</b>				<b>59</b>

Table 2: Recommended Riparian Restoration plant species. <sup>^</sup> denotes fruit bearing

## 5.5 Budget for Labor – Planting

Item	Cost
Manual Labor – 3 ppl:	\$1720/day
Planting days estimated:	2
Sub-total:	\$ 3440.00
GST	\$172.00
<b>Total:</b>	<b>\$3612.00</b>

**Suggested Planting Company:** Arbutiful Landscaping: 250-701-3092 ([arbutiful@gmail.com](mailto:arbutiful@gmail.com))

## 5.6 Budget for Plants

Common Name	Botanical Name	Qty	Unit Price	Line Total
Douglas-fir	<i>Pseudotsuga menziesii</i>	18	\$ 48.00	\$864.00
Western Red Cedar	<i>Thuja plicata</i>	19	\$ 48.00	\$912.00
Red-flowering Currant	<i>Ribes sanguineum</i>	7	\$ 7.85	\$54.95
Vine Maple	<i>Acer circinatum</i>	5	\$ 27.00	\$135.00
Bigleaf Maple	<i>Acer macrophyllum</i>	6	\$ 27.00	\$162.00
Red-osier Dogwood	<i>Cornus sericea</i>	2	\$ 7.85	\$15.70
Nootka Rose	<i>Rosa nutkana</i>	2	\$ 7.85	\$15.70
	<i>Subtotal</i>			\$2,159.35
	<i>GST (5%)</i>			\$107.96
	<i>PST (7%)</i>			\$151.15
	<b>Total</b>			<b>\$2,418.46</b>

Table 3: Streamside Native Plant prices are subject to change. Delivery charge varies and plant availability is subject to nursery stock.

## 5.7 Total Budget:

Category	Amount
Plants – total (incl. GST & PST)	\$2,418.46
Labour – planting	\$3612.00
<b>Total</b>	<b>\$6030.46</b>

Table 4: The total budget to bond is \$6030.46.

## 5.8 Schedule

Area	Timing	Plants	Density	Comments
SPEA	October 2025	Plant specimens in Planting Guide (trees min. 4 ft height)	1 plant / 6m x 6m	Follow suggestions for container planting; create watering basins; mulch lightly.

SPEA	Starting September 2025	Invasive species removal (Scottish broom, Himalayan blackberry, English holly, thistle)	-	Remove immediately on sight. Full extraction with roots; haul debris to approved disposal facility. Recommended 3x/year. (fall/spring/summer)
SPEA	October 2026 +	Replace plants that did not survive over the previous year	1 plant / 6m x 6m	Minimum 80% survival rate; if more than 20% die, replanting required.

Table 5: Planting schedule for 2025 plus additional work in 2026 and beyond.

### 5.9 Planting Guide:

Common Name	Botanical Name	Description
Douglas-fir	<i>Pseudotsuga menziesii</i>	Large, long-lived conifer providing shade, windbreak, and habitat for birds and small mammals. Strong root system aids in slope stability.
Western Red Cedar	<i>Thuja plicata</i>	Evergreen conifer valued for year-round cover and soil stabilization; tolerates moist to dry conditions.
Red-flowering Currant <sup>^</sup>	<i>Ribes sanguineum</i>	Deciduous shrub with pink to red flowers attracting hummingbirds and pollinators; produces berries eaten by birds and mammals.
Red Alder	<i>Alnus rubra</i>	Fast-growing deciduous tree that fixes nitrogen, improving soil fertility; provides shade and leaf litter for aquatic life.
Vine Maple <sup>^</sup>	<i>Acer circinatum</i>	Small tree/shrub with arching branches; provides fall color, nectar for pollinators, and seeds for birds and small mammals.
Bigleaf Maple <sup>^</sup>	<i>Acer macrophyllum</i>	Large deciduous tree offering extensive canopy cover; seeds and flowers provide food for birds, mammals, and insects.
Red-osier Dogwood <sup>^</sup>	<i>Cornus sericea</i>	Multi-stemmed shrub with red stems; stabilizes banks and provides berries for wildlife.
Nootka Rose <sup>^</sup>	<i>Rosa nutkana</i>	Native shrub with pink flowers and edible rose hips; excellent for wildlife forage, nesting, and creating natural barriers.

Table 6: common name and description.

# 5.10 Planting Plan

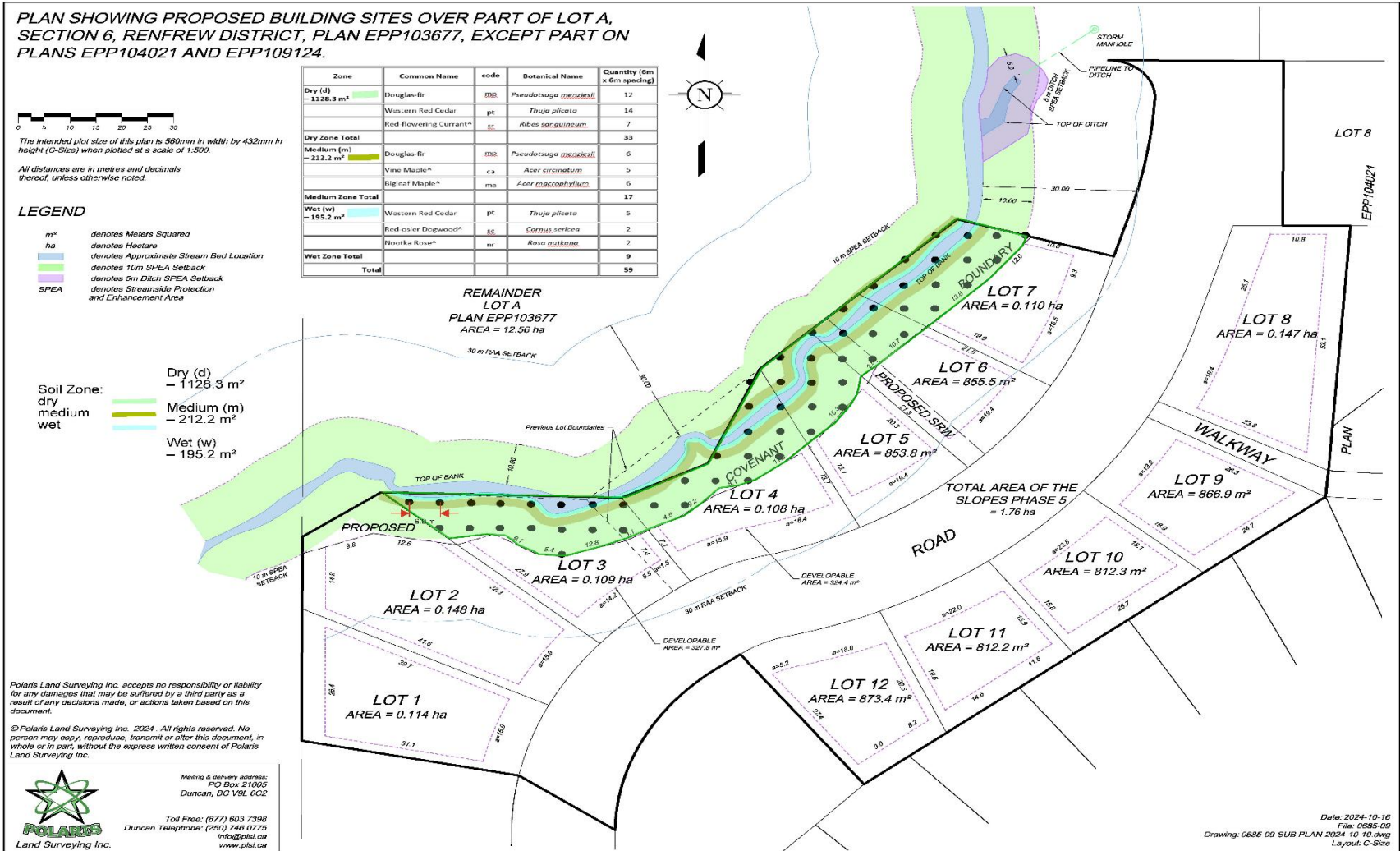


Figure 5. Restoration area to be planted on a square grid 1 (dot)plant/6m x 6m density. The restoration area is 1537 m<sup>2</sup>.

## 5.11 Planting Methodology

- Identify and preserve native regrowth.
- Plant native species using proper spacing to allow for mature growth. Use a 6m x 6m (36m<sup>2</sup>) square-grid density. This plant density is recommended to allow for adequate crown development (coverage) for the shade ZOS (zone of sensitivity). It promotes a natural, open grown appearance.
- Incorporate a variety of species, including fruit-bearing and non-fruit bearing coniferous and deciduous trees.
- Plant during the dormant season to minimize stress on plants.
- Follow soil zone guidelines: dry (d), medium (m), and wet (w).
- Irrigation may be applied for the first two summers post-planting, will need to be requested for each individual lot pending sale.

### **Suggestions for successful container planting:**

1. Dig a hole slightly larger than the container size and add nutrient-rich soil to the hole.
2. Bone meal be added. No fertilizer due to the proximity of the watercourse.
3. Mound soil around the plant to create a depression that will catch moisture. 'Water in' before planting and after.
5. Establish a watering schedule for the first few years (3+) to allow the root system to be established.

6. Maintain native plants by weeding invasive species out.
7. Monitor plants for browsing. If the browse is excessive then apply a repellent.

### **BC Riparian Restoration Guidelines:**

In conformity with the BC Riparian Restoration Guidelines (March 2008) Planting Guidelines:

- All riparian plantings should be based on a square grid density. All tree/shrub species should be of guaranteed nursery stock.
- The botanical name should be used when ordering stock to ensure that the desired native species is being purchased. Each specimen should be tagged with the botanical name and the tag should be left attached after planting.
- Stock planted during the Fall (Sept. - Oct.2024) and spring (March – April 2025) has the greatest likelihood of surviving. Regular watering for the first two years during the summer months may be required until the plants are established. Additional advice on proper planting procedures should be obtained from the nursery supplying the stock.
- Coniferous trees should comprise not less than 10% nor more than 25% of the tree stock planted.
- Tree stock should be a minimum of 1.2 m (4 ft) in height when purchased/planted.
- Planting on a given area being enhanced must be successful to an 80% take. If more than 20% die over one year, replanting is required.
- A minimum of 50% of trees and shrubs planted should be fruit-bearing species.

Structural Guidelines state: *“Wherever a development site will result in land clearing activities, the opportunity exists to salvage and translocate structural materials (i.e., downed wood, stumps, mossy rocks, vascular plants, non-vascular plants) into the remaining environmentally sensitive areas. These key forest floor features provide a diversity of habitats for both invertebrates and vertebrate species.”*

- Salvaged large woody debris and stumps from the development site should be placed in previously damaged riparian areas to provide structural habitat features for small wildlife and amphibians.
- Mossy rocks and herbs can be salvaged from the development site to help ‘seed’ the restored area with native groundcover species.
- Large projects are well suited to the creation or translocation of wildlife trees within the area undergoing restoration/enhancement.

The purpose of planting is to *augment and jump-start the natural succession* of the site not to try and replicate or replace what previously existed in one season.

## 5.12 Aftercare and Ownership Responsibility

- During the first 3+ years, plant survival can be enhanced through proper planting techniques and deep watering during dry periods.
- Monitor 3x annually (spring, summer, fall).
- Fall planting is recommended to take advantage of seasonal rainfall.

- Mulch may be used to retain moisture.
- Browsing from deer, elk, and rabbits may be mitigated using repellents such as Plantskydd (available from Streamside Native Plants).
- Check plant survival, identify and remove invasives. If survival is poor, replanting will be necessary.
- Access control and deterrents (e.g., Nootka rose) may help reduce human disturbance and trampling.
- As subdivision progresses, responsibility for ongoing care and compliance should be transferred to **new lot owners**, with clear expectations for continued invasive control and replanting if necessary. Individual lots will need RAPR approval and replanting will be necessary if plant survival decreases within the 3 years after planting.
- Document via photo-points.

## 6. Invasive Species Management

Historically, moon-scaping and excavation work took place on the subject property. These past activities have contributed to disturbance within the RAA and created ongoing invasive plant pressures. Consistent with the Ministry's direction for Phase 5/6, this plan prioritizes restoration that avoids any new disturbance to the SPEA while enabling efficient invasive removal and revegetation elsewhere. Calculated by drone imagery in the photo sections, 1236 m<sup>2</sup> of invasive species removal is required before riparian planting.

Recommendation intent: We do not recommend mechanized invasive removal inside the SPEA. We do recommend (conditionally) mechanical removal by excavator within the RAA, with the excavator parked outside the SPEA and reaching in under strict environmental controls and QEP oversight

### **SPEA (Stream Protection & Enhancement Area)**

- No mechanized equipment, but the excavator bucket to pull invasives out.
- Hand methods include: cut-and-paint / cut-stump for woody invasives; hand digging/grubbing for small plants.
- Preserve native root mats and ground cover; no soil scalping.

### **Mandatory controls for any mechanical work:**

- QEP supervision: pre-work briefing, layout confirmation.
- SPEA protection: high-visibility orange snow fencing/flagging at the SPEA boundary; no track entry but bucket entry allowed into the SPEA.
- Erosion & Sediment Control (ESC): silt fence as needed; immediate cover (mulch) on disturbed soil.
- Disturbance limits: shallow grubbing only; avoid undercutting banks; protect native stumps/LWD/structural debris; suspend work during rainfall that creates runoff.
- Environmental safeguards: refuel and service >30 m from water; spill kit on site; collect and remove all arisings to an approved facility (no stockpiles in SPEA, RAA allowed but consider tarping).

- Timing windows: avoid Mar 1–Aug 31 bird-nesting unless QEP nest survey confirms no active nests.

Rationale: Prohibiting machinery in the SPEA minimizes soil disturbance and sediment delivery risk to Beadnell Creek. Allowing controlled excavator to use from the RAA efficiently removes mature invasive patches while maintaining SPEA integrity.

**RAA (outside the SPEA)**

- Development activities will occur for each individual lot, however it is recommended the invasive species be scraped and removed prior to individual sale. It is encouraged to leave as many native species as possible.

Species	Method	Timing
Himalayan Blackberry ( <i>Rubus armeniacus</i> )	Cutting, root removal, herbicide	Late summer, post-fruiting
Scotch Broom ( <i>Cytisus scoparius</i> )	Manual pulling (entire root), herbicide if permitted	Spring (before flowering) or Fall
English Holly ( <i>Ilex aquifolium</i> )	Manual digging or cutting and herbicide	Spring – Fall
Thistle species ( <i>Cirsium spp.</i> )	Manual removal before seed set	Late spring – early summer

Table 7: Invasive Species on Subject Property

## Photos



*Figure 6. Lots 7 - 6, starting right to left, note small brown square in photo which measures 1m<sup>2</sup>. Note: Himalayan blackberries are flowering white.*



*Figure 7. SRW, lot 5 and part of lot 4.*



*Figure 8. Drone imagery of part of lot 4, lot 3, lot 2 and lot 1.*

## Conclusion

Invasive species removal is recommended to occur as early as possible in 2025, following mandatory protocols for both mechanical and manual removal to ensure effective extraction. All resulting debris must be disposed of using appropriate methods. Riparian planting should be scheduled for the dormant season in late Fall 2025, after the invasive species have been entirely removed.

This report provides sufficient guidance to complete the planting in accordance with the recommended container planting techniques. All work must be carried out under the direction of a Qualified Environmental Professional (QEP) to ensure regulatory compliance. A qualified Environmental Monitor (EM) shall be present during invasive species plant removals within SPEA.

Following the completion of restoration activities, the current landowner is responsible for maintaining and safeguarding the restored areas until each lot is sold. Additional planting or maintenance may be required for individual lots to maintain the integrity of the riparian restoration, as informed by future development and site-specific RAPR assessments.