



Development Permit Application

Referral Form – RDCK File DP2401A

Date: March 27, 2024

You are requested to comment on the attached DEVELOPMENT PERMIT for potential effect on your agency's interests. We would appreciate your response WITHIN 30 DAYS (PRIOR TO April 27, 2024). If no response is received within that time, it will be assumed that your agency's interests are unaffected.

LEGAL DESCRIPTION & GENERAL LOCATION:

Crawford Creek Regional Park- 15941 Highway 3A, Crawford Bay, Electoral Area 'A'
 LOTS 4, 5 and 6 DISTRICT LOT 2335 KOOTENAY DISTRICT PLAN 788,
 PIDs: 016-035-526, 016-035-542 and 016-035-861

PRESENT USE AND PURPOSE OF PERMIT REQUESTED:

Overall, Crawford Bay Regional Park is composed of 28 fee simple lots totalling approximately 70 hectares that were acquired from Kokanee Springs Resort Ltd. in 2018. This Regional Park includes Crawford Bay beach, Crawford Bay/Creek wetlands and trail network, which is surrounded by the Crawford Bay community and located (primarily) south of Highway 3A.

The Regional District of Central Kootenay and the East Shore Trail and Bike Association are proposing to upgrade the existing trail(s), create a new trail and replace an old bridge in Crawford Creek Regional Park. This Environmentally Sensitive Development Permit application is required for those portions of trail and bridge works proposed within the riparian area of Crawford Creek.

A *Water Sustainability Act* notification for the proposed bridge works was submitted to the Province in February 2024 for this project.

AREA OF PROPERTY AFFECTED	ALR STATUS	ZONING	OCP
Approx. 2,040 m ² of trail area	N/A	N/A	Area 'A' Community Land Use Bylaw No. 2315 Tourist Commercial (TC)

AGENT: Ecologic Consultants Ltd. c/o Ryan Durand

OTHER INFORMATION: ADVISORY PLANNING COMMISSION PLEASE NOTE:

If your Advisory Planning Commission plans to hold a meeting to discuss this Development Permit application, please note that the applicants must be provided with an opportunity to attend such meeting, in accordance with Section 461, subsection (8) of the *Local Government Act*, which reads as follows:

"If the commission is considering an amendment to a plan or bylaw, or the issue of a permit, the applicant for the amendment or permit is entitled to attend meetings of the commission and be heard."

Please fill out the Response Summary on the back of this form. If your agency's interests are 'Unaffected' no further information is necessary. In all other cases, we would appreciate receiving additional information to substantiate your position and, if necessary, outline any conditions related to your position. Please note any legislation or official government policy which would affect our consideration of this permit.

**Stephanie Johnson, PLANNER
REGIONAL DISTRICT OF CENTRAL KOOTENAY**

<input checked="" type="checkbox"/> MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE <input checked="" type="checkbox"/> HABITAT BRANCH (Environment)	REGIONAL DISTRICT OF CENTRAL KOOTENAY DIRECTORS FOR:
	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H <input type="checkbox"/> I <input type="checkbox"/> J <input type="checkbox"/> K

<input checked="" type="checkbox"/> FRONTCOUNTER BC (MFLNRORD) <input checked="" type="checkbox"/> ARCHAEOLOGY BRANCH <input type="checkbox"/> REGIONAL AGROLOGIST <input type="checkbox"/> ENERGY & MINES <input type="checkbox"/> MUNICIPAL AFFAIRS & HOUSING <input checked="" type="checkbox"/> INTERIOR HEALTH, HBE TEAM <input type="checkbox"/> KOOTENAY LAKES PARTNERSHIP (FORESHORE DEVELOPMENT PERMITS) <input type="checkbox"/> SCHOOL DISTRICT NO. <input type="checkbox"/> WATER SYSTEM OR IRRIGATION DISTRICT <input checked="" type="checkbox"/> UTILITIES (FORTIS, BC HYDRO, NELSON HYDRO, COLUMBIA POWER)	ALTERNATIVE DIRECTORS FOR: <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H <input type="checkbox"/> I <input type="checkbox"/> J <input type="checkbox"/> K <input checked="" type="checkbox"/> APHC AREA A <input type="checkbox"/> RDCK FIRE SERVICES <input type="checkbox"/> RDCK EMERGENCY SERVICES <input checked="" type="checkbox"/> RDCK BUILDING SERVICES <input type="checkbox"/> RDCK UTILITY SERVICES <input type="checkbox"/> RDCK RESOURCE RECOVERY <input checked="" type="checkbox"/> RDCK REGIONAL PARKS INSERT COMMENTS ON REVERSE . . .
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The personal information on this form is being collected pursuant to *Regional District of Central Kootenay Planning Procedures and Fees Bylaw No. 2457, 2015* for the purpose of determining whether the application will affect the interests of other agencies or adjacent property owners. The collection, use and disclosure of personal information are subject to the provisions of FIPPA. Any submissions made are considered a public record for the purposes of this application. Only personal contact information will be removed. If you have any questions about the collection of your personal information, contact the Regional District Privacy Officer at 250.352.6665 (toll free 1.800.268.7325), info@rdck.bc.ca, or RDCK Privacy Officer, Box 590, 202 Lakeside Drive, Nelson, BC V1L 5R4.

RESPONSE SUMMARY
FILE: DP2401A AGENT: RYAN DURAND

Name:

Date:

Agency:

Title:

RETURN TO: STEPHANIE JOHNSON, PLANNER
DEVELOPMENT AND COMMUNITY SUSTAINABILITY SERVICES
REGIONAL DISTRICT OF CENTRAL KOOTENAY
BOX 590, 202 LAKESIDE DRIVE
NELSON, BC V1L 5R4
Ph. 250-352-1585
Email: plandept@rdck.bc.ca

RDCK Map



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Box 590, 202 Lakeside Drive,
Nelson, BC V1L 5R4
Phone: 1-800-268-7325 www.rdck.bc.ca
maps@rdck.bc.ca

Legend

 Electoral Areas

Map Scale:

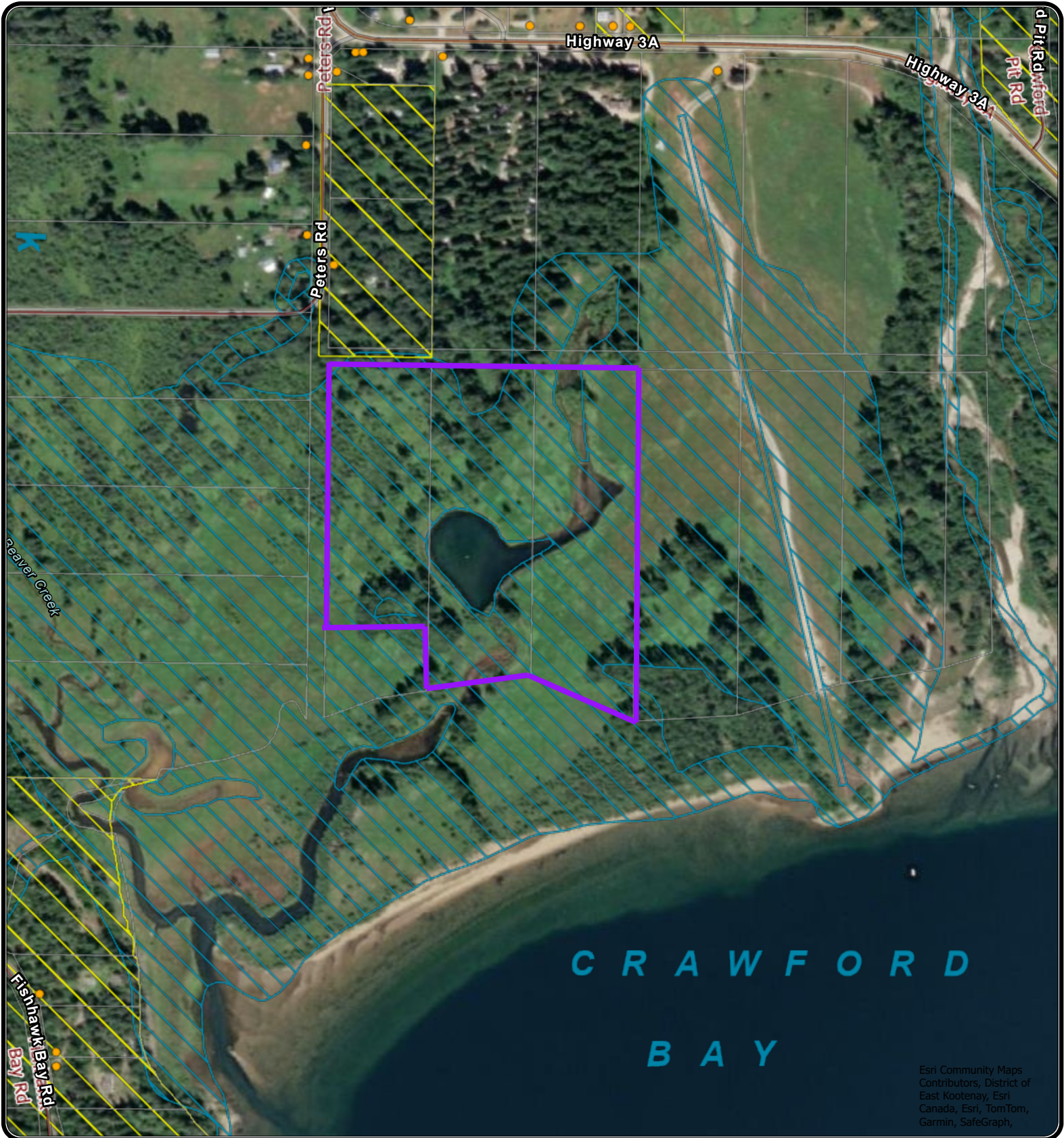
1:144,448

Date: March 1, 2024



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Development Permit Areas

 Environmentally Sensitive

Legend

-  Residential Cluster
-  RDCK Streets
-  Cadastre
-  Address Points

Map Scale:

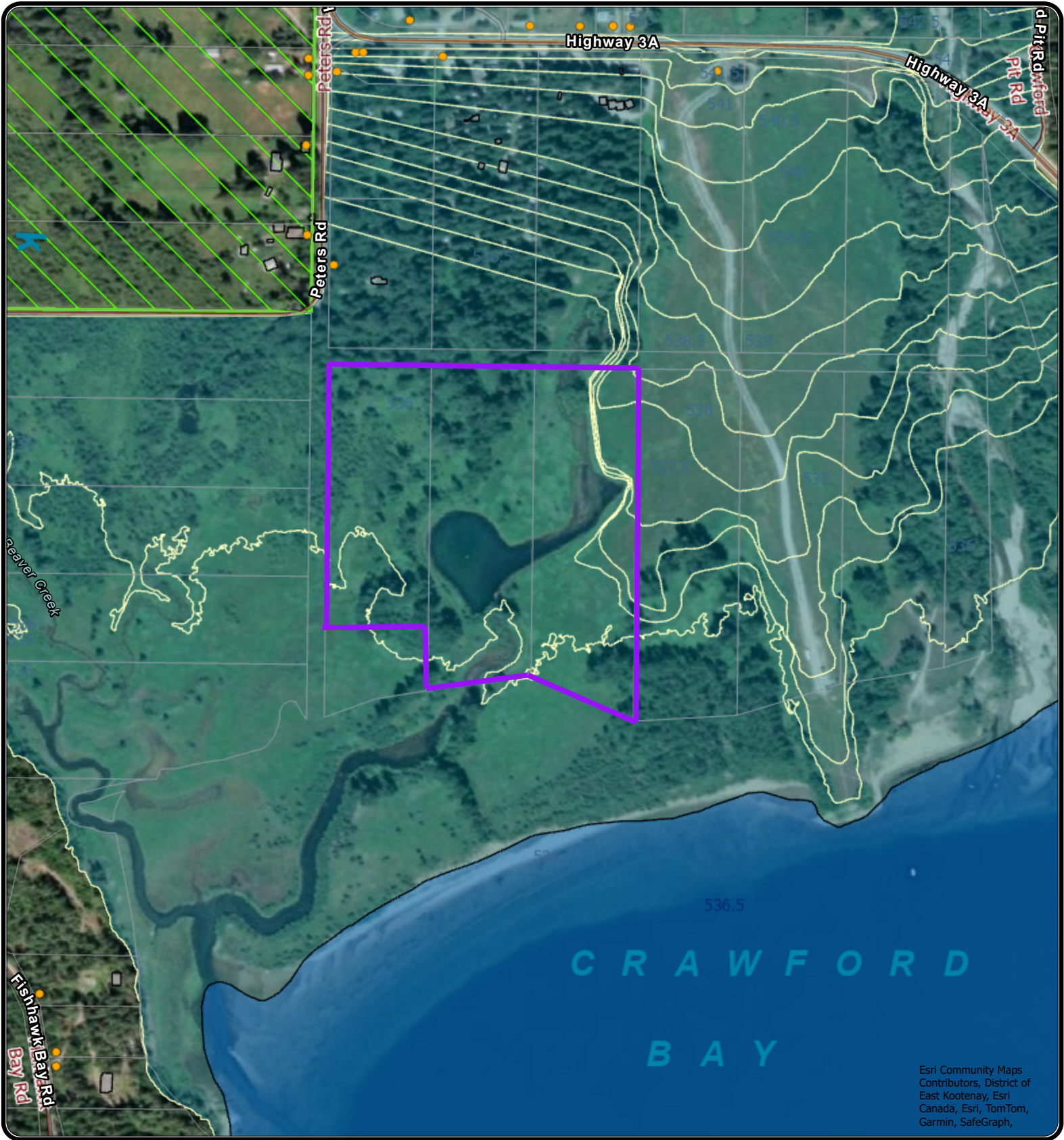
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Legend

- Clearwater Flood Construction Levels - 2020
- Flood Construction Levels - 1990
- Agriculture Land Reserve
- Building Footprints
- RDCK Streets
- Cadastre
- Address Points

Map Scale:

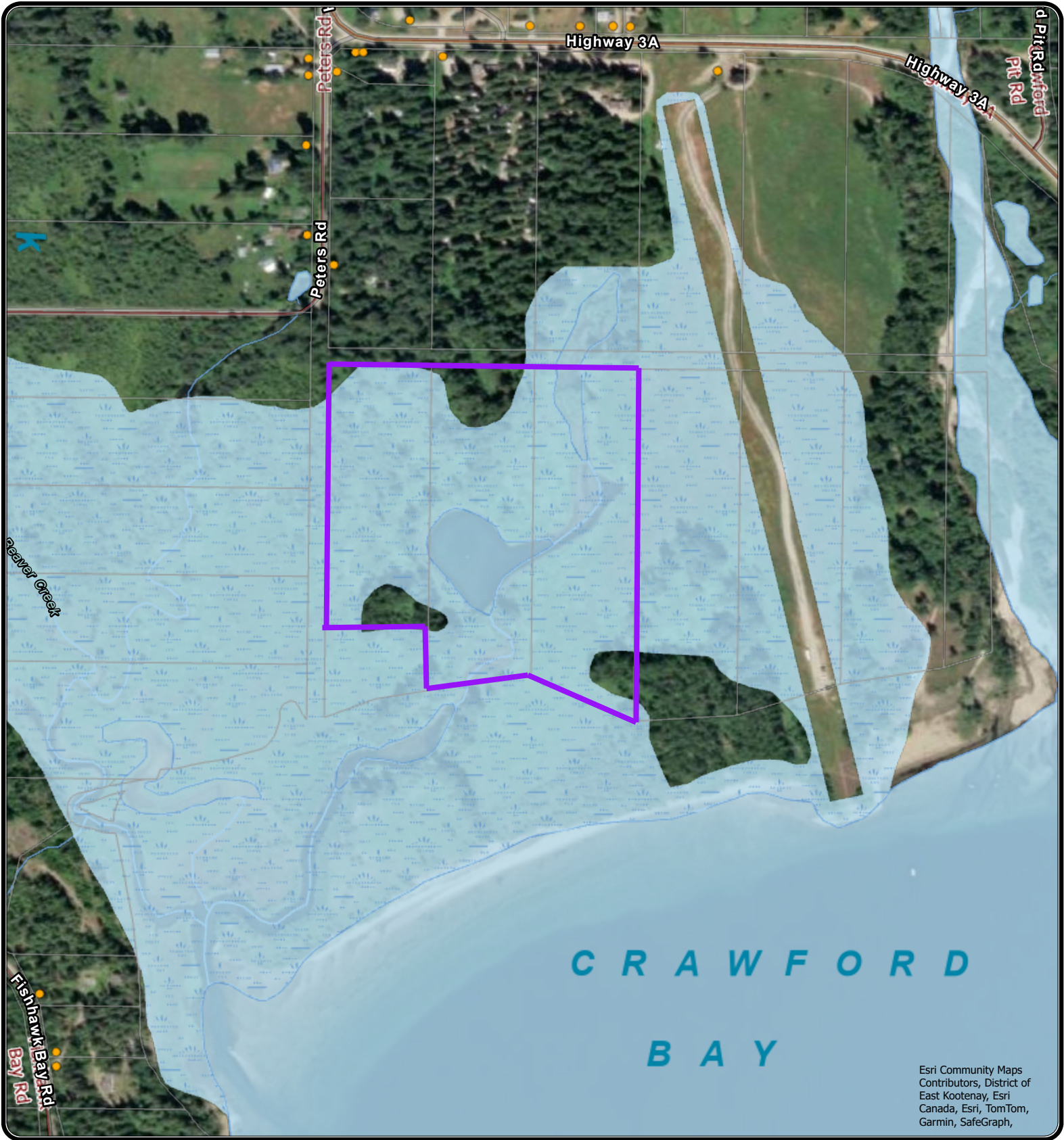
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Legend

- Wetlands
- Streams and Shorelines
- Lakes and Rivers
- Electoral Areas
- RDCK Streets
- Cadastre
- Address Points

Map Scale:

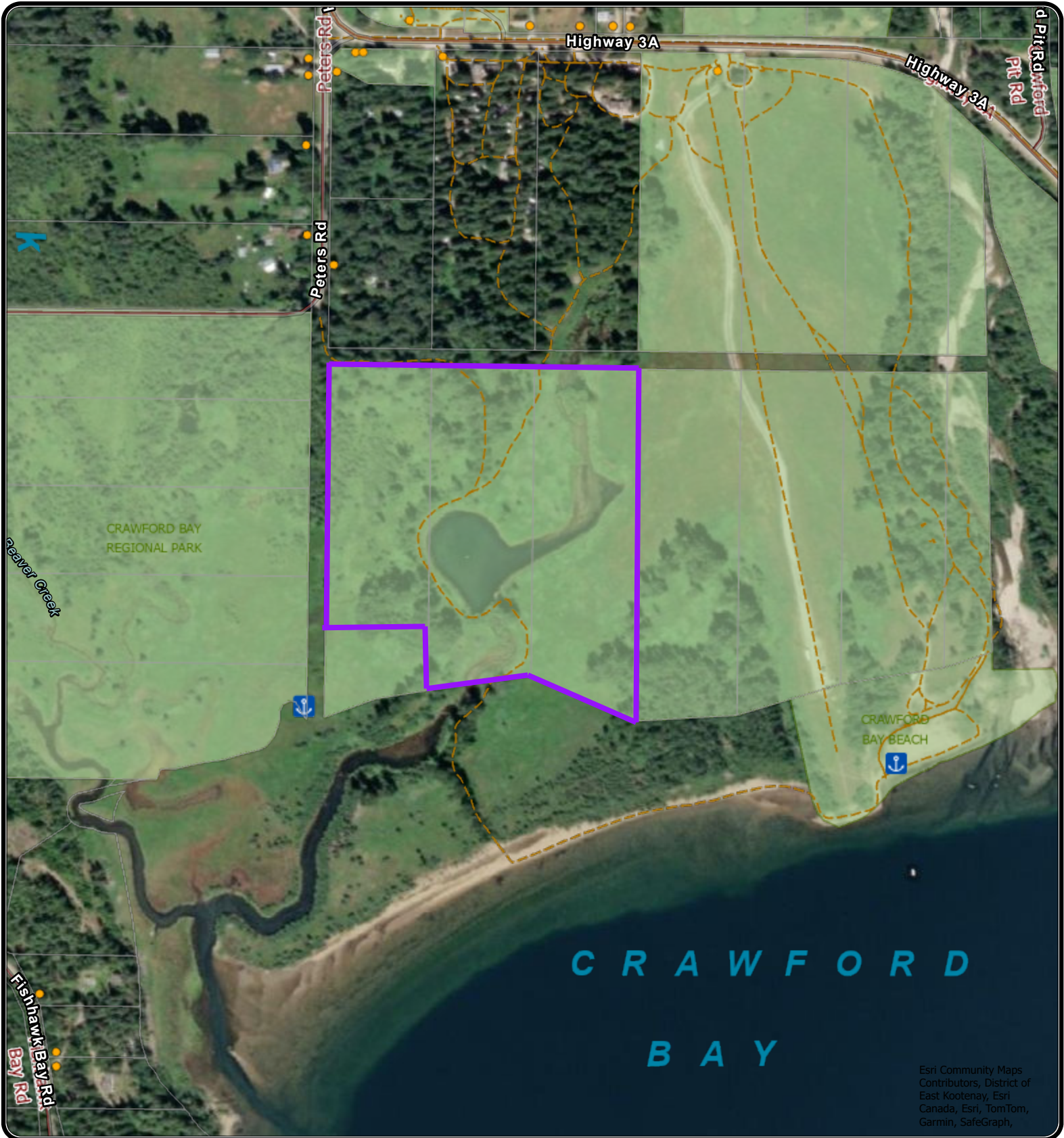
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Date: March 1, 2024



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Legend

- Parks and Rec
- Trails
- ⚓ Water Front Access
- RDCK Streets
- Cadastre
- Address Points

Map Scale:

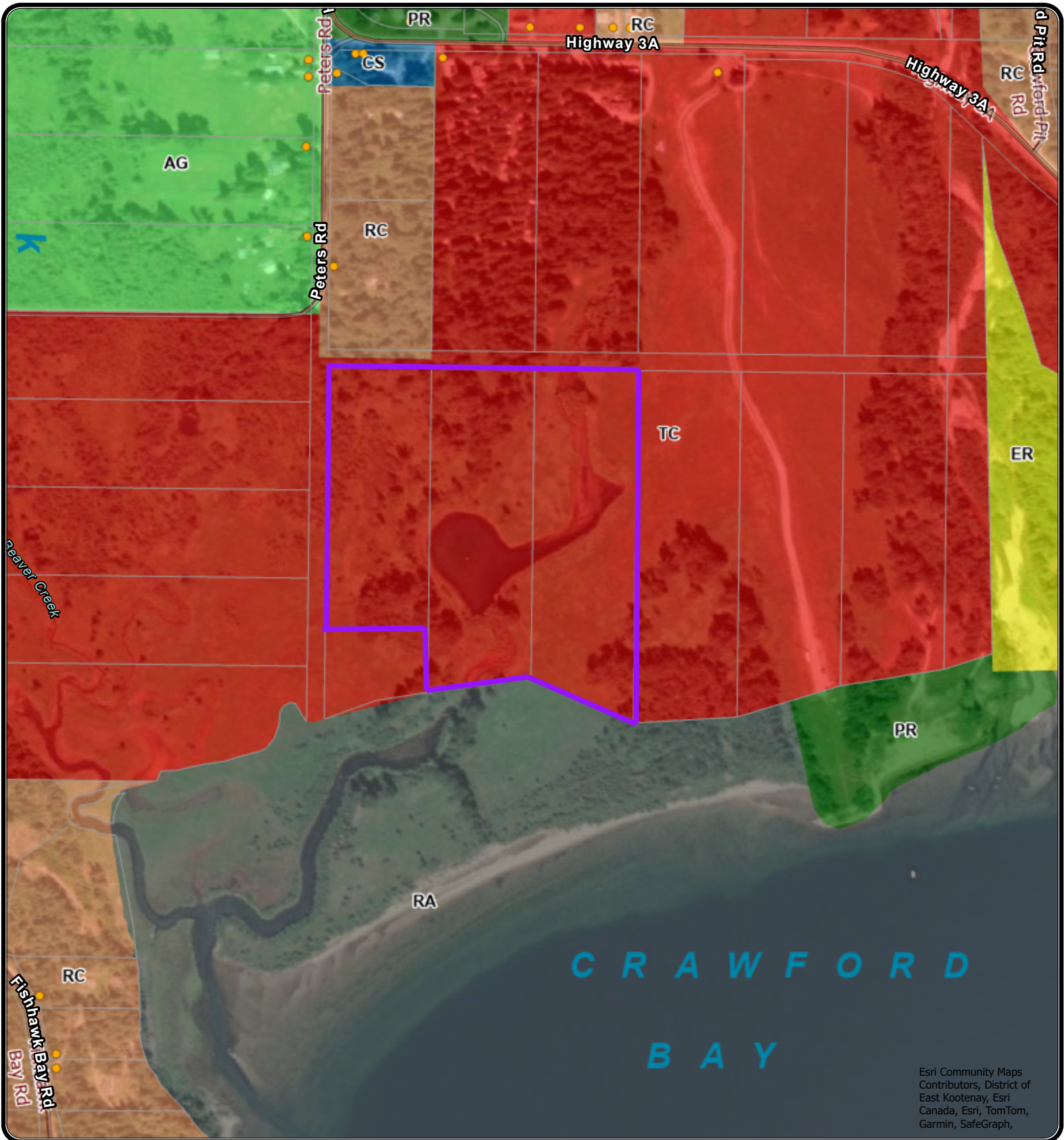
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Official Community Plan

- Agriculture
- Commercial
- Community Services
- Country Residential

Legend

- Environmental Reserve
- Parks and Recreation
- Resource Area
- RDCK Streets
- Cadastre
- Address Points

Map Scale:

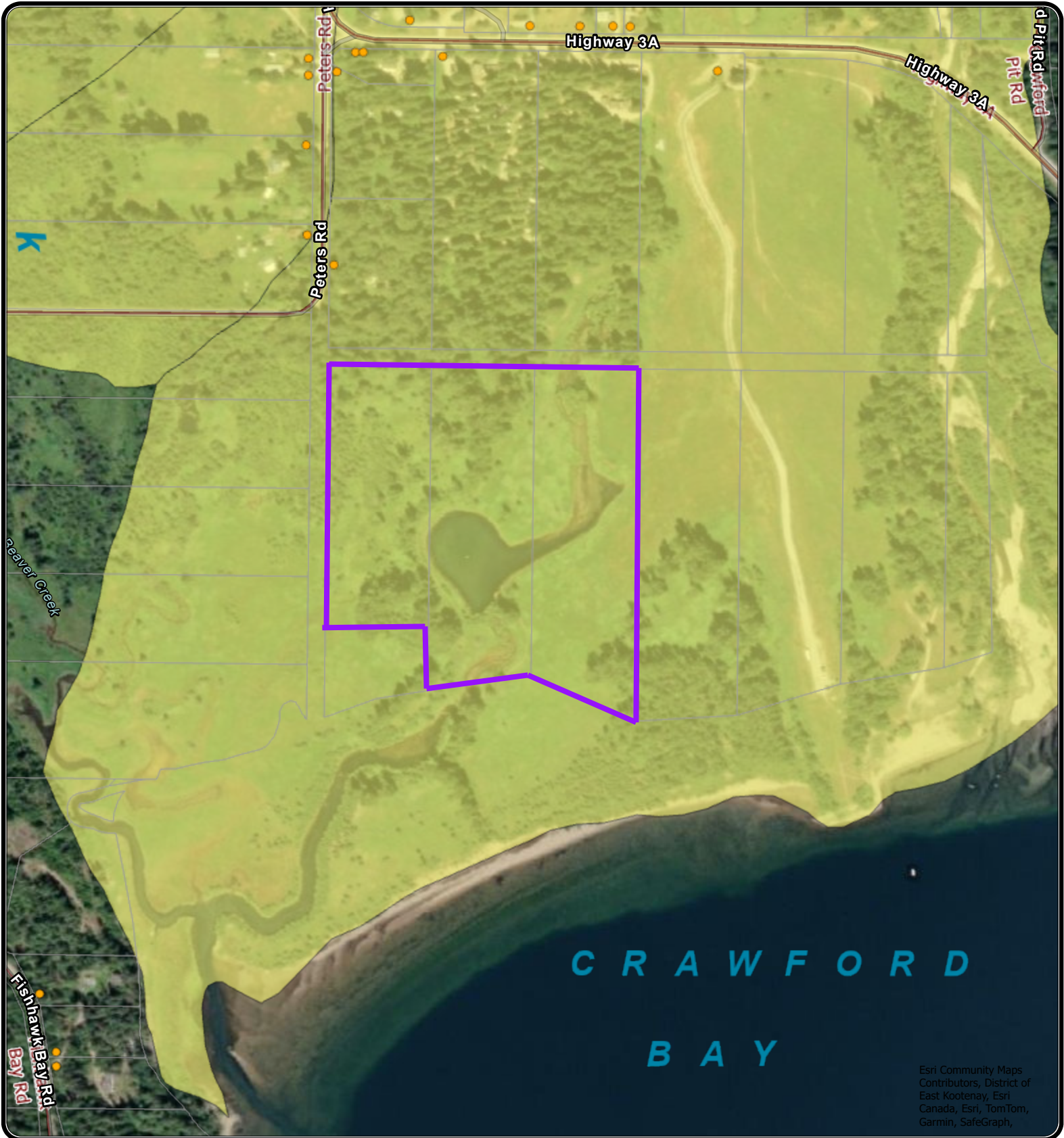
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RDCK Map







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Legend

-  Non Standard Flooding Erosion Area
-  RDCK Streets
-  Cadastre
-  Address Points

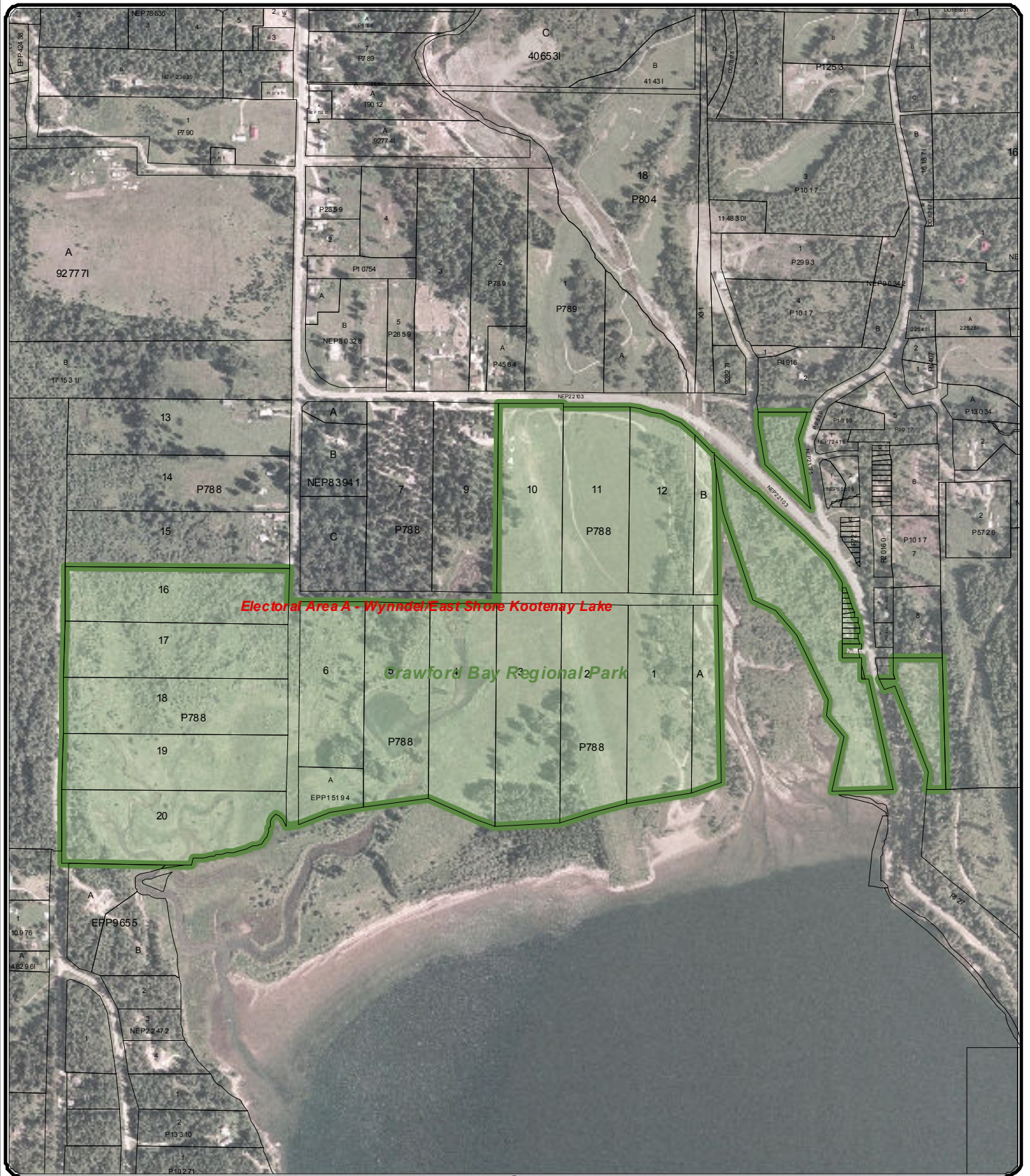
Map Scale:

1:9,028

Date: March 1, 2024



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Electoral Area A - Wynndel/East Shore Kootenay Lake

Crawford Bay Regional Park



Box 590, 202 Lakeside Drive, Nelson, B.C. V1L 5R4
 Phone: (250) 352-6665 Toll-Free 1-800-268-7325 (B.C.)
 Fax: (250) 352-9300 Internet: www.rddk.bc.ca

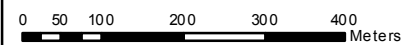
Schedule E - Regional Park Maps
 Park Regulation Bylaw No. 2173, 2011
 (As Amended by Bylaw No. 2645, 2018)

6. Crawford Bay Regional Park
 Park Type: Waterfront Access &
 Multiple Purpose

Legend

 Park Boundary

Map Scale



Map Projection: UTM Zone 11 Map Datum: NAD 83
 Date Plotted: Sept. 2018

Crawford Creek Regional Park Trail Project

Ryan Durand, M.Sc., R.P.Bio.

February 29, 2024

The Regional District of Central Kootenay and East Shore Trail and Bike Association are planning to upgrade existing trails, create a new trail, and replace an old bridge in the Crawford Creek Regional Park. The project consists of:

- Approximately 780m of existing trail will be upgraded using geotextiles and crushed gravel to make a consistent 1.5m wide stable trail. The upgraded trail is located in dry areas and only minor vegetation alterations are required during construction (similar to normal trail maintenance). Approximately 200m of the existing trail is within riparian areas well above the highwater mark. All work will be completed outside of breeding bird windows, and there are no at-risk species that will be affected by the construction.
- Approximately 580m of new trail will be built from the existing trail system to the access road. The first 430m of the trail will be built through a modified reed canarygrass (*Phalarus arundinacea*) dominated field adjacent to stands of black cottonwood (*Populus balsamifera*). The last 150m of the trail runs along the edge of the old, constructed pond (which is also dominated by a continuous cover of invasive reed canarygrass) before tying into the existing trail network at the bridge crossing. Similar construction techniques will be used as the trail upgrades. All work will be done in the dry and above the highwater mark. The only disturbance will be the removal of reed canarygrass. All work will be completed outside of breeding bird windows, and there are no at-risk species that will be affected by the construction. No native vegetation will be removed. Planting of native shrubs and trees along the pond edge is recommended.
- The existing bridge on the trail system is poorly built and has eroding abutments. The bridge location is also frequently dammed by beavers and has experienced considerable erosion over the years. A new clear span aluminum bridge is proposed to be installed at the same location. To limit future beaver interactions with the crossing, the bridge will be built on precast cement blocks and earth at a higher elevation than the existing trail height, thereby ensuring that regardless of beaver activity, the bridge will remain functional, and beavers cannot build a dam against it. All work will be completed in the dry, above the highwater mark, and outside of breeding bird windows, and there are no at-risk species that will be affected by the construction. The unnamed stream is fish bearing; the project is not expected to affect water quality or fish habitat. It is recommended that a Qualified Environmental Professional (QEP) be on site during the bridge construction, especially any required earthworks (and the QEP follows the environmental management recommendations to reduce potential construction risk). Restoration of the abutment area may require soil stabilization and replanting with native grass and shrubs.

A *Water Sustainability Act* notification has been submitted for this project in February 2024.



Crawford Creek Regional Park Trail and Bridge Upgrades Riparian Assessment Report

PRESENTED TO:

Regional District of Central Kootenay
202 Lakeside Drive
Nelson, BC V1L 5R4

PRESENTED BY:

EcoLogic Consultants Ltd.
224 – 998 Harbourside Drive
North Vancouver, BC V7P 3T2

Prepared by:

Ryan Durand, M.Sc., R.P.Bio.

March 26, 2024

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Disclosure

This report was prepared by Ryan Durand, M.Sc., R.P.Bio, a qualified environmental professional as per the Riparian Areas Protection Regulation (RAPR) and Regional District of Central Kootenay’s Draft Standardized Terms of Reference for Riparian Assessment Report definitions. This report was prepared for, and at the expense of, the Regional District of Central Kootenay parks department, in accordance with the Riparian Areas Protection Regulation Technical Assessment Manual (Volume 1.1, Nov. 2019), to support a Development Permit.

1. PROJECT OVERVIEW

Crawford Creek Regional Park is located on Kootenay Lake near the community of Crawford Bay. The park contains a variety of well-used trails, many of which were created before the regional park was formed, including trails located along old roads and spoils from the modified watercourses. The Regional District of Central Kootenay (RDCK) and East Shore Trail and Bike Association are planning to upgrade existing trails, create a new trail, and replace an old bridge (Figure 1-1).

The site description is 15941 Highway 3A, Lot 5 Plan NEP788 District Lot 2335 Kootenay District, PID: 016-035-542.

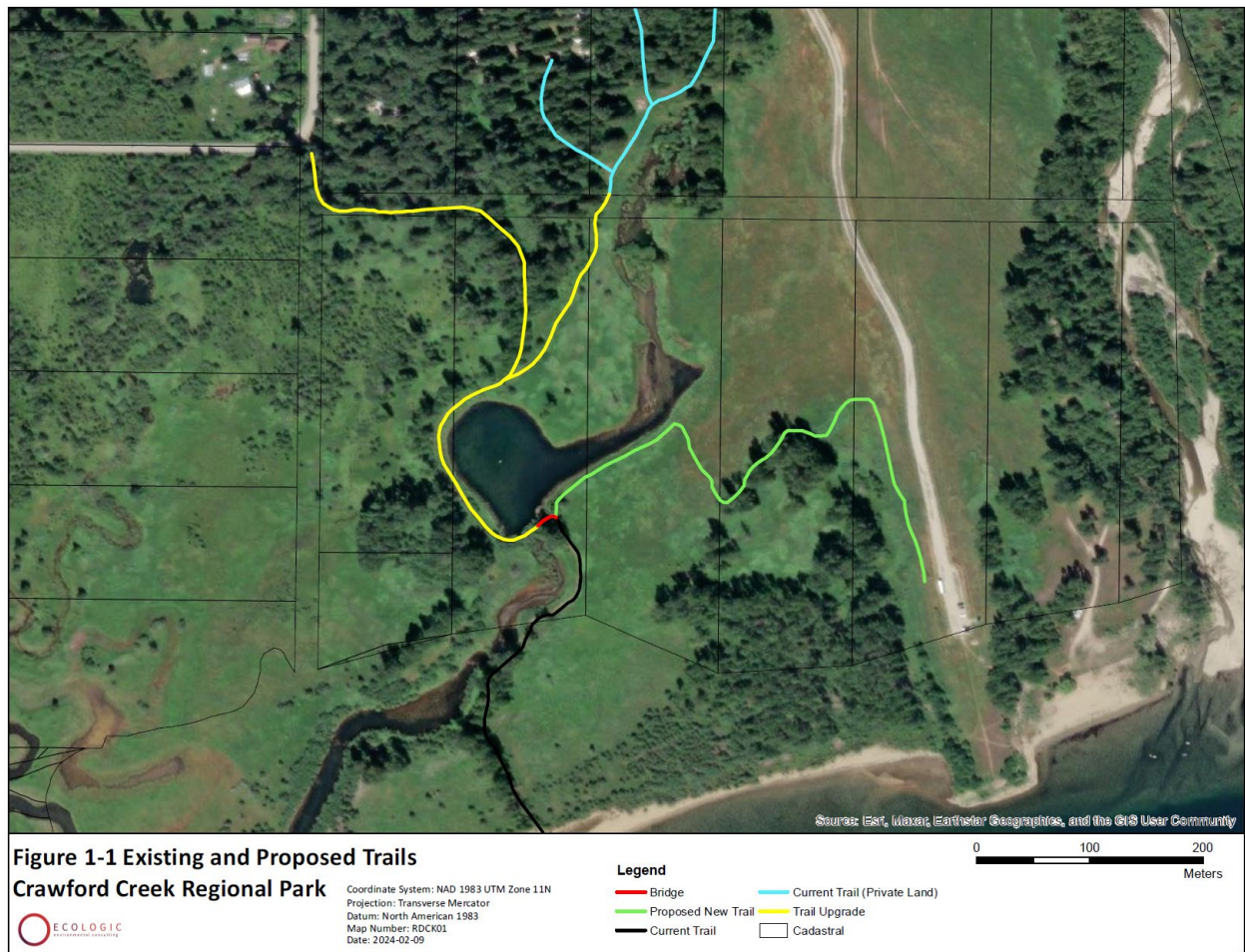


Figure 1-1. Existing and Proposed Trails.

2. METHODOLOGY

To determine the Streamside Protection and Enhancement Area (SPEA) for this project, the RAPR simple method was used as the trails and bridge are located in a park that has no permanent development (aside from trails), and the watercourses have permanent flows and are fish bearing.

A site visit was completed on April 5, 2023. Field work included an assessment of the planned trails, trail upgrades, and the existing bridge. As a comprehensive biophysical assessment (including ecosystem mapping, biodiversity inventory, and rare species inventory) was completed in 2020 (Durand and Ehlers), additional surveys were not completed for this project.

3. SITE CONTEXT

3.1 ECOLOGICAL COMMUNITIES

The proposed projects occur within a variety of habitat types, including modified areas (existing trails, old fields) modified wetlands, and the unknown stream (Durand and Ehlers 2020). The modified wetlands are old marsh and/or swamp communities that are now dominated by invasive reed canarygrass (*Phalarus arundinacea*).

3.2 SPECIES AT RISK

A total of 10 at risk species are known to occur in the park (Table 3.2-1; Durand and Ehlers 2020). Of these species, only Bobolink (*Dolichonyx oryzivorus*) occurs near the proposed project, as it is known to nest in the old hay fields to the north of the proposed new trail.

Table 3.2-1. Species at Risk.

Group	Scientific	English	Status
Bird	<i>Ardea herodias</i>	Great Blue Heron	B
Bird	<i>Botaurus lentiginosus</i>	American Bittern	B
Bird	<i>Chordeiles minor</i>	Common Nighthawk	SC
Bird	<i>Cygnus columbianus</i>	Tundra Swan (migration)	B
Bird	<i>Dolichonyx oryzivorus</i>	Bobolink	B (T)
Bird	<i>Hirundo rustica</i>	Barn Swallow	B
Fish	<i>Salvelinus confluentus</i>	bull trout	B
Invertebrate	<i>Anguispira kochi</i>	banded tigersnail	B
Invertebrate	<i>Cryptomastix mullani</i>	Coeur D'Alene Oregonian	B
Mammal	<i>Ursus arctos</i>	grizzly bear	B (SC)

B = provincially blue-listed. SC = COSEWIC Special Concern. T = COSEWIC Threatened.

3.3 FISH AND FISH HABITAT

The unnamed stream (Habitat Wizard #340-243400-05100) has no information regarding fish presence. As there are no fish obstructions between the project site and the confluence with Beaver Creek (which is known to be fish bearing), it is assumed that the unnamed stream and pond are fish bearing. The unnamed stream and pond were modified in 1967 when the pond was constructed, and the stream dredged and widened (Durand and Ehlers 2020). As a result, much of the riparian area around the pond is elevated from dredging spoils and is grass dominated without significant shrub or tree cover.

The pond has a fine textured mineral soil substrate, and evidence of variable water levels. It has previously been dammed by beavers. The unnamed stream has a short section (~20m) of gravel substrate under the bridge, with the majority of the downstream sections comprised of deep dredged channels with fine mineral soil substrates and a series of active beaver dams.

3.4 EXISTING DEVELOPMENT

The only existing development, as defined by the RAPR, is the current trail system in the park.

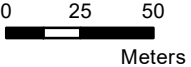
3.5 STREAMSIDE PROTECTION AND ENHANCEMENT AREA (SPEA)

Using the simple assessment method, a SPEA of 30m was determined (Figure 3.5-1). This was determined as the aside from the existing trails, there is no limit to potential riparian vegetation, and the watercourses are considered to be permanent and fish bearing.



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

**Figure 3.5-1 Streamside Protection and Enhancement Area
Crawford Creek Regional Park**



Coordinate System: NAD 1983 UTM Zone 11N
 Projection: Transverse Mercator
 Datum: North American 1983
 Map Number: RDCK01
 Date: 2024-03-26

Legend

- Bridge
- Existing Trail Upgrades (within SPEA)
- New Trail (within SPEA)
- Top of Bank
- 30m SPEA
- Existing/Proposed Trails Outside of SPEA

4. PROPOSED DEVELOPMENT

4.1 EXISTING TRAIL UPGRADES

Approximately 780m of existing trail will be upgraded. The trail follows old roads through the forested area on the north side of the park, branching at the pond and continuing south along the west side of the pond towards the lake (Figure 1-1). The trail branch runs to the northeast towards the private campground. Approximately 340m of the existing trail falls within the 30m SPEA (Figure 3.5-1).

The existing trail system was built on an old road system and is variable in terms of width and condition (Plates 4.1-1 and 4.1-2). Portions of the existing trail are overgrown, narrow and some edges are rough and failing. The proposed upgrades include using geotextiles and crushed gravel to make a consistent 1.5m wide trail, and plate tampers and other small equipment will be used to create a stable base (Plate 4.1-3).



Plate 4.1-1. Existing trail looking north.



Plate 4.1-2. Existing trail looking south.



Plate 4.1-3. Example of the trail construction system proposed by the East Shore Trail and Bike Association.

4.2 PROPOSED NEW TRAIL

A new trail is proposed to start at the existing parking lot and run to the west and connect into the existing trail network (Figure 1-1). The first 425m of the trail will be built through a modified reed canarygrass dominated field (Plate 4.2-1) adjacent to stands of black cottonwood (*Populus balsamifera*). The last 155m of the trail runs along the edge of the old, constructed pond before tying into the existing trail network at the bridge crossing (Plate 4.2-2).

The trail will require the removal of existing surficial material (organic material and upper soil horizon) using a small excavator. Geotextile and a 4" layer of crushed gravel will be used to create the 1.5m wide trail surface, with larger rock, deeper gravel, and drainage pipe (placed to divert water away from the pond) used as needed. The final surface will be compacted with a plate tamper, and any disturbed areas will be reclaimed using native vegetation.

The first 425m section of the trail is not in the vicinity of any waterbody and will not require permits. The 155m section along the pond will be constructed fully in the dry and is above the highwater mark of the pond, but within the 30m SPEA (Figure 3.5-1).



Plate 4.2-1. Proposed new trail location, looking west from the access road.



Plate 4.2-2. Proposed new trail location, looking west along the edge of the pond.

4.3 BRIDGE REPLACEMENT

The existing bridge on the trail system is poorly built and has eroding abutments (Plate 4.3-1 and 4.3-2). The bridge location is also frequently dammed by beavers and has experienced considerable erosion over the years. A new clear span aluminum bridge is proposed to be installed at the same location (Figure 4.3-1). To limit future beaver interactions with the crossing, the bridge will be anchored to wooden abutments on compacted soil at a higher elevation than the existing trail height, thereby ensuring that regardless of beaver activity, the bridge will remain functional, and beavers cannot build a dam against it. All bridge abutment and installation work will be completed in the dry above the highwater mark. Sedimentation and erosion controls will be installed prior to the start of earthworks (Section 6). It is recommended that a Qualified Environmental Professional be on site during the bridge construction, especially any required earthworks.

The existing bridge, pilings, and rock gabions will be removed and properly disposed of. The bridge structure and decking will be removed by hand from the dry. The pilings will be removed by hand if possible, and with an excavator if required. The rock gabions that are in the wetted portion of the creek will be removed with the use of an excavator if possible, but based on the condition of the wire enclosures, it is likely that they will have to be removed by hand. There is ample room on the current trail to operate a small excavator entirely in the dry. The rocks from the gabions will be incorporated into the trail design (above the high-water mark) if possible or removed from site.

Restoration of the abutment area may require soil stabilization and replanting with native grass and shrubs. Section 6 contains recommendations to address potential construction risk.



Plate 5.3-1. Existing bridge looking downstream.



Plate 5.3-2. Existing bridge looking upstream.

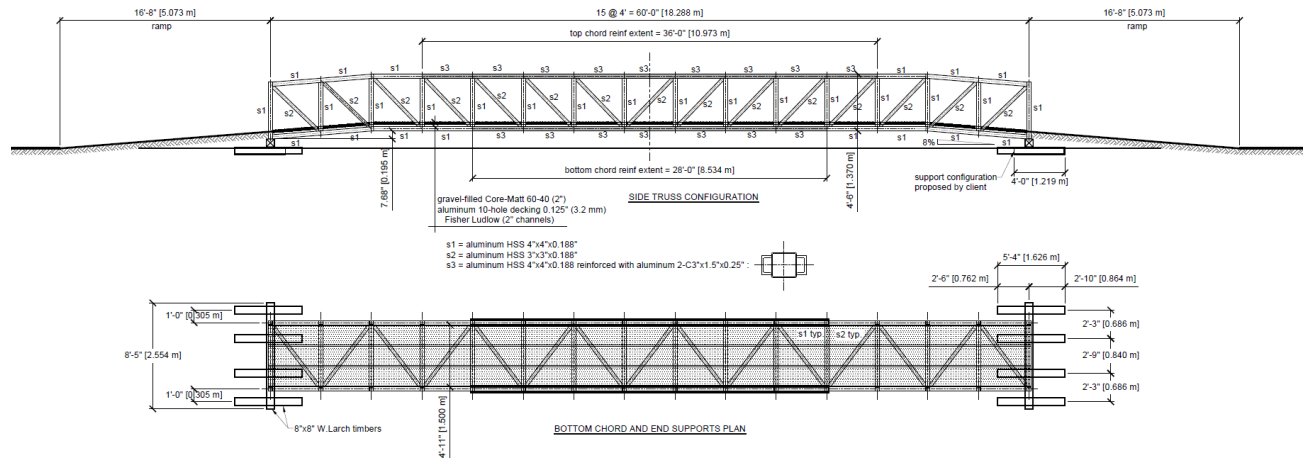


Figure 5.3-1. Proposed bridge and abutment.

5. IMPACT ASSESSMENT

5.1 EXISTING TRAIL UPGRADES

The existing trails all occur in dry terrestrial areas, and no alterations to water drainage or riparian areas are required. Minimal vegetation pruning along the trail edges will be required, similar to annual regular maintenance that already occurs in the park. No impacts are expected to occur from the trail upgrades.

5.2 PROPOSED NEW TRAIL

There are no significant habitat impacts expected from this project, as the trail is above the highwater mark of the pond and is fully within areas currently dominated by invasive reed canarygrass. Approximately 155m of the new trail section along the pond is within the 30m SPEA, resulting in a loss of roughly 233m² of riparian habitat. As the existing riparian area has low habitat and ecosystem function value, the creation of the new trail will not have a significant effect.

5.3 BRIDGE REPLACEMENT

The new bridge will be predominantly constructed within the existing trail footprint. Minimal disturbance is expected from construction and will be limited to minor vegetation removal and/or trimming and soil disturbance. The disturbed area will primarily be within the reed canarygrass area that will be part of the new trail development. Proper environmental management (Section 6) will ensure that impacts to the stream and riparian areas are minimized.

The removal of the existing bridge and rock gabions will result in the potential for a temporary increase in turbidity due to workers standing in the stream, and any fines that may be released when the embedded portion of the rock gabion is removed. The effect of the turbidity will be temporary and is not expected to impact fish or fish habitat. All efforts should be made to limit disturbance within the wetted portion of the creek, with the bulk of the rock from the gabion removed by workers standing in the dry.

The removal of the existing bridge and construction of the new bridge will not significantly modify the stream bed or fish habitat.

6. ENVIRONMENTAL MANAGEMENT

The following is recommended to ensure that environmental risk is minimized during all construction activities.

6.1 NESTING BIRD WORK WINDOWS

While minimal vegetation removal is required for this project (largely limited to the pruning vegetation along the edges of the existing trails and creek crossing), no vegetation removal will occur during the period of mid-April to the end of July. If bird nests or cavities are identified within the work areas, all construction should cease until a Qualified Environmental Professional can assess and clear the area.

6.2 WORK IN AND AROUND WATER

Construction activities proposed for this Project have the potential to impact a number of water quality parameters. The operation of machinery may introduce chemicals such as fuels, oils, and greases. The contractor(s) must perform construction activities in a manner that prevents contaminants or other deleterious substances potentially harmful to aquatic life enter a waterbody. Environmental protection measures for work in-and-around water include:

- All equipment and machinery will be clean, free of fluid leaks, and in good working order prior to the commencement of work.

Portions of the project have the potential to create sedimentation. Silt fences must be installed as necessary when working near water in areas where runoff could reach the waterbody. Silt fences must be installed by digging a small trench and fully burying the bottom of the fence to ensure sediments can not pass under it. The fences must be regularly maintained to ensure they are properly functioning and removed from the worksite after the project is completed and there is no longer a risk of erosion and sedimentation.

6.3 OIL AND FUELS

All re-fueling will occur at least 10 m from and watercourse with the proper containment in place. Spill kits will also be on site for the duration of the Works.

- Portable spill kits will be stored on every piece of equipment/machinery and the location of spill kits will be made available to all Project workers.
- Fuel storage areas (at least 30m from any waterbody) will be regularly inspected and fuel containers monitored for unaccounted losses. All leaks or spills will be isolated, contained, and immediately cleaned up to the satisfaction of the EM.
- Refueling will be done with the utmost care and will have spill pads wrapped around nozzle ends for incidental drips.
- Spills (of an applicable/reportable volume) will be reported immediately to regulatory agencies as required by the applicable legislation.
- Storage sites must be used only for fuel and hazardous substances or contaminated equipment.

6.4 SITE CLEANUP AND DEMOBILIZATION

The contractor shall remove all surplus materials, wastes, and equipment from the site in a timely manner. All equipment will be cleaned thoroughly before leaving site to prevent spread of invasive plant species. Upon completion of the work, the contractor(s) will be responsible for a thorough cleanup of the work area to ensure that all wastes from its operations are removed.

6.5 SPILL RESPONSE

Spill kits and equipment, such as sorbent pads, booms, and leak-proof waste containers, must be readily available on site in the quantities required for the quantities of fluid being handled. The contractor(s) are responsible for ensuring that all crews are adequately trained and equipped to deal with potential environmental incidents.

Spill Response Procedures

1. Ensure Safety

- Ensure personal/public, electrical, and environmental safety.
- Never rush in; always determine the product spilled before taking action.
- Ensure no ignition sources if spill consists of flammable material.
- Warn people in the immediate vicinity.
- Wear appropriate personal protective equipment (PPE).

2. Stop the Flow (when possible)

- Act quickly to reduce the risk of environmental impacts.
- Stop the flow or the spill at its source.
- Close valves, shut off pumps, or plug holes/leaks.

3. Secure the Area

- Limit access to the spill area.
- Prevent unauthorized entry onto the site.

4. Contain the Spill

- Block off and protect drains and culverts.
- Prevent spilled material from entering drainage structures.
- Use spill sorbent material to contain the spill.
- If necessary, use a dyke or any other method to prevent any discharge off-site.
- Make every effort to minimize contamination.

5. Notify and Report

- Notify the RDCK of incident (provide spill details).
- When necessary, make the first external call to Emergency Management BC (formally PEP) 1.800.663.3456 (24 hours).
- Provide necessary spill details to other external agencies.

6. Clean-up

- All equipment and/or material used in clean-up (e.g., used sorbent, oil-containment materials, etc.) must be disposed of in accordance with BC MOE requirements.
- Accidental spills may produce special wastes (e.g., material with more than 3% oil).
- All waste disposals must comply with the BC Environmental Management Act and its Regulations.

7. Spill Report. The spill report will include the following information:

- name and phone number of person reporting the spill,
- name and phone number of person involved with the spill,
- location and time of the spill,

- type and quantity of material spilled,
- cause and effect of spill,
- details of action taken or proposed to contain the spill and minimize its effect,
- names of agencies on the scene, and
- names or other persons or agencies advised.

6.6 SPILL REPORTING

The contractor must immediately report all spills regardless of quantity, and all environmental incidents to the RDCK. If the RDCK cannot be contacted within one hour, it is the responsibility of the contractor to report externally reportable spills (see Table 5.6-1).

All spills to water will be reported to applicable external regulatory agencies.

Table 5.6-1. Externally Reportable Quantities for Commonly Used Substances

Product	Quantity
Class 2.1 - flammable gas (e.g., propane)	10 kg or 10 min duration.
Class 2.2 - non-flammable gas (e.g., SF6, CO2)	10 kg or 10 min duration.
Class 3 – flammable liquids	100 L
Class 8 - corrosive liquid acids and caustics (e.g., battery acid) ⁴	5 kg or L
Oil & Waste Oil (less than 2 ppm PCBs)	100 L
Leachable toxic waste (e.g., used antifreeze)	25 kg or L
Pesticides & Herbicides	5 kg or L
Other Substances (e.g., new antifreeze, power-wash water)	200 kg or L

7. CHANCE FINDS

The East Shore Trail & Bike Association’s workplan includes the following:

“Chance Finds Procedures for Archeological Materials The East Shore Trail & Bike Association operates on the traditional territory of the Ktunaxa Nation and within the unceded lands of the Secwepemc, Syilx and the Sinixt Nations. The East Shore Trail and Bike Association adheres to Chance Finds Procedures outlined by the Ktunaxa First Nation and RSTBC. We review the procedures with our laborers, contractors and volunteers before any work commences. See Recreation Trails Master Plan and PDF Document from Ktunaxa Lands.”

8. REVEGETATION PLAN

8.1 EXISTING TRAIL UPGRADES

No revegetation is required for the existing trail upgrades as construction will occur within the existing trail footprint.

8.2 PROPOSED NEW TRAIL

The 155m of new trail that will be construction within the SPEA along the south side of the pond will affect roughly 233m² of riparian habitat (entirely composed of invasive reed canary grass). To compensate for this disturbance, riparian plantings along the 155m of pond edge is proposed. The areas between the high-water mark of the pond and top of bank along the proposed trail route is approximately 690m² (Figure 8.2-1). This area will be planted with live stakes of cottonwood, willow (*Salix* spp.), and red osier dogwood (*Cornus sericea*), all of which occur in the park and are readily available to use as donor plants. As the riparian area is dominated by reed canarygrass, the use of seeds, small shrubs or herbs is not recommended as they will not be able to outcompete the grass and are unlikely to survive.

Planting will be completed in early spring or late fall when the donor plants are dormant. Is recommended that the live stakes be at least 2m in length and 5-10cm in diameter. The stakes should be pushed into (holes may have to be created using a stake or small auger) wet to moist soil along the edge of the pond in small, erratically sized clumps to replicate natural conditions. A minimum of 100 willow, 100 dogwood, and 25 cottonwood live stakes is recommended. While the entire 690m² will not be planted (in order to replicate natural conditions whereby erratically sized and spaced clumps of shrubs and trees is expected), the revegetation area is just shy of a 3:1 replacement ratio for the disturbed area and will provide significant wildlife habitat values.



Figure 8.2-1. Revegetation area (bright green).

8.3 BRIDGE REPLACEMENT

The bridge replacement is not expected to alter the existing ecological community within the stream riparian areas as it will be built on the existing trail footprint. A small (10-20m²) portion of reed canarygrass riparian area will be disturbed on the east side of the stream. This disturbance was accounted for within the proposed new trail revegetation plan.

Any exposed soil due to construction will be seeded with native grass species.

9. CLOSURE

Based on this assessment, the upgrade of existing trails will not have an impact on riparian areas or fish habitat. The construction of the bridge and new trails will affect riparian vegetation, however as the riparian areas are dominated by invasive reed canarygrass, the revegetation plan will result in a net benefit to riparian and fish habitat. The bridge removal will potentially have a temporary negative effect on water quality but is not expected to have an impact on fish habitat.

Prepared by,



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REFERENCES

Durand, R. and T. Ehlers. 2020. Crawford Bay Regional Park Biophysical Assessment. Prepared for the Regional District of Central Kootenay by EcoLogic Consultants Ltd. and Masse Environmental Consultants Ltd.

16.0 DEVELOPMENT PERMIT AREAS

Background

The OCP may designate Development Permit Areas under the authority of local government legislation. Unless otherwise specified, a development permit must be approved by the Regional Board, or delegate of the Board, prior to any development or subdivision of land within a designated Development Permit Area.

Development Permit Areas allow for implementation of special guidelines for the protection of the natural environment, protection from hazardous conditions, for revitalization of designated areas, or to guide the form and character of development within the Plan Area. Development Permit Areas can also be used to meet targets for carbon emission reductions and energy and water conservation.

Where land is subject to more than one Development Permit Area designation, a single development permit is required. The application will be subject to the requirements of all applicable Development Permit Areas, and any development permit issued will be in accordance with the guidelines of all such Areas.

Development Permit Area #1: Environmentally Sensitive Development Permit (ESDP) Area

Category

The ESDP area is designated under Section 488.1(1) (a) of the *Local Government Act* for the protection of the natural environment, its ecosystems and biological diversity.

Justification

The primary objective of this Development Permit Area designation is to regulate development activities in watercourses, lakes and wetlands and their adjacent riparian areas so as to protect aquatic habitat; and to conserve, enhance and, where necessary, restore watercourses and their riparian areas.

Area

The ESDP area is comprised of:

1. Riparian assessment areas (Figure 1) for fish and wildlife habitat and drinking water, including:
 - a. All areas within 15 metres of the high water mark of a watercourse, including the natural boundary of a lake;
 - b. within 15 metres of the top of the ravine bank in the case of a ravine less than 60 metres wide; and
 - c. within 5 metres of the top of the ravine bank in the case of a wider ravine that links aquatic to terrestrial ecosystems and includes both existing and potential riparian

vegetation and existing and potential upland vegetation that exerts an influence on the watercourse.

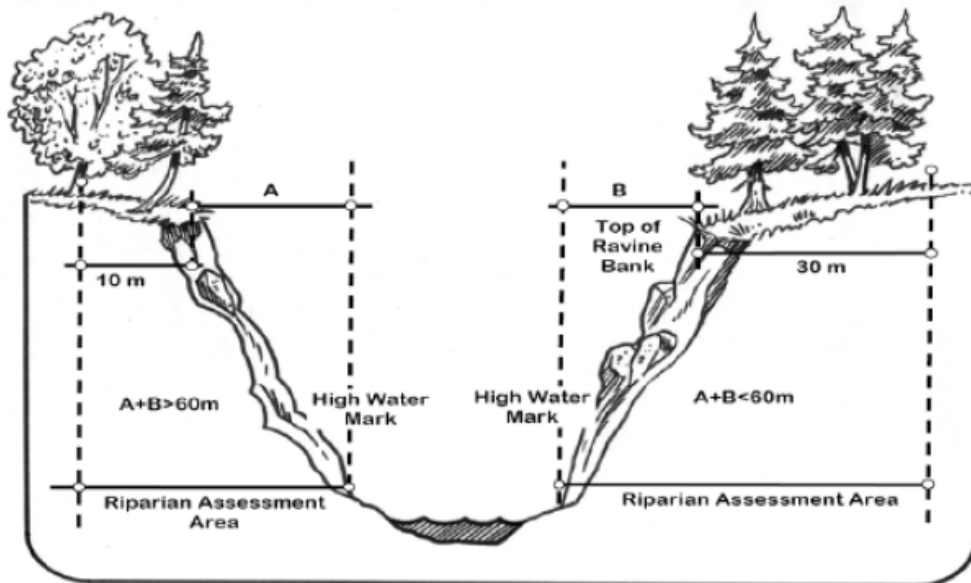


FIGURE 1: (for illustrative purposes only) **RIPARIAN ASSESSMENT AREA:** means the area within 15 m of the high water mark of a watercourse; within 15 m of the top of the ravine bank in the case of a ravine less than 60 m wide; and within 5 m of the top of the ravine bank in the case of a wider ravine that link aquatic to terrestrial ecosystems and includes both existing and potential riparian vegetation and existing and potential upland vegetation that exerts an influence on the watercourse. This DPA applies only to residential, commercial and industrial designations.

Source: British Columbia Ministry of Environment, *Riparian Areas Regulation Implementation Guidebook*, March 2005

Where the following definitions apply:

High water mark means the visible high water mark of a watercourse where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the watercourse a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself, and includes the active floodplain.

Lake means any area of year round open water covering a minimum of 1.0 hectares (2.47 acres) of area and possessing a maximum depth of at least 2.0 metres. Smaller and shallower areas of open water may be considered to meet the criteria of a wetland.

Top of ravine bank means the first significant break in a ravine slope where the break occurs such that the grade beyond the break is greater than 3:1 for a minimum distance of 15 m measured perpendicularly from the break, and the break does not include a bench within the ravine that could be developed.

Watercourse means any natural or man-made depression with well-defined banks and a bed 0.6 metres (2.0 feet) or more below the surrounding land serving to give direction to a current of water at least six months of the year and/or having a drainage area of two square kilometres (0.8 square miles) or more upstream of the point of consideration.

Wetland means any areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

Guidelines

A development permit is required, except where specified under the exemptions section, for development or land alteration on land identified as a riparian assessment area within the ESDP Area. Where not exempt, development requiring a development permit includes any of the following associated with or resulting from residential, commercial or industrial activities or ancillary activities to the extent that they are subject to local government powers under local government legislation or when triggered by the requirements of a building permit or subdivision approval:

- a. removal, alteration, disruption or destruction of vegetation;
- b. disturbance of soils;
- c. construction or erection of buildings and structures;
- d. creation of non-structural impervious or semi-impervious surfaces;
- e. flood protection works;
- f. construction of roads, trails, docks, wharves and bridges;
- g. provision and maintenance of sewer and water services;
- h. development of drainage systems;
- i. development of utility corridors; and
- j. subdivision as defined in section 455 of the *Local Government Act*;

Development shall be in accordance with the following guidelines:

2. All development proposals subject to this permit will be assessed by a Qualified Environmental Practitioner (QEP) or Registered Professional Biologist (RP Bio) in accordance with the Riparian Areas Regulation established by the Provincial and/or Federal governments as used elsewhere in the Province;
3. An ESDP shall not be issued prior to the RDCK ensuring that a QEP or RP Bio has submitted a report certifying that they are qualified to carry out the assessment, that the assessment methods have been followed, and provides in their professional opinion that a lesser setback will not negatively affect the functioning of a watercourse or

riparian area and that the criteria listed in the Riparian Areas Regulation has been fulfilled, and;

4. The Riparian Areas Regulation implemented through the ESDP does not supersede other Federal, Provincial and or local government requirements, including that of other development permit areas, building permits, flood covenants, Federal or Provincial authorization. Land subject to more than one development permit area designation must ensure consistency with the guidelines of each development permit area, to provide comprehensive stewardship of both fish and wildlife habitat.

Exemptions

The ESDP area does not apply to the following:

5. existing construction, alteration, addition, repair, demolition and maintenance of farm buildings and agricultural activities including clearing of land for agricultural purposes;
6. existing institutional development containing no residential, commercial or industrial aspect;
7. construction, renovation, or repair of a permanent structure if the structure remains on its existing foundation. Only if the existing foundation is moved or extended in to a riparian assessment area would a ESDP be required; and
8. an area where the applicant can demonstrate that the conditions of the ESDP Area have already been satisfied or a development permit for the same area has already been issued in the past and the conditions in the development permit have all been met, or the conditions addressed in the previous development permit will not be affected.

Development Permit Area #2: Residential Cluster Development Permit (RCDP) Area

Designation

The RCDP area is designated under Section 488.1(1) (a) and (e) of the *Local Government Act* for protection of the natural environment, its ecosystems and biological diversity and the establishment of objectives for the form and character of intensive residential development.

Area

The RCDP Area is comprised of all privately owned or leased lands designated as Suburban Residential (RS), Country Residential (RC), Multi-Family Residential (RM), and Mixed Use Residential (RMU) on Schedule 'A.1'.

Justification

The intent of the RCDP Area is to ensure that intensive residential development is completed in a manner that is sensitive to the rural character of the Plan area, adjoining lands, the natural environment, and achieves a high standard of appearance. Lands in the Plan Area have not been studied to a high level for their ability to sustain intense development over the long term. It is therefore desirable to allow development to occur in a manner which allows for efficient