



## TECHNICAL MEMORANDUM

**DATE:** March 25, 2022  
**TO:** Richard Haworth, Haworth Development Consulting  
Handshake Holdings Inc.  
**FROM:** Cascade Environmental Resource Group Ltd.  
**RE:** Galloway Land – Review on Elk River Alliance Post Open House Questions and Comments

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Handshake Holdings Inc. wishes to develop a parcel for residential use in Fernie BC, referred to as the Galloway Lands. Their representative, Richard Haworth, Haworth Development Consulting, retained Cascade Environmental Resource Group Ltd. (Cascade) to review questions regarding environmental concerns of the proposed project. In this Memo Cascade addresses comment from the Elk River Alliance.

### **Community Held Values of the Galloway Lands**

Water quality, fish and fish habitat will be maintained to ensure undisturbed, clean, clear cold, aquatic habitat for spawn fish to develop to supply overwintering trout for Elk River angling.

Cross country skiing and mountain biking are the main recreation activities that take place within the Galloway Lands. The landowner has an informal agreement with the Fernie Nordic Society to permit use of the existing logging trails for Nordic skiing during winter months. The development plan includes the existing Nordic trails. Some will be rerouted to accommodate the proposed development and environmentally sensitive areas.

A network of mountain bike trails has also been established on the property. These trails are not sanctioned and have not been permitted by the property owner. However, the proponent will enter into communication with the local mountain biking association following the rezoning plan the proponent will develop a trails plan with the mountain bike association for the trails that enter the subject property. Some trails may be decommissioned or re-routed to accommodate the proposed development and environmentally sensitive areas.

### **Environmental Impacts**

#### **Risk to Westslope cutthroat trout habitat**

To minimize disturbance to environmentally sensitive areas (ESAs) in areas zoned for residential land use the Elk Valley Official Community Plan (OCP) encourages the integration of Conservation Subdivision Design principles including identifying and protecting riparian areas and wetlands. Under Section 10(2)(a) of the OCP:

*Development is encouraged to avoid streams, wetlands and riparian areas and to provide appropriate development setbacks and buffer areas.*

While the Elk Valley OCP does not include defined setback requirements, the Elk Valley Floodplain Bylaw No. 829 specifies the following setback:

- (i) 30.0 metres (98.4 feet) of the ordinary high water mark of Boivin Creek, Brule Creek, Coal Creek, Elk River, Flathead River, Fording River and Michel Creek; or
- (ii) 7.5 metres (24.6 feet) of the ordinary high water mark of any lake, swamp or pond; or
- (iii) 15.0 metres (49.2 feet) of the ordinary high water mark of any other watercourse,



*whichever is farther is designated as a Floodplain Setback area.*

Within the subject property Lizard Creek was surveyed from top of bank to top of bank. The proposed development is outside of the 15m floodplain setback area specified in the Elk Valley Floodplain Bylaw. The Galloway Lands development proposes a minimum 30m setback from the residential lots. The building envelope is further setback from Lizard Creek with the conservation area that is covenanted for each lot. The buffers proposed within the Galloway Lands application exceeds the 30m Riparian Assessment Area (RAA) as defined by the Riparian Areas Protection Regulation (RAPR) (Map 1). The risk to westslope cutthroat habitat will be mitigated by maintaining setbacks proposed in the application and applying Best Management Practices for development through sediment and erosion protection mitigation measure and water quality monitoring during construction.

### **Effects from development on water quality in Lizard Creek (aquifer)**

Development of Galloway Lands will follow *Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia*. Guidelines to protect water quality will include but are limited to the following:

- Monitor water quality before, during and after development to ensure that provincial water quality guidelines (and local water quality objectives if applicable) are being met;
- Maintain healthy wetlands, aquatic ecosystems, and riparian vegetation which can help to protect water quality in the event of a release of sediment or other pollutants;
- Control erosion and sediment generation at the source rather than attempting to treat sediment-laden water;
- Maintain equipment so that it does not leak contaminants on the development site and to ensure that stormwater control facilities perform at the design level. This helps to prevent problems such as clogging of facilities, and washout of sediments and trash from sumps. Ongoing and proper maintenance requires: a maintenance plan and schedule; identification of responsible parties; documentation of maintenance activities; and periodic review of maintenance activities.
- Protect groundwater systems from contamination by providing and using impervious sumps for concrete wash water and other potential construction contaminants

### **Disturbance to wildlife corridor and wildlife populations**

Using the data analysed, Dr. Lamb determined that Galloway Lands are commonly used as a movement corridor for grizzly bear. However, Proctor *et al* (2015) used telemetry and an RSF model to identify movement corridors. The study only identified the southeast corner of the Galloway Lands as moderate movement potential while most of the site has low movement corridor potential. Proctor *et al* (2015) studied movement corridors on a larger scale throughout southeastern British Columbia and identified linkages between high quality core habitat while Lamb (2022) assessed movement on a smaller scale by focusing on the Fernie area with a landscape buffer. Analysis on a smaller scale, highlights a few bears moving through an area but this does not necessarily make it a movement corridor.

The Loss of movement through the Galloway Lands will be minimized by the conservation subdivision design. The impact to wildlife population has not been assessed yet.

### **Loss of effective conservation lands with edge effect to Fernie Provincial Park Boundary**

The Galloway Lands will follow a conservation subdivision design and no development will occur within 120 m from the Fernie Provincial Park Boundary. Therefore, the development on the Galloway Lands is not expected to create an edge effect.

### **Provide full assessment of impact on fish and wildlife habitat**

Assessment of fish and wildlife habitat will be conducted based on the requirements of the Regional District of East Kootenay through their Development Permit process and the Ministry of Transportation and Infrastructure through the subdivision approval process.

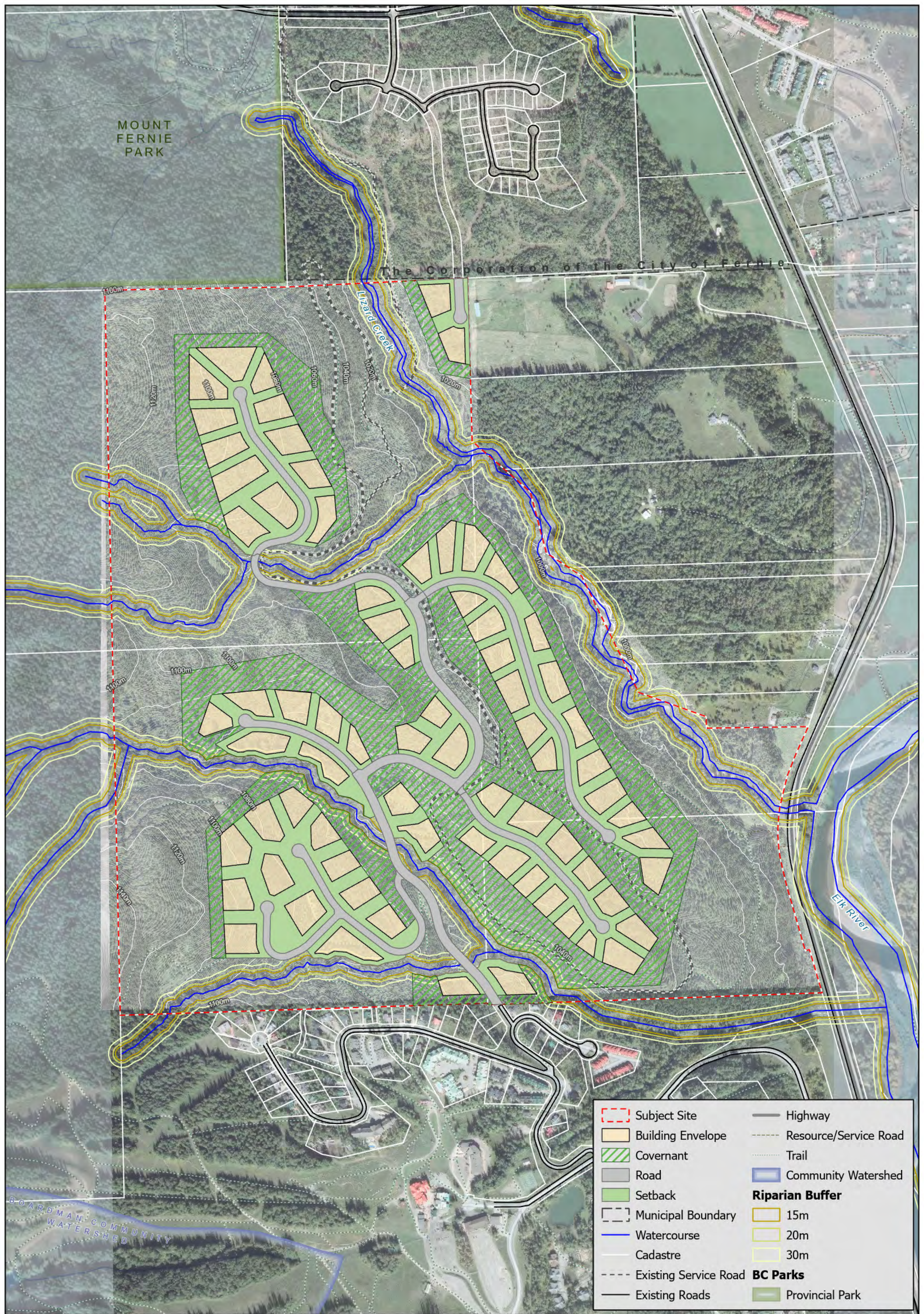


## References

- Lamb C. 2022. Assessing wildlife use of the Galloway Lands and the effectiveness of a conservation subdivision design for large mammals. Prepared for Fernie Snow Valley Community Association, Wildsight and the Elk River Alliance.
- Ministry of Environment, 2014. Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia
- Ministry of Forest, Land, Natural Resource Operations and Rural Development, Fish and Aquatic Habitat Branch, 2019. Riparian Areas Protection Regulation Technical Assessment Manual, V1.1.
- Proctor M, Nielsen S, Kasworm W, Servheen C, Radandt T, Machutchon G and Boyce M. 2015. Grizzly bear connectivity mapping in the Canada-United States Trans-Border Region. *The journal of Wildlife Management* 79(4):544-558.
- Regional District of East Kootenay, 1990. Elk Valley Zoning Bylaw No. 829, 1990 Consolidation.
- Regional District of east Kootenay, 2014. Elk Valley Official Community Plan Bylaw No. 2532.

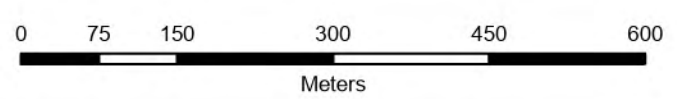






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|-----------------------|------------------------|
| Subject Site          | Highway                |
| Building Envelope     | Resource/Service Road  |
| Covenant              | Trail                  |
| Road                  | Community Watershed    |
| Setback               | <b>Riparian Buffer</b> |
| Municipal Boundary    | 15m                    |
| Watercourse           | 20m                    |
| Cadastre              | 30m                    |
| Existing Service Road | <b>BC Parks</b>        |
| Existing Roads        | Provincial Park        |

GIS Cartographer: Nicola Church  
 Date: 3/22/2022  
 CERG File #: 1082-01-01  
 Projection: NAD 1983 CSRS UTM Zone 11N



**Map 1 - Proposed Development**

Galloway Lands  
 Fernie  
 British Columbia





