

Public Hearing
to be held at the City of Penticton, Council Chambers
171 Main Street, Penticton, B.C.
To view the live broadcast and recordings, visit www.penticton.ca

Tuesday, September 12, 2023
at 6:00 p.m.

1. Mayor Calls Public Hearing to Order for **"Official Community Plan Amendment Bylaw No. 2023-26"** and **"Zoning Amendment Bylaw No. 2023-27"** 1-67
- CO Reads Opening Statement and Introduction of Bylaws
- "Official Community Plan Amendment Bylaw No. 2023-26" (1530 Reservoir Road)
- Purpose: To amend Official Community Plan Bylaw No. 2019-08 as follows:
- Amend Section 2.1 by adding the following site specific policy statement to Land Use Designations, Rural Residential:
- Site Specific Rural Residential Policy Statement: 1530 Reservoir Road: Allow a minimum lot size of 0.4 hectares, when connected to the municipal treated water system.
- "Zoning Amendment Bylaw No. 2023-27" (1530 Reservoir Road)
- Purpose: To amend Zoning Bylaw No. 2023-08 as follows:
- Rezone Sub Lot 10 District Lot 2711 Similkameen Division Yale District Plan 1190, located at 1530 Reservoir Road, from FG (Forestry and Grazing) to:
- RC (Country Residential) with the following site specific provision:
 - Notwithstanding Section 9.3.2.5. the minimum front yard shall be 4.5m; and
 - P4 (Environmental Reserve).
- The applicant is proposing to develop a 33-lot single detached housing strata subdivision on the subject property.
- Notice: Pursuant to the *Local Government Act* the Public Hearing was advertised on Friday, September 1, 2023 and Wednesday, September 6, 2023 in an online news source and the newspaper.
- CO Two letters have been received regarding the Zoning Amendment Bylaw (as of noon Wednesday, September 6, 2023).

- Mayor Requests Development Services staff describe the proposed bylaws
- Mayor Invitation to applicant for comment or elaboration on the application
- Mayor Invitation to electronic and in person participants to present their views
- Mayor Invites Council members to ask questions
- Mayor Invites applicants to respond to questions and participants may provide new additional information

PUBLIC HEARING for "Official Community Plan Bylaw No. 2023-26" and "Zoning Amendment Bylaw No. 2023-27" is terminated and no new information can be received on this matter.



Public Hearing Memo



Date: September 12, 2023 **File No:** RMS/1530 Reservoir Rd
To: Kristen Dixon, Interim Chief Administrative Officer
From: Steven Collyer, Senior Planner
Address: 1530 Reservoir Road
Subject: **Public Engagement Period Results for Proposed Development at 1530 Reservoir Road**

Background

The city received a development application package to develop a 33-lot single detached strata subdivision at 1530 Reservoir Road. To facilitate the proposed development, an Official Community Plan Amendment Bylaw application was submitted to request a site-specific policy statement to allow a minimum 0.4 hectare lot area when connected to the municipal treated water system, rather than the 1 hectare size envisioned by the Rural Residential designation. A Zoning Amendment Bylaw application was also submitted to rezone the subject property from FG (Forestry and Grazing) to RC (Country Residential), with a site-specific provision to reduce the minimum front yard setback from 9.0m to 4.5m, and to rezone the remainder portion to P4 (Environmental Reserve).

On July 18, 2023, Council gave "Official Community Plan Amendment Bylaw No. 2023-26" and "Zoning Amendment Bylaw No. 2023-27" first reading, and directed staff to conduct information sessions related to the proposed development ahead of the statutory Public Hearing. The public engagement period was held between August 2, 2023 and September 3, 2023. Staff conducted two information sessions, one in-person and one online, and received 247 feedback forms from participants over the engagement period. Staff also met with members of the Society for the Preservation of the Naramata Bench, and responded to questions from members of the public.

Attachment 'A' includes the engagement results report which describes the engagement activities in more detail and describes the results.

Attachments

Attachment A – 1530 Reservoir Road Engagement Report
 Respectfully submitted,

Steven Collyer, RPP, MCIP
 Senior Planner

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| Director of Development Services <i>BL</i> | Interim Chief Administrative Officer <i>KD</i> |
|--|--|



1530 Reservoir Road Engagement Report

September 8, 2023

1.0 Overview

2.0 Community Participation

3.0 Feedback Form Results

4.0 Information Sessions and Open Houses

5.0 Correspondence

6.0 Conclusions

Appendix A–Timeline

1.0 Overview

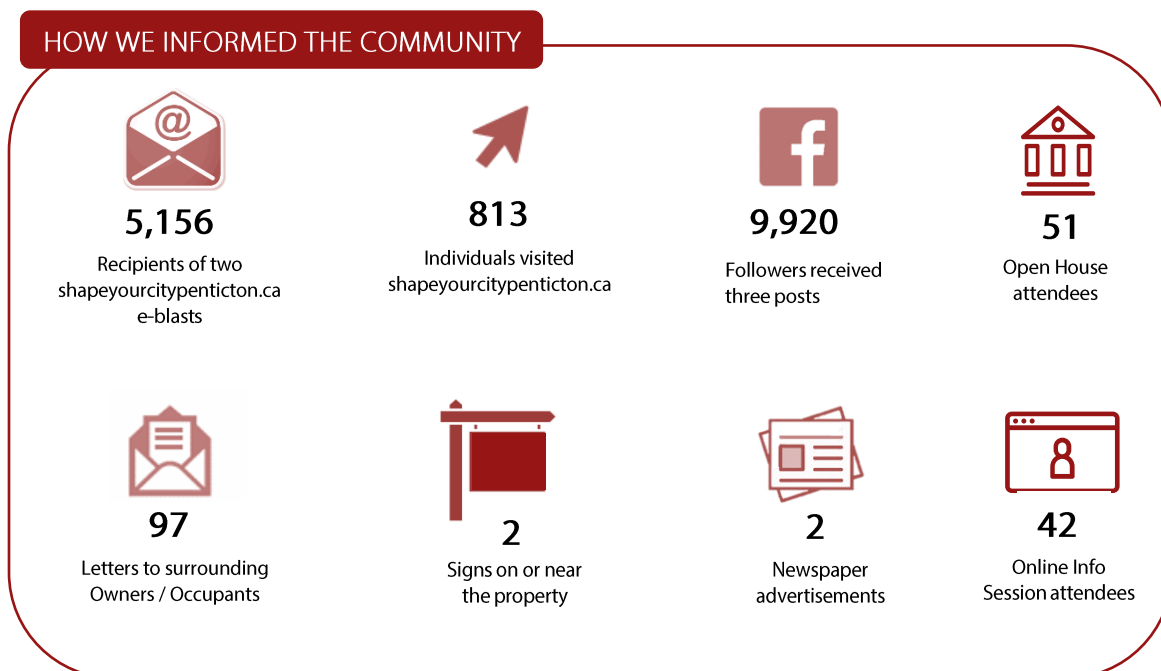
The City received an application to put a land use designation in place for a rural residential subdivision at 1530 Reservoir Road. Preliminary plans show 33 single detached strata lots and 5 ha (12.25 ac) of land to be dedicated as public parkland. This proposal would require a site-specific Official Community Plan amendment to allow 0.4 ha (1ac) as the minimum lot size in the 'Rural Residential' future land use designation, based on the development connecting to the municipal water supply. Typically the 'Rural Residential' designation envisions minimum 1 ha (2.5 ac) lots on private services (well and septic systems).

The proposal would require rezoning the property from FG (Forestry Grazing) to RC (Country Residential) with a site-specific provision to allow 4.5 m front yard setbacks rather than the typical 9.0m setbacks, and to rezone 5 ha (12.25 ac) to P4 (Environmental Reserve), for land that would be dedicated to the city as natural parkland.

Given the interest in development of lands in this area, Council directed staff to provide opportunities to learn more about the proposal as well as share their feedback before the Public Hearing scheduled for September 12, 2023.

2.0 Community Participation

The City hosted information sessions and collected feedback between August 2 and September 3, 2023. The following diagram summarizes the activities conducted to notify interested participants about the engagement program and the participation received. A detailed timeline of activities is provided in Appendix A.

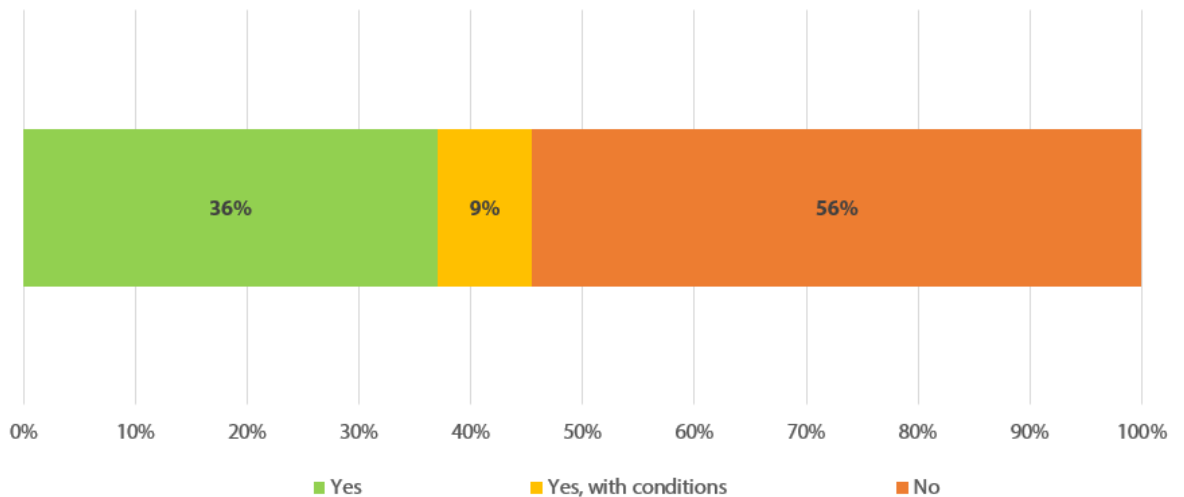


3.0 Feedback Form Results

Residents had the opportunity to complete a form to share their feedback before Sunday, Sept. 3, 2023. In total, **247 feedback forms** were received.

Please note that the key findings from the feedback forms are presented in this report. Complete results including full comments, are available at shapeyourcitypennton.ca.

1. Do you agree with allowing 0.4 ha (1 ac) as the minimum lot size for this proposed development?



Participants who answered ‘No’ or ‘Yes, with conditions’ were invited to explain their responses. A summary of the themes/comments is provided below:

Themes of the comments from the 22 respondents that indicated ‘Yes, with conditions’ include:

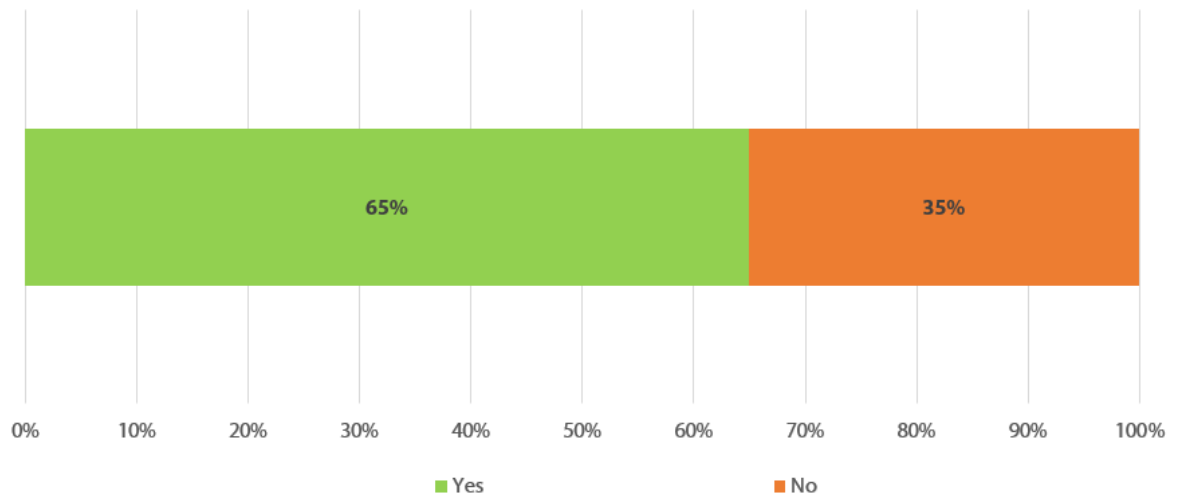
- Concern for setting a precedent for more development in the area to squeeze more homes in
- Limiting the size of structures allowed (no mega mansions)
- No additional dwellings permitted (no carriage homes, no secondary suite)
- Primary residence only
- No vacation rentals
- Homes should be built net zero
- Additional traffic impacts, better traffic calming needed
- Ensure preservation of forested areas, protect grasslands and native species
- Concern for potential further subdividing of lots

Themes of the comments from the 128 respondents that indicated ‘No’ include:

- Concern for potential further subdividing of lots
- 1 ha size was put in the OCP to protect our green spaces
- Rural properties should be larger lots

- Lot sizes are too small, not appropriate location
- Concern housing will impact environmental sensitivity, local wildlife, and wildlife corridors in the area
- Proposal does not address need for affordable housing
- Keep density in town, do not continue developing hillsides
- Concern roadways can't handle increased traffic
- Concern for lack of safety buffer in case of wildfire – this is an interface zone
- Small lot size removes 'rural' feel
- Concern for potential conflicts with landfill operations

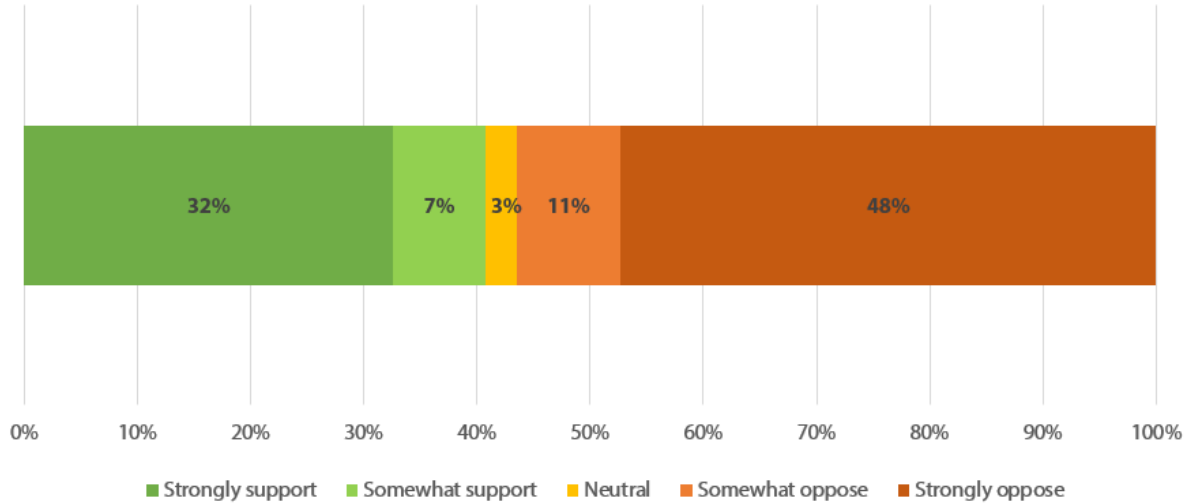
2. Based on the information provided, would you have any concerns about what is being considered for this site?



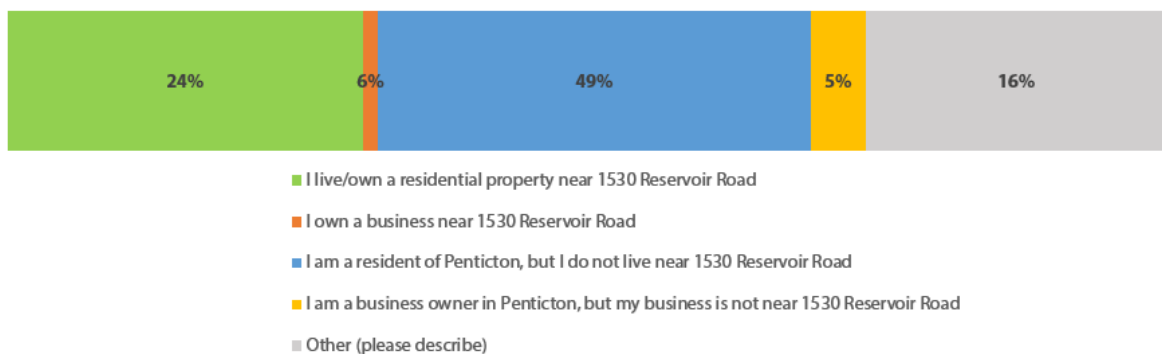
Themes of the comments from the 146 respondents that indicated 'Yes' include:

- Concerns regarding access to existing trails and recreational uses
- Potential for reduced setbacks leading to mega mansions
- Traffic congestion, especially in summer time
- This development does not support affordable housing
- Concerns for cultural heritage and Indigenous impacts
- Concerns for wildlife and wildlife corridors
- Concern whether City infrastructure can support the additional water and sewer services
- Consider adding more density
- Potential for interface wildfire is too great
- Densification should remain in city centre
- Concern that tree removal as part of development will de-stabilize slopes
- Concern road width is too narrow, additional vehicles will be parked on the sides

3. Rate your level of support for the development that is being proposed for this site.



4. What best describes your interest in providing feedback?



Descriptions included under 'Other (please describe)' include those that live in Naramata, live in Penticton but own business in the area, are open to development wherever it may be, former Penticton residents intending to move back, own property at Apex, live in Okanagan Falls and run business in Penticton, live in Naramata and commute to Penticton daily, live in Summerland with view of Naramata, and visit Penticton and area often.

4.0 Information Sessions and Open Houses

Two opportunities were offered to the community to learn more about the proposed development and ask staff questions prior to providing their feedback. Themes from the discussions at these events are provided below.

4.1 Open House

The City of Penticton held a drop-in open house to discuss the application for a rural residential subdivision at 1530 Reservoir Road. The open house was in Council Chambers at City Hall on Monday, August 21, 2023 between 5 pm and 7 pm. Fifty-one (51) residents attended and the following are the themes from the discussions.

Comments related to the proposed development:

- Don't want to see sprawl development, direct new homes to the built-up area/wrong place to develop
- Concerned with wildfire risk/wildfire interface area
- Traffic impacts – especially with potentially 2 units on every lot (primary home, plus a carriage house or secondary suite)
- Not helping the affordable housing problem/concerns with providing homes for seasonal use or as vacation rentals
- Negative environmental impact/concerns with tree removal
- Proposed lot size is too small
- Supportive of P4 Environmental Reserve zone
- Zoning should remain FG (Forestry and Grazing)

General comments:

- Increasing traffic volumes and safety concerns on Naramata Road
- Concerns with other developments along the Naramata Bench (both in Penticton and in RDOS) and their cumulative impacts
- Concerns over wildfire risk and lack of secondary access in the surrounding area
- Storm drainage issues from hillside developments

4.2 Online Information Session

The second opportunity was an online information session via Zoom held on Wednesday, August 30, 2023 between 6 pm and 8 pm. Forty-two (42) attendees participated in part or all of the discussion and the following are the themes of the discussions:

- Questions about which areas are environmentally sensitive
- Concerns for potential interface fires, wildfires, evacuation routes
- Questions about access to dedicated parkland, whether parking is available and KVR connection
- Concerns that stratas aren't obligated to enforce environmental protections, climate initiatives
- Concerns lots could be further subdivided/infilled
- Questions about traffic impacts, congestion, intersection upgrades, single access in and out of subdivision
- Concerns that proposed RC (Country Residential) zoning allows carriage and secondary suites which could double the amount of traffic
- Concerns about how hillside development will impact views and interrupt rural landscape
- Concerns for impacts to wildlife and wildlife corridors
- Question whether City's water supply can handle additional homes
- Questions about which technical studies were completed (environmental, traffic, financial analysis, cultural heritage assessment)
- Climate change impacts, water shortages, housing affordability
- Question regarding potential future transit options
- Concern that homes would be used for vacation/short-term rentals rather than resident housing

5.0 Correspondence

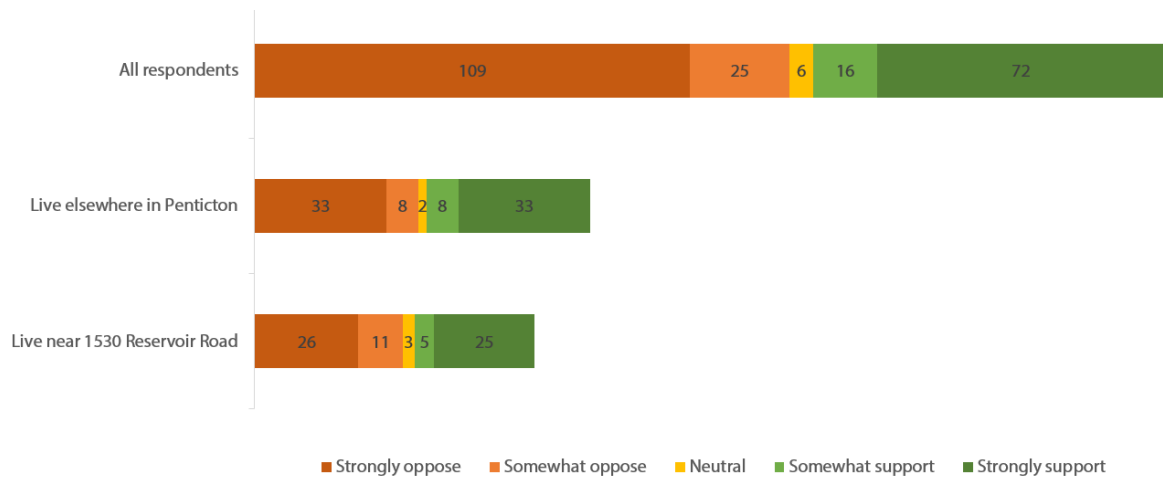
City staff also heard from residents and the Society for the Preservation of the Naramata Bench about the proposal, separate from the feedback forms. Themes from these meetings, emails, and phone calls reflect those that emerged through the information sessions and feedback forms, including:

- Concerns with new hillside developments
- Loss of biodiversity and environmentally sensitive lands/habitats
- Desire to see new development in the built-up area instead
- Concerns with impacts on rural/agricultural character of the area
- Traffic congestion and safety concerns
- Potential for precedent-setting decision on hillside development in the City
- Issues raised with other hillside developments in the area (storm water drainage, clear cutting, etc.)
- Proposal does not address affordable housing problem and potential for more residences, vacation rentals, or seasonal homes

6.0 Conclusions

The main goal of this process was to inform residents prior to the public hearing as well as to gather feedback on the proposal. The following are the key conclusions from the process:

- Residents who live in the area made up 31% of respondents in the feedback form. This group had a small margin between strongly and somewhat opposed (53%) and strongly or somewhat supporting (42%) the proposal. Primary concerns that were identified included traffic congestion and wildfire hazard. They also expressed concern for the visual impacts on the rural landscape and felt the proposal would bring too much density to the area.
- The largest category of respondents to the feedback form were residents who do not live in the area (37%). These participants are split in supporting or supporting with conditions and somewhat or strongly opposed, each at 49%. Concerns expressed by this group include traffic congestion and impacts, potential wildlife conflicts, lack of affordable housing options, urban sprawl, and environmental sensitivities of the area.



Next Steps

The feedback gathered through the engagement program has been provided to the applicant for consideration as this proposal proceeds. It will also be shared with Council and the community-at-large prior to the Public Hearing scheduled for September 12, 2023 to inform future decisions on the proposed land use change.

Appendix A - Engagement Timeline

The following list summarizes the main methods that were used to raise awareness about the application and the opportunities for residents to learn more and provide feedback through the community engagement period that took place between August 2 and September 3, 2023:

| Date | Activity |
|----------|---|
| July 14 | Press Release |
| August 9 | Newspaper ad |
| Aug. 10 | Project information and feedback form on www.shapeyourcitypenticton.ca |
| Aug. 10 | Project information and feedback form available at Engagement kiosk (Library) |
| Aug. 10 | Press Release |
| Aug. 10 | Eblast |
| Aug. 10 | Social media post |
| Aug. 14 | Eblast |
| Aug. 16 | Social media post |
| Aug. 16 | Newspaper ad |
| Aug. 21 | Open House |
| Aug. 24 | Social media post |
| Aug. 30 | Online information session |
| Sept. 3 | Engagement ends |

Regular Council Meeting
held at City Hall, Council Chambers
171 Main Street, Penticton, B.C.

Tuesday, July 18, 2023
at 1:00 p.m.

Resolutions

- 8.11 Official Community Plan Amendment Bylaw No. 2023-26
Zoning Amendment Bylaw No. 2023-27
Re: 1530 Reservoir Road

271/2023

It was MOVED and SECONDED

THAT prior to consideration of "Official Community Plan Amendment Bylaw No. 2023-26" and in accordance with Section 475 of the Local Government Act, Council consider whether early and on-going consultation, in addition to the required Public Hearing, is necessary with:

1. One or more persons, organizations or authorities;
2. The Regional District of Okanagan Similkameen;
3. Local First Nations;
4. School District #67;
5. The provincial or federal government and their agencies.

AND THAT Council determine that the engagement activities as proposed in this report are sufficient;

AND THAT Council give first reading to "Official Community Plan Amendment Bylaw No. 2023-26", a bylaw to amend Section 2.1 by adding the following site specific policy statement to Land Use Designations, Rural Residential:

- Site Specific Rural Residential Policy Statement: 1530 Reservoir Road: Allow a minimum lot size of 0.4 hectares, when connected to the municipal treated water system;

AND THAT Council give first reading to "Zoning Amendment Bylaw No. 2023-27, a bylaw to rezone Sub Lot 10 District Lot 2711 Similkameen Division Yale District Plan 1190, located at 1530 Reservoir Road, from FG (Forestry and Grazing) to:

- RC (Country Residential) with the following site specific provision:
 - Notwithstanding Section 9.3.2.5, the minimum front yard shall be 4.5m;
- and
- P4 (Environmental Reserve),

As shown on the map included with "Zoning Amendment Bylaw No. 2023-27";

AND THAT Council forward "Official Community Plan Amendment Bylaw No. 2023-26" and "Zoning Amendment Bylaw No. 2023-27" to the September 12, 2023 Public Hearing;

AND THAT Council, subject to adoption of "Zoning Amendment Bylaw No. 2023-27", amend Schedule "F" of Irrigation, Sewer and Water Bylaw No. 2005-02, to include the subject property in Area B of the city's treated water service area.

CARRIED UNANIMOUSLY



Council Report

penticton.ca

Date: July 18, 2023 **File No:** RMS/1530 Reservoir Rd
To: Donny van Dyk, Chief Administrative Officer
From: Steven Collyer, Senior Planner
Address: 1530 Reservoir Road

Subject: **Official Community Plan Amendment Bylaw No. 2023-26**
Zoning Amendment Bylaw No. 2023-27

Staff Recommendation

THAT prior to consideration of "Official Community Plan Amendment Bylaw No. 2023-26" and in accordance with Section 475 of the *Local Government Act*, Council consider whether early and on-going consultation, in addition to the required Public Hearing, is necessary with:

1. One or more persons, organizations or authorities;
2. The Regional District of Okanagan Similkameen;
3. Local First Nations;
4. School District #67;
5. The provincial or federal government and their agencies.

AND THAT Council determine that the engagement activities as proposed in this report are sufficient;

AND THAT Council give first reading to "Official Community Plan Amendment Bylaw No. 2023-26", a bylaw to amend Section 2.1 by adding the following site specific policy statement to Land Use Designations, Rural Residential:

- Site Specific Rural Residential Policy Statement: 1530 Reservoir Road: Allow a minimum lot size of 0.4 hectares, when connected to the municipal treated water system;

AND THAT Council give first reading to "Zoning Amendment Bylaw No. 2023-27, a bylaw to rezone Sub Lot 10 District Lot 2711 Similkameen Division Yale District Plan 1190, located at 1530 Reservoir Road, from FG (Forestry and Grazing) to:

- RC (Country Residential) with the following site specific provision:
 - Notwithstanding Section 9.3.2.5, the minimum front yard shall be 4.5m; and
- P4 (Environmental Reserve),

As shown on the map included with "Zoning Amendment Bylaw No. 2023-27" (Attachment 'J');

AND THAT Council forward “Official Community Plan Amendment Bylaw No. 2023-26” and “Zoning Amendment Bylaw No. 2023-27” to the September 12, 2023 Public Hearing;

AND THAT Council, subject to adoption of “Zoning Amendment Bylaw No. 2023-27”, amend Schedule “F” of Irrigation, Sewer and Water Bylaw No. 2005-02, to include the subject property in Area B of the city’s treated water service area.

Strategic Priority Objective

Livable and Accessible: Proactively plan for growth; focused on an inclusive, healthy, safe and desirable place to live.

Proposal

The applicant is proposing to develop a 33-lot single detached housing strata subdivision on the subject property. The applicant has submitted a detailed letter of intent outlining their proposal (Attachment ‘F’) and a subdivision plan (Attachment ‘G’). The strata would be responsible for maintaining private roads, water, sewer, landscaping, snow removal, and lighting within the development. 5 hectares (12.25 acres) of the subject property is proposed to be dedicated to the City as public parkland, to be zoned P4 (Environmental Reserve), which will expand the protected area around Campbell Mountain. The public parkland is intended to remain in its natural state, aside from reconfigured mountain bike and hiking trail alignments within this area, connecting into the larger Campbell Mountain trail network.

In order to facilitate the proposed development, the following planning applications are required:

| Application Required | Description | Approval Authority |
|--|--|-----------------------------|
| Official Community Plan Amendment | To add a site specific policy statement for the property, within the Rural Residential designation, to allow a minimum lot size of 0.4 hectares for lots that are connected to the domestic treated water supply. | Council |
| Zoning Amendment Bylaw | To change the zoning on the subject property from FG (Forestry and Grazing) to RC (Country Residential) – with site-specific provision for front yard setbacks - and P4 (Environmental Reserve). | Council |
| Hillside Development Permit | To approve the hillside development plan with its unique geotechnical conditions, ensuring the development meets the Hillside Development Permit Area guidelines outlined in the OCP. To be submitted for consideration if the OCP amendment and rezoning are adopted. | Council |
| Environmental Development Permit | To approve development occurring within the Environmental Development Permit area, subject to the requirements and recommendations of a Qualified Environmental Professional (QEP) report. | Staff – Development Officer |
| Subdivision | To approve the subdivision of the subject property into 33 new strata lots. A number of technical items are reviewed at the subdivision | Staff – Subdivision |

| | | |
|--|--|-------------------|
| | stage, including geotechnical review, wildfire risk assessment, and servicing. | Approving Officer |
|--|--|-------------------|

Background

Property Description

The subject property is located on the south side of Reservoir Road, east of Naramata Road (Figure 1). The property is 31.5 hectares (78 acres) in size and is currently vacant of any structures. Surrounding land uses include agricultural and rural residential to the west, north, and south, with natural areas and recreational uses to the east upslope leading to Campbell Mountain. A Fortis electrical main and gas main run through the site, on alignments protected by statutory rights-of-way. The property is not within the Agricultural Land Reserve (ALR) (Attachment 'C').

The property is currently zoned 'FG (Forestry and Grazing)' in the Zoning Bylaw, and is designated 'Rural Residential' by the Official Community Plan (OCP). The property is also within the Environmental Development Permit Area and the Hillside Development Permit Area, as outlined by the OCP.

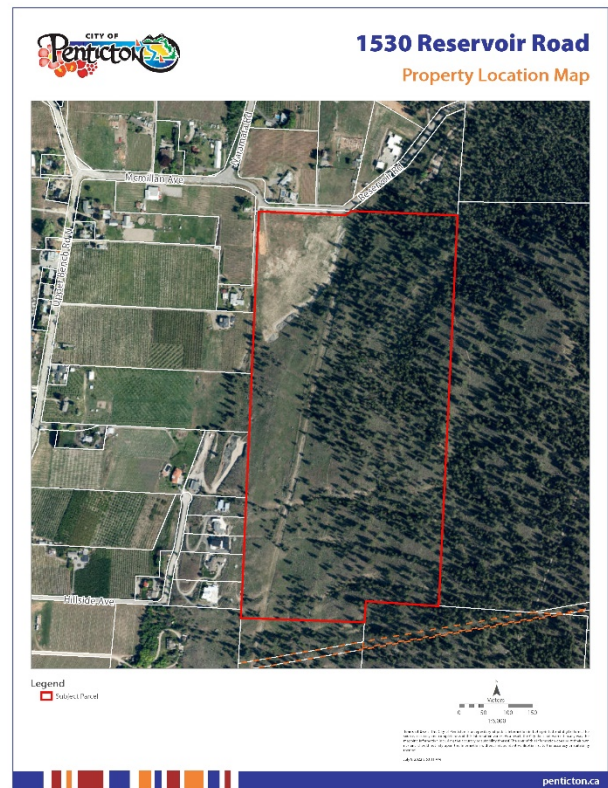


Figure 1 - Property Location Map

History

The subject property has been envisioned for development for many years. The previous plans including the subject property have been summarized in the chart below:

| Year | Plan | Highlights |
|------|--------------------------------|--|
| 2002 | Official Community Plan | <ul style="list-style-type: none"> • Anticipated that 1/3 of the city's new growth would occur outside the urban area, including in the North East Sector (Spiller Road/Reservoir Road area), which included the subject lands • Designated the subject property and the North East Sector as a 'future planning area' to provide for growth on hillsides while protecting the agricultural lands below from development |
| 2005 | Comprehensive Development Plan | <ul style="list-style-type: none"> • Envisioned a potential for up to 350 units in the Reservoir Road area, including the subject property, Hillside Drive, and the north side of Reservoir Road |
| 2005 | North East Sector Plan | <ul style="list-style-type: none"> • Acknowledges the sensitive habitats in this area • Envisioned up to 400 units on the 40 hectare (100 acre) 'Reservoir Road Block', including the subject property and surrounding properties • Objective for a natural park on Campbell Mountain |

| | | |
|------|---|---|
| 2014 | Spiller Road/Reservoir Road Area Neighbourhood Concept Plan | <ul style="list-style-type: none"> • Most detailed area plan stemming from the 2002 OCP, covering the nearly 300 hectare (740 acre) future development area • Identified a potential commercial node on the subject property as it is one of the easier properties to access within the plan area • Identified the eastern (upper) portion of the subject property as high environmental significance, requiring any rezoning to be accompanied by a detailed Environmental Assessment • The subject property was envisioned as the 'Village Centre', containing a variety of commercial and medium density residential uses (townhomes and apartments) including mixed-use developments. |
| 2019 | Official Community Plan | <ul style="list-style-type: none"> • The current 2019 OCP was developed with substantial community engagement between 2016 and 2019. • Through community conversations, the focus of growth shifted towards the built-up area of the city in low-scale infill development. • This was a major shift from all the previous planning exercises completed for this area of the city between 2005 and 2014. • The OCP review did not support the commercial node at this location, with residential determined as a more appropriate land use. • The OCP set the future land use designation on the property as 'Rural Residential'. |

The direction of the 2019 OCP contributed to a change in direction for future development on the subject property, which is currently designated 'Rural Residential' by the OCP.

Climate Impact

Council adopted the Community Climate Action Plan (CCAP) in 2021. Due to the subject property's location, combined with the lower rural density, there is limited access or support for transit or active transportation infrastructure. However, the proposal does align with some elements of the CCAP, including:

- **Electrify Passenger Transportation:** Accelerate the adoption of zero-emissions vehicles.
 - The Zoning Bylaw requires that each new home have at least one EV ready parking space to facilitate the future install of EV chargers.
- **Step Up New Buildings:** All new buildings will be required to meet the BC Energy Step Code requirements at the time of construction.
 - The new buildings will be required to meet Step 3 of the BC Energy Step Code as a minimum standard of energy efficiency.

Financial Implication

The developer is responsible for all infrastructure upgrades associated with this proposed development, including all internal strata infrastructure. The City will be responsible for the long-term maintenance of extended water main infrastructure along Reservoir Road to the site, once it is installed at the developer's expense.

Technical Review

The proposed development was reviewed by the Technical Planning Committee, which is a group of City staff from various departments who review planning applications. The committee discussed the proposed 5 hectare (12.25 acre) parkland dedication and confirmed the intent of this land will be natural, aside from the passive recreational uses as hiking and mountain biking trails.

The committee reviewed preliminary assessments submitted with the OCP and rezoning package also discussed the need for thorough environmental, wildfire, and geotechnical assessments to be completed as conditions of the future subdivision stage, before any new lots are created.

The committee reviewed the subdivision layout to ensure the lot size requirements of the proposed RC zone were met and that there is sufficient building area on each lot when considering the zone regulations and the utility easements which run through the site and limit the buildability of affected lands. Consideration for access to identified future development lands south of the subdivision will be more thoroughly discussed at the staff level at the future subdivision stage.

The development is proposed as a bareland strata which reduces the amount of City-owned and maintained infrastructure, with one water connection and private roads within the site. The strata will be responsible for all on-site infrastructure. Developing the lot as a strata allows for narrower roads and more clustered development, reducing the impact on environmentally-sensitive areas. The developer is responsible for extending required municipal services to the subject property, including the water main from Naramata Road across the frontage of the property. The applicant is proposing septic systems for each lot at this time, unless the sanitary sewer main is extended across the frontage of the property in the future and the Irrigation, Sewer and Water Bylaw is amended to include sanitary servicing in this area.

Irrigation, Sewer and Water Bylaw No. 2005-02

The subject property is currently located outside the treated water service area shown on Schedule “F” of Irrigation, Sewer and Water Bylaw No. 2005-02 (Attachment ‘H’). Properties across Reservoir Road to the north are included within Schedule “F” in Area B of the Bylaw. In order to allow the extension of municipal treated water service from Naramata Road up Reservoir Road to the subject property (approximately 100 metres), the property must also be included in Area B on Schedule “F” of the bylaw. Staff are recommending that Council support this, subject to adoption of this rezoning application which would put the land use in place for residential development of the subject property. The costs of building the water infrastructure and service connection will be the responsibility of the developer.

Development Statistics

The following table outlines how the proposed development meets the applicable Zoning Bylaw regulations:

| | RC Zone Requirement | Provided on Plans |
|------------------------------|---|---|
| Minimum Lot Width: | 45 m | Ranging from 45 m to 257 m |
| Minimum Lot Area: | 0.4 ha | Ranging from 0.4 ha to 3.7 ha |
| Maximum Lot Coverage: | 15% | Future development on each lot must meet the applicable RC development regulations. |
| Vehicle Parking: | 2 parking spaces per single detached dwelling | |
| Required Setbacks | | |

| | | |
|---------------------------------|--|--|
| Front Yard: | 9.0 m – requested 4.5m (site-specific) | |
| Side Yard: | 4.5 m | |
| Side Yard: | 4.5 m | |
| Rear Yard: | 9.0 m | |
| Maximum Building Height: | 10.5 m | |

Analysis

OCP Engagement Procedure

In 2021, City Council endorsed the *Community Engagement for OCP Amendments Procedure*, a procedure which sets out the engagement process staff follow when an OCP amendment application is received. The procedure allows for exceptions from full engagement in cases where the OCP amendment is considered minor in nature or for amendments not involving a change in land use designation on a property, at the discretion of the Director of Development Services. Given the designation on this property is not proposed to change to a different designation, in accordance with the *Community Engagement for OCP Amendments Procedure*, the Director has waived the full engagement procedure in this instance.

Nevertheless, should Council support first reading of the OCP and Zoning Bylaw amendment bylaws, a minimum of two public information sessions on this proposal will be held to inform the public on the proposal prior to the September 12th Public Hearing. These information sessions would give the community an opportunity to be fully informed on the details of the proposal. Information letters, newspaper advertisements, social media posts and a news release will be issued once the information session dates have been set. A webpage will launch on Shape Your City Penticton containing the application materials and allow for community feedback. The public will also have an opportunity to provide input through the statutory Public Hearing for both the OCP amendment and rezoning, as required by the *Local Government Act*.

OCP Amendment and Rezoning

When reviewing the OCP Amendment and Rezoning application package, staff encourage Council to consider the applicable OCP policies and the future land use designation on the subject property. The subject property is designated 'Rural Residential' by the OCP. The Rural Residential designation supports rural areas with single-detached homes on large lots (Figure 3).

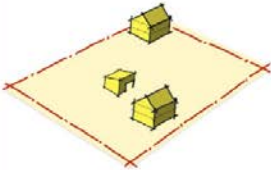
| Land Use | Description | Building Type(s) | Uses | Height / Density | Zone(s) |
|---|---|---|--|---|--|
| Rural Residential  | Rural areas with single-detached houses on large lots with modified services (e.g., septic systems, wells) (including bareland stratas) | <ul style="list-style-type: none"> Single detached houses with secondary suites or carriage houses | <ul style="list-style-type: none"> Residential Agriculture | <ul style="list-style-type: none"> 1 or 2 units per single lot 1 hectare minimum lot size Generally up to 2 ½ storeys to reflect 30' maximum in Zoning Bylaw | <ul style="list-style-type: none"> RC |
| Site-Specific Rural Residential Policy Statement: 3200 Evergreen Drive (Wiltse South Block) - limited to a maximum of 2 single-family residences in the Rural Residential area. | | | | | |

Figure 2 - Excerpt from Land Use Designations table, OCP

The proposed subdivision development is consistent with the underlying OCP future land use designation on the subject property as it provides single detached homes with larger lot sizes. While the Rural Residential designation table specifies a minimum lot area of 1 ha (2.47ac), the RC (Country Residential) zone is listed as the only compatible zone with this designation. The RC zone allows a minimum 0.4ha (1 ac) lot area. This OCP designation and zone are intended for rural subdivisions, where full municipal water and sanitary sewer services may not be available. 0.4 ha (1 acre) is generally considered a sufficient size for individual lots to accommodate their own private services, such as septic systems, especially where municipal water is provided, as is the case with this proposal. During development of the OCP, the 1 hectare minimum lot size was based on lots not being connected to any City services. While septic systems can generally operate well on smaller lot sizes than one hectare, well water systems generally need larger properties and thus the 1 hectare size was established.

In this case, the applicant is proposing to extend municipal water service to the site and provide a septic system for each individual lot. The subject property is recommended to be included on Schedule "F" of the Irrigation, Sewer and Water Bylaw 2005-02, in order to include it within the treated water service area of the city. This is staff's recommendation, based on Council ultimately adopting the rezoning of the subject property.

The applicant is requesting a site-specific provision on the RC-zoned area to allow 4.5m front yard setbacks, less than the typical 9.0m required by the RC zone. This reduced setback will support the clustering of the development near the strata roads. While it is unlikely that every home would be built to this 4.5m minimum front yard setback, it allows the option based on grading and natural features of the lot. Applying this standard to the entire subdivision through a site-specific provision, rather than through variance applications on each individual lot, facilitates a common character to the development. Similar requests have been granted in other hillside neighbourhood developments, such as the Bluffs at Skaha. Staff are supportive of this requested reduced front yard setback in this instance, given the strata nature of the development, the hillside topography, and the intent of clustering the development around the strata roads to reduce environmental impacts (Figure 4).

The applicant is planning to relocate the Fortis transmission line to the west side of the property. Those discussions are between the applicant and Fortis. Should the line not be able to be moved, there is sufficient area on each lot to build homes outside of the statutory right-of-ways.



Figure 3 - Map from Applicant's Information Package and Analysis showing limited disturbance of the site.

The proposed P4 (Environmental Reserve) zoned area would be dedicated to the city at the subdivision stage. This zone is considered appropriate for the future parkland as it is intended to remain in its natural state and function as a protected expansion of the Campbell Mountain park area.

The proposed rezoning and development was analyzed with consideration of the following OCP policies:

OCP Policy Focus new residential development in or adjacent to existing developed areas.

4.1.1.1

Staff Comments • The proposed country residential development is adjacent to the Hillside Drive country residential subdivision. While outside the urban core of the City, the proposed development is at a rural residential scale with 0.4 hectare lots, which limits the character impacts on the surrounding rural residential and agricultural area. As outlined in the letter of intent (Attachment 'F'), the applicant has carefully considered the development's fit into the hillside context.

OCP Policy Avoid development in environmentally-sensitive areas, geological hazard and flood hazard areas, on steep slopes, in agricultural areas and in areas not readily served by transit.

Staff Comments • The applicant has submitted preliminary plans showing how the proposed development considered the environmental and geological features on the site. Full comprehensive studies will be required at the subdivision stage.

| | |
|-----------------------|--|
| OCP Policy 4.1.1.3 | Evaluate the short-term and long-term financial, ecological and social costs and benefits of all proposed new greenfield (largely on hillsides) development proposals through analysis of full life cycle costs of infrastructure, including replacement, and services, and structures assessment of environmental and social impacts. |
| Staff Comments | <ul style="list-style-type: none"> • The development is proposed to be constructed as a strata, which reduces the cost burden of new infrastructure on the City. A full costing analysis has not been completed, given that the proposed development meets the intent of the Rural Residential OCP designation, indicating this development form was anticipated on the subject property. |
| OCP Policy 4.1.1.4 | Ensure all new developments fully cover the cost of the required infrastructure and services they require, including roads, water, sewer, storm water, and provision of parks, schools, and emergency services. |
| Staff Comments | <ul style="list-style-type: none"> • The developer will be responsible for all the costs associated with providing services and infrastructure for the development. The strata will be responsible for the long-term maintenance of all infrastructure within the site. • The city would be responsible for the extended water main in perpetuity, after it is installed at the developer's expense. |
| OCP Policy 4.1.4.1 | Work with the development community – architects, designers and builders – to create new residential developments that are attractive, high-quality, energy efficient, appropriately scaled and respective of their context. |
| Staff Comments | <ul style="list-style-type: none"> • The applicant has outlined their process to design this development in a compact and low-impact way while meeting the intent of the OCP designation on the site (Attachment 'F'). The scale of the development, size of the lots, and clustering of homes all reflect a development intended to work with the context of the landscape. |
| OCP Policy 4.1.5.4 | Ensure that all new neighbourhood developments and redevelopments of existing large sites, including bareland stratas, are fully integrated into the surrounding community through publically-accessible roads, sidewalks, trails and public park lands. |
| Staff Comments | <ul style="list-style-type: none"> • The proposed development is a bareland strata. The development is laid out in a way to relocate hiking and biking trails to the proposed 5 hectare (12.25 acre) dedicated parkland area, maintaining connections to the larger Campbell Mountain trail network. • A neighbouring property to the south is also designated for future rural residential development and access through to that property, which does not currently have frontage, will be considered at the future subdivision stage. |
| OCP Policy 4.1.6.1 | Ensure all residential neighbourhoods in Penticton provide a range of appropriately-scaled housing types and tenures, employment opportunities such as home-based businesses, transportation options like walking and cycling, social supports such as childcare facilities, and access to green space and parks. |
| Staff Comments | <ul style="list-style-type: none"> • Recognizing the country residential nature of the area, the development is designed on large lots. Home occupations are permitted under the proposed RC (Country Residential) zoning. Connections into the Campbell Mountain trail network are provided, with public parkland to be dedicated to the City to formalize access and public trails. |

| | |
|-----------------------|---|
| OCP Policy 4.4.1.1 | Protect neighbourhoods and agricultural areas in wildfire interface areas, and the city at large, through implementation of wildfire best management practices, such as ecologically-appropriate FireSmart, in new neighbourhood and infrastructure design, building construction and the management of individual properties. |
| Staff Comments | <ul style="list-style-type: none"> • A wildland urban interface fire hazard assessment was prepared for the property in 2020. The report concluded a high wildfire threat, which can be mitigated through specific recommendations to be outlined in a future report, required as a condition of subdivision. • The updated report may include a requirement for a wildfire covenant on the future lots, to ensure the development builds out in accordance with FireSmart principles. |
| OCP Policy 4.4.2.1 | Identify environmentally sensitive areas and riparian areas, and protect them through application of the Environmental and Riparian Development Permit Guidelines. |
| Staff Comments | <ul style="list-style-type: none"> • The subject property is within the Environmental Assessment Area outlined by the OCP. An Environmental Development Permit will be required as a condition of the future subdivision application. The applicant is aware and will be required to provide a comprehensive Environmental Assessment Report prepared in accordance with the City’s Terms of Reference prior to subdivision approval. |
| OCP Policy 4.4.2.2 | Identify, preserve, protect, connect, restore and enhance wildlife corridors through land use designations, zoning and covenants. |
| Staff Comments | <ul style="list-style-type: none"> • The proposal involves zoning the 5 hectares (12.25 acres) of land to be dedicated to the City as parkland as P4 (Environmental Reserve). This provides a larger protected natural area with hiking and biking trails as part of the larger Campbell Mountain trail network. |
| OCP Policy 4.5.1.5 | Consider establishing buffers including distance setbacks, landscape buffers and fencing requirements to minimize conflicts between agricultural and other land uses (e.g., residential and commercial). |
| Staff Comments | <ul style="list-style-type: none"> • The applicant is working with Fortis to relocate the electrical line to the western side of the site. If this relocation occurs, the line and its right-of-way will create a buffer between the new development and the ALR lands further west. • Should the Fortis line not be relocated, staff will work with the applicant at the subdivision stage to determine details around a possible buffer along that property line to ensure adequate separation between the new development and its agricultural neighbours. |
| OCP Policy 4.7.1.5 | Inventory nature areas and establish designated nature-oriented parks within city limits, and prepare management plans to guide their protection, use, restoration, enhancement and management. |
| Staff Comments | <ul style="list-style-type: none"> • The City is in the process of initiating a Campbell Mountain management plan. Should the rezoning be adopted and the proposed parkland dedicated to the City, it will be included in the scope of the future management plan. |

Given the alignment of the proposed development with the Rural Residential future land use designation and OCP policies, staff recommend that Council give first reading to “Official Community Plan Amendment

Bylaw No. 2023-26" and "Zoning Amendment Bylaw No. 2023-27" and forward the bylaw to the September 12, 2023 Public Hearing to gather public feedback on this proposed development prior to making a decision. Should the OCP amendment and rezoning ultimately be adopted, further technical review will be required as part of the Hillside Development Permit (Council decision) and Environmental Development Permit (staff decision) which will be required prior to any new lots being created on the subject property.

Additional Approvals

The proposed rezoning is the first step in development occurring on the site. Should the OCP amendment and rezoning be adopted by Council, the applicant will need to submit a subdivision application. As conditions of subdivision approval, the applicant is responsible to submit a number of technical reviews completed by qualified professionals to the City for review and acceptance before any new lots are created. These include:

- Environmental Impact Assessment
 - Associated with the required Environmental Development Permit
- Wildfire Impact Assessment
- Geotechnical Hazard Assessment
- Site Grading Plan
 - Associated with the required Hillside Development Permit

The Hillside Development Permit requires Council approval, while the subdivision and Environmental Development Permit are staff-level decisions.

The preliminary Environmental Assessment Report was prepared by a Qualified Environmental Professional and reviewed by another Qualified Environmental Professional who adapted it to the current development proposal. The preliminary assessment found that:

- The study builds on previous environmental assessments completed as part of the North East Sector Plan (2005) and the Spiller Road/Reservoir Road Neighbourhood Concept Plan (2014)
- Elk are lower occurrence on this property with a mean of 4.6 elk/km² compared to the higher numbers found in the Naramata area (12.7 elk/km²)
- Recommends development be focused on the lower environmentally sensitive areas near Reservoir Road in the north, and that public trespassing be discouraged along the southern ends of the property
 - The applicant has laid out the development accordingly
- The QEP review overlaid the proposed subdivision plan with the Environmentally Sensitive Areas (Attachment 'D')

The applicant has engaged the Penticton Indian Band (PIB) to complete a Cultural Heritage Resource Assessment on the subject property, which was submitted with their application package. The CHRA was completed in 2022 and requires ongoing work to continue between the developer and the PIB to address the PIB interests in the site; ensuring impacts are mitigated and/or prevented.

The preliminary technical reviews submitted with the rezoning package helped determine the proposed development layout (Attachment 'G'). The applicant explains their intent to develop the property in a low-impact way by maintaining natural areas where possible and clustering the future homes close to the strata

roads. The City has tools to ensure this occurs, through the future Hillside Development Permit and the Environmental Development Permit as part of the subdivision stage.

Conclusion

There are further detailed applications required to address environmental, wildfire, geotechnical considerations prior to any strata lots are created on the subject property. At this time, staff are recommending that Council give first reading to "Official Community Plan Amendment Bylaw No. 2023-26" and "Zoning Amendment Bylaw No. 2023-27" and forward the bylaw to the September 12, 2023 Public Hearing to gather feedback from the community on this proposed development prior to making a final decision on the OCP amendment and rezoning.

Alternate Recommendations

Council may consider the proposed OCP amendment and rezoning is not aligned with the OCP and should not proceed to Public Hearing. If this is the case, Council should vote to deny the rezoning.

1. THAT Council deny "Official Community Plan Amendment Bylaw No. 2023-26" and "Zoning Amendment Bylaw No. 2023-27".

Attachments

- Attachment A – Zoning Map
- Attachment B – Official Community Plan Map
- Attachment C – Agricultural Land Reserve (ALR) Map
- Attachment D – Environmentally Sensitive Areas Overlay Map
- Attachment E – Photos of Property
- Attachment F – Information Package and Analysis (applicant)
- Attachment G – Preliminary Subdivision Plan
- Attachment H – Treated Water Area Map, Schedule "F" Bylaw 2005-02
- Attachment I – Official Community Plan Amendment Bylaw No. 2023-26
- Attachment J – Zoning Amendment Bylaw No. 2023-27

Respectfully submitted,

Steven Collyer, RPP, MCIP
Senior Planner

Concurrence

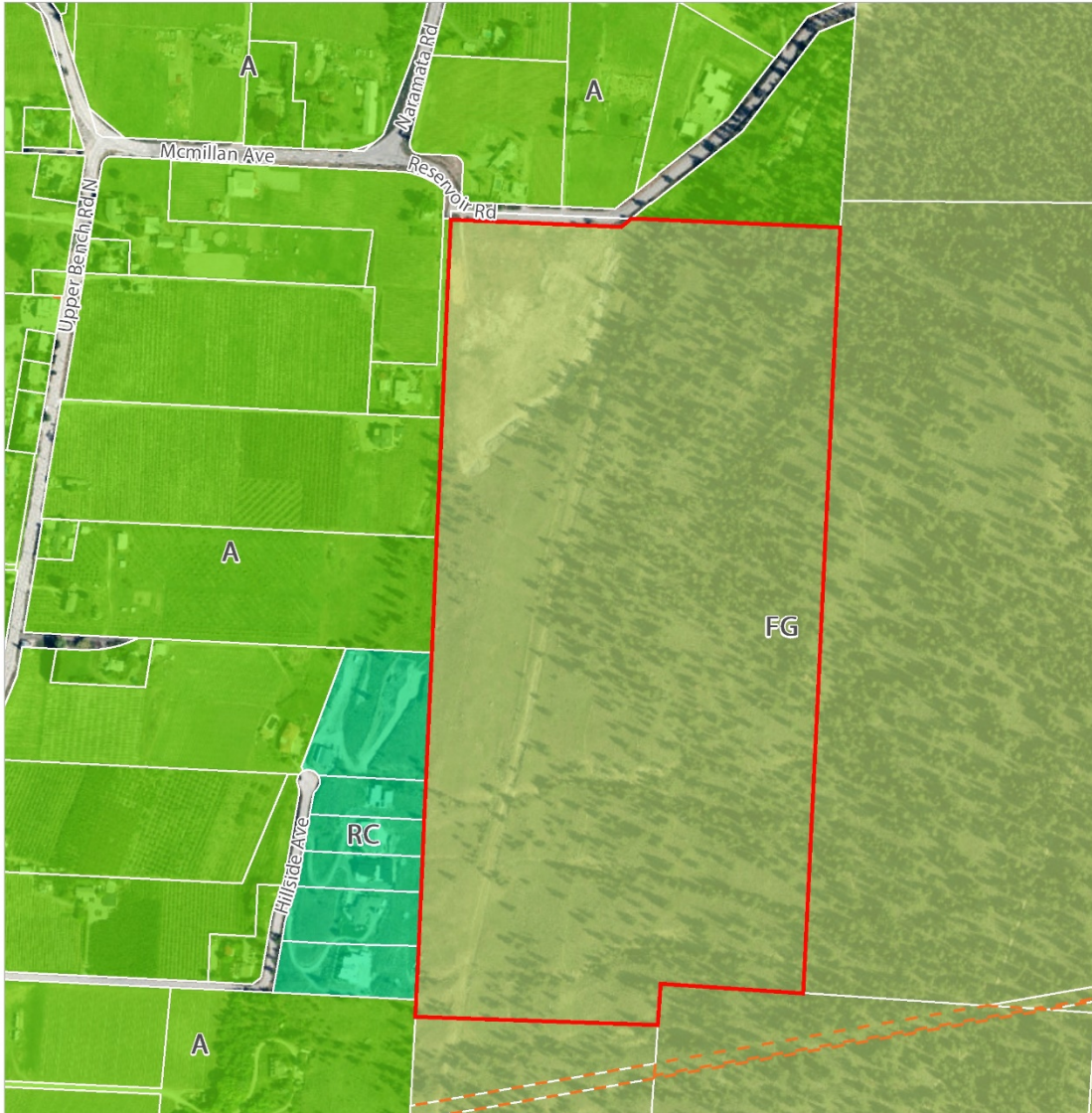
| | | | |
|---|--|--|---|
| Director of Development Services <i>BL</i> | General Manager of Infrastructure <i>KD</i> | Director of Finance and Administration <i>AMC</i> | Acting Chief Administrative Officer KD |
|---|--|--|---|

Attachment A – Zoning Map



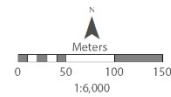
1530 Reservoir Road

Zoning Map



Legend

- Subject Parcel
- FG - Forestry and Grazing
- RC - Country Residential Housing
- A - Agriculture



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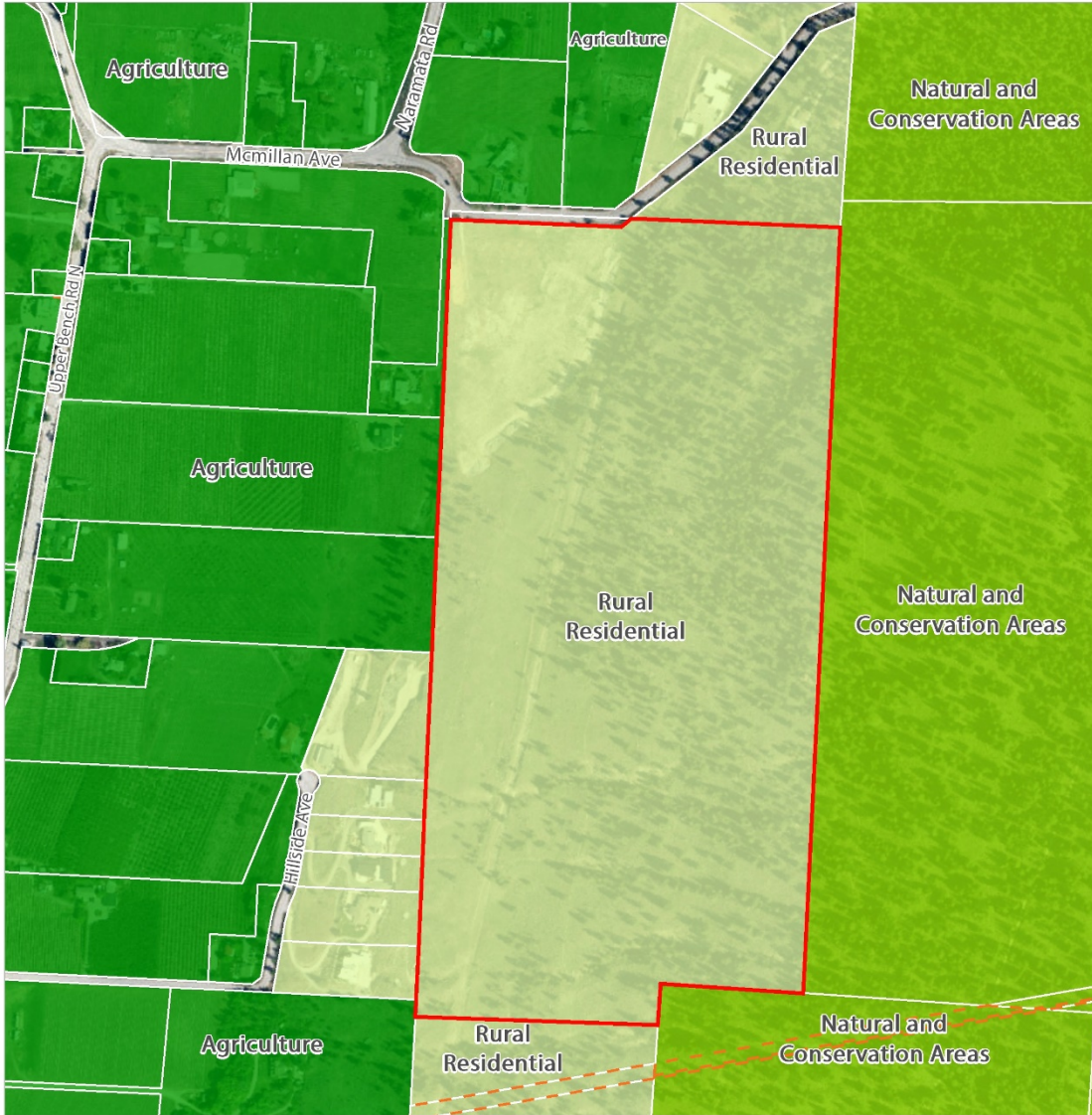
penticton.ca

Attachment B – Official Community Plan Map



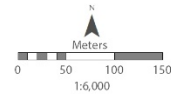
1530 Reservoir Road

Official Community Plan Map



Legend

- Subject Parcel
- Future Land Use
- Natural and Conservation Areas
- Rural Residential
- Agriculture



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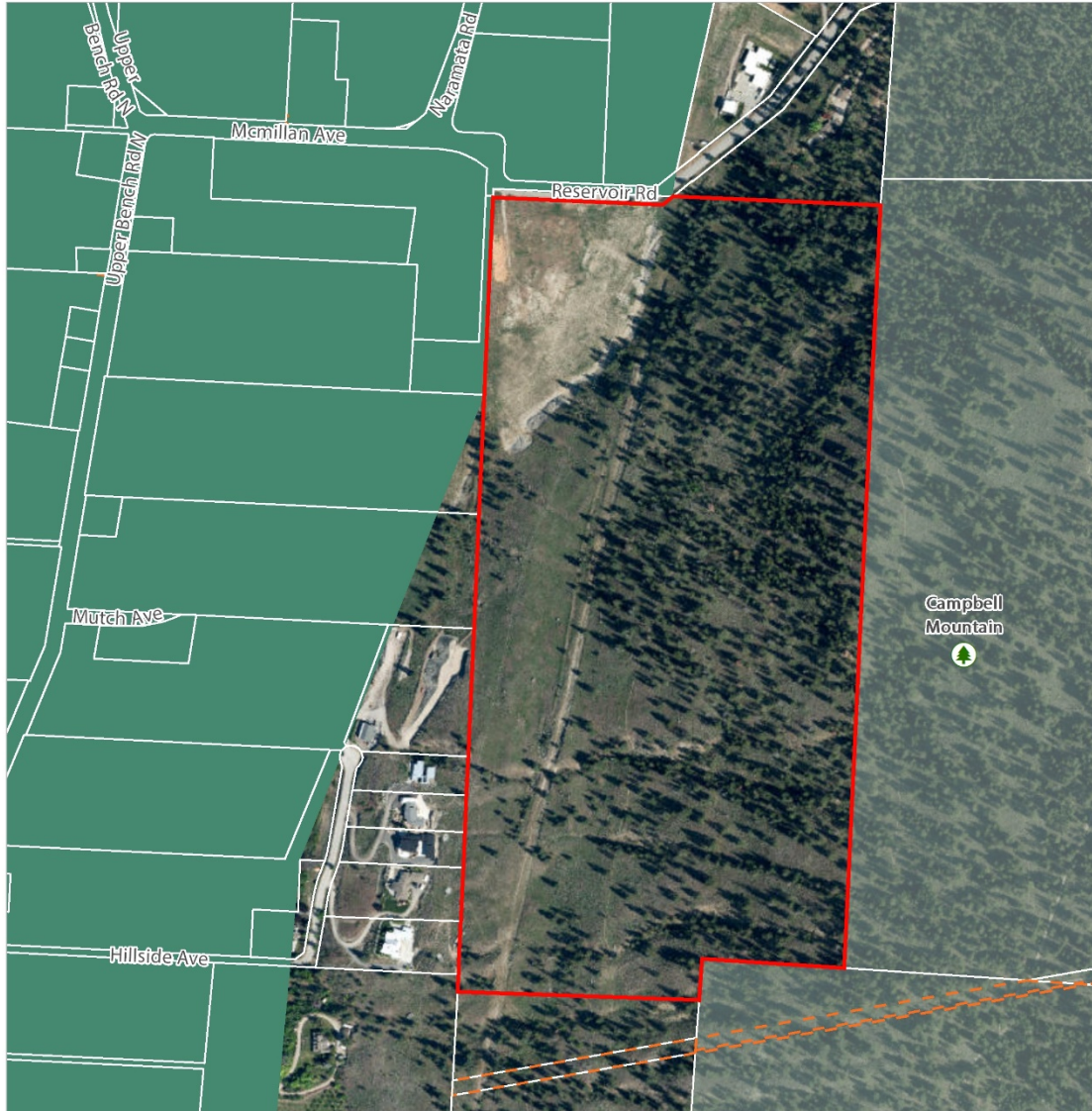
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Attachment C – Agricultural Land Reserve (ALR) Map



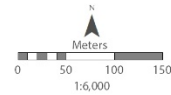
1530 Reservoir Road

Agricultural Land Reserve (ALR) Map



Legend

- Subject Parcel
- Agricultural Land Reserve

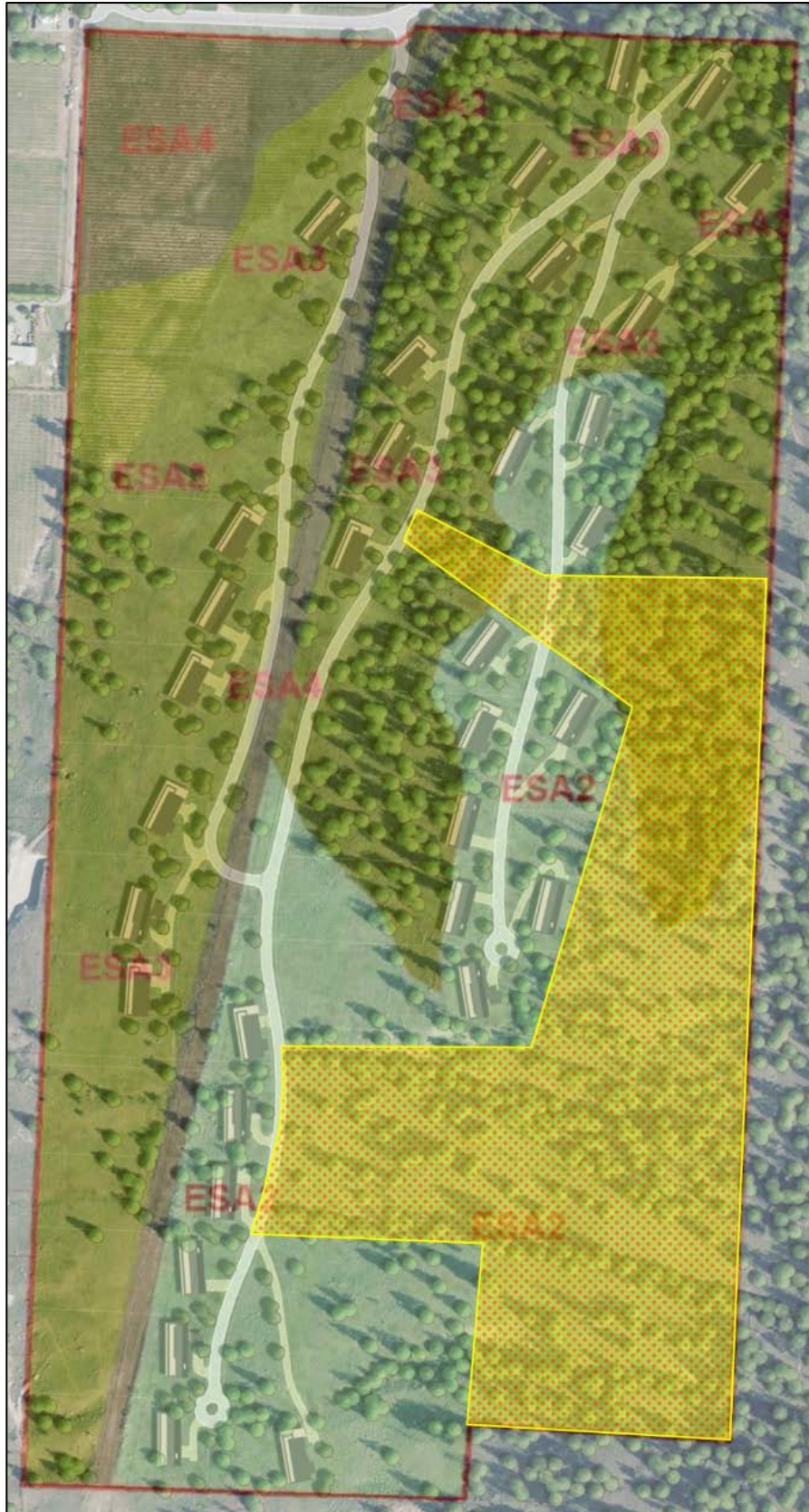


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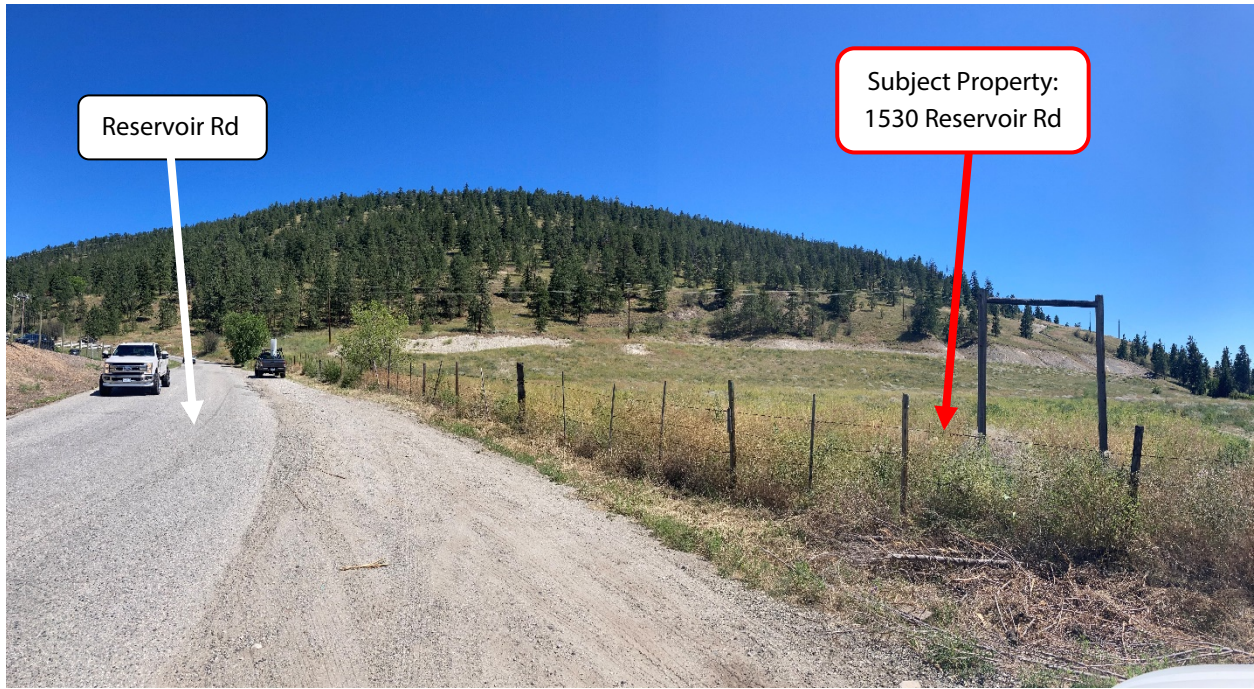
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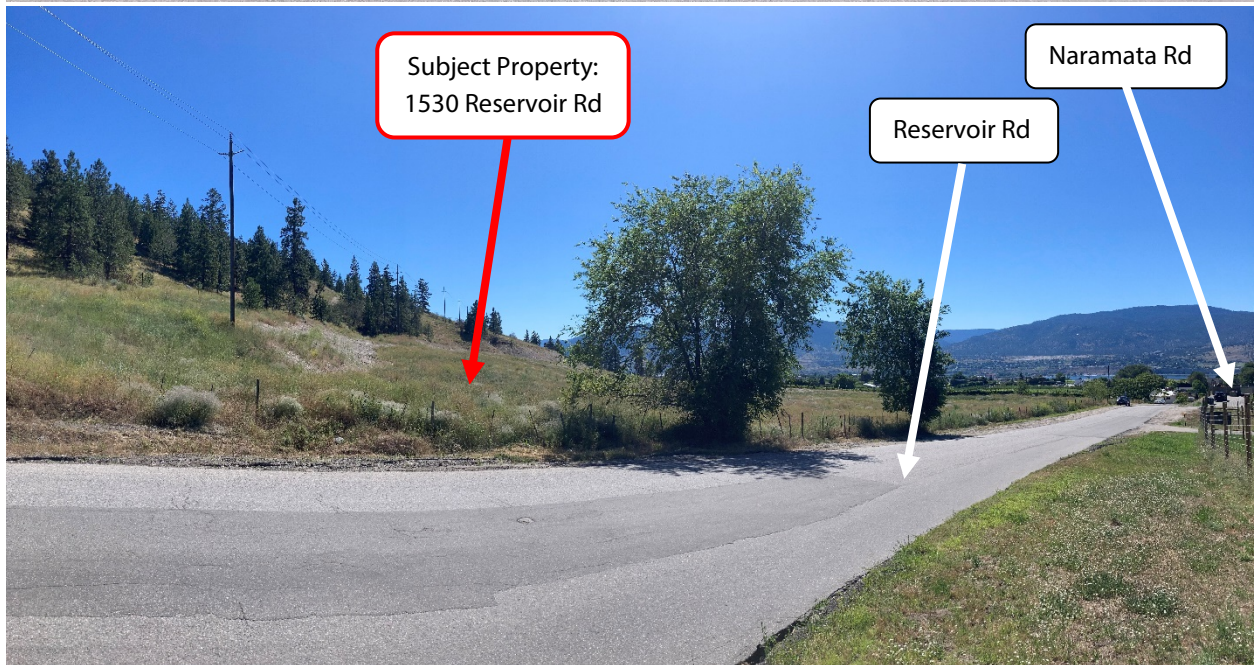
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Attachment D – Environmentally Sensitive Overlay Map



Attachment E – Photos of Property





The Acres / 1530 Reservoir Rd Development Application



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EXECUTIVE SUMMARY

We are submitting a rezoning application for the land parcel located at District Lot 2711 Similkameen District, Yale Division, District Plan 1190. Our request is to rezone this land from FG Forestry Grazing to RC Country Residential this aligns with the Official Community Plan and does not require an amendment to the OCP.

The enclosed proposal is the culmination of over 10 months of detailed research, expert consultation and stakeholder engagement. We have listened carefully to the recent discourse related to development on the Naramata Bench and engaged the Penticton Indian Band early in the process. This feedback has shaped our proposal which is:

- Aligned and inspired by the vision of Penticton's Official Community Plan
 - We attended all the design charettes and open houses during the new OCP writing
- Informed by sustainable development principles
 - Access to nature from every home
 - Cluster homes near roadways to limit disturbed area
 - Leave natural as many trees, plants, rocks and outcrops integrate into designs
 - Follow natural topography rather than clearing and leveling the site
 - Synergies between human and wildlife throughout the lands combined with limited fenced yards and native plantings
- Designed to support the unique topographical attributes of the land
- Focused on maximum land and nature preservation
- Driven by a shared passion for the preservation of the beauty of the Naramata Bench and responsible recreation and exploration of nature in neighbouring Campbell Mountain.

We are proposing:

- Low density housing - 33 land parcels (0.39 parcels per acre, 0.39 UPA) - built to strict design standards
- Minimal imposition on City resources
- It will not have a material impact on traffic
- A bare land strata ownership structure will be responsible for maintenance such as roads, water, sewer, landscaping, snow removal and lighting on the property

The development will also:

- Create a community parkland - nature trails and greenspace with stunning views
- Result in approximately 700 local jobs
- Generate approximately \$600,000 in development cost charges
- Deliver an estimated \$10.6 million in residential taxes over the next 20 years.

Thank you for your careful consideration of our proposal. We are available to answer questions at your convenience.

Drew Barnes

On behalf of

1333032BC Ltd. & Parallel 50 Construction Ltd.

SITE CONTEXT

Location

The site is a prime location for living and enjoying recreation in nature. The proposed rezoning of the site to Country Residential complements existing land use designation in the area.

- To the immediate southwest of the site, land is already zoned Country Residential.
- To the east there is existing recreational land – Campbell Mountain is a top destination for hiking, biking, horse riding, and nature exploration. The addition of a park land nearby will enhance the opportunities for time in nature and potentially open up access to younger and older segments of the population who are unable to access the upper terrain of Campbell Mountain.
- To the west, there are vineyards, orchards and farmland. The need to ensure that our development does not negatively impact the activity and appeal of this land guides our development philosophy.

History

Throughout recent history, Campbell Mountain has been used as a forestry, grazing and recreational area. There has been no known development on the subject property other than the existing gas line and electrical transmission line. Up until approximately 2018, the lands were used by the Sather Ranch for cattle grazing.

Property and Immediate Area Characteristics

The areas landscape is characterized by a varied slope from east down towards the valley and lake on the west. The existing landscape typologies are mostly meadows and forests.

“The proposed design approach makes use of the existing landscape typologies and integrates development within these zones. The design will strive to provide a site-sensitive approach to minimize the impact on the development on the site topography and landscape.” – Ekistics Architecture (Sustainable planners, architects, and landscape architects)



PLANNING, OCP & ZONING

OCP & Proposed Future Zoning: Country Residential Housing (RC)

PURPOSE

The purpose is to provide a zone for low-density single detached housing on large rural lots.

PERMITTED USES

1. accessory use, building or structure
2. agricultural use
3. bed and breakfast home
4. carriage house
5. major home occupation
6. minor home occupation
7. one single detached dwelling
8. rural home occupation
9. secondary suite

We request that the land is rezoned to Country Residential (RC) zoning with the ability to keep the project as a bare land strata governed by the Provincial Bare Land Strata Regulations. In this case the density and overall appearance of the community will be exactly like a freehold Country Residential neighbourhood but there will be additional rules, bylaws and common property that will remain as the responsibility of the community or strata. There are many reasons and benefits for allowing the project to be a bareland strata such as:

1. Privately owned roads, sidewalks and services.
 - a. The City is only responsible for the services to property line.
 - b. The strata is responsible for snow and maintenance of the roads.
2. Rules and Bylaws
 - a. The Strata can define and enforce all its own rules to keep the community in pristine shape, this would be over and above the City of Penticton bylaws.
 - b. Regular meetings can be held and the rules and bylaws updated as the community grows.
 - c. Can stipulate rules that govern size, style or colour of homes to be built and whether or not RV's and boats can be permitted to park in the driveways.
3. Strata fees will be charged to maintain the common property such as roads, water, sewer and lighting (if any)

Official Community Plan Policy Review

Our proposal aligns with the vision and criteria set out by the 2045 Penticton Official Community Plan. Members of the development team contributed to the design charrettes involved in the creation of the Official Community Plan in 2019 and has applied the insights of familiarity, and the intended future outlook of Penticton to the proposed rezoning, development and design philosophy. See Appendix A for a detailed breakdown of each policy by number and how it is relevant to the vision of The Acres on Campbell Mountain.

Hillside Development Permit Area (to be applied for at subdivision)

The primary objectives of the Hillside Development Permit Area are to minimize the risk of erosion, landslip or rockfall on development in steep slope areas, preserve native vegetation and ecosystems in steep slope areas

and ensure neighbourhoods are aesthetically integrated into hillside areas. Although the HDP is not a requirement at this stage, we are fully committed to full compliance to help mitigate risk and ensure our proposed development is a net positive for surrounding hillside. Please see Appendix B for a detailed analysis of how our proposed development supports the objectives of the Hillside Development Permit Area

We conducted a detailed slope analysis to understand the existing slope regime and to determine the land area with the best development potential. We believe that a thorough understanding of the site conditions is essential in siting roads and buildings in a way that minimizes the impact to the natural environment and preserves views to and from the site. Accordingly, in our proposed plans, buildings will be positioned on the gentle slopes with views to the lake and steep slope areas are reserved as lot areas and community “green” or “natural” space. If the project is supported through the rezoning process, it will need to come back to Council for the Hillside Development Permit Application, it is at this time the finer details of slopes and how to build on them will be determined, though a significant amount of investigation and work has been completed to date. The project may require hillside protection and restoration covenants which will restrict development on steep slopes, require retention of existing vegetation and re-establishing native vegetation on disturbed areas which we are prepared for.

We look forward to providing the HDP at the appropriate time.

Environmental Development Permit Area – Environmental Assessment Area

We are very proud to present a proposal for low density housing that preserves 76% of the total land as undisturbed. We anticipate that in creating 33 land parcels for low density housing, alongside the many other economic and social benefits to Penticton, we will only need to disturb 19.50 acres of 82.5 acres of land.

1530 Reservoir Road falls under the Environmental Assessment Areas (“EAA”), as per the City of Penticton mapping. The EAA are applied to potentially environmentally sensitive areas to ensure that environment values are considered in development planning. We did not want to wait until further down the line to consider these crucial issues. This is why we engaged Wildrock Environmental at the beginning of our design process to ensure that the majority of the site is kept as undisturbed and natural areas. Wildrock Environmental has provided a Technical Memorandum which is required to facilitate the rezoning process, prior to the Environmental Development Permit (“EDP”) and subdivision.

We look forward to providing the EDP at the appropriate time.



PROPOSED DEVELOPMENT

We have created an expert team to ensure that our development incorporates best practices, progressive thinking and relevant experience.

Team

The project is managed and owned by a local group of investors with an extensive resume of experience in real estate and construction in the Penticton area and greater region. A number of professionals have been engaged by management to provide expertise in a number of different fields:

1. Master planning and neighbourhood design – Ekistics
2. Civil – Water, Sewer Storm – McElhanney Engineering Services
3. Environmental – Wildrock Environmental
4. Wildfire Interface – Swanson Forestry Services
5. Financial Impact Assessment – Urbanics

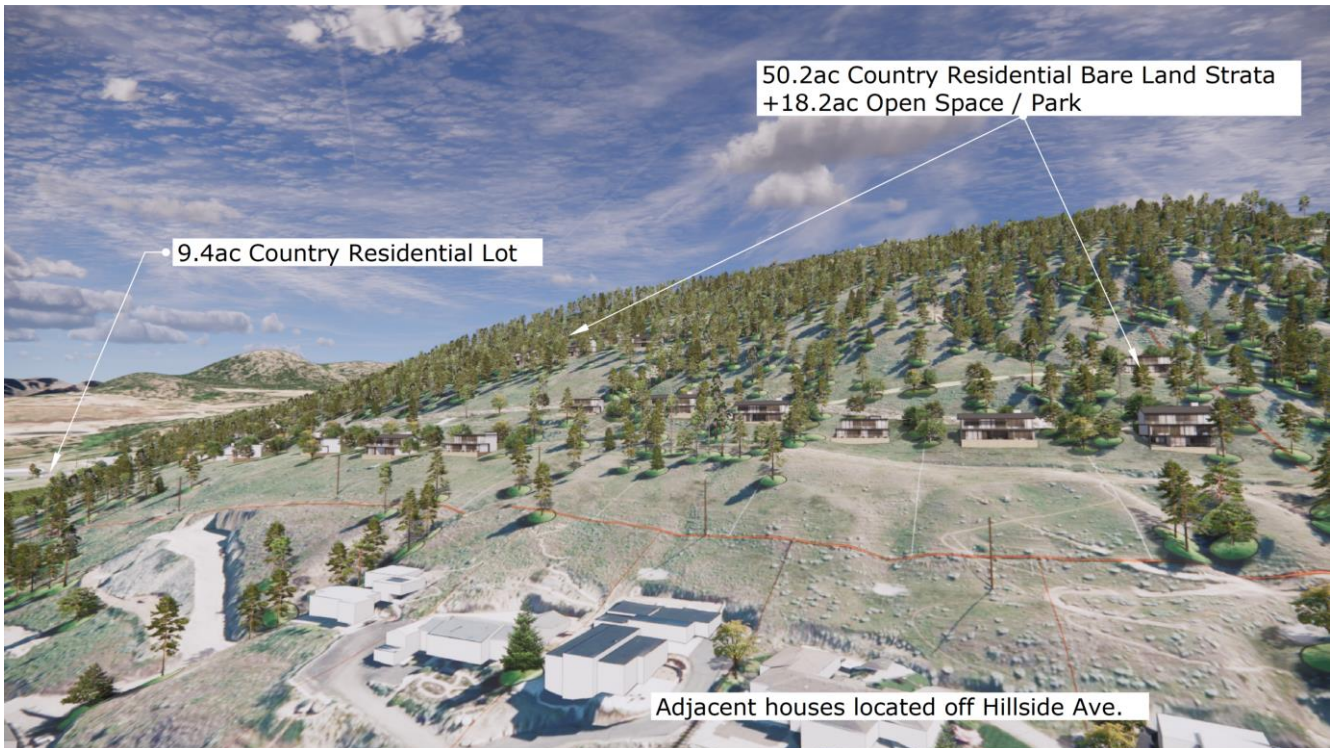
Vision (Typical/Standard Lot)

We have designed our lots to ensure significant preservation of natural areas and wildlife corridors.

- All lots are minimum 1 acre ranging from 1.05 acres to 5.22 acres.
- Each lot will be minimum 45m (148ft) wide with minimum front yard setback of 9.0m (30ft) and side yard setback of 4.0m (13ft) – critically this means that no two houses will be closer than 26ft apart allowing for significant preservation of natural areas and wildlife corridors.
- Below is an illustration of a typical lot with a 2,500sf single family home located on the lot. It is expected that approximately 70-80% of this site will be left undisturbed, similar to the other parcels.



Illustrated Views



Architecture

Our architectural style will take its cues from the land, resting on the natural terraces, with building forms and orientation responding to the local semi-arid climate, views and the surrounding nature.

This will be “authentic” Okanagan architecture. Architecture will create a living space for people that honestly reflects their lifestyle, needs, values and vision. - Ekistics

While we appreciate that design and construction of the homes falls outside of the parameters of this application, we believe that the style of architecture is critical to ensuring that our development enhances the overall aesthetic appeal of the surrounding area. For this reason, we are ensuring that there will be registered design parameters on all land parcels to keep the natural beauty of the site and reduce the visual impact on the hillside when viewed from the Naramata Bench and other areas in the Penticton area. Some examples of the strata rules and bylaws we will impose include building heights, roof pitches, in addition to setback garages, limitations on retaining walls, landscaping and promote xeriscaping/native plants and natural areas.



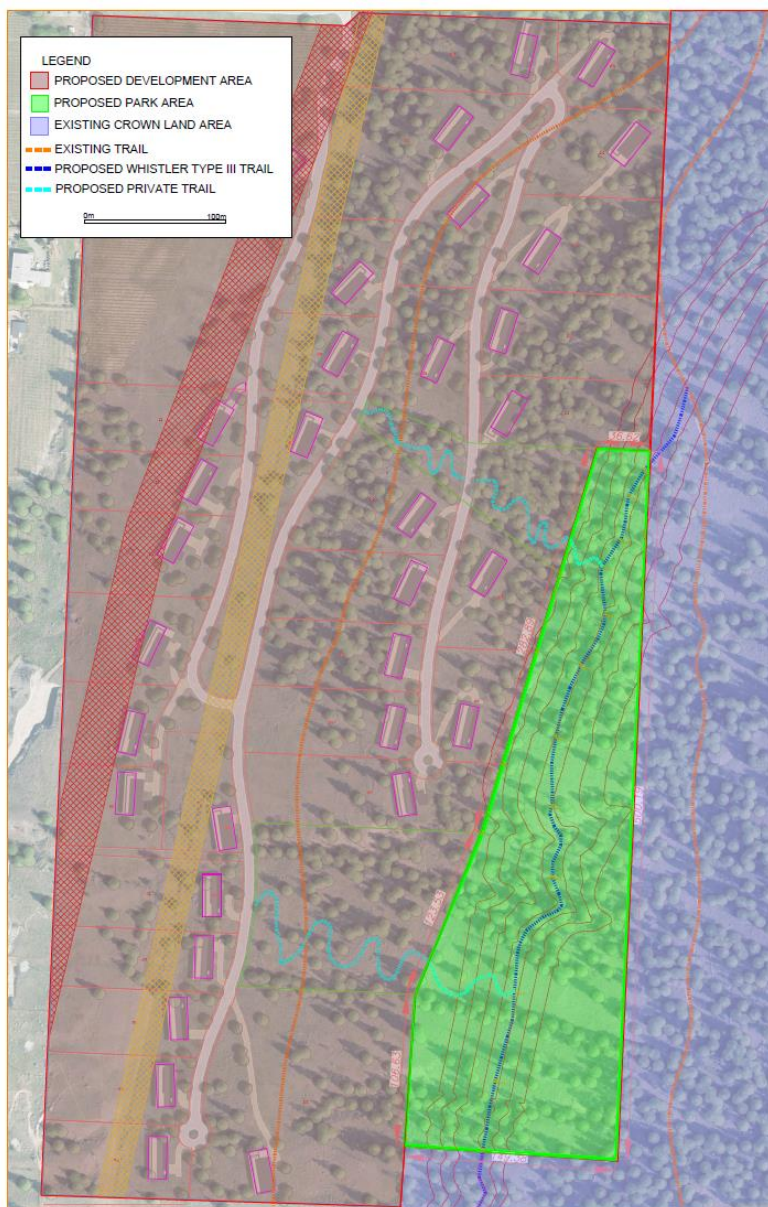
Parks & Open Space

Many of the parties involved in this project have personal ties to the mountain and area. We understand how important of an asset Campbell Mountain is to our community as a recreational site for locals and tourists.

To complement the existing recreational opportunities in nature, we are proposing to provide 12.36 acres of new park land and open space.

We will work with Penticton Area Cycling Association and the City to ensure that the few trails that need to be relocated are thoughtfully moved to a new permanent location. In addition to the relocation of existing trails, in the illustration to the right, there is a large portion of the site that will be dedicated as park and open space (Green). There will be roughly the same number of existing trails which will be disturbed from development replaced with new trail in the park and open space area.

More details have been provided to staff in a supplemental document titled 1530 Reservoir Road Dedicated Park and Amenity Park Plan



Financial Impact Assessment

A Financial Impact Assessment has been performed by Urbanics Consultants Ltd. it gives a detailed report on job creation, development cost charges collection, property tax collection and a valuation of the park land. These findings are summarized as follows:

Job Creation

It is estimated that there will be 677 jobs created, 373 will be direct jobs (construction jobs), 191 will be indirect jobs (supply/construction materials jobs), and 113 will be induced jobs (jobs produced due to additional direct and indirect jobs).

Development Cost Charges Collection

The DCC's collected by the City for this development at the current rates will be \$524,600. We have been involved in the current DCC review process and it is our understanding that this project will fall under the new DCC rates. In the case the total DCC's collected are estimated to be \$593,000.

Property Tax Collection

Applying the current residential tax rates this project arrives at approximately \$10.6 million (undiscounted) being produced for the City of Penticton over the next 20 year period or \$530,000 per year.

Parkland Valuation

As per Urbanics report the Park land has been valued at 125,000 per acre which results in a total valuation of the dedicated park land of \$2.27 million.

SERVICING AND ENGINEERING

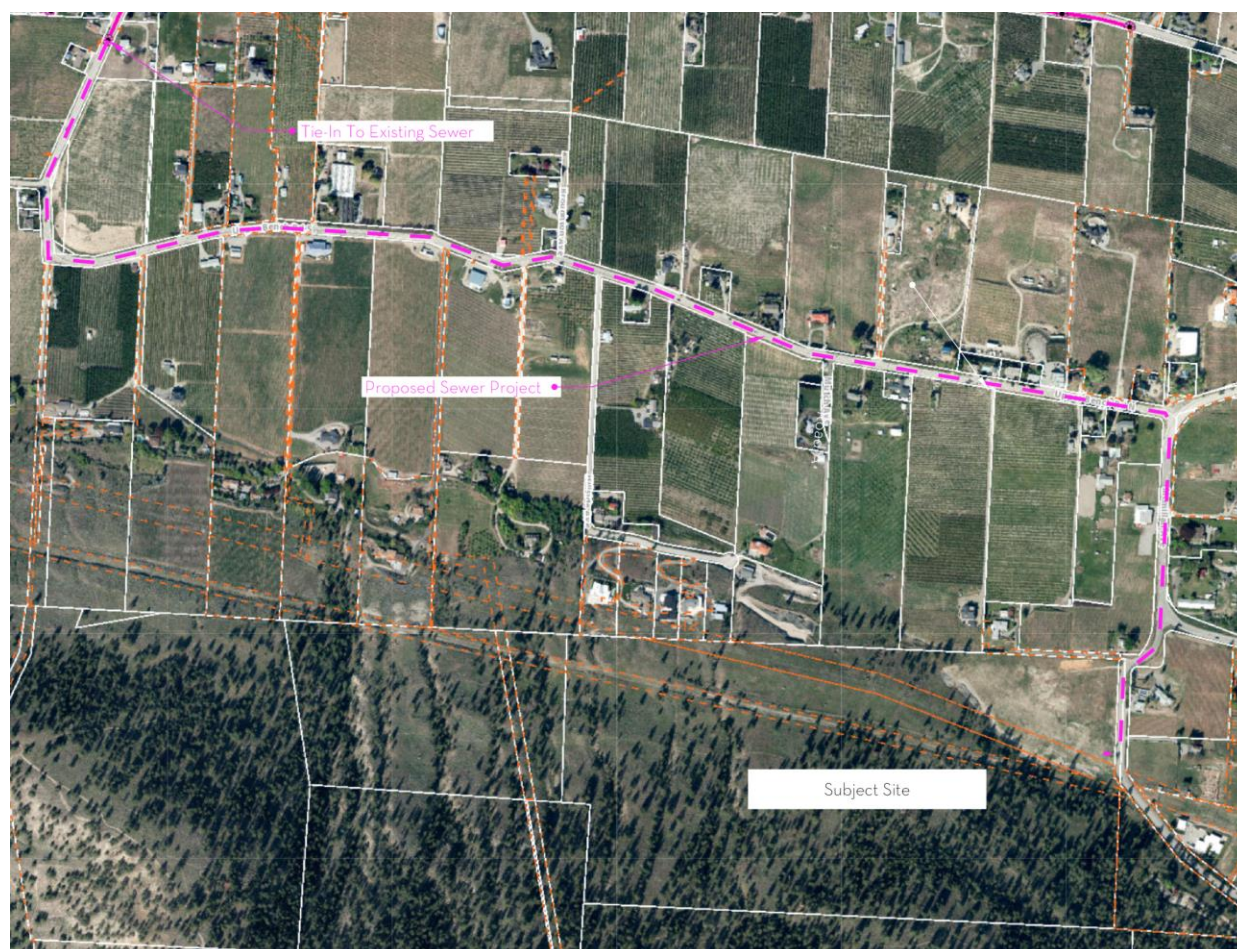
Civil

Water

Extensive water modelling and engineering have been completed to date. It is anticipated that the entire development will be serviced with City of Penticton domestic water. This will be achieved by installing booster pumps at the northwest portion of the parent parcel, to a reservoir onsite, then servicing all the houses within the bare land strata. The onsite water infrastructure will be 100% owned and operated by the strata, there are no significant offsite water improvements required for domestic water and fire flows.

Sewer

The intention will be to service all lots with septic. Each lot meets the minimum requirements by Interior Health for individual septic tanks and fields. Although this is the current strategy, it is feasible to run the sewer from Johnson Rd. along Upper Bench Rd., MacMillan Ave. and finally up Reservoir Rd to the subject property north property line. Subject to the City of Penticton's capital works projects this will be a hugely beneficial solution to this project and the surrounding areas. An illustration of these extensive offsites is below, the estimated costs to be born by the developer are in the \$2.5M-\$3.0M. This proposed sewer project would allow for an additional 50 existing parcels to tie into the City sewer infrastructure and eliminate their aging septic systems.

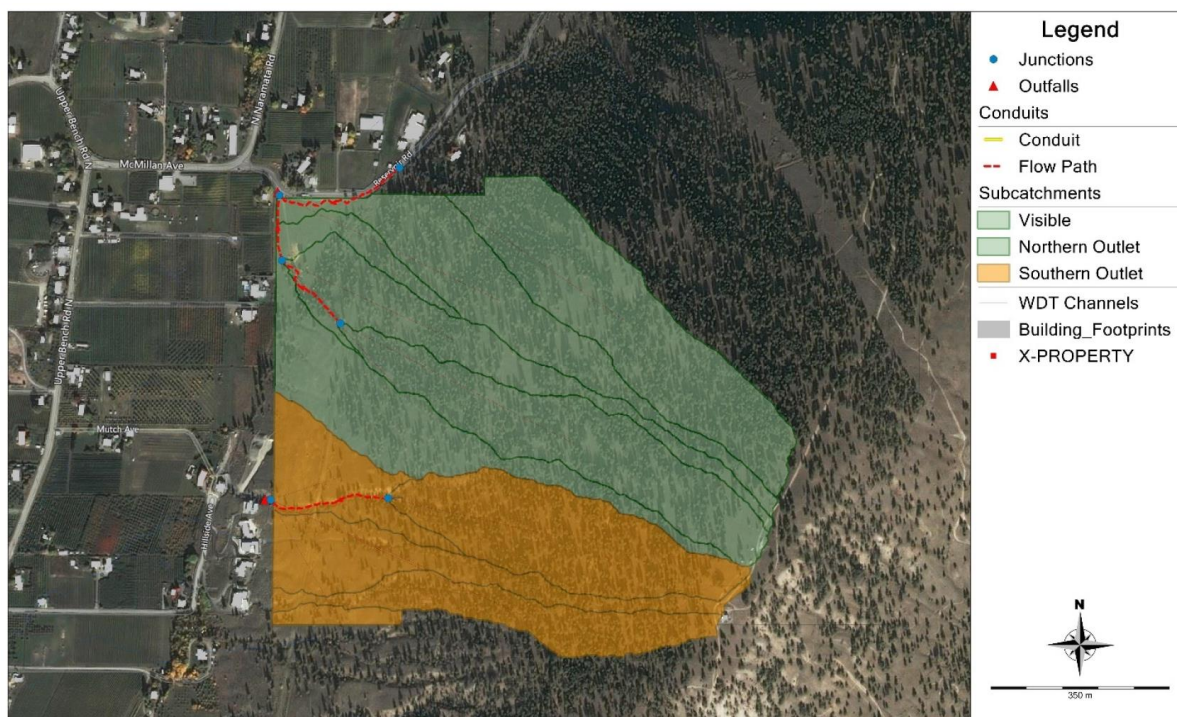


Storm

Preliminary storm water management studies have been completed by McElhanney. The City of Penticton Subdivision and Development Servicing Bylaw #2004-81 requires the following design criteria:

1. Minor systems to be sized for the 1:5-year event
2. Major systems (overland) flows to be sized for the 1:100-year event
3. Run-off flows from the subdivision or development must be limited to the 1:5-year return period pre-development runoff condition
4. Existing facilities which are undersized or inadequate to accept additional drainage must be defined for upgrading to accommodate the appropriate development design flows.

All the above design criteria will be met by this new development, storm water infiltration will be investigated and utilized where feasible, and recommended by the geotechnical investigations and slope conditions. Below is an illustration of the pre-development runoff conditions.



Electrical

City of Penticton electrical will be provided to the site with upgrades to the existing infrastructure in the area from Naramata Road. Final designs for the electrical infrastructure for the site will be finalized during the subdivision process.

Gas

All sites will be services with gas from FortisBC, existing gas infrastructure is close to the parent parcel boundary in Reservoir Rd. The high-pressure gas main that runs through the site will not be tied into to serve the development, nor will any works be done during construction that may cause harm to the pipe. Extensive precautions and methods will be used to ensure the gas lines safety.

Transportation

Minor traffic improvements will be required for the proposed development. A new left hand turn will be added to the corner of Reservoir Rd and Naramata Rd. There will also be new asphalt from Naramata Rd. to the entry of the new development which is approximately 220m from Naramata Rd. along Reservoir Rd.

Geotechnical

A full geotechnical assessment report has been completed by Interior Testing Services Ltd. Their findings are summarized below in two separating areas of the site, first is below the gas line (west) and second is above the gas line (east).

Soils up to the gas line (lower portion of the site) have been very favourable for residential development. There is approximately 6"-12" of organics at the top followed by ± 5 m of structural fill. It appears that all the materials cut on site can be used as structural fill elsewhere on the site for building site and roadways. The elevations of the bedrock discovered below the structural fills is deep enough to not interfere with the proposed sewer and water.

On the upper portion of the site, above the gas line, soil investigations have proven that there is shallow bedrock present from 1ft. to 6ft. below the surface. This allows for very stable building conditions.

Wildfire Area Interface

In September 2020, Swanson Forestry Services performed a Wildland Interface Fire Hazard Assessment ("WIFHA") for the previous land owners. The site was assigned a High Wildfire Behavior Threat Class Rating. The high rating could be mitigated following development of the lands due to:

- There will be property owners on the portions that are developed that can respond to the event of a wildfire.
- Emergency response and exit could be enhanced by roads that will service the area. These roads will act as a fuel break for wildfires.
- Increased access to the development of the property will also help to reduce the response time if there is a wildfire.
- Some dry shrubs and grasses could be replaced with landscaping. Proper maintenance by property owners will also reduce the fuel loads.

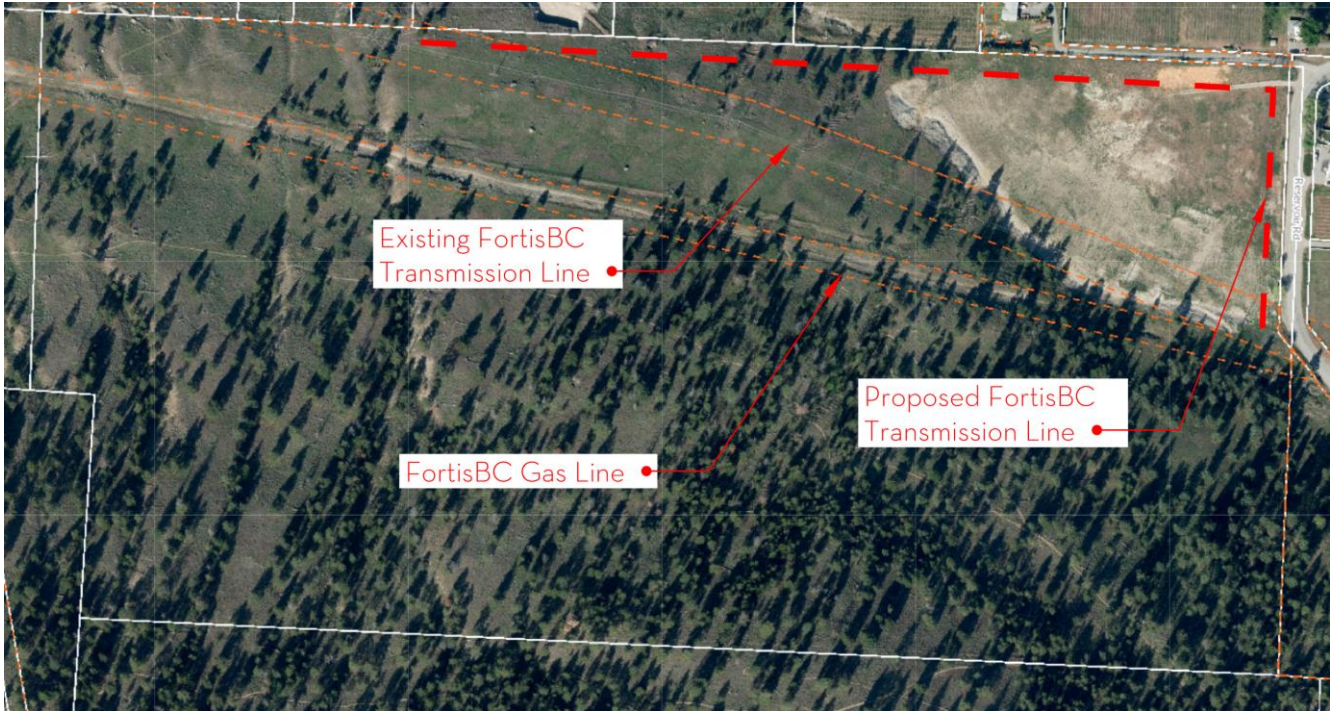
Additional fire hazard mitigation work could be performed as required:

- Removing ladder fuels up to 2.5-3 meters on mature trees
- Spacing and tree removal in the northeast portion where there are denser patches of immature trees
- Trees should be spaced so that the distance between the crowns is 3-5 meters. Smaller trees, under 2 meters in height could also be removed.

High Voltage Transmission Lines and FortisBC Gas Line

As illustrated on the image below there is a High Voltage Transmission Line ("HVTL") that crosses through the site and a High-Pressure Gas Line ("HPGL"). Preliminary conversations have been had with FortisBC, both the electrical department and the gas department. The current plan is to relocate the HVTL to the west property

line of the subject site. There will be an access road provided for FortisBC to access each pole resulting in a net benefit to the rate payers than the existing condition. The gas line will remain as is and all work and crossings will confirm with FortisBC and the Oil and Gas Commission Act.



EARLY COMMUNITY INPUT

During the last year we have been observing concerns of the local community over other development applications in the area.

We have listened carefully to the many issues raised by local residents and have incorporated resolutions into our planning at a very early stage.

Below is a comparison table of the previous concerns on other sites and how they have been addressed with our subject property.

Solutions to Local Concerns

The following table presents concerns voiced publicly by the Society to Preserve the Naramata Bench (the Society) and our solutions

| Concerns | Comments by PNB | Reservoir Rd. Solution |
|------------------------|---|---|
| Health Concerns | Proposed homes located too close to municipal solid waste are exposed to pollutants such as methane, carbon dioxide, hydrogen sulfide and others. | Subject site is located over 1km away from the nearest point of the RDOS Landfill. 2-3x the distance of Vinterra |
| Environmental Concerns | Higher density will endanger wildlife including amphibians, reptiles, mammals, and birds all species at risk. Most of the site is ESA1 or ESA 2. | We will preserve majority of ESA1 and 2 areas. Statutory Building Scheme will address this on title. |
| Community Economics | Increased costs to taxpayers for services, road maintenance and more | By creating a bare land strata all the infrastructure is the responsibility of the strata in the future. Therefore, other than improving existing infrastructure there should be no significant future impacts or costs to CoP taxpayers. |
| Agricultural Concerns | Many of the lands below are in the ALR, this development will negatively impact the watershed required in the lands below. | Low density development significantly reduces the risks compared to high density development on hillside land. We will also take proactive steps to mitigate this issue through land preservation to help minimize issues on the watershed. |
| Tourism Values | The proposal will hurt the image of the premiere wine destination. Will negatively impact the climate and geology conditions. | Development is in keeping with the aspirational Okanagan living and architecture. Will set the bar for sustainable development and showcase Penticton's progressive approach to |

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| | | <p>development to visitors and other communities. The potential opportunities for parkland development could strengthen the tourism appeal with the provision of a beautiful natural setting to take in the views and enjoy locally sourced picnics.</p> |
| <p>Sustainability</p> | <p>Land conservancies preserve land for future generations, protect our food and water supply, purify our air, provide habitat and strengthen communities.</p> | <p>Low impact, sustainable development will be a big part of the project. Construction will be required to adhere to minimum Step 3 BCBC and solar ready. Each home will have access to nature. Homes will be clustered near roadways to limit disturbed area. We will leave natural as many trees, plants, rocks, and outcrops while integrating into our designs. We will follow natural topography rather than clearing and leveling the site. Finally, we will create synergies between human and wildlife throughout the lands combined with limited fenced yards and native plantings.</p> |

Penticton Indian Band

We have already engaged the PIB to complete a Reconnaissance Survey. We wanted the benefit of their feedback early on (rather than waiting until after the rezoning application, as is typical) to maximize our ability to consider the needs of this important stakeholder.

APPENDICES

Appendix A – Land Use Plan



Appendix A – Official Community Plan Policy Review

| | |
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| Policy 4.1.1.1 | <p>Focus new residential development in or adjacent to existing developed areas</p> <ul style="list-style-type: none"> Immediately to the west of the subject site is Country Residential uses. There is also residential and agricultural use to the north. |
| Policy 4.1.1.2 | <p>Avoid development in environmentally-sensitive areas, geological hazard and flood hazard areas, on steep slopes, in agricultural areas and in areas not readily served by transit.</p> <ul style="list-style-type: none"> Environmental, geotechnical, wildfire and riparian consultants have been engaged to determine the proposed strata subdivision layout. The large lots of the proposed strata subdivision maintains a substantial area of the parent parcel as common property and undeveloped. |
| Policy 4.1.1.3 | <p>Evaluate the short-term and long-term financial, ecological and social costs and benefits of all proposed new greenfield (largely on hillsides) development proposals through analysis of full life cycle costs of infrastructure, including replacement, and services, and structured assessment of environmental and social impacts.</p> <ul style="list-style-type: none"> This proposed development was considered through the development of the OCP. A financial impact assessment has been completed by Urbanics and is summarized in this report. |
| Policy 4.1.2.10 | <p>Monitor vacation rentals to ensure they do not have a negative impact on the long-term rental stock or negative social impacts on existing neighbours and/or neighbourhoods. Define vacation rental policy and regulations if necessary.</p> <ul style="list-style-type: none"> Short term vacation rentals will be restricted by the Strata (another benefit to a Bare Land Strata) |
| Policy 4.1.1.4 | <p>Ensure all new developments fully cover the cost of the required infrastructure and services they require, including roads, water, sewer, storm water, and provision of parks, schools, and emergency services.</p> <ul style="list-style-type: none"> The developer is responsible for infrastructure services related to the proposed development. Financial impact assessment included previously in this report. |
| Policy 4.1.3.2 | <p>Increase housing options in low-density single family areas through development of secondary suites and carriage houses, and ensure carriage houses are sensitively integrated and designed according to the Intensive Residential Development Permit Area Guidelines.</p> <ul style="list-style-type: none"> Carriage houses and secondary suites will be permitted with strict design guidelines. Due to the nature of the sites and length of design process, permanent carriage houses will be encouraged to get owners to live onsite in their secondary dwelling while the primary dwelling is designed and constructed. |
| Policy 4.1.3.4 | <p>Encourage developments that include one-bedroom and two-bedroom units in suitable neighbourhoods to enable people to downsize as they age and to provide entry-level housing for those people entering the housing market. At the same time, provide 3-bedroom units, or larger, to accommodate families.</p> <ul style="list-style-type: none"> The proposed strata subdivision will consist of single detached dwellings, with the opportunity for secondary suites. These housing types provide options for families, renters, and multigenerational households. |
| Policy 4.1.4.1 | <p>Work with the development community – architects, designers and builders – to create new residential developments that are attractive, high-quality, energy efficient, appropriately scaled and respectful of their context.</p> |

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| | <ul style="list-style-type: none"> The developers and their contracted professionals have designed the proposed strata subdivision in relation to its context. The disturbed area is expected to be only 19.5 acres out of 82 acres. The development area was also reviewed by the professional team and the disturbed areas have been selected accordingly. |
| Policy 4.1.4.2 | <p>Ensure that housing – both owner occupied and rental – is well-managed and meets community expectations for standards of maintenance, upkeep and cleanliness.</p> <ul style="list-style-type: none"> The proposed development is a strata which will maintain the common property on the lot and maintain strict bylaws on maintenance, upkeep and cleanliness of all building lots and common area. |
| Policy 4.1.5.4 | <p>Ensure that all new neighbourhood developments and redevelopments of existing large sites, including bare land stratas, are fully integrated into the surrounding community through publicly accessible roads, sidewalks, trails and public park lands</p> <ul style="list-style-type: none"> Trails, park land and open space will be made available to the public throughout the dedicated park land and has the potential to make Campbell Mountain recreation area more accessible to younger and older demographics. |
| Policy 4.1.6.1 | <p>Ensure all residential neighbourhoods in Penticton provide a range of appropriately scaled housing types and tenures, employment opportunities such as home-based businesses, transportation options like walking and cycling, social supports such as childcare facilities, and access to green space and parks.</p> <ul style="list-style-type: none"> The proposed rezoning allows for single detached dwellings with the opportunity for secondary suites. These housing types provide ownership and long-term rental options for residents, as well as the opportunity for multigenerational households. The dedicated park will act as a 18 acre amenity space for the residents and the public. |
| Policy 4.1.6.2 | <p>Increase the supply of neighbourhood amenities, such as pocket parks and trails, for the use, enjoyment and social benefit of the surrounding community as residential intensification occurs</p> <ul style="list-style-type: none"> 18 acre dedicated park for public use with relocated trails. The strata will outline non-disturb areas that will place limits on fencing and other construction that will hinder connectivity through the site. |
| Policy 4.2.2.3 | <p>Enhance and expand the trail and pathway network through capital funding for upgrades, land acquisition, wayfinding, public art, safe street crossings, and by connecting existing trail systems and establishing trail linkages in and through new neighbourhoods.</p> <ul style="list-style-type: none"> This development, from the beginning, has had trail connectivity top of mind. Conversations have been had with homeowners to the West of the property and connections for them to trails up the mountain they've used for years will be made a priority. Furthermore, Campbell Mountain bike trails are enjoyed by many involved with this project and every attempt will be made to preserve and relocate those trails as this development progresses. Undeveloped land is being considered park land and may become part of the Campbell Mountain Park area. |
| Policy 4.2.7.1 | <p>Design streets so as not to encourage speeds beyond the intended speed limit. Where speeding is an on-going concern, consider reducing street widths or employ other design approaches to encourage lower speeds. Refer to and amend the City's Transportation Safety Policy as necessary.</p> <ul style="list-style-type: none"> The street providing access to the homes will be a strata road which provides benefits on this front. The road will have more grade and direction changes that will encourage drivers to slow down. The road has been designed to meander it's |

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| | <p>way up the slope aiming to minimally disrupt the landscape which creates a very attractive road that also encourages slower traffic speeds.</p> |
| Policy 4.2.7.8 | <p>Ensure new residential developments provide an appropriate amount of parking for residents and their guests.</p> <ul style="list-style-type: none"> • The Zoning Bylaw requires 2 parking space per single detached dwelling, with one additional parking space if a secondary suite is constructed in the single detached dwelling. This will also form part of the strata bylaws. |
| Policy 4.3.4.1 | <p>Foster collaborative working relationships with the Penticton Indian Band and regional, provincial and federal agencies and organizations.</p> <ul style="list-style-type: none"> • Penticton Indian Band has been contacted for environmental and heritage consultation very early in the project and their concerns and recommendations have been considered in the development plan and disturbed areas. Wildrock Environmental has been contracted and has provided a preliminary report on the Environmental strategies. FortisBC has been contacted and involved with this project from the beginning as there is a large gas main running and transmission line running through the subject property. They have been heavily involved in the site investigations and consulted on the acquisition and installation on an air bridge for equipment to cross the gas line and continue investigative works. Continued collaboration with all interested parties will be ensured throughout the duration of the project. |
| Policy 4.3.4.2 | <p>Support the economic and cultural growth of the Penticton Indian Band.</p> <ul style="list-style-type: none"> • Similar to 4.3.4.1 the design of this development has included many of the culturally rich areas highlighted in the PIB Reconnaissance Survey |
| Policy 4.4.1.1 | <p>Protect neighbourhoods and agricultural areas in wildfire interface areas, and the city at large, through implementation of wildfire best management practices, such as ecologically appropriate FireSmart, in new neighbourhood and infrastructure design, building construction and the management of individual properties.</p> <ul style="list-style-type: none"> • The applicant is aware of FireSmart practices, which guide the strata subdivision configuration and future building materials. A report has been completed by Swanson Forestry Services and summarized in this application. |
| Policy 4.4.1.6 | <p>Minimize exposure to future flood damage by avoiding or minimizing development in the floodplain and in areas affected by groundwater, developing these lands for less-sensitive uses (e.g., parks and greenspace) or, when development cannot be avoided, implementing flood mitigation measures.</p> <ul style="list-style-type: none"> • Flood damage will be mitigated in this development by limiting developable areas and the large parcels (min. 1 acre). Retaining much of the native vegetation will stabilize the slopes and slow storm water flow. Stormwater flow has been analyzed and due to the East/West sloping nature of the site the road will be designed to stop overland water flow and redirect to engineered disposal areas. Areas not able to be caught by the road will be designed to ensure that neighboring properties will not be affected. On site ravines have been observed throughout the project and while water has never been observed in these areas, they have been identified as non-disturb areas to maintain natural flood management. |
| Policy 4.4.2.1 | <p>Identify environmentally sensitive areas and riparian areas, and protect them through application of the Environmental and Riparian Development Permit Guidelines.</p> <ul style="list-style-type: none"> • An Environmental Development Permit is required as a condition of strata subdivision, should the rezoning be approved. We have provided Environmental |

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| | Assessment Reports which have led to the proposed strata subdivision layout and configuration. |
| Policy 4.4.2.2 | <p>Identify, preserve, protect, connect, restore and enhance wildlife corridors through land use designations, zoning and covenants.</p> <ul style="list-style-type: none"> Preliminary environmental reports have guided the proposed strata subdivision into the current configuration. An environmental buffers and wildlife corridors have been included in the developments design. |
| Policy 4.4.2.4 | <p>Recognize the value of urban trees to store carbon, reduce water run-off, buffer windstorms and mitigate summer heating impacts.</p> <ul style="list-style-type: none"> Retention of trees and natural landscaping has been made a priority for this project. Trees are only removed where necessary for road and building area construction which will help to mitigate high winds that the area sees and will result in lower temperatures and less run-off for the area. Further landscaping will occur following development to increase the attractiveness of the area and further capitalize on the many benefits of the urban forest. |
| Policy 4.4.4.1 | <p>Encourage energy reduction in new buildings and renovation through adoption and active implementation of the BC Energy Step Code (Building Code), promotion of new technology and energy-efficient building retrofits.</p> <ul style="list-style-type: none"> All homes will meet minimum BCBC Step Code, Step 3. |
| Policy 4.4.4.5 | <p>Explore and support initiatives to produce renewable energy, such as photovoltaic/solar (solar gardens, large and small-scale installations), heat exchange, geothermal, and district energy systems.</p> <ul style="list-style-type: none"> Solar arrays will be permitted, the south and west exposures are favourable for this. Heat pumps will be encouraged through the Design Guidelines. |
| Policy 4.4.5.2 | <p>Encourage water reduction strategies in new development, such as low-water landscaping (e.g., xeriscaping), “gray water” re-use and efficient plumbing.</p> <ul style="list-style-type: none"> Design guidelines will be registered on title and form part of the strata bylaws. Irrigated areas will be restricted, natural areas will be required and xeriscaping will be encouraged. |
| Policy 4.5.1.5 | <p>Consider establishing buffers including distance setbacks, landscape buffers and fencing requirements to minimize conflicts between agricultural and other land uses (e.g., residential or commercial).</p> <ul style="list-style-type: none"> All neighbouring agricultural properties have existing fences and these fences will be required to be maintained by the strata laws. The Country Residential zoning has large setbacks which allows for large landscape buffers. Individually fenced yards will be restricted to certain areas to allow for wildlife to navigate the property. |
| Policy 4.6.1.1 | <p>Partner with the Penticton Indian Band to support and promote Syilx/Okanagan First Nations culture and heritage in Penticton</p> <ul style="list-style-type: none"> As per the Reconnaissance Survey we have modified our layout to incorporate expected culture and heritage sites. We will also be including educational signage throughout the area to educate the population on the history, heritage and culture of the site. |
| Policy 4.6.1.2 | <p>Create a more visible Indigenous presence in the city through public art, signage and place-naming, and recognition that Penticton lies within the traditional territory of the Syilx/Okanagan people</p> |

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| | <ul style="list-style-type: none">• Working with PIB we will install educational signage through the site highlighting areas of interest and history with PIB such as the ravines being labelled as cecwixa and labelling plants such as siya. |
| Policy 4.7.1.1 | <p>Adhere to the Parks and Recreation Master Plan minimum active park land ratio (2.5 hectares of active park land required per 1,000 population) to serve the existing and future population, through dedicated use of City land and strategic land acquisition as required.</p> <ul style="list-style-type: none">• Potential for the City of Penticton to acquire 18 acres (7.4 ha) of park land. |
| Policy 4.7.1.3 | <p>Protect parks as public assets through implementation and adherence to key City bylaws and policies, and particularly to the Park Dedication Bylaw, Zoning Bylaw and Park Land Protection & Use Policy</p> <ul style="list-style-type: none">• Currently there are a number of hiking and biking trails located on the subject property, resulting in public trespassing. We will work with PACA and other groups to ensure proper relocation of these trails on dedicated City Park land. Which will be donated at upon completion of the project and subdivision. |

Appendix B – Hillside Development Permit Area Policy Comparison

HILLSIDE GUIDELINES

- Potential hazards and hazard areas including indicators of slope stability hazards or concerns
- Property lines, easements, rights-of-way
- Natural pre-development site contours
- Geotechnical Assessment
- Existing human-made features such as roads, curbs, sidewalks, utilities, trails, buildings, structures, fences and retaining walls
- Natural physical features including but not limited to knolls, ridgelines, rock outcrops, surface and ephemeral watercourses, seeps, springs, gullies, ravines, and cliffs
- Prominent views
- Identification of significant environmental attributes
- Tree inventory

DEVELOPMENT CONCEPT PLAN

- The proposed site plan outlining the location of roads, shared driveways, lanes, major utility features (mains, pump stations, reservoirs, detention ponds, etc.), lots, building envelopes, parks, trails and open spaces
- Grading concept plan including identification of proposed large cut and fill areas

DESIGNING IN CONTEXT

- HS1 Hillside development applications shall identify significant on-site and off-site natural features:
- a. Environmental Assessment - *Completed*
 - i. Prior to site planning and subdivision, development proponents must retain a Qualified Environmental Professional (QEP), Qualified Professional Geotechnical Engineer (Geotech), Registered Professional Forester and any other required Registered Professional to analyze and map the existing natural features and functions of the hillside area to identify and describe:
 1. Environmentally Sensitive Areas (ESAs)
 2. Wildlife corridors
 3. Geological features (steep slopes, ridges, knolls, outcrops, gulleys etc.)
 4. Significant vegetation (large trees, patches) and riparian features (streams, wetlands, springs)
 - ii. These shall be compiled into a composite geotechnical hazard and environmental basemap that forms the starting point for site planning.
 - b. Hazard Assessment - *Completed*
 - i. Site plans should be designed to preserve the important natural features, such as rock outcrops, watercourse, and ravines as identified by the QEP, and provide adequate space for buffering
- HS2 All development within the Hillside Development Permit Area shall be under the direct supervision of a Geotech

A Geotech is mandatory in Penticton. Reporting has been completed and regular additional reporting will be performed during the entire process. Interior Testing Services did their first

report in the area in 2007 and are very familiar with the subject property and surrounding area.

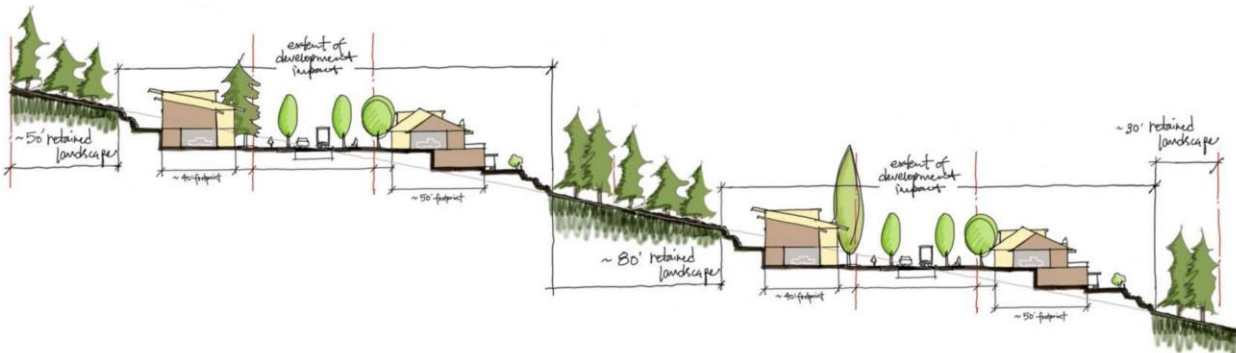
HS3 Integrate assessment of wildfire behaviour (e.g., fire movement and topography) in hillside development planning and integrate ecologically-appropriate FireSmart principles at the neighbourhood-wide and site levels.

A Wildfire Assessment Report was done in 2020 on the subject property for the previous owners. As noted in the report and in addition to, we will create design guidelines, statutory building schemes (registered on title) to integrate FireSmart principles into the design process and ongoing maintenance plans of the bare strata (this is another advantage to the bare land strata format over freehold).

HS4 Development shall integrate parks & open space design in site planning to capitalize on scenic view opportunities – 18.18 acre park and open space planned in the proposal

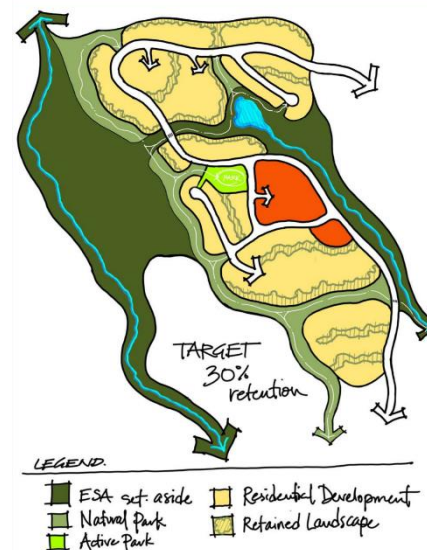
HS5 Planning for hillside environments should consider opportunities to integrate development into existing landscape functions whereby:

- a. ESAs are avoided - No ESA 1's defined on the site and very limited disturbance will be done in ESA 2 areas.
- b. Natural areas further buffer and connect landscape features, provide recreational amenity (trail corridors) and compliment active parks – All these items listed are incorporated into the park and open spaces
- c. Landscape retention reduces visual impacts within development areas – Hillside and surface scarring will be minimized. Natural landscaped areas are to be retained where possible.



HS6 Retain the greatest possible hillside area in its natural condition. In addition to protecting environmentally-sensitive and riparian areas developers should retain a target of 30% of the natural landscape in its existing condition and grade, and/or achieve a similar outcome through a restoration plan that mimics the natural slope and prioritizes ecologically-appropriate revegetation

- a. Avoid develop or reduce density on the steepest slopes and cluster more density on flatter areas to reduce impact – **Achieved with the proposed design**
- b. Retain and enhance significant natural scenic features, such as gullies, rock outcrops and knolls – **Achieved with the proposed design**
- c. Create larger side yards and backyards and leave these in a natural state – **Achieved with the Country Residential Zoning**
- d. Avoid development of engineered flat individual building lots; and instead preserve natural topography (E.g. as part of the backyard) – **Achieved with the proposed design**
- e. Apply low-impact development design such as shared driveways and narrower street standards, sidewalks on one side, separated sidewalks etc. – **Achieved with the proposed design**
- f. Careful route roads along natural site contours to minimize unnecessary cut and fill – **Ekistics has allowed the road and building sites to be proposed following the natural slope of the site.**



HS7 All house sites shall be identified and surveyed and lots pre-graded at the time of subdivision registration to ensure that the grading plan works and achieves the objectives in HS6 – **Confirmed**

HS8 Consider views by offsetting lot lines to allow for views of mountains and lakes between buildings – **Confirmed**

HS9 Apply a “lighter on the land” approach to engineering and access to achieve significant reductions in hillside view impacts and landscape scarring through special design requirements for streets in hillside environments, including:



narrower streets, reduced on-street parking, and lower design speeds – **Confirmed**

HS10 Consider increased cul-de-sac lengths with emergency vehicle access to reduce impacts to hillsides in challenging topographic conditions – **Confirmed**

HS11 Emergency vehicle access lanes shall generally have a minimum hard packed surface width of 4m. Emergency vehicle access lanes should generally be designed to achieve a maximum grade of 11% – **Confirmed**

HS12 Maximum driveway slopes shall not exceed 20% – **Confirmed**

Hillside Architecture



Building Orientation and Massing

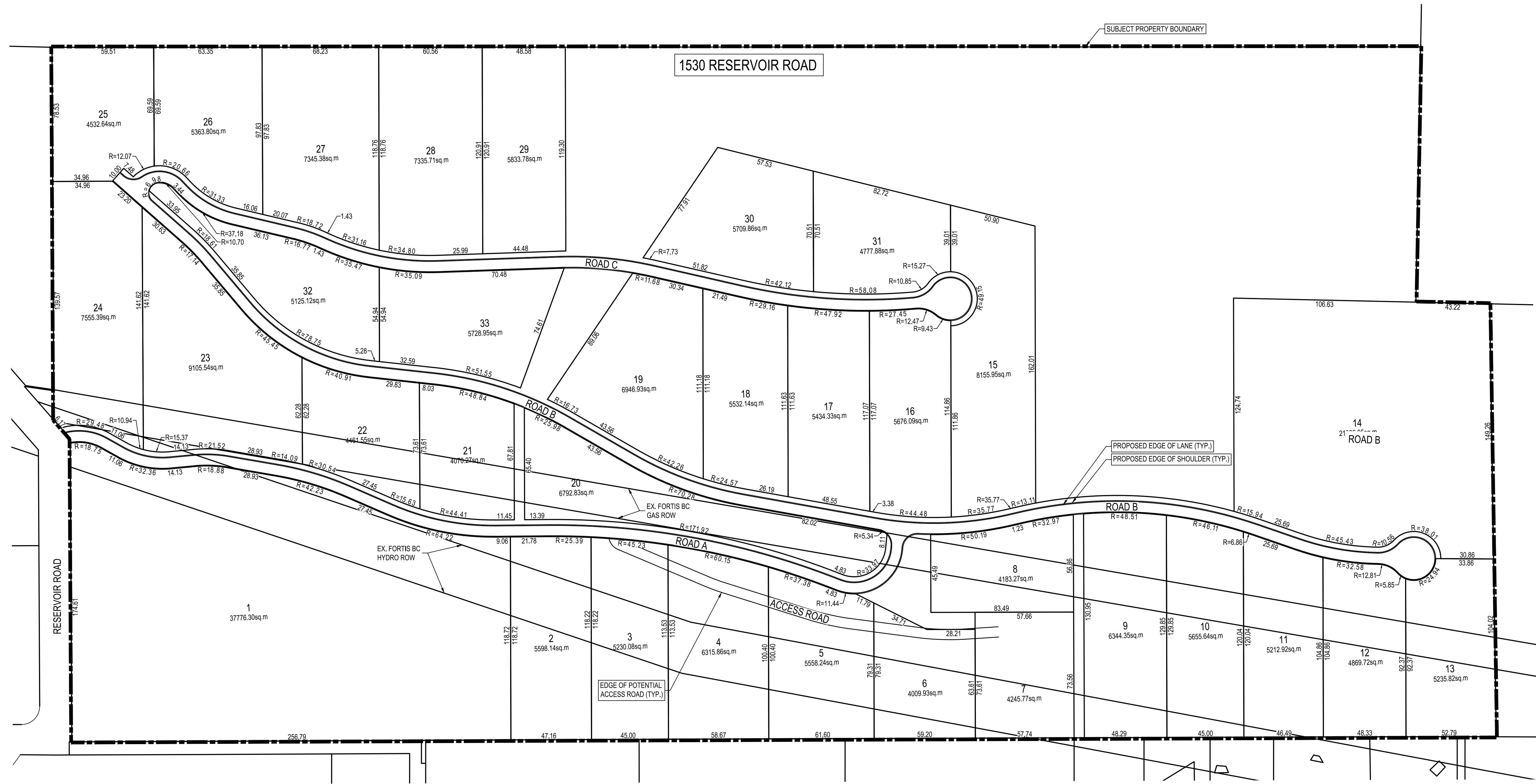
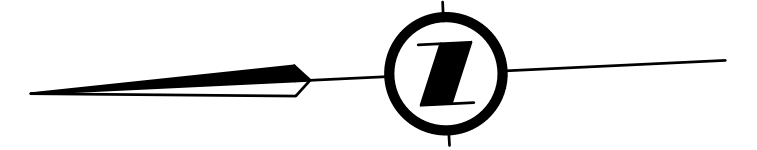
- HS13 Use stepped building forms that retain the slope by building foundations, and low, stepped retaining walls where necessary – [Confirmed and will be registered on title and enforced by the strata](#)
- HS14 Promote low slung / horizontal architecture that nestles into the landscape and internalizes retaining walls as part of the building design – [Confirmed and will be registered on title and enforced by the strata](#)
- HS15 Use low-pitched or flat roofs made of non-reflective materials – [Confirmed and will be registered on title and enforced by the strata](#)
- HS16 Avoid reflective materials and use local, natural materials and colours where possible. – [Confirmed and will be registered on title and enforced by the strata](#)

Landscape Architecture

- HS17 Keep retaining walls to a maximum of 4' high before stepping back to a distance of a minimum of 4', unless the retaining wall is integral to and integrated with the architecture of the home, in which case it may extend up to 8' – [Confirmed and will be registered on title and enforced by the strata](#)
- HS18 Retaining walls should use natural-looking textures and natural colours – [Confirmed and will be registered on title and enforced by the strata](#). [Retaining walls will have strict rules and guidelines to reduce retaining walls.](#)
- HS19 Reconstructed slopes must be replanted with appropriate native plant material to blend with existing/surround hillside setting and to stabilize the soil. – [Confirmed and will be registered on title and enforced by the strata](#)
- HS20 Street lighting will be provided on hillside streets only at street intersections – [Minimal street lighting will be incorporated into the streetscape to avoid light pollution and keep the natural site characteristics.](#)
- HS21 Approval of development on natural slopes of more than 30% shall be limited to a lot-by-lot basis. Each home will require a suitable design for the site so as to adhere to Hillside design standards and require:
 - a. Geotech (prior to approval)
 - b. Site Grading Plan, consistent with hillside environment,
 - c. Minimum grading as is necessary for the building platform. Flat yards are not permitted, and
 - d. Visual impact assessment demonstrating adherence to the above Guidelines

Individual lot building layout plans (survey, geotech and civil) will be provided to purchasers and form part of the purchase and sale agreement. Each lot will have a prepped building site pad at subdivision restricting the area of construction on the site.

Attachment G - Preliminary Subdivision Plan



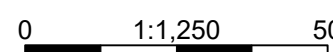
- NOTES:
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS UNLESS STATED OTHERWISE.
 2. LOT LAYOUT PROVIDED BY PREFOUND PROJECTS ON 2022-07-06.
 3. EXISTING LEGAL LINEWORK OBTAINED FROM CoP OPEN DATA.
 4. LIDAR SURVEY DATA OBTAINED FROM CoP OPEN DATA.

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF McELHANNEY. McELHANNEY WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN.

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ORIGINAL DWG SIZE: ANSI D (22" x 34")



290 Nanaimo Ave. W
Penticton BC
Canada V2A 1N5
T 250 492 7399

PRELIMINARY
NOT FOR
CONSTRUCTION

THIS DRAWING HAS NOT BEEN APPROVED
AND MAY CONTAIN ERRORS AND OMISSIONS

133032 BC LTD.
210 HASTINGS AVENUE, PENTICTON, BC

1530 RESERVOIR ROAD DEVELOPMENT
PROPOSED LOT LAYOUT
SCALE 1:1250 - SHEET 1 of 1

Drawing No.

SK-33

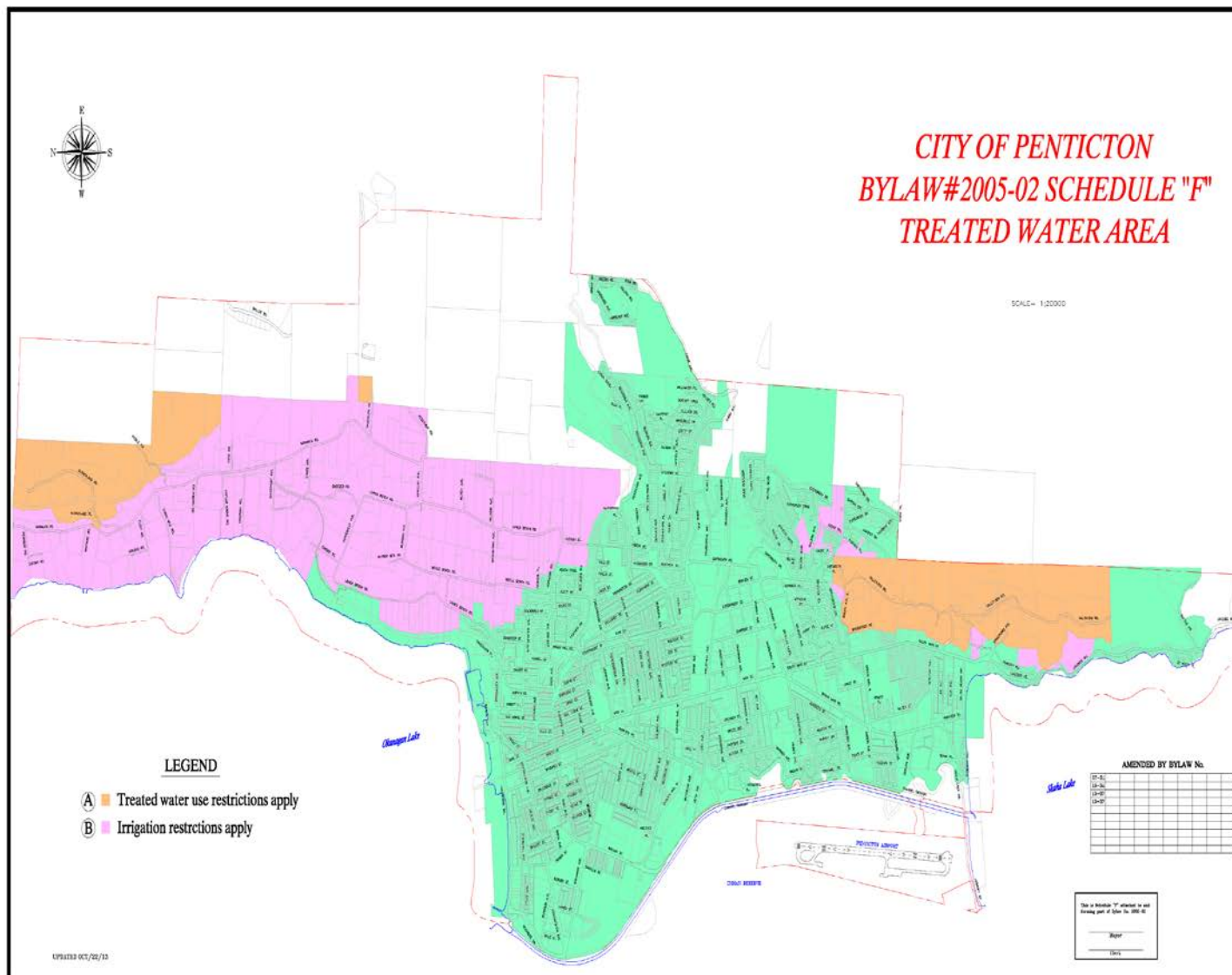
Project Number
2422-20384-00

Rev.
PB

DATE: 2022-07-27 10:46 FILE: I:\p\TAL\CO\2422P - Proj\2422-20384-00_133032BC.L1 - 1530 Reservoir Road\10 Drawings\Civil 3D Files\Sheet Files\2422-20384-00-SK-33-SK-34.dwg

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

**Bylaw 2005-02
Irrigation, Sewer and Water Bylaw - Schedule "F"**



The Corporation of the City of Penticton

Bylaw No. 2023-26

A Bylaw to Amend Official Community Plan Bylaw No. 2019-08

WHEREAS the Council of the City of Penticton has adopted an Official Community Plan Bylaw pursuant to the Local Government Act;

AND WHEREAS the Council of the City of Penticton wishes to amend "Official Community Bylaw No. 2019-08";

NOW THEREFORE BE IT RESOLVED that the Municipal Council of the City of Penticton, in open meeting assembled, hereby ENACTS AS FOLLOWS:

1. Title:

This bylaw may be cited for all purposes as "Official Community Plan Amendment Bylaw No. 2023-26."

2. Amendment:

"Official Community Plan Bylaw No. 2019-08" is hereby amended as follows:

2.1 Add the following site specific policy statement to Land Use Designations, Rural Residential

Site-Specific Rural Residential Policy Statement:

1530 Reservoir Road: Allow a minimum lot size of 0.4 hectares, when connected to the municipal treated water system.

| | | | |
|--------------------------------|----|--------|-----------------|
| READ A FIRST time this | 18 | day of | July, 2023 |
| A PUBLIC HEARING was held this | 12 | day of | September, 2023 |
| READ A SECOND time this | | day of | , 2023 |
| READ A THIRD time this | | day of | , 2023 |
| ADOPTED this | | day of | , 2023 |

Notice of intention to proceed with this bylaw was published on the 1st day of September, 2023 and the 6th day of September, 2023 in an online news source and the newspaper, pursuant to Section 94.2 of the Community Charter.

Julius Bloomfield, Mayor

Angie Collison, Corporate Officer

The Corporation of the City of Penticton

Bylaw No. 2023-27

A Bylaw to Amend Zoning Bylaw 2023-08

WHEREAS the Council of the City of Penticton has adopted a Zoning Bylaw pursuant the *Local Government Act*;

AND WHEREAS the Council of the City of Penticton wishes to amend Zoning Bylaw No. 2023-08;

NOW THEREFORE BE IT RESOLVED that the Municipal Council of the City of Penticton, in open meeting assembled, hereby ENACTS AS FOLLOWS:

1. **Title:**

This bylaw may be cited for all purposes as "Zoning Amendment Bylaw No. 2023-27".

2. **Amendment:**

2.1 Zoning Bylaw No. 2023-08 is hereby amended as follows:

Rezone Sub Lot 10 District Lot 2711 Similkameen Division Yale District Plan 1190, located at 1530 Reservoir Road, from FG (Forestry Grazing) to RC (Country Residential) and P4 (Environmental Reserve) as shown on Schedule 'A'.

2.2 Add the following to 9.3.3 SITE SPECIFIC PROVISIONS:

.2 "In the case of Sub Lot 10 District Lot 2711 Similkameen Division Yale District Plan 1190, located at 1530 Reservoir Road, notwithstanding section 9.3.2.5, the minimum front yard shall be 4.5m."

2.3 Schedule 'A' attached hereto forms part of this bylaw.

| | | | |
|--------------------------------|----|--------|-----------------|
| READ A FIRST time this | 18 | day of | July, 2023 |
| A PUBLIC HEARING was held this | 12 | day of | September, 2023 |
| READ A SECOND time this | | day of | , 2023 |
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Julius Bloomfield, Mayor

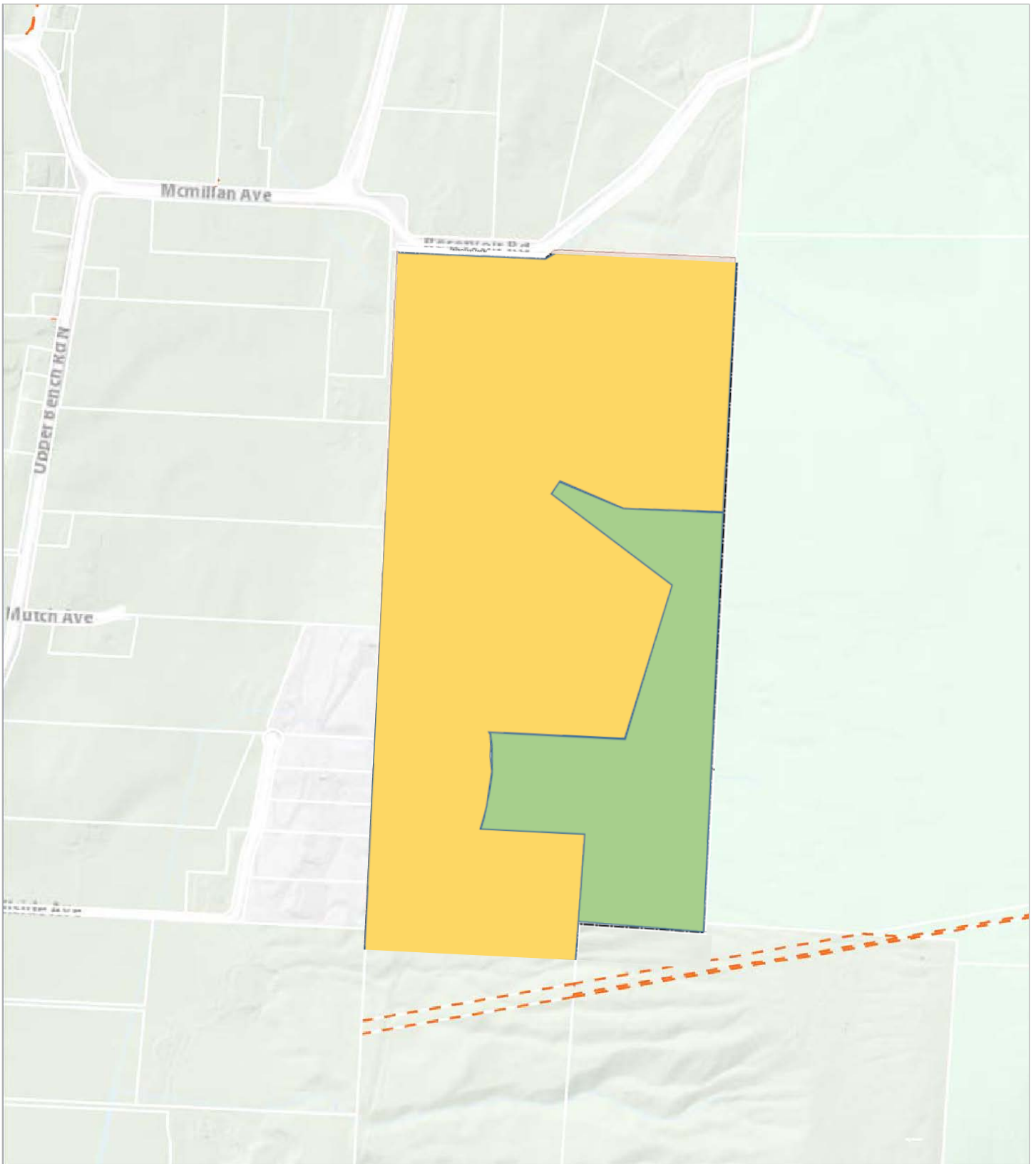
Angie Collison, Corporate Officer



Schedule A: Zoning Amendment Bylaw 2023-27

Date:

Corporate Officer:



- RC (Country Residential):** With the following site specific provision:
Notwithstanding Section 9.3.2.5, the minimum front yard shall be 4.5m
- P4 (Environmental Reserve)**



From: [L.Goldman](#)
To: [Public Hearings: Planning Info - City of Penticton](#)
Cc: [Council](#)
Subject: Reservoir Road development
Date: Saturday, September 2, 2023 6:09:35 PM

Caution! This message was sent from outside your organization.

[Allow sender](#) | [Block sender](#)

Dear Penticton Planning and Council,

This letter is in response to the proposed development on 1530 Reservoir Road, requiring Official Community Plan amendment and change of zoning.

Although the developer has set aside some land for natural habitat, the proposed development is not a good plan for the growth of Penticton.

Sensitive habitat

The designated area is sensitive habitat for flora and fauna, and the Okanagan is in a dire situation with extreme heat and drought. The environmental assessment scientist is not working for the city but for a for-profit builder. This person should be independent.

Fire risk

In this summer of the worst fire season ever, we should all be able to see the risk of building close to forests and natural areas. More housing will increase traffic adding to the danger when Naramata will need to evacuate due to climate or fire events.

Emissions and Climate

Emissions are a huge issue that cannot be ignored. Penticton signed a Declaration of Climate Emergency and adopted the Community Climate Action Plan, which set bold emission reduction targets by 2030 and 2050 mandated by the BC government. In an emergency, increased emissions of this development from vehicular traffic is counter productive. Also, if all future new buildings in Penticton are not required to use the Zero Carbon Step Code which would restrict heating and hot water to be electric, the increased emissions from buildings will absolutely never allow Penticton to meet its targets. Increasing emissions cannot reduce them.

Building for increasing population

Penticton is expecting growth and sees these 35 homes as filling the need of new arrivals. With ongoing and escalating incidents of wildfires, people may not be choosing the Okanagan to move to. We want to encourage people to come, so we need to build safely to protect them from fires, not put them close to conflagration zones. And we want them to be able to get around the city without burning fossil fuels, so developing denser in the core creates a more community based city with easily accessed services.

High costs

Disasters are very costly for a city and the income from the tax base won't cover the

costs of rebuilding and ESS services from fires and floods.

Opportunities

There is no single solution that will fix the climate crisis. But every action you take – big or small – can help to counter the climate despair and contribute to a healthier planet.

The Penticton City Council has the opportunity to envision and choose to develop a green, cool, livable city of vibrant walkable communities.

Limlēm̓t- Thank you
Lori Goldman, Penticton

*I am only one but I am one.
I cannot do everything but I can do something
And I will not let what I cannot do interfere with what
I can do. E. E. Hale*

502-75 Martin Street
Penticton, B.C. V2A 9C8

September 4, 2023

Mayor Julius Bloomfield
City of Penticton
171 Main Street
Penticton, B.C. V2A 5A9

Dear Mayor Bloomfield,

Last week I listened to the arguments put forward concerning the proposed housing development on Reservoir Road, and I have to say that I heard little to convince me to support it. Yes, there may be a need (or, perhaps more correctly, a desire) for more new, expensive, single-family houses on large lots, but aren't there better solutions than building on a hillside on the Naramata Bench? Yes, the developer is proposing to set aside parkland and an environmental reserve, which is highly commendable, rather than clearcutting the site (as happened in the disastrous Vista development site), but why build on that beautiful hillside at all? Why not re-build some of Penticton's dated and deteriorating housing stock? Yes, the Official Community Plan allowed for such development, but this was in 2019 and was in accordance with previous planning decisions, all of which preceded the Climate Action Plan.

I believe that serious problems remain. The limited road access to the site is a major challenge, as it is hard to imagine Naramata Road bearing more traffic, especially in the event of an emergency requiring evacuation. Water is another, as we live in an arid environment and, as we know far too well, wildfire is a serious risk. The proposed development would be in an environmentally sensitive area and, furthermore, the Penticton Indian Band has not yet agreed to the proposal. Their interests must be taken seriously, as long-term stewards of these unceded lands and waters. Finally, the Official Community Plan is currently under review, and I believe that major development decisions should not be taken until it is complete.

Penticton's great appeal lies in the natural beauty of its surroundings—the lakes, the nearby hills with their ponderosa pines, the vineyards and orchards. I believe that it is in everyone's interest to not encroach further upon our natural surroundings, but rather to encourage the developer to use his or her sensitivity to the environment by creating an appropriate proposal for another site or sites.

Yours sincerely,



Elizabeth Lominska Johnson

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27
re 1530 Reservoir Road



PRESERVE NARAMATA BENCH

To: The Mayor and Members of the Penticton City Council

September 7, 2023

We are writing to you on behalf of the Society for the Preservation of the Naramata Bench to outline some of the more important issues which our Society, along with more than 600 subscribers to our Facebook page, find extremely troubling. We feel it is of paramount importance that these matters are considered *before* the public hearing on September 12.

1. The OCP Housing Task Force (HTF)

1.1 The composition of the HTF is skewed towards development. We are aware of at least 6 highly qualified individuals who applied and were rejected in favour of Realtors, Developers and Builders. One of the appointees is also the Developer behind the proposed development of 1530 Reservoir Road discussed in section 3 below. How can this possibly be fair and transparent?

1.2 Aside from the composition of the HTF we understand that their mandate does not include consideration of the important concerns surrounding development of the Naramata Hillsides as discussed in detail in our letter to the Mayor and Council dated January 12, 2023. These issues are also discussed on our website at www.preservenaramatabench.com. Key concerns relate to the economy, geology, hydrology, health, roads and transportation, wildlife, other ecological concerns and wildfires. Any one of these concerns should be reason enough for the HTF to pause and reflect on any possible impact on the city, but as far as we are aware, these concerns have yet to be communicated to the HTF.

1.3 Notwithstanding these issues, the OCP future land use plan has not yet been completed and making any decision on the proposed development at 1530 Reservoir Road or any other development along the Naramata Hillsides amounts to putting the cart before the horse. In our opinion all development decisions should be delayed until the future land use plan is complete and has gone through proper approval processes laid out by the city.

2. Growth and Housing Needs

2.1 At the root of the drive for development of the urban and hillside communities surrounding Penticton is the belief that Penticton “needs” to grow. We have requested a clear definition of what actually constitutes “need” but have not yet had a meaningful response. Even if the “need” is real, we need to ensure that the cost can be justified.

2.2 The mainstays of our economy are Agriculture and Tourism. Both are closely tied to the wine industry and are especially relevant to the Naramata Bench:

Agriculture has little room to grow on the Bench due to the scarcity of available arable land. With approximately 40 wineries on the Bench, the industry has become saturated with wineries struggling to survive significant fluctuations in the supply of grapes and rising costs of wine production. So where are additional supplies going to be found to supplement production? Already there are signs that many wineries may have to close. 2023 is a good example of what can and will happen to our already over-developed economy.

Tourism is dependent on attracting people to Penticton and Naramata and the wine industry is a key contributing factor. Has anyone on Council or the HTF sought the opinion of the tourists as to what draws them here? *We* have, and the answer is almost universal condemnation of over-development of the Naramata Hillsides. We understand that two neighboring communities are even investigating whether it is possible to “opt out” of RDOS because of the penchant for inappropriate development.

2.4 In 2022 the City Council passed a resolution declaring a climate emergency, but this appears to have made little impact on the City’s drive for growth and development. 2023 has seen the collapse of tourism due largely to the impact of global warming which is increasing at a frightening pace. Wildfires are leading to unprecedented destruction of property and houses, and are becoming almost an annual event. As all this transpires, our city will become a less desirable place to live and visit. Then what is going to happen for the demand for housing? We need to pay more than lip-service to the impact of global warming when considering future development.

2.5 The Naramata Bench, and Penticton have faced numerous examples of rockslides and flooding in recent years. We have only to look to Kettle Ridge, Outlook and Vista for examples. This is not to mention rockslides on highway 97 which could close off a major emergency exit route from the city. The same is true of Naramata Road. The geology of the Hillsides is complex and needs more careful analysis before forging ahead with development in the name of progress. We have commissioned an independent consulting geologist to review the report submitted with the application to develop the Spiller Road property, and his conclusions stand in stark contrast to the contrast to reports submitted by the developer. This indicates a pressing need for independent peer review of all consultant reports supporting development applications.

2.6 What Penticton needs is affordable housing, not luxury hillside homes that are far beyond the reach of the people that need them. We have plenty of million-dollar homes already – owned by non-residents and used for short-term rentals which do nothing to address our housing issues, and take away from the revenues from our traditional B&B industry. Just because they can be built – even profitably - does not mean to say they should be.

3. 1530 Reservoir Road.

3.1 The Reservoir Road proposal currently before the City Planning group and the subject of the September 12 meeting is one of the more palatable developments being proposed in recent times, but it does not “tick” all the boxes and deal with the real issue of affordable housing facing the Penticton Community. Even if we decide growth is desirable, how are we going to house the workers who are vital to supporting growth in the economy?

3.2 Unfortunately, the Reservoir Road proposal will unquestionably be seen as a precedent to further development of the Northeast sector of the city, which we have always advocated should be removed from the future growth area entirely. However, the developer is requesting a site-

specific zoning change to the property which will reduce the minimum lot size from 16-hectares (Forestry and Grazing) to 0.4-hectares (Country Residential). This is a very significant reduction which if approved, will result in a rash of other developers demanding similar treatment. We support making the Country Residential Zoning definition consistent with the OCP definition of Rural Residential, to avoid much of the confusion that currently exists, but it must be a minimum of 1-hectare as contained in the current OCP, not the 0.4-hectares ha under the current zoning Bylaw.

3.3 The Reservoir Road property is being proposed as a bare-land strata (strata) which means all service infrastructure and ongoing maintenance within the strata will be for the account of the developer and future owners, but there is also a sizeable 9-acre parcel in the Northwest corner of the property. The future use of this land is unclear, but the development application includes a request to rezone it to Rural Residential with a 0.4-hectare lots. The question remains as to who will bear the cost of providing emergency services and rising insurance costs to this and other potential developments in all fire interface areas.

3.4 The interface location and the desire of the developer to retain as many trees as possible, whilst commendable, could lead to increased wildfire risk in the development area and to Campbell Mountain above it. Campbell Mountain is a part of a very limited habitat of ponderosa pine and grassland, and is one of Canada's most endangered biomes. The greatest danger to the loss of habitat and species comes from development.

We look forward to your timely response, and we would ask you and the HTF to carefully consider and respond to the many concerns discussed above before approving any further northeast sector proposals.

Yours truly,

Society for the Preservation of the Naramata Bench

Cc:

Anthony Haddad
Kristen Dixon
Blake Lavin
Audrey Tanguay
Stephen Collyer
Joanne Kleb

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27
re 1530 Reservoir Road

Attention: Corporate Officer, City of Penticton
171 Main Street, Penticton, B.C. V2A 5A9
Email: publichearings@penticton.ca

Subject: 1530 Reservoir Rd. – Public Hearing September 12, 2023

The OCP and Zoning Bylaw amendment to allow for 33 new homes built outside the ALR buffer in the wildfire interface raises a number of concerns not addressed by the application.

Reject or Modify Application

The Wildland Urban Interface Fire Hazard Assessment provided for this application considers only the existing property. It does not assess the construction of 33 homes built into the hot, western slope of Campbell Mountain. Without homes being considered, the assessment indicates a High wildfire behaviour threat score. Zero points was given for the future structural component which has the potential add up to 55 additional points.

Based on the design concepts provided, the homes will be built directly into the treed Ponderosa Pine ecosystem. Based on the worksheet provided, if the homes were considered as designed, the assessment would likely rate Extreme wildfire behaviour threat class and High to Extreme wildland urban interference threat class.

- This application should not be considered in terms of the Fire Hazard Assessment presented. A Fire Hazard Assessment considering the future design of the property should be used for considering this OCP and Zoning bylaw amendment.

The Hazard Assessment calls for fire smart activities including reducing fuel loading and spacing trees. These are suggestions and not requirements. The Assessment also suggests that the development will somehow lower risks. These suggestions are counter intuitive. Homeowners are not equipped to fight wildfires. Placing homes and roads in the fire interface provides more opportunity for a human caused fire to start. As an example the recent wildfire in the Twin Lakes area started from a house fire.

Wildfires in the Okanagan Valley provide evidence that communities that continue to build into the forest ecosystem are negligent in understanding risk. Multiple wildfires in the Osoyoos and Oliver areas show that grasslands, agricultural properties and even golf courses can create powerful fire breaks that protect homes. Wildfires along non-treed and agriculturally buffered areas have burnt up to properties while not significantly damaging homes.

Homes damaged or destroyed in West Kelowna, Kelowna and Lake Country this summer were built into the forest interface. Properties away from the forest interface were not directly impacted. Penticton naturally has sections of agriculture that already act as a buffer to wildfires. Thousands of residential units can be built without leap frogging outside the ALR.

The east slopes of Penticton from Campbell Mountain to Naramata are the densest remaining unburnt stands of forest surrounding the City of Penticton. As climate change creates hotter, dryer summers, the east slope of Penticton has a high probability of an intense wildfire in our lifetime. By approving this development this Council will be encouraging residential development in a known area of concern for wildfires.

- Considering the loss of homes in 2023 from wildfire and the heightened risk of wildfire along the Campbell Mountain and Naramata areas, the City of Penticton should consider only approving residential developments inside the areas buffered by the ALR.

In terms of fire protection, residential units can be built with fire resilient building materials such as metal roofs and hardie board siding. These increase the potential for saving dwellings built into wildfire interface areas. As this development will be a strata, the developer in creating the bylaws, can consider what requirements for fire resilient building materials and fire smarting can be enforced. The City of Penticton should also consider requiring covenants that can be legally enforced during rezoning that will require fire resilient building materials and ongoing fire smarting.

- If Council is determined to allow this development to proceed they should consider how to use this rezoning as a tool to best protect property owners from loss of homes due to fire.

Thank you for this consideration.

Cameron Baughen
413 Hansen St, Penticton BC

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27
re 1530 Reservoir Road

From: Public Hearings
Subject: FW: Reservoir Rd. Proposal (Naramata Bench)

From: Barb
Sent: Tuesday, September 5, 2023 2:29 PM
To: Council <Council@penticton.ca>
Subject: Re: Reservoir Rd. Proposal (Naramata Bench)

Caution! This message was sent from outside your organization.

Dear Mayor and Council Members,

This is a terrible idea! What is happening to our green space, beauty and charm? Now yet another development proposal. I've heard from so many others 'its just about the money'. With Spiller Rd. proposal, Stonebrook in place, now with the Vista extension, besides Kettle Ridge, Workman Place and Outlook, amongst others, there seems to be no 'brakes' or reasoning. It's all about \$\$\$ and not about keeping the Naramata Bench a beautiful place for tourists (tourism is what keeps Penticton and Naramata on the map), as well as those who have decided to vacate 'The Big City' and move to a more tranquil place.

Some talk about 'affordable housing'. With interest rates the way they are, no wonder homes aren't affordable for most. I notice all the barren land up Carmi and wonder why the City has no plans to use the hills closer to the City proper. Why they want to spoil the unique Bench. Next will be billboards and mobile home sites, which would be considered 'affordable' housing. So sad to see some developers and decision makers making such poor choices just for the almighty dollar. Still loads of space in Penticton City for affordable housing. So many of us, the last two years have put up a good fight against those who aren't concerned for the Bench's beauty and charm. With the \$8 million spent on the poorly thought out bike lanes for Penticton, the City could have created a lot of 'affordable' housing, close to hospital, schools, churches, food stores, gas stations, etc.

Here is my Letter to Penticton City Mayor & Council Members, a year ago....

"They paved paradise and put up a parking lot.

Don't it always seem to go,

that you don't know what you got 'til it's gone.

They took all the trees, and put em in a tree museum

And they charged the people a dollar and a half just to see them"

Way back in 1970, a songwriter named Joni had a vision, but not a good one. So does Canadian Horizons and more currently, Vista. Developers who feels the need to 'pave Paradise'. I am one of many who are opposed to mega subdivision development plans for the Naramata Bench (and changing current zoning in place). The Naramata Bench is not Surrey, BC, nor do we want it to be. **Why have tourists been coming to the Bench for years? The ambiance, the beauty, and the green space ~ not for sub-divisions, clear-cutting and loss of wildlife.**

'Discover Naramata's description of Naramata and Bench: "The journey to Naramata begins with sinuous curves in the road, a growing sense of well-being as you leave behind city life and delve into the heart of wine country. You leisurely make your way along the Naramata Bench, meander through vineyards and orchards, past wineries and charming bed and breakfasts, all the while bathed in sun and overlooking shimmering Okanagan Lake". The Naramata Bench is also described for its "tranquil ambiance, artisans, quiet streets surrounding the heart of Naramata Village, scenic patchwork of working farms, orchards and vineyards that roll up the gentle

slopes of the Bench, all steeped in an idyllic village lifestyle." Neither tourists nor residents describe the Bench for its mega subdivisions, or throngs of vehicles. It's the Jewel of the Okanagan.

Do we want developers 'gouging' our hillsides like with Vista, deterring and displacing wildlife, adding volumes of vehicles to our only road, and impeding traffic flow? I think not. DO THE MATH. Let's say, 112 residential homes on half acre lots, which could also accommodate either a Carriage House or suite within the home, then think about the number of vehicles that would be added to our only 2-lane road from Naramata to Penticton.

112 homes x 2 vehicles + 224. For every additional suite or carriage house add another approx. 224 vehicles. There was also an indication to provide mobile homes sites at one point, and not sure if zoning change would allow that, which could mean another 100+ vehicles. That's more than 500 vehicles, and that's only based on half of the 163 acres Canadian Horizons has purchased. Now add Vista and Reservoir Rd. proposal to the mix. In one instance, there is also a designated 'Future Growth Area' on a site. Once this type of development is approved, the second half of this development will be next, like Stonebrook/Vista. That's a lot more vehicles DAILY, not just 'tourist season' on our only 2-lane road. **There are valid and good reasons why Kelowna turned down these developers:** To reduce carbon emissions, limit urban sprawl, concerns re: the expense of infrastructure maintenance costs associated with hillside development, homes not affordable, and major traffic congestion. Let our voices resound loud and clear. Don't ruin the Bench! Don't destroy our 'prized possession', our 'valuable gem', and 'pave paradise'.

Respectfully,

Signed, A very concerned business owner/property owner/resident living on Naramata Rd. (Bench) for the last 16+ years.

Barbara Smallwood

Naramata, BC

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27
re 1530 Reservoir Road

From: [OLGA MAGYAR](#)
To: [Public Hearings](#)
Subject: late submission: hearing on Reservoir Rd project
Date: Monday, September 11, 2023 1:44:50 PM

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Dear Councilors, dear Mr. Mayor:

I have questions to you regarding your strategy to develop Penticton and Naramata Bench.

The proposed Reservoir Road rezoning is to reduce the currently rural lot size to urban - by 2.5 times. It is viewed by many as the beginning of building urban in the world-famous green and rural area.

Myself, my family and the many tourists I have worked with, are asking if we are seeing the attempts of developer money interest to ruin the ecosystem, the agriculture and the thriving tourism on the Naramata Bench?

I have summed up some questions to the Council that I think reflect the feelings of many locals:

Does the OCP identify other growth areas?

Why are we discussing the aggressive and expensive new growth up in remote areas that will affect a lot of traffic and businesses on the Bench, instead of focusing on what the majority of the locals agree on: affordable urban construction close to all existing amenities?

Does this city need to become another Kelowna? Does this city have the large-scale infrastructure required to support a lot of growth? Or do we have several months wait for some vital exams at our hospital, 4 year+ wait to get a family physician, no government daycares, not enough schools and no room to expand our inner city roads?

What is the calculated growth that the existing city infrastructure can support?

Is this council listening to what the major businesses on the Bench, the environmental experts and the rural community on the bench are telling them: that new urban growth will destroy them? Are we about to begin slaughtering the hen that lays golden eggs?

What is wrong with the city allowing to grow in other spots that do not include destructive effects on the local tourism and agriculture?

Is the Council aware of the cost of remediating the soil erosion, annual water runoff, repairs of exposed utilities and mudslides in Naramata Vista; expensive wildfire-fighting on the slopes of West Kelowna? Loss of business for everyone locally during a local wildfire?

By allowing urban construction density on the mountain slopes will we destroy the fragile environmental balance that exists on Naramata Bench?

The developers are in the business of building.

Is Penticton Council in the business of protecting the interests of people living in Penticton? Did the Council review the documented results of the lengthy and extensive public opinion polls done lately on the Spiller Rd project - which put on record in writing that the majority of the polled citizens are against building urban on Naramata Bench?

By using the common sense, will this Council choose to build somewhere where it will upset a lot of things - or somewhere where it would not upset many things?

Have this Council read the independent geotechnical assessment for the Reservoir Rd project that was sent onto it? Which states that the developer's geotechnical assessment is not site-specific = essentially it was not properly done?

Is this Council willing to intentionally cause financial damage and ruin the character and the environment of a world-famous rural community?

Is this Council willing to fight its own electorate over what the majority of the tourists and the locals view is the beginning of the destruction of the iconic Naramata Bench?

Thanks for your time and thoughts.

Kind regards, and may God bless you and guide you in your efforts.

Olga Magyar

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27
re 1530 Reservoir Road

-----Original Message-----

From: OLGA MAGYAR

Sent: Tuesday, September 5, 2023 9:34 AM

To: Council <Council@penticton.ca>

Subject: Problem with Reservoir road approvals

Dear Councillors, dear Mr Mayor: I hope you have time to read this letter by a farmer that is gaining a lot of support from your electorate:

“Dear Editor:

I farm in the Penticton area along the Naramata Bench. And in case you haven’t noticed our farmers are struggling.

Yet, we are not represented when the councillors hand picked their developer/builder [for the official community plan task force.] – a task force that will be making recommendations to council on how the agricultural land in the northeast sector of Penticton will be developed in the future.

It is our spectacular agricultural land, our rolling vineyards and lush orchards that provide the scenic backdrop used to attract the buyers to our area so they can build their multi-million dollar homes.

Ripping out our trees and scraping away the landscape to make room for more hilltop McMansions that will most likely sit vacant and dark for seven months of the year.

Yet, we are being snubbed.

Ignored. Even though many of us reached out to council we didn’t even qualify to get a seat at the table. How dare them! Not one of us. Six builders and developers but not one farmer or member of our community. Shame on every last one of our councillors.

What photographs will these developers use in their glossy brochures to attract their out of town purchasers once all the agricultural land is gone?

I suppose once the hillsides are paved over with urban sprawl they won’t have a need for scenic photographs of rolling vineyards and orchards. They will have moved on to their next conquest.

To be perfectly clear, just because agricultural land is not in the Agricultural land reserve does not mean it’s not agricultural land.

John Bilodeau,
Penticton”.

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27
re 1530 Reservoir Road

From: [Dawn Lennie](#)
To: [Public Hearings](#)
Subject: 1530 Reservoir Road Development Proposal
Date: Monday, September 11, 2023 10:31:58 AM
Attachments: [23-SPECIES and ecosystems AT RISK in RDOS-APPENDICES 1 & 2-Updated Aug 25.pdf](#)
[ATT00001.htm](#)
[23-OPEN LETTER-FINAL COPY-March5.pdf](#)
[ATT00002.htm](#)

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Hello,

Please find below a letter and attachments sent to Mayor Bloomfield back on August 25, 2023 regarding this proposed re-zone and development. I would like to make sure it gets into the record for the public hearing tomorrow, September 12, 2023 regarding 1530 Reservoir Road.

Thank you,
Dawn Lennie
Naramata Road Resident & Business Owner

Dear Mayor Bloomfield,

I am writing to you out of grave concern for the unique and at risk species, smaller ecosystems (plant associations) and habitats that make up the Douglas-fir - ponderosa pine / bluebunch wheatgrass ecosystem (DF/PP/BW) that will be significantly impacted by the proposed development at 1530 Reservoir Road.

The DF/PP/BW ecosystem occurs along the Naramata Bench and elsewhere in the South Okanagan. As mayor and as an experienced realtor, you no doubt know that the DF/PP/BW ecosystem is increasingly under pressure for development. The more urbanization of such critical areas the more we endanger or destroy their environmental values and their value as a 'buffer' between crown forest land and urban/residential/industrial and agricultural developments. And with developments like the one proposed, the more fire hazards, altered hydrology and urban infrastructure requirements will be created.

I have attached a letter by D. Ray Halladay (RPBio, retired) that was sent to yourself as well as many other local, Provincial and Federal officials back in March 2023 pointing out the fragility of this particular ecosystem and the number of at risk species and at risk ecosystems that it contains. I have also included the tables Mr. Halladay compiled using records available from the BC Conservation Data Centre.

The proposed rezoning and development is well within the DF/PP/BW ecosystem. Approval of the development may well be precedent setting, encouraging further development along the beautiful and tourist

dependent Naramata Bench. We know from other developments that have been allowed within the RDOS, that the homes created are not affordable or attainable for most people and are often secondary residences and vacation rental investments.

I realize that historically, this area was slated for development in Penticton's OCP, however it is now 2023 and the rezoning of lands within ecosystems, and those on hillsides is just not responsible governance given current science. This practice is particularly concerning given government agreements to protect at risk species and ecosystems, the growing demand for water and the increased fire risk in forested areas.

I encourage you to read the attached letter and peruse the attachments showing all of the at risk species of fungi, plants and animals, and plant associations found in the DF/PP/BW.

If you and the Council allow this re-zoning and open the floodgates with this development, I fear the worst for the Naramata Bench and this precious and unique ecosystem in the years and generations to come.

Sincerely,

Dawn Lennie
Resident and Small Business Owner
2645 Naramata Road
Naramata, BC

APPENDIX 1

TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|---|----------------------|-------------------|-----------|----------------|---------|----------------|-----|
| <i>Accipiter gentilis atricapillus</i> | Northern Goshawk, <i>Atricapillus</i> Subspecies - Bird | IDF, PP | S3S4 (2017) | Red | G5T2 (2016) | T | | 1. |
| <i>Acipenser transmontanus</i> | White Sturgeon - Fish | IDF, PP | S2 (2018) | No Status | G4 (2002) | E/T | 1-E | 2. |
| <i>Aechmophorus occidentalis</i> | Western Grebe - Bird | IDF, PP | S1B,S2N (2015) | Red | G5 (2016) | | | 3. |
| <i>Aeronautes saxatalis</i> | White-throated Swift - Bird | IDF, PP | S3S4B (2022) | Blue | G5 (2016) | | | 4. |
| <i>Aeshna constricta</i> | Lance-tipped Darner - Invertebrate (dragonfly) | IDF, PP | S2S3 (2015) | Blue | G5 (2016) | | | 5. |
| <i>Ambystoma mavortium</i> | Western Tiger Salamander - Amphibian | IDF, PP | G5 (2015) | Red | G5 (2015) | E | 1-E (2018) | 6. |
| <i>Ammodramus savannarum</i> | Grasshopper Sparrow - Bird | IDF, PP | S1B (2022) | Red | G5 (2016) | | | 7. |
| <i>Anaxyrus boreas</i> | Western Toad - Amphibian | IDF, PP | S4 (2022) | Yellow | G4 (2008) | SC | 1-SC (2018) | 8. |
| <i>Anguispira kochi</i> | Banded Tigersnail - Invertebrate | IDF, PP | S3 (2015) | Blue | G5 (2009) | NAR | | 9. |
| <i>Antennaria flagellaris</i> | stoloniferous pussytoes - Plant | IDF | S2 (2019) | Red | G5 (2014) | E | 1-E (2005) | 10. |
| <i>Antrozous pallidus</i> | Pallid Bat - Mammal | PP | S2 (2022) | Red | G4 (2016) | T | 1-T (2003) | 11. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|--|--------------------------------------|----------------|---------|--------------|---------|-------------|-----|
| Apodemia mormo | Mormon Metalmark - Invertebrate (butterfly) | IDF | | Red | G5 (2022) | E | 1-E (2005) | 12. |
| Arctoparmelia subcentrifuga | abrading ring - Fungi (Lichen) | IDFdw IDFmw | S3 (2019) | Blue | G4G5 (2002) | | | 13. |
| Ardea herodias herodias | Great Blue Heron, <i>herodias</i> subspecies - Bird | IDF, PP | S3? (2017) | Blue | G5T5 (2016) | | | 14. |
| Argia emma | Emma's Dancer - Invertebrate (damselfly) | IDF | S3S4 (2015) | Blue | G5 (1990) | | | 15. |
| Argia vivida | Vivid Dancer - Invertebrate (damselfly) | IDF, PP | S2S3 (2015) | Blue | G5 (G4 2015) | SC | 1-SC (2019) | 16. |
| Artemisia tridentata / Pseudoroegneria spicata | big sagebrush / bluebunch wheatgrass - Plant association | PPxh1/00 PPxh2/05 | S2? (2022) | Red | G2 | N/A | N/A | 17. |
| Artemisia tridentata / Pseudoroegneria spicata - Balsamorhiza sagittata | big sagebrush / bluebunch wheatgrass - arrowleaf balsamroot - Plant association | IDFxh1a/92 IDFxh1a/94 PPxh1/03 | S2 (2004) | Red | G2 | N/A | N/A | 18. |
| Artemisia tripartita / Pseudoroegneria spicata - Balsamorhiza sagittata | threetip sagebrush / bluebunch wheatgrass - arrowleaf balsamroot - Plant association | PPxh1/00 | S1 (2004) | Red | G1 | N/A | N/A | 19. |
| Ascaphus truei | Coastal Tailed Frog - Amhibian | IDF | S4 (2022) | Yellow | G4 (2016) | SC | 1-SC (2003) | 20. |
| Asio flammeus | Short-eared Owl - Bird | IDF, PP | S3B,S1N (2022) | Blue | G5 (2016) | T | 1-SC (2012) | 21. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|--|-----------------------------|------------------|---------|-------------|---------|-------------|-----|
| Athene cunicularia | Burrowing Owl - Bird | IDF, PP | S1B (2020) | Red | G4 (2016) | E | 1-E (2003) | 22. |
| Azolla mexicana | Mexican mosquito fern - Plant | IDFmw IDFxh | S3 (2019) | Blue | G5 (2011) | T | 1-T (2003) | 23. |
| Bartramia longicauda | Upland Sandpiper - Bird | IDF | S2B (2022) | Red | G5 (2016) | | | 24. |
| Berula incisa | cut-leaved water-parsnip - Plant | IDF, PP | S3? (2019) | Blue | G4G5 (1984) | | | 25. |
| Boechera cascadenis | Cascade rockcress - Plant | PPxh, IDFdk IDFxc, IDFxh | S3 (2019) | Blue | S3 (2019) | | | 26. |
| Botaurus lentiginosus | American Bittern - Bird | IDF, PP | S3B, SNRN (2015) | Blue | G5 (2016) | | | 27. |
| Branta bernicla | Brant - Bird | IDF | S3M (2015) | Blue | G5 (2016) | | | 28. |
| Bryoerythrophyllum columbianum | Columbian carpet moss - Plant | IDF, PP | S2S3 (2015) | Blue | G3G4 (2008) | SC | 1-SC (2005) | 29. |
| Buteo lagopus | Rough-legged Hawk - Bird | IDF, PP | S3N (2015) | Blue | G5 (2016) | NAR | | 30. |
| Buteo regalis | Ferruginous Hawk - Bird | IDF | SU (2022) | unknown | G4 (2016) | | | 31. |
| Buteo swainsoni | Swainson's Hawk - Bird | IDF, PP | S2B (2022) | Red | G5 (2016) | | | 32. |
| Butorides virescens | Green Heron - Bird | IDF, PP | S3S4B | Blue | G5 | | | 33. |

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occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|--|---|-----------------|---------|----------------|---------|----------------|-----|
| | | | (2015) | | (2016) | | | |
| Calcarius pictus | Smith's Longspur - Bird | IDF, PP | S3S5B (2015) | Blue | G4G5 (2016) | | | 34. |
| Callophrys affinis | Immaculate Green Hairstreak - Invertebrate (Butterfly) | IDF, PP | S2S3 (2020) | Blue | G5 (2022) | | | 35. |
| Calopteryx aequabilis | River Jewelwing - Invertebrate (damselfly) | IDF | S3 (2015) | Blue | G5 (2016) | | | 36. |
| Carex lasiocarpa / Drepanocladus aduncus | slender sedge / common hook-moss - Plant association | IDFdK1/Wf05 IDFdK3/Wf05 IDFdK4/Wf05 IDFdm2/Wf05 5 IDFxc/Wf05 | S3 (2010) | Blue | G3 | N/A | N/A | 37. |
| Castilleja cusickii | Cusick's paintbrush - Plant | IDFdk IDFun IDFhx | S3 (2022) | Blue | G4G5 (1992) | | | 38. |
| Castilleja minor var. exilis | annual paintbrush - Plant | IDFdm | S2 (2015) | Red | G5T5 (1995) | | | 39. |
| Catherpes mexicanus | Canyon Wren - Bird | IDF, PP | S3? (2015) | Blue | G5 (2016) | NAR | | 40. |
| Charina bottae | Northern Rubber Boa - Reptile (snake) | IDF, PP | S4 (2018) | Yellow | G5 (2016) | SC | 1-SC (2005) | 41. |
| Chondestes grammacus | Lark Sparrow - Bird | IDF, PP | S2S4B (2022) | Blue | G5 (2016) | | | 42. |
| Chordeiles minor | Common Nighthawk - Bird | IDF, PP | S3S5B | Blue | G5 | SC | 1-T | 43. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|--|---|-------------|-----------|-----------------|---------|---------------|-----|
| | | | (2022) | | (2016) | | (2010) | |
| <i>Chrysemys picta</i> | Painted Turtle - Reptile | IDF, PP | S3 (2018) | No Status | G5 (2016) | T/SC | 1-T/SC (2021) | 44. |
| <i>Chrysemys picta</i> pop. 2 | Painted Turtle - Intermountain - Rocky Mountain Population - Reptile | IDF, PP | S3? (2018) | Blue | G5T2T3 Q (2008) | SC | 1-SC (2007) | 45. |
| <i>Cicindela decemnotata</i> | Badlands Tiger Beetle - Invertebrate | PP | S1S3 (2017) | Blue | G4G5 (2018) | | | 46. |
| <i>Cicindela hirticollis</i> | Hairy-necked Tiger Beetle - Invertebrate | IDF, PP | S2S4 (2017) | Blue | G5 (2016) | | | 47. |
| <i>Cicindela parowana</i> | Dark Saltflat Tiger Beetle - Invertebrate | IDF, PP | S1 (2015) | Red | G4 (2016) | E | 1-E (2012) | 48. |
| <i>Cicindela pugetana</i> | Sagebrush Tiger Beetle - Invertebrate | PP | S3S4 (2017) | Blue | G4 (2016) | | | 49. |
| <i>Cladonia cyanipes</i> | blue-footed pixie - Fungi (Lichen) | IDFxh | S2S4 (2010) | Blue | G5 (2017) | | | 50. |
| <i>Claytonia cordifolia</i> | heart-leaved springbeauty - Plant | IDFdK IDFdM IDFmW IDFxh, IDFxM | S2S3 (2019) | Blue | G5 (2016) | | | 51. |
| <i>Coccothraustes vespertinus</i> | Evening Grosbeak - Bird | IDF, PP | S5 (2022) | Yellow | G5 (2016) | SC | 1-SC (2019) | 52. |
| <i>Coccyzus americanus</i> | Yellow-billed Cuckoo - Bird | PP | SXB (2022) | Red | G5 (2016) | | | 53. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|--|----------------------|-------------|---------|-------------|---------|-------------|-----|
| <u><i>Collema flaccidum</i></u> | flaking tarpaper - Fungi (Lichen) | PPxh | S1S3 (2019) | Red | G3G5 (2000) | | | 54. |
| <u><i>Collomia tenella</i></u> | slender collomia - Fungi (Lichen) | IDFdk IDFxh | S1S2 (2019) | Red | G4? (1987) | | | 55. |
| <u><i>Coluber constrictor</i></u> | North American Racer - Reptile (snake) | IDF, PP | S2S3 (2018) | Blue | G5 (2016) | T | 1-SC (2006) | 56. |
| <u><i>Contopus cooperi</i></u> | Olive-sided Flycatcher-Bird | IDF, PP | S4B (2022) | Yellow | G4 (2016) | SC | 1-T (2010) | 57. |
| <u><i>Corynorhinus townsendii</i></u> | Townsend's Big-eared Bat - Mammal | IDF, PP | S3 (2022) | Blue | G4 (2016) | | | 58. |
| <u><i>Cottus confusus</i></u> | Shorthead Sculpin-Fish | IDF | S3 (2019) | Blue | G5 (2011) | SC | 1-SC | 59. |
| <u><i>Cottus hubbsi</i></u> | Columbia Sculpin - Fish | IDF, PP | S3 (2019) | Blue | S3 (2019) | SC | 1-SC (2003) | 60. |
| <u><i>Crataegus atrovirens</i></u> | dark-green hawthorn - Plant | IDFxh | S3 (2019) | Blue | G3 (2019) | | | 61. |
| <u><i>Crataegus okanaganensis</i> var. <i>okanaganensis</i></u> | Okanagan hawthorn - Plant | IDFxh | S3? | Blue | G4TNR | | | 62. |
| <u><i>Crepis atribarba</i> ssp. <i>atribarba</i></u> | slender hawksbeard - Plant | PPxh | S3 (2019) | Blue | G5T5 (1997) | | | 63. |
| <u><i>Crepis occidentalis</i> ssp. <i>pumila</i></u> | gray hawk's-beard - Plant | IDFdk | S1 (2011) | Red | G5T5 (1996) | | | 64. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|--|----------------------|--------------|---------|-------------|---------|-------------|-----|
| Crossidium seriatum | Tiny Tassel - Plant (moss) | PP | S3 (2015) | Blue | G2G4 (2009) | SC | 1-SC (2019) | 65. |
| Crotalus oregonus | Western Rattlesnake - Reptile | IDF, PP | S2S3 (2018) | Blue | G5 (2016) | T | 1-T (2005) | 66. |
| Cryptomastix mullani | Coeur d'Alene Oregonian - Invertebrate (snail) | IDF, PP | S3 (2015) | Blue | G4 (2005) | | | 67. |
| Cupido comyntas | Eastern Tailed Blue - Invertebrate (butterfly) | IDF | S3 (2020) | Blue | G5 (2016) | | | 68. |
| Cypseloides niger | Black Swift - Bird | IDF, PP | S2S4B (2022) | Blue | G4 (2016) | | | 69. |
| Danaus plexippus | Monarch - Invertebrate (butterfly) | IDF, PP | S1?B (2020) | Red | G4 (2015) | E | 1-SC (2003) | 70. |
| Dermatocarpon intestiniforme | quilted stippleback - Fungi (lichen) | IDFun IDFhx | S2S3 (2019) | Blue | GNR | | | 71. |
| Dolichonyx oryzivorus | Bobolink-bird | IDF | S2?B (2022) | Red | G5 (2016) | SC | 1-T (2017) | 72. |
| Dryobates albolarvatus | White-headed Woodpecker-bird | IDF,PP | S1 (2022) | Red | G4 (2016) | E | 1-E (2003) | 73. |
| Eleocharis engelmannii | Englemann's spike-rush - Plant | PPhx | S3 (2019) | Blue | G4G5 (2002) | | | 74. |
| Empidonax wrightii | Gray Flycatcher - Bird | IDF, PP | S2S3B (2022) | Blue | G5 (2016) | NAR | | 75. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|---|------------------------|-------------|---------|---------------|---------|------------|-----|
| <i>Enallagma clausum</i> | Alkali Bluet - Invertebrate (damselfly) | IDF, PP | S3 (2015) | Blue | G5 (2015) | | | 76. |
| <i>Entosthodon rubiginosus</i> | rusty cord-moss - Plant | PP | S2S3 (2015) | Blue | G1G3 (2006) | SC | 1-E (2021) | 77. |
| <i>Epargyreus clarus</i> | Silver-spotted Skipper - Invertebrate (butterfly) | IDF, PP | S3 (2020) | Blue | G5 (2020) | | | 78. |
| <i>Epargyreus clarus clarus</i> | Silver-spotted Skipper, <i>clarus</i> subspecies - Invertebrate (butterfly) | IDF | S3 (2013) | Blue | G5T5 (2003) | | | 79. |
| <i>Eremophila alpestris merrilli</i> | Horned Lark, <i>merrilli</i> subspecies - Bird | IDF, PP | S1S3 (2022) | Blue | G5T4 (2016) | | | 80. |
| <i>Ericameria bloomeri</i> | rabbitbrush goldenweed - Plant | IDFdm | S2S3 (2019) | Blue | G4 (1985) | DD | | 81. |
| <i>Erigeron leibergii</i> | Leiberg's daisy - Plant | IDFdm | S2S3 (2019) | Red | G3? (2000) | DD | | 82. |
| <i>Eriocoma thurberiana</i> | Thurber's needlegrass - Plant | PPxh | S3 (2019) | Blue | G5 (1987) | | | 83. |
| <i>Eriogonum heracleoides</i> var. <i>leucophaeum</i> | parsnip-flowered buckwheat - Plant | IDFxh | S1S2 | Red | G5T2T3 (2004) | | | 84. |
| <i>Erythemis collocata</i> | Western Pondhawk - Invertebrate (butterfly) | PP | S3S4 (2015) | Blue | G5 (2016) | | | 85. |
| <i>Erythranthe suksdorfii</i> | Suksdorf's monkey-flower - Plant | IDFdk IDFxh PPdh | S3 (2019) | Blue | G4 (1994) | | | 86. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|---|----------------------|--------------------|-----------|-------------|---------|-------------|-----|
| <i>Euderma maculatum</i> | Spotted Bat - Mammal | IDF, PP | S3S4 (2022) | Blue | G4 (2016) | SC | 1-SC (2005) | 87. |
| <i>Euphagus carolinus</i> | Rusty Blackbird - Bird | PP | S3S4B (2015) | Blue | G4 (2016) | SC | 1-SC (2009) | 88. |
| <i>Euphyes vestris</i> | Dun Skipper - Invertebrate (butterfly) | IDF, PP | S2S3 (2020) | Blue | G5 (2020) | T | 1-T (2003) | 89. |
| <i>Euptoieta claudia</i> | Variegated Fritillary - Invertebrate (butterfly) | PP | S3N (2020) | Blue | G5 (2016) | | | 90. |
| <i>Falco mexicanus</i> | Prairie Falcon - Bird | IDF, PP | S1 (2018) | Red | G5 (2016) | NAR | | 91. |
| <i>Falco peregrinus</i> | Peregrine Falcon - Bird | IDF, PP | S3 (2015) | No status | G4 (2016) | SC | 1-SC | 92. |
| <i>Falco peregrinus anatum</i> | Peregrine Falcon, <i>anatum</i> subspecies - Bird | IDF, PP | S2? (2011) | Red | G4T4 (2016) | NAR | 1-SC (2012) | 93. |
| <i>Falco rusticolus</i> | Gyrfalcon - Bird | IDF | S3S4B,SNR N (2015) | Blue | G5 (2016) | NAR | | 94. |
| <i>Festuca washingtonica</i> | Washington fescue - Plant | IDFxh | S3? (2022) | Blue | G2G3 (2016) | | | 95. |
| <i>Fulgensia desertorum</i> | desert sulphur - Plant | PPxh | S2S3 (2019) | Blue | G3G5 (2001) | | | 96. |
| <i>Galba bulimoides</i> | Prairie Fossaria - Invertebrate (snail) | IDF, PP | S3? (2015) | Blue | G5 (1999) | | | 97. |
| <i>Galba obrussa</i> | Golden Fossaria - invertebrate | IDF, PP | S3S5 (2015) | Blue | G5 | | | 98. |

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occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|--|---------------------------------|-------------|-----------|-------------|---------|-------------|------|
| | (snail) | | | | (2008) | | | |
| Gayophytum ramosissimum | hairstem groundsmoke - Plant | IDF, PP | S3? (2019) | Blue | G5 (1987) | | | 99. |
| Gonidea angulata | Rocky Mountain Ridged Mussel - Invertebrate | IDF,PP | S2 (2014) | Blue | G3 (2022) | E | 1-SC (2005) | 100. |
| Gulo gulo | Wolverine - Mammal | IDF | S3 (2015) | No status | G4 (2016) | SC | 1-SC (2018) | 101. |
| Gulo gulo luscus | Wolverine, <i>luscus</i> subspecies - Mammal | IDF | S3 (2010) | Blue | G4T4 (2016) | SC | 1-SC (2018) | 102. |
| Gyraulus crista | Star Gyro - Invertebrate (snail) | IDF, PP | S3S4 (2015) | Blue | G5 (2017) | | | 103. |
| Hackelia diffusa var. diffusa | spreading stickseed - Plant | IDFdc IDFxc IDFxb PPxb | S3 (2019) | Blue | G4T3 (2016) | | | 104. |
| Hemphillia camelus | Pale Jumping-slug - Invertebrate | IDF, PP | S3 (2015) | Blue | G4 (2006) | | | 105. |
| Hesperia nevada | Nevada Skipper - Invertebrate (butterfly) | IDF, PP | S3S4 (2020) | Blue | G5 (2020) | | | 106. |
| Hirundo rustica | Barn Swallow - Bird | IDF, PP | S4B (2022) | Yellow | G5 (2016) | SC | 1-T (2017) | 107. |
| Hydroprogne caspia | Caspian Tern - Bird | IDF | S3B (2015) | Blue | G5 (2016) | | | 108. |
| Hypsiglena chlorophaea | Desert Nightsnake - Reptile | IDF, PP | S2 (2018) | Red | G5 | E | 1-E | 109. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|---|----------------------|--------------|---------|---------------|---------|------------|------|
| | | | | | (2016) | | (2003) | |
| Icteria virens | Yellow-breasted Chat - Bird | IDF, PP | S2B (2018) | Red | G5 (2016) | E | 1-E (2003) | 110. |
| Larus californicus | California Gull - Bird | IDF | Red | Blue | | | | 111. |
| Lasiurus cinereus | Hoary Bat - Mammal | IDF, PP | S3S4 (2022) | Blue | G3G4 (2016) | | | 112. |
| Lathrocasis tenerrima | Slender gilia - Plant | IDFdm PPdh | S2S3 (2019) | Blue | G5 (1988) | | | 113. |
| Lepus townsendii | White-tailed Jackrabbit - Mammal | IDF, PP | SX (2015) | Red | G5 (2016) | | | 114. |
| Lewisia columbiana var. <i>columbiana</i> | Columbia lewisia - Plant | IDFdk | S2S3 (2005) | Blue | G4G5T4 (1985) | | | 115. |
| Libellula pulchella | Twelve-spotted Skimmer - Invertebrate (butterfly) | IDF, PP | S3 (2015) | Blue | G5 (2015) | | | 116. |
| Limenitis archippus | Viceroy - Invertebrate (butterfly) | IDF, PP | SX (2020) | Red | G5 (2016) | | | 117. |
| Limnodromus griseus | Short-billed Dowitcher - Bird | IDF, PP | S2S3B (2015) | Blue | G5 (2016) | | | 118. |
| Limosa haemastica | Hudsonian Godwit - Bird | IDF | S1B (2022) | Red | G4 (2016) | T | | 119. |
| Lindernia dubia var. <i>dubia</i> | yellowseed false pimpernel - Plant | PPxh | S3? (2018) | Blue | G5T5 (2016) | | | 120. |
| Lithobates pipiens | Northern Leopard Frog - | IDF, PP | S1 (2021) | Red | G5 | E | 1-E (2003) | 121. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|---|---------------------------------|-------------------|-----------|------------------|---------|---------------|-------------|
| | Amphibian | | | | (2016) | | | |
| <u>Lupinus sulphureus</u> | Sulphur lupine - Plant | IDFdk IDFmw IDFxb PPxb | S3 (2019) | Blue | G5 (1987) | | | 122. |
| <u>Lycaena nivalis</u> | Lilac-bordered Copper - Invertebrate (butterfly) | IDF, PP | S3 (2020) | Blue | G5 (2016) | | | 123. |
| <u>Macromia magnifica</u> | Western River Cruiser - Invertebrate (dragonfly) | IDF | S3 (2015) | Blue | G5 (2004) | | | 124. |
| <u>Magnipelta mycophaga</u> | Magnum Mantleslug - Invertebrate | IDF | S2S3 (2015) | Blue | G3 (2006) | SC | 1-SC | 125. |
| <u>Marsilea vestita</u> | hairy water-clover - Plant (fern) | IDFmw IDFxb PPxb | S3 (2019) | Blue | G5 (2011) | | | 126. |
| <u>Massalongia microphylliza</u> | chopped liver - Fungi (lichen) | PPxb | S2S3 (2019) | Blue | G2G4 (2002) | | | 127. |
| <u>Megascops kennicottii</u> | Western Screech-Owl - Bird | IDF, PP | S4 (2015) | No status | G4G5 (2016) | T | 1-T | 128. |
| <u>Megascops kennicottii macfarlanei</u> | Western Screech-Owl, macfarlanei subspecies - Bird | IDF, PP | S3 (2017) | Blue | G4G5T4 (2016) | T | 1-T (2005) | 129. |
| <u>Melanerpes lewis</u> | Lewis's Woodpecker - Bird | IDF, PP | S2S3B (2022) | Blue | G4 (2016) | T | 1-T (2012) | 130. |
| <u>Melanitta perspicillata</u> | Surf Scoter - Bird | IDF, PP | S3B,S4N (2015) | Blue | G5 (2016) | | | 131. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|--|---------------------------|-------------|---------|----------------|---------|----------------|------|
| Menyanthes trifoliata - Carex lasiocarpa | buckbean - slender sedge - Plant | IDFdc/Wf06 IDFdk2/Wf06 | S3 (2004) | Blue | G3 | N/A | N/A | 132. |
| Microbryum vlassovi | nugget moss - Plant | PP | S2 (2015) | Blue | G2? (1997) | E | 1-E (2009) | 133. |
| Myotis ciliolabrum | Western Small-footed Myotis-bat - Mammal | IDF, PP | S3S4 (2022) | Blue | G5 (2016) | | | 134. |
| Myotis lucifugus | Little Brown Myotis - Mammal | IDF, PP | S3S4 (2022) | Blue | G3G4 (2021) | E | 1-E (2014) | 135. |
| Myotis thysanodes | Fringed Myotis - Mammal | IDF, PP | S2S3 (2022) | Blue | G3G4 (2021) | E | 1-E (2014) | 136. |
| Myotis yumanensis | Yuma Myotis - Mammal | IDF, PP | S3 (2022) | Blue | G5 (2016) | | | 137. |
| Nannopterum auritum | Double-crested Cormorant - Bird | IDF, PP | S3S4 (2015) | Blue | G5 (2016) | NR | | 138. |
| Navarretia propinqua | Near navarretia - Plant | IDFdm IDFxb | S2S3 (2019) | Blue | G5 (1993) | | | 139. |
| Neofuscelia loxodes | blistered toad - Amphibian | PPxb | S3 (2019) | Blue | G3G5 (2000) | | | 140. |
| Neofuscelia subhosseana | erupting toad - Amphibian | PPxb | S2S3 (2010) | Blue | G4G5 (2001) | | | 141. |
| Numenius americanus | Long-billed Curlew bird | IDF, PP | S4B (2022) | Yellow | G5 (2016) | SC | 1-SC (2005) | 142. |
| Nycticorax nycticorax | Black-crowned Night-heron bird | IDF, PP | S1 (2022) | Red | G5 (2016) | | | 143. |

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(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|--|----------------------|-------------|---------|-----------------|---------|----------------|------|
| Oeneis jutta chermocki | Jutta Arctic, <i>chermocki</i> subspecies - Invertebrate (butterfly) | IDF | S3 (2013) | Blue | G5T4Q (1999) | | | 144. |
| Oncorhynchus clarkii lewisi | Cutthroat Trout, <i>lewisi</i> subspecies-fish | IDF | S2S3 (2018) | Blue | G5T4 (2013) | SC | 1-SC (2010) | 145. |
| Ophiogomphus occidentis | Sinuuous Snaketail - Invertebrate (dragonfly) | IDF, PP | S3 (2015) | Blue | G5 (2015) | | | 146. |
| Oreamnos americanus | Subalpine Mountaingoat - Mammal | IDF, PP | S3 (2015) | Blue | G G5 (2016) | | | 147. |
| Oreohelix subrudis | Subalpine Mountainsnail - Invertebrate | IDF, PP | S3 (2015) | Blue | G5 (2002) | | | 148. |
| Oreoscoptes montanus | Sage Thrasher - Bird | IDF, PP | S1B (2022) | Red | G4 (2016) | E | 1-E (2003) | 149. |
| Orthocarpus barbatus | Grand Coulee owl-clover - Plant | IDF, PP | S2 (2019) | Red | G2G3 (2008) | E | 1-E (2006) | 150. |
| Ovis canadensis | Bighorn Sheep - Mammal | IDF, PP | S3? (2015) | Blue | G4 (2016) | | | 151. |
| Papilio indra | Indra Swallowtail - Invertebrate (butterfly) | IDF | S1 (2020) | Red | G5? (2020) | | | 152. |
| Parnassius clodius pseudogallatinus | Clodius Parnassian, <i>pseudogallatinus</i> s upspecies - Invertebrate (butterfly) | IDF | S3S4 (2013) | Blue | G5TNR | | | 153. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|--|------------------------|-----------------|-----------|------------------------|---------|----------------|------|
| <i>Pataqioenas fasciata</i> | Band-tailed Pigeon - Bird | IDF | S3S4 (2022) | Blue | G4 (2016) | SC | 1-SC (2011) | 154. |
| <i>Pekania pennanti</i> | Fisher - Mammal | IDF, PP | S3 (2020) | No status | G5 (2016) | | | 155. |
| <i>Pelecanus erythrorhynchos</i> | American White Pelican - Bird | IDF, PP | S1B (2022) | Red | G4 (2016) | NAR | | 156. |
| <i>Perognathus parvus</i> | Columbia Plateau Pocket Mouse - Mammal | IDFxh PPxh | S3 (2015) | Blue | G5 (2016) | | | 157. |
| <i>Phacelia heterophylla</i> var. <i>virgata</i> | varied-leaf phacelia - Plant | IDFdm IDFxh PPdh | S2S3 (2019) | Blue | G4G5T4 T5 (2004) | | | 158. |
| <i>Phacelia ramosissima</i> var. <i>ramosissima</i> | branched phacelia - Plant | BGxh IDFxh PPxh | S1S2 (2021) | Blue | G5?TN R | E | 1-E (2006) | 159. |
| <i>Phaeophyscia ciliata</i> | greater eye shadow - Fungi (lichen) | IDFxh PPxh | S3 (2019) | Blue | G4G5 (2000) | | | 160. |
| <i>Phalaropus lobatus</i> | Red-necked Phalarope - Bird | IDF. PP | S3S4B (2015) | Blue | G4G5 (2016) | SC | 1-SC (2019) | 161. |
| <i>Phanogomphus graslinellus</i> | Pronghorn Clubtail - Invertebrate (dragonfly) | IDF, PP | S2S3 (2015) | Blue | G5 (2015) | | | 162. |
| <i>Phlox speciosa</i> ssp. <i>occidentalis</i> | showy phlox - Plant | IDFxh PPxh | S2 (2022) | Blue | G5TNR | T | 1-T (2006) | 163. |
| <i>Physcia dimidiata</i> | Exuberant rosette - Fungi (lichen) | PPxh | S3 (2019) | Blue | G5? (2002) | | | 164. |

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(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|---|--|-------------|---------|-------------|---------|------|------|
| <i>Physella propinqua</i> | Rocky Mountain Physa - Invertebrate (snail) | IDF | S3S4 (2015) | Blue | G5Q (2015) | | | 165. |
| <i>Physella virginea</i> | Sunset Physa - Invertebrate (snail) | IDF | S3S5 (2015) | Blue | G5 (2015) | | | 166. |
| <i>Picea engelmannii</i> x <i>glauca</i> / <i>Equisetum</i> spp. / <i>Mnium</i> spp. | hybrid white spruce / horsetails / leafy mosses - Plant association | IDFdc/06 IDFdk2/06 IDFdk2/Ws07 IDFdk3/09 IDFdk3/Ws07 IDFdk4/10 IDFdk4/Ws07 IDFdm2/07 IDFdm2/Ws07 IDFxm/09 IDFxm/Ws07 | S3 (2004) | Blue | GNR | N/A | N/A | 167. |
| <i>Pinus albicarpa</i> | whitebark pine - Plant | IDFdc IDFdk IDFdm IDFdw IDFww IDFxc IDFxh | S2S3 (2019) | Blue | G3G4 (2020) | E | | 168. |
| <i>Pinus ponderosa</i> / <i>Aristida purpurea</i> var. <i>longisetata</i> | ponderosa pine / red three-awn - Plant association | PPxh1/02 | S3 (2013) | Blue | GNR | N/A | | 169. |
| <i>Pinus ponderosa</i> / <i>Pseudoroegneria spicata</i> | ponderosa pine / bluebunch wheatgrass - rough fescue | PPxh1/05 PPxh2/01 | S2 (2013) | Red | GNR | N/A | | 170. |

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occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|--|----------------------|-------------|--------------|----------------|---------|------|------|
| <i>Festuca campestris</i> | Plant association | | | | | | | |
| <i>Pinus ponderosa</i> / <i>Pseudoroegneria spicata</i> - <i>Festuca idahoensis</i> | ponderosa pine / bluebunch wheatgrass - Idaho fescue Plant association | PPxh1/01 | S3 (2013) | Blue | GNR | N/A | | 171. |
| <i>Pisidium fallax</i> | River Peaclam - Invertebrate (clam) | IDF | S3S4 (2017) | Blue | G5 (2015) | | | 172. |
| <i>Pituophis catenifer</i> | Gophersnake - Reptile Reptile | IDF | S3 (2018) | No status | G5 (2015) | XT.T | | 173. |
| <i>Pituophis catenifer deserticola</i> | Gophersnake, <i>deserticola</i> Subspecies - Reptile | IDF, PP | S3 (2018) | Blue | G5T5 (2016) | T | | 174. |
| <i>Plestiodon skiltonianus</i> | Western Skink - Reptile | IDF, PP | S3S4 (2018) | Blue | G5 (2016) | SC | | 175. |
| <i>Plethodon idahoensis</i> | Coeur d'Alene Salamander - amphibian | IDF | S3? (2022) | Blue | G4 (2016) | SC | | 176. |
| <i>Podiceps nigricollis</i> | Eared Grebe - bird | IDF, PP | S3B (2015) | Blue | G5 (2016) | | | 177. |
| <i>Polemonium californicum</i> | California Jacob's ladder - plant | IDFmw | S1S3 (2019) | Red | G4? (2002) | | | 178. |
| <i>Polites sabuleti</i> | Sandhill Skipper- Invertebrate (butterfly) | IDF, PP | S2 (2020) | Red | G5 (2021) | | | 179. |
| <i>Polites sonora</i> | Sonora Skipper -Invertebrate (butterfly) | IDF, PP | S3 (2020) | Blue | G4 (2020) | NAR | | 180. |
| <i>Polystichum scopulinum</i> | mountain holly fern - Plant | IDFdk | S1S2 (2019) | Red | G4 | T | | 181. |

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occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global (2011) | COSEWIC | SARA | # |
|---|---|--|-------------|---------|------------------|---------|------|------|
| <u><i>Populus tremuloides</i></u> / <u><i>Symphoricarpos albus</i></u> / <u><i>Osmorhiza berteroii</i></u> | trembling aspen / common snowberry / mountain sweet- cicely - Plant association | IDFxh1/0 | S1 (2004) | Red | G3? | N/A | | 182. |
| <u><i>Populus tremuloides</i></u> / <u><i>Symphoricarpos albus</i></u> / <i>Poa</i> <u><i>pratensis</i></u> | trembling aspen / common snowberry / Kentucky bluegrass - Plant association | IDFdk1a/94 IDFxh1/98 IDFxh1a/98 IDFxh2a/95 PPxh1/00 PPxh1a/00 | S2 (2004) | Red | GNR | N/A | | 183. |
| <u><i>Populus trichocarpa</i></u> - <u><i>Pseudotsuga menziesii</i></u> / <i>Acer</i> <u><i>glabrum</i></u> - <u><i>Symphoricarpos albus</i></u> | Black cottonwood - Douglas fir / Douglas maple - common snowberry - Plant association | IDFdc/Fm05 IDFdk1/Fm0 5 IDFdk2/Fm0 5 IDFmw1/Fm0 5 IDFww1/Fm0 5 IDFxc/Fm05 IDFxh1/Fm0 5 IDFxh2/Fm0 5 | S1S2 (2019) | Red | GNR | N/A | | 184. |
| <u><i>Populus trichocarpa</i></u> - <u><i>Pseudotsuga menziesii</i></u> / <u><i>Symphoricarpos albus</i></u> - <i>Cornus</i> <u><i>sericea</i></u> | black cottonwood - Douglas-fir / common snowberry - red-osier dogwood - Plant association | IDFxh1/00 PPxh1 | S1S2 (2004) | Red | G1G2 | N/A | | 185. |

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| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|---|---|-------------|---------|--------------|---------|------|------|
| <u><i>Populus trichocarpa</i></u> / <u><i>Symphoricarpos albus</i></u> - <i>Rosa spp.</i> | black cottonwood / common snowberry - roses - Plant association | IDFdm1/Fm0 1 IDFdm2/Fm0 1 IDFdw/Fm01 IDFmw1/Fm0 1 IDFmw2/Fm0 1 IDFww/Fm01 IDFxc/Fm01 IDFxh1/Fm0 1 IDFxh2/Fm0 1 IDFxh4/Fm0 1 IDFxk/Fm01 PPdh2/Fm01 PPxh1/Fm01 PPxh2/Fm01 PPxh3/Fm01 | S1 (2019) | Red | GNR | N/A | N/A | 186. |
| <u><i>Populus trichocarpa</i></u> / <u><i>Toxicodendron rydbergii</i></u> - <i>Rosa spp.</i> | black cottonwood / poison ivy - rose spp. - Plant association | PPxh1/Fm06 | S1S2 (2021) | Red | GNR | N/A | N/A | 187. |
| <u><i>Potamogeton strictifolius</i></u> | stiff-leaved pondweed - Plant | IDFdm IDFun | S3 (2019) | Blue | G5 (2016) | | | 188. |
| <u><i>Promenetes umbilicatellus</i></u> | Umbilicate Sprite - Invertebrate (snail) | IDF, PP | S2S3 (2015) | Blue | G4 (2015) | | | 189. |
| <u><i>Pseudoroegneria spicata</i></u> - | bluebunch wheatgrass - arrowleaf | IDFxh1/00 IDFxh1a/93 | S3 (2013) | Blue | GNR | N/A | N/A | 190. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(Pseudotsuga menziesii - Pinus ponderosa / Pseudoroegneria spicata)
 occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|---|--|------------|---------|--------|---------|------|------|
| <u><i>Balsamorhiza sagittata</i></u> | balsamroot - Plant association | IDFxm/00 PPdh1/03 PPxh1/00K PPxh3/ | | | | | | |
| <u><i>Pseudoroegneria spicata</i></u> - <u><i>Koeleria macrantha</i></u> | bluebunch wheatgrass - junegrass - Plant association | IDFdk1/Gg02 IDFdk3/00 IDFdk3/Gg IDFdk4/Gg IDFdk5/Gg01 IDFdk5/Gg02 IDFdm1/02 IDFdm1/Gg0 2 IDFdm2/Gg0 1 IDFdm2/Gg0 2 IDFmw1/Gg0 2 IDFmw2/Gg0 1 IDFxc/Gg04 IDFxh1/Gg02 IDFxh2/Gg02 IDFxh2/Gg04 IDFxh4/Gg02 IDFxk/Gg01 IDFxm/00 IDFxm/Gg04 PPdh1/Gg01 PPdh1/Gg02 PPdh2/Gg01 PPdh2/Gg02 PPxh1/Gg01 | S3 (2018) | Blue | GNR | N/A | N/A | 191. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|---|--|------------|---------|--------|---------|------|------|
| | | PPxh1/Gg02 PPxh2/Gg01 PPxh2/Gg02 PPxh2/Gg04 PPxh3/Gg01 PPxh3/Gg02 | | | | | | |
| <u><i>Pseudotsuga menziesii</i> / <i>Acer glabrum</i> - <i>Cornus sericea</i></u> | Douglas-fir / Douglas maple - red-osier dogwood - Plant association | IDFxf1/08 | S2 (2004) | Red | GNR | N/A | N/A | 192. |
| <u><i>Pseudotsuga menziesii</i> / <i>Calamagrostis rubescens</i> - <i>Arctostaphylos uva-ursi</i></u> | Douglas-fir / pinegrass - kinnikinnick - Plant association | IDFdm1/04 | S2 (2004) | Blue | GNR | N/A | N/A | 193. |
| <u><i>Pseudotsuga menziesii</i> / <i>Calamagrostis rubescens</i> - <i>Linnaea borealis</i></u> | Douglas-fir / pinegrass - twinflower - Plant association | IDFdm1/01 IDFdm2/01 | S3 (2004) | Blue | GNR | N/A | N/A | 194. |
| <u><i>Pseudotsuga menziesii</i> - <i>Larix occidentalis</i> / <i>Calamagrostis</i></u> | Douglas-fir - western larch / pinegrass - Plant association | IDFdm1/05 IDFdm2/04 | S2 (2004) | Red | GNR | N/A | N/A | 195. |
| <u><i>Pseudotsuga menziesii</i> / <i>Penstemon fruticosus</i> - <i>Calamagrostis rubescens</i></u> | Douglas-fir / shrubby penstemon - pinegrass - Plant association | IDFmw1/03 | S3 (2004) | Blue | GNR | N/A | N/A | 196. |
| <u><i>Pseudotsuga menziesii</i> - <i>Pinus ponderosa</i> / <i>Calamagrostis rubescens</i></u> | Douglas-fir - ponderosa pine / pinegrass - Plant association | IDFdc/03 IDFdk2/03 IDFxc/01 IDFxc/05 IDFxf1/01 IDFxf2/01 IDFxf2/05 | S3 (2004) | Blue | GNR | N/A | N/A | 197. |
| <u><i>Pseudotsuga menziesii</i> - <i>Pinus</i></u> | Douglas-fir - ponderosa pine / | IDFxf1/04 | S3 (2004) | Blue | GNR | N/A | N/A | 198. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|---|--|-------------|---------|-----------------|---------|----------------|------|
| <u><i>ponderosa</i> / <i>Ceanothus</i></u> | snowbrush - Plant association | | | | | | | |
| <u><i>Pseudotsuga menziesii</i> - <i>Pinus ponderosa</i> / <i>Festuca idahoensis</i></u> | Douglas-fir - ponderosa pine / Idaho fescue - Plant association | IDFxh1/05 | S3 (2004) | Blue | GNR | N/A | N/A | 199. |
| <u><i>Pseudotsuga menziesii</i> - <i>Pinus ponderosa</i> / <i>Pseudoroegneria spicata</i></u> | Douglas-fir - ponderosa pine / bluebunch wheatgrass - Plant association | IDFxc/02 IDFxc/03 IDFxh1/02 IDFxh2/02 IDFxh2/03 IDFxw/04 | S3 (2016) | Blue | GNR | N/A | N/A | 200. |
| <u><i>Pseudotsuga menziesii</i> - <i>Pinus ponderosa</i> / <i>Pseudoroegneria spicata</i> - <i>Calamagrostis rubescens</i></u> | Douglas-fir - ponderosa pine / bluebunch wheatgrass - pinegrass - Plant association | IDFdc/02 IDFdk2/02 IDFdm1/03 IDFxc/04 IDFxh1/03 IDFxh2/04 IDFxw/02 | S3 (2004) | Blue | GNR | N/A | N/A | 201. |
| <u><i>Pseudotsuga menziesii</i> / <i>Symphoricarpos albus</i> / <i>Calamagrostis rubescens</i></u> | Douglas-fir / common snowberry / pinegrass - Plant association | PPxh1/06 | S2 (2004) | Red | GNR | N/A | N/A | 202. |
| <u><i>Pseudotsuga menziesii</i> / <i>Symphoricarpos albus</i> - <i>Spiraea</i></u> | Douglas-fir / common snowberry - birch-leaved spirea, - plant association | IDFxh1/06 IDFxh1/07 PPxh1/07 | S2S3 (2016) | Blue | GNR | N/A | N/A | 203. |
| <u><i>Psilocarphus brevissimus</i> var. <i>brevissimus</i></u> | dwarf woolly-heads - Plant | IDFxh | S1S2 (2019) | Red | G4T4? (2012) | E | 1-E (2007) | 204. |
| <u><i>Psiloscoops flammeolus</i></u> | Flammulated Owl - Bird | IDF PP | | Blue | G4 (2016) | SC | 1-SC (2003) | 205. |
| <u><i>Pterygoneurum kozlovi</i></u> | alkaline wing-nerved moss - Plant | IDF PP | S3 (2015) | Blue | G3 (2018) | T | 1-T (2006) | 206. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass Ecological Community
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|---|--|-------------|---------|--------|---------|------|------|
| <u><i>Puccinellia nuttalliana</i></u> - <u><i>Hordeum jubatum</i></u> | Nuttall's alkaligrass - foxtail barley - Plant association | IDFdk1/Ga02 IDFdk1/Gs02 IDFdk3/Ga02 IDFdk3/Gs02 IDFdk4/Ga02 IDFdk4/Gs02 IDFdm2/Ga0 2 IDFdm2/Gs0 2 IDFdw/Ga02 IDFhx1/Ga02 IDFhx1/Gs02 IDFhx1a/Ga0 2 IDFhx1a/Gs0 2 IDFhx2/Ga02 IDFhx2/Gs02 IDFxm/Ga02 IDFxm/Gs02 PPxh1/Ga02 PPxh1/Gs02 PPxh1a/Ga0 2 PPxh1a/Gs0 2 PPxh2/Ga02 PPxh2/Gs02 | S2 (2018) | Red | G3? | N/A | N/A | 207. |
| <u><i>Purshia tridentata</i></u> / <u><i>Hesperostipa comata</i></u> | antelope-brush / needle-and-thread grass Plant association | IDFhx1 PPxh1 PPxh1a | S1S2 (2021) | Red | G2 | N/A | N/A | 208. |
| <u><i>Pyrgus communis</i></u> | Checkered Skipper - | IDF PP | S3 (2020) | Blue | G5 | | | 209. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|--|---|--------------|---------|-----------|---------|-------------|------|
| | Invertebrate (butterfly) | | | | (2021) | | | |
| <u><i>Pyrola aphylla</i></u> | leafless wintergreen - Plant | IDFww | S3 (2019) | Blue | GNR | | | 210. |
| <u><i>Recurvirostra americana</i></u> | American Avocet - Bird | IDF, PP | S2S3B (2015) | Blue | G5 (2016) | | | 211. |
| <u><i>Reithrodontomys megalotis</i></u> | Western Harvest Mouse - Mammal | IDF, PP | S3 (2015) | Blue | G5 (2016) | E | 1-SC (2009) | 212. |
| <u><i>Rhinichthys osculus</i></u> | Speckled Dace - Fish | IDF, PP | S3? (2019) | Blue | G5 (1996) | E | 1-E (2009) | 213. |
| <u><i>Rhinichthys umatilla</i></u> | Umatilla Dace - Fish | IDF | S2 (2019) | Red | G4 (1992) | T | 3 (2005) | 214. |
| <u><i>Salix amygdaloides</i></u> | MacCalla's willow / beaked sedge - Plant association | IDFdc/Ws05 IDFdk1/Ws05 IDFdk3/Ws05 IDFdk4/Ws05 | S3 (2004) | Blue | G3 | N/A | N/A | 215. |
| <u><i>Salvelinus confluentus</i></u> | Bull Trout - Fish | IDF, PP | S3S4 (2018) | Blue | G5 (2017) | SC | | 216. |
| <u><i>Satyrium behrii</i></u> | Behr's Hairstreak - Invertebrate (butterfly) | IDF, PP | S1 (2020) | Red | G5 (2016) | E | 1-E (2003) | 217. |
| <u><i>Satyrium californica</i></u> | California Hairstreak - Invertebrate (butterfly) | IDF, PP | S3 (2020) | Blue | G5 (2016) | | | 218. |
| <u><i>Satyrium semiluna</i></u> | Half-moon Hairstreak - Invertebrate (butterfly) | IDF, PP | S1 (2020) | Red | G4 (2021) | E | 1-E (2007) | 219. |
| <u><i>Schoenoplectiella saximontana</i></u> | Rocky Mountain clibrush - Plant | IDF | S2 (2022) | Red | G5 (1990) | | | 220. |
| <u><i>Schoenoplectus acutus</i> Deep</u> | hard-stemmed bulrush Deep Marsh - Plant (rush) | IDFdc/Wm06 IDFdk1/Wm0 | S3 (2020) | Blue | G5 | N/A | N/A | 221. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(Pseudotsuga menziesii - Pinus ponderosa / Pseudoroegneria spicata)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|---|---|------------|---------|--------|---------|------|-------------|
| <u>Marsh</u> | | 6 IDFdk3/Wm0 6 IDFdk4/Wm0 6 IDFdk5/Wm0 6 IDFdm1/Wm 06 IDFdm2/Wm 06 IDFmw1/Wm 06 IDFxc/Wm06 IDFxh1/Wm0 6 IDFxh2/Wm0 6 IDFxc/Wm06 IDFxm/Wm0 6 PPxh1/Wm0 6 PPxh2/Wm0 6 PPxh3/Wm0 6 | | | | | | |
| <u>Schoenoplectus pungens</u> var. <u>longispicatus</u> <u>Alkali Marsh</u> | <u>long-awned three-square bulrush</u> <u>Alkali Marsh Plant association</u> | IDFdk3/wm0 8 IDFxh1/Wm0 8 IDFxm/Wm0 8 PPxh1/Wm0 | S1 (2015) | Red | GNR | N/A | N/A | 222. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|--|--|----------------------|--------------|---------|---------------|---------|------------|------|
| | | 8 PPxh2/Wm0 8 | | | | | | |
| Scrophularia lanceolata | lance-leaved figwort - Plant | IDFxh | S3 (2019) | Blue | G5 (2016) | | | 223. |
| Scytinium californicum | Midlife vinyl - Plant | IDFun | S2S3 (2010) | Blue | GNR | | | 224. |
| Scytinium schraderi | Collapsing vinyl - Plant | PPxh | S2? (2019) | Red | GNR | | | 225. |
| Senecio hydrophiloides | sweet-marsh butterweed - Plant | PPdh | S3 (2019) | Blue | G5 (2015) | | | 226. |
| Sisyrinchium idahoense var. <i>occidentale</i> | Idaho blue-eyed grass - Plant | IDFxh PPxh | S1S3 (2015) | Red | G5T3T5 (2002) | | | 227. |
| Sorex merriami | Merriam's Shrew - Mammal | PP | S1 (2015) | Red | G4 (2016) | | | 228. |
| Sorex preblei | Preble's Shrew - Mammal | IDF PP | S1S2 (2015) | Red | G4 (2016) | | | 229. |
| Spea intermontana | Great Basin Spadefoot - Amphibian | IDF PP | S3S4 (2022) | Blue | G5 (2016) | T | 1-T (2003) | 230. |
| Speyeria mormonia erinna | Mormon Fritillary, <i>erinna</i> subspecies - Invertebrate (butterfly) | IDF PP | S2 (2021) | Red | G5T4 (2003) | | | 231. |
| Sphaerium striatinum | Striated Fingernailclam - Invertebrate (Clam) | IDF PP | S2S3 (2015) | Blue | G5 (2015) | | | 232. |
| Sphyrapicus thyroideus | Williamson's Sapsucker - Bird | IDF MS PP | S3B (2022) | Blue | G5 (2016) | E | 1-E (2006) | 233. |
| Spiranthes diluvialis | Ute lady's tresses - Plant (orchid) | PPxh | S1 (2019) | Red | G2G3 (2020) | E | | 234. |
| Spizella breweri breweri | Brewer's Sparrow, <i>breweri</i> subspecies - Bird | IDF PP | S2S3B (2018) | Blue | G5T5 (2016) | | | 235. |

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occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|---|---|-------------|---------|----------------|---------|---------------|------|
| Stagnicola apicina | Abbreviate Pondsnaill Invertebrate | IDF PP | S2S3 (2015) | Blue | GUQ (2015) | | | 236. |
| Stagnicola traski | Widelip Pondsnaill - Invertebrate | IDF PP | S3S4 (2015) | Blue | G3G4 (2017) | | | 237. |
| Sterna forsteri | Forster's Tern - Bird | IDF PP | S1B (2022) | Red | G5 (2016) | DD | | 238. |
| Strix occidentalis | Spotted Owl - Bird | IDF | S1 (2018) | Red | G3G4 (2016) | E | 1-E (2003) | 239. |
| Stylurus olivaceus | Olive Clubtail - Invertebrate (dragonfly) | IDF | S2 (2015) | Red | G4 (2016) | E | 1-E (2017) | 240. |
| Sylvilagus nuttallii | Nuttall's Cottontail - Mammal | IDFdm2/97 IDFdm2/Ff02 IDFmw1/Ff02 IDFxb1/97 IDFxb1/Ff02 IDFxb1a/97 IDFxb2/97 IDFxb2/Ff02 PPdh2/97 PPdh2/Ff02 PPxb1/97 PPxb1/Ff02 | S3 (2018) | Blue | GNR | N/A | N/A | 241. |
| Symphoricarpos albus - Rosa woodsii | common snowberry - Prairie rose - Plant association | IDFdm2/97 IDFdm2/Ff02 IDFmw1/Ff02 IDFxb1/97 IDFxb1/Ff02 IDFxb1a/97 IDFxb2/97 IDFxb2/Ff02 PPdh2/97 PPdh2/Ff02 PPxb1/97 PPxb1/Ff02 | S3 (2018) | Blue | GNR | N/A | N/A | 242. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(*Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudoroegneria spicata*)
occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|---|--|---|-------------|---------|---------------|------------|------------|------|
| <i>Symphotrichum frondosum</i> | short-rayed aster - Plant | PPxh | S2 (2019) | Red | G4 (1987) | E | 1-E (2007) | 243. |
| <i>Synaptomys borealis artemisiae</i> | Northern Bog Lemming, <i>artemisiae</i> subspecies - Mammal | IDF | S2S3 (2006) | Blue | G5T2T3 (2016) | | | 244. |
| <i>Taraxia breviflora</i> | short-flowered evening primrose - Plant | IDFdk | S1 (2019) | Red | G5 (1988) | | | 245. |
| <i>Taxidea taxus</i> | American Badger - Mammal | IDF PP | S2 (2015) | Red | G5 (2016) | E | 1-E (2018) | 246. |
| <i>Thuja plicata</i> - <i>Picea engelmannii</i> x <i>glauca</i> / <i>Lonicera involucrata</i> / <i>Carex disperma</i> | western redcedar - hybrid white spruce / black twinberry / soft-leaved sedge - Plant association | IDFdc/07 IDFdk2/07 | S2 (2004) | Red | GNR | N/A | N/A | 247. |
| <i>Thuja plicata</i> - <i>Pseudotsuga menziesii</i> / <i>Maianthemum racemosum</i> | western redcedar - Douglas-fir / false Solomon's seal - Plant association | IDFhx1/00 | S1 (2004) | Red | GNR | N/A | N/A | 248. |
| <i>Tringa incana</i> | Wandering Tattler - Bird | IDF | S3B (2015) | Blue | G4G5 (2016) | S3B (2015) | | 249. |
| <i>Tympanuchus phasianellus columbianus</i> | Sharp-tailed Grouse, <i>columbianus</i> subspecies - Bird | IDF PP | S2S3 (2005) | Blue | G5T3 (2022) | | | 250. |
| <i>Typha latifolia</i> Marsh | common cattail Marsh- Plant | IDFdc/Wm05 IDFdk1/Wm05 IDFdk2/Wm05 IDFdk3/Wm05 IDFdk5/Wm05 IDFdm1/Wm05 | S3 (2020) | Blue | G5 | N/A | N/A | 251. |

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TABLE 1 Douglas-fir - ponderosa pine / bluebunch wheatgrass *Ecological Community*
(Pseudotsuga menziesii - Pinus ponderosa / Pseudoroegneria spicata)
 occurring in the BC Interior Douglas fir and Ponderosa Pine Biogeoclimatic Zones of the Regional District of Okanagan Similkameen

| Species and Ecological communities | English Name | Biogeoclimatic Units | Provincial | BC List | Global | COSEWIC | SARA | # |
|------------------------------------|----------------------------|---|------------|---------|-----------|---------|-------------|-------------|
| | | IDFdm2/Wm05 IDFmw1/Wm05 IDFmw2/Wm05 IDFXc/Wm05 IDFXh1/Wm05 IDFXh2/Wm05 IDFXk/Wm05 PPdh2/Wm05 PPxh1/Wm05 PPxh2/Wm05 | | | | | | |
| <u>Tyto alba</u> | Barn Owl - Bird | IDF PP | S3 (2022) | Blue | G5 (2016) | T | 1-T (2018) | 252. |
| <u>Ursus arctos</u> | Grizzly Bear - Mammal | IDF | S3? (2015) | Blue | G4 (2022) | SC | 1-SC (2018) | 253. |
| <u>Viola sororia</u> | woolly blue violet - Plant | IDFmw IDFXh | S3 (2019) | Blue | G5 (2016) | | | 254 |

| TABLE 2 | | | | | | | | |
|---|----------------------------|-----------|---------------------|-----------|--|-----------|--------------------------------|------------|
| SUMMARY | | | | | | | | |
| Douglas-fir - ponderosa pine / bluebunch wheatgrass <i>Ecological Community</i> (<i>Pseudotsuga menziesii</i> - <i>Pinus ponderosa</i> / <i>Pseudoroegneria spicata</i>) <i>Regional District of Okanagan Similkameen</i> ^{1. ; 2. ; 3.} | | | | | | | | |
| Primary Ecosystem | Interior Douglas Fir (IDF) | | Ponderosa Pine (PP) | | Interior Douglas Fir (IDF) & Ponderosa Pine (PP) | | | Totals |
| | Provincial Rank | | | | | | | |
| Life Categories | Red List | Blue List | Red List | Blue List | Red List | Blue List | Other | |
| Plants | 10 | 15 | 4 | 4 | 4 | 19 | - | 56 |
| Fungi | 1 | 3 | 1 | 2 | 0 | 1 | - | 8 |
| Invertebrates | 3 | 10 | 0 | 4 | 6 | 27 | - | 50 |
| Birds | 4 | 6 | 1 | 1 | 13 | 25 | 4 (yellow list) 3 (No rank) | 57 |
| Mammals | 0 | 3 | 2 | 0 | 3 | 12 | 1 (No rank) | 21 |
| Fish | 1 | 3 | 1 | 0 | 0 | 2 | 1 (No rank) | 8 |
| Reptiles | 0 | 0 | 0 | 0 | 1 | 5 | 2 (No rank) 1 (Yellow list) | 9 |
| Amphibians | 0 | 2 | 0 | 2 | 2 | 1 | 1 (yellow list) | 8 |
| Plant Communities | 8 | 11 | 5 | 2 | 7 | 4 | - | 37 |
| Totals | 27 | 53 | 14 | 15 | 36 | 96 | 13 | 254 |

1. Species and ecosystem information was obtained from the BC Conservation Data Centre.

2. Of note is that in the RDOS the Big Sage-Blue bunch wheatgrass ecosystem generally occurs below the dry **Douglas fir- Ponderosa pine/bluebunch wheatgrass ecosystem**. Each of those ecosystems and associated South Okanagan wetland ecosystems includes, or through enhancement has the potential to include, essential habitats for many species of fungi, plants, invertebrates, amphibians, reptiles, fish, birds and mammals at risk, as well as many at risk plant ecosystems (associations).

3. All at risk species and ecosystems listed may not now occur within all portions of the Douglas-fir - ponderosa pine / bluebunch wheatgrass ecosystem

APPENDIX 2

STATUSES

The BC Conservation Data Centre is a member of [NatureServe](#), a large, impactful and consequential Network of 60+ governmental and non-governmental programs located in the Canada and the United States. The programs share common methodologies for collecting and managing information, which allows them to pool data for conservation assessment and planning across geopolitical boundaries.

Conservation Status Categories

NatureServe Global Conservation Status Ranks

Listed below are definitions for interpreting Nature Serve's global (range-wide) conservation status ranks. Global conservation status ranks are assigned by NatureServe scientists or by a designated lead office in the NatureServe Network.

A note about rounded ranks. *NatureServe Explorer* now allows users the option to view search results as rounded ranks. As the table below shows, one variant in the ranking system is a range rank, which communicates uncertainty associated with conservation status ranks. For example, incomplete survey data may lead to the designation of a species or ecosystem as G1G2. Rounded ranks convert conservation status ranks to a single value that is easier to interpret and summarize. Range ranks that span adjacent ranks (e.g., G1G2 or G4G5) are rounded to the more imperiled rank (e.g., G1G2 is rounded to G1). Range ranks that span three ranks (e.g., G2G4) are rounded to the rank in the middle of the range (e.g., G2G4 is rounded to G3).

Global (G) Conservation Status Ranks

| RANK | DEFINITION |
|-----------|--|
| GX | Presumed Extinct (species) — Not located despite intensive searches and virtually no likelihood of rediscovery Presumed Collapsed (ecosystem) — Collapsed throughout its range, due to loss of key dominant and characteristic taxa and/or elimination of the sites and ecological processes on which the type depends |
| GH | Possibly Extinct (species) or Possibly Collapsed (ecosystem) — Known from only historical occurrences but still some hopes of rediscovery. Examples of evidence include (1) that a species has not been documented in approximately 20-40 years in human-dominated landscapes despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is extinct or collapsed throughout its range. |
| G1 | Critically Imperiled — At very high risk of extinction or collapse due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors. |
| G2 | Imperiled — At high risk of extinction or collapse due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. |
| G3 | Vulnerable — At moderate risk of extinction or collapse due to a fairly restricted range, relatively few populations or occurrences, recent and |

Global (G) Conservation Status Ranks

| RANK | DEFINITION |
|-----------|---|
| | widespread declines, threats, or other factors. |
| G4 | Apparently Secure — At fairly low risk of extinction or collapse due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. |
| G5 | Secure — At very low risk of extinction or collapse due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats. |

Variant Global Conservation Status Ranks

| RANK | DEFINITION |
|-------------|--|
| G#G# | Range Rank — A numeric range rank (e.g., G2G3, G1G3) is used to indicate uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4). |
| GU | Unrankable — Currently unrankable due to lack of information or due to substantially conflicting information about status or trends. NOTE: Whenever possible (when the range of uncertainty is three consecutive ranks or less), a range rank (e.g., G2G3) should be used to delineate the limits (range) of uncertainty. |
| GNR | Unranked — Global rank not yet assessed. |
| GNA | Not Applicable — A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities. For species, typically the species is a hybrid without conservation value, or of domestic origin. For ecosystems, the type is typically non-native (e.g. many ruderal vegetation types), agricultural (e.g. pasture, orchard) or developed (e.g. lawn, garden, golf course). |

Intraspecific Taxon Global Conservation Status Rank

| RANK | DEFINITION |
|-----------|---|
| T# | Intraspecific Taxon (trinomial) — The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. |

NatureServe National and Subnational Conservation Status Definitions

Listed below are definitions for interpreting NatureServe conservation status ranks at the national (N-rank) and subnational (S-rank) levels. The term "subnational" refers to province, state, territory, or tribal-level jurisdictions (e.g., Ontario, California).

Assigning national and subnational conservation status ranks for species and ecosystems (ecological vegetation types, natural communities) follows the same general principles as used in assigning global status ranks. A subnational rank normally would not imply that a species or ecosystem is more secure at the state/provincial level than it is nationally or globally (e.g., a rank of G1S3 is typically invalid), and similarly, a national rank could not exceed the global rank.

However, there are cases where a trend factor (e.g. change in area of an ecosystem, or population size of a species) is relatively stable in a jurisdiction, but is strongly declining across most other parts of the range, resulting in a subnational or national rank being more secure than the global rank. Subnational ranks are assigned and maintained by state, territory, provincial, or tribal NatureServe Network programs.

National (N) and Subnational (S) Conservation Status Rank

| RANK | DEFINITION |
|----------|---|
| NX SX | Presumed Extirpated —Species or ecosystem is believed to be extirpated from the jurisdiction (i.e., nation, or state/province). Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered. [equivalent to “Regionally Extinct” in IUCN Red List terminology] |
| NH SH | Possibly Extirpated – Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in the jurisdiction, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years in human-dominated landscapes despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction. |
| N1 S1 | Critically Imperiled — At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors. |
| N2 S2 | Imperiled — At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. |
| N3 S3 | Vulnerable — At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. |
| N4 S4 | Apparently Secure — At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. |
| N5 S5 | Secure — At very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats. |

Variant National and Subnational Conservation Status Ranks

| RANK | DEFINITION |
|----------|---|
| N# S# | Range Rank —A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4). |
| NU SU | Unrankable —Currently unrankable due to lack of information or due to substantially conflicting information about status or trends. |

Variant National and Subnational Conservation Status Ranks

RANK

DEFINITION

**NNR
SNR**

Unranked—National or subnational conservation status not yet assessed.

**NNA
SNA**

Not Applicable —A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., [long distance aerial and aquatic migrants](#), hybrids without conservation value, and [non-native](#) species or ecosystems).

Relationship to Other Status Designations: NatureServe conservation status ranks are a valuable complement to legal status designations assigned by government agencies such as the Canadian Ministry of Environment and Climate Change in administering the Species at Risk Act (SARA). NatureServe status ranks and accompanying documentation may be used by these agencies in making official determinations, particularly in the identification of candidates for legal protection. Because NatureServe assessment procedures—and subsequent lists of imperiled and vulnerable species—have different criteria, evidence requirements, purposes, and taxonomic coverage than official lists of endangered and threatened species, they do not necessarily coincide. Assessment by NatureServe of any species as being critically imperiled (G1), imperiled (G2), or vulnerable (G3) does not constitute a recommendation by NatureServe for listing under the Canadian SARA.

The International Union for Conservation of Nature’s (IUCN’s) [Red List of Threatened Species](#) is similar in concept to NatureServe's global conservation status assessments. Due to the independent development of these two systems, however, minor differences exist in their respective criteria and implementation. NatureServe is a founding member of the IUCN SSC Red List Committee, and in the region covered by *NatureServe Explorer*, NatureServe status ranks and their underlying documentation often inform Red List assessments. NatureServe also participates in the IUCN Red List of Ecosystems Committee.

BC Provincial Ranks

Red List

Any species or ecosystem that is at risk of being lost (extirpated, endangered or threatened)

| Element Types | Status Ranks |
|------------------------|---------------------------------|
| Animals and Plants | SX, SH, S1, S1S2, S2, S2?, S1S3 |
| Ecological communities | SX, SH, S1, S1S2, S2 |

Blue List

Any species or ecosystem that is of special concern

| Element Types | Status Ranks |
|-----------------------------------|--------------------------------|
| Animals | S2S3, S2S4, S3, S3? S3S4, S3S5 |
| Ecological communities and Plants | S2S3, S2S4, S3, S3? |
| | |

Yellow List

Any species or ecosystem that is apparently secure or secure (least risk of being lost)

| Element Types | Status Ranks |
|-----------------------------------|--------------------------|
| Animals | S4, S4?, S4S5, S5 |
| Ecological communities and Plants | S3S4, S3S5, S4, S4S5, S5 |

1159 Nuttall Road
Naramata, B. C.
VOH 1N1

March 4, 2023

Open Letter, "My Naramata"

The Honourable George Hayman
Minister of Environment and Climate Change Strategy
ENV.Minister@gov.bc.ca

I am writing to you on the matter of the increasingly imperilled state of native species and the ecosystems in the Regional District of Okanagan Similkameen. Most particularly my concern is focussed on the South Okanagan valley which is home to the largest number of species and ecosystems at risk in British Columbia and Canada. Adding to my concern is that some of those species are found nowhere else in the world and that others are at risk outside of Canada.

As Minister responsible for the Environment in British Columbia and who is mandated to advance the provincial climate change strategy, I believe it is incumbent upon you to work with your cabinet colleague's to direct immediate attention to preventing further loss of ecosystems and species at risk in the South Okanagan. Such action is not only anticipated by the 2005 agreement between BC and Canada to protect species at risk and their habitat, but it anticipates the effects of climate change in the Okanagan Valley and elsewhere in the south of the province becoming warmer and drier. Most of the species and ecosystems at risk in the South Okanagan are not only diverse, but well adapted to heat and arid conditions. They could serve as a resource to expand their range to occupy similar areas of climate.

I have examined a number of published documents confirming there is a need to act to save, and where possible to recover, species and ecosystems at risk in the South Okanagan. My review included science based records and publications covering the geology, soils, hydrology, and status of species and ecosystems in the Okanagan Similkameen Valleys. It included obtaining a list of provincially, nationally and globally at risk species and ecosystems from records available at the website of the BC Conservation Data Centre administered by your ministry. Much of my inquiry is focused on the Douglas-fir - ponderosa pine / bluebunch wheatgrass ecosystem (DF/PP/BW). It is dry open forest containing many species habitats including portions of other adjoining, unique, at risk ecosystems and wetlands. The severely impacted grassland described as the Big Sage - bluebunch / wheatgrass ecosystem centred above valley bottom lakes occur in the driest/hottest areas of the valley and occur in the drier areas of the DF/PP/BW.

The reality is that all grasslands, the DF/PP/BW and wetlands in the South Okanagan continue to be reduced in area, and capacity needed to maintain habitats for species and ecosystems leading to more of each at risk of extinction. The widespread growth in human numbers and the impacts from agriculture, urbanization, forestry, water use and associated infrastructure continues today. The significance of those impacts in the South Okanagan is comparable to the critical state from logging, agriculture and urbanization endangering species and ecosystems in most of the world's tropical forests.

The numbers of species and ecosystems ranked provincially on the Red list are at risk of being lost (extirpated, endangered or threatened) and those on the Blue list are of special concern due to expanding impacts. Included are some that are unranked yet, but are of concern due to growing impacts. The DF/PP/BW ecosystem examined includes 55 Red listed species, 145 blue listed species, 14 unranked

species, 20 red listed ecosystems and 7 blue listed ecosystems for a combined total of 255. To illustrate further the seriousness of the impacts on species and ecosystems in the South Okanagan Valley is the over 90% loss of Okanagan River wetlands and that sage brush ecosystems are among the most imperiled in North America.

There is increasingly public awareness of those facts. Exemplifying that is the publicly voiced concern about recent and proposed urban growth into the DF/PP/BW in the Penticton and Naramata areas. Adding to the concern has resulted from approved and proposed developments near Naramata causing significant changes to drainage and erosion resulting in property damage. Equally important to residents in those areas is that the developments are dense urban-style subdivisions containing expensive housing that is seen as being inconsistent with the area's natural environment and rural setting. Some residents believe those subdivisions are for rich people, seeking view lots and second homes that do little or nothing to support young families and the local school or to make provision for retired people on more limited incomes. Those values are cherished as parts of the existing local culture.

There is less concern with the largely farm related developments within the Agricultural Land Reserve even though they have historically altered almost all of the accessible native sage/grasslands throughout the RDOS. A recent concern is the number of homes located on farms that have undergone upgrading followed by their registration for seasonal rental. Seasonal and permanent creeks drain from the DF/PP/BW ecosystem cutting through farmed bench lands and some urban areas down to Lake Okanagan. Their treed or dry sage/grassland gullies and drainage beds require vigorous protection now to assure the maintenance of stream and lake ecosystems supporting common and at risk species as well as remaining at risk Big Sage - bluebunch / wheatgrass ecosystem and its related species.

I recommend the following early actions for your government's undertaking:

1. Stop any and all proposed development being considered for approval within the Douglas-fir - Ponderosa pine/Bluebunch wheatgrass ecosystem, the Big sage Bluebunch wheatgrass ecosystem and allow no existing development to expand or new development within 15 m of all types of wetland in the South Okanagan.
2. Make financial and legislative changes allowing government to effect programs on Crown land, or by agreement with land owners on private land, in the South Okanagan to facilitate recovery of species or ecosystems at risk.
3. Establish ongoing science based inventory systems that measure changes in the status of species and ecosystems at risk in the south Okanagan, and publically publish the results.
4. Provide authority and funding to allow the Okanagan Water Board to determine, the location and size of all seasonal and perennial surface wetlands, and groundwater drainages throughout the South Okanagan.

I look forward to your response.

D. Ray Halladay, BSA, MSA (RPBio retired).

- CC's - The Honourable Robert Fleming
Minister of Transportation and Infrastructure
Minister.Transportation@gov.bc.ca
- The Honourable Bruce Rolston
Minister of Forests
FOR.Minister@gov.bc.ca
- The Honourable Pam Alexis
Minister of Agriculture and Food
AGR.Minister@gov.bc.ca
- The Honourable Nathan Cullen
Minister of Water Land and Resource Stewardship
WLRs.minister@gov.bc.ca
- The Honourable Rauil Kahlon
Minister of Housing
Housing.Minister@gov.bc.ca
- The Honourable Richard Cannings, MP
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richard.cannings@parl.gc.ca
- The Honourable Dan Albas, MP
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dan.albas@parl.gc.ca
- Dan Ashton, MLA,
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- Mark Pendergraft, Chair
Regional District of Okanagan Similkameen
info@RDOS.bc.ca
- Adrienne Fedrigo, Director
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- Julius Bloomfield, Mayor
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- Evelyn Reichert, Planner 11
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eriechert@rdos.bc.ca
- James Miller, Editor
editor@pentictonherald.ca
- Colin Dacre, Director of Content
colin@castenet.net

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27
re 1530 Reservoir Road

From: Susan
Sent: Monday, September 11, 2023 9:21 AM
To: Development Services email <Development@penticton.ca>
Cc: [t](#)
Subject: Reservoir Rd proposed development

We are contacting you to express our opposition to the proposed Reservoir Rd development.

We do not reside in the city of Penticton, but as residents of Naramata we would still be affected by this development.

We refer you to the excellent letter submitted to you by the Preservation of the Naramara Bench group which expresses exactly the reasons we are opposed to this proposal. We wholeheartedly support their submission to you.

Susan and Steve Jasper
2502 Winifred Rd
Naramata,
Owners/operators of Singing Marmot Guest Suites

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27

From: [Avril Torrence](#) re 1530 Reservoir Road
To: [Public Hearings](#)
Subject: PUBLIC HEARING SEPT 12 LETTER RE: RESERVOIR ROAD DEVELOPMENT
Date: Monday, September 11, 2023 3:18:58 PM

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RE: Zoning Amendment Bylaw 2023-27

To Our Elected Representatives on City Council

I write to express my strong opposition to the proposed development of 1530 Reservoir Road, specifically in the need to amend its current zoning designation.

My reasons are as follows and are not in priority order as they intersect with one another:

- I don't see the development of 33 large lot, single-family homes (i.e. costly) as in any way likely to address the affordable housing shortage that currently exists in our city;
- the proposed area for development will have no walkable amenities, no nearby services, no schools in the vicinity, limited public transit (if any);
- species at risk (flora and fauna) currently exist in this general area and will be profoundly damaged by both the ongoing and final development;
- road access for vehicles is already very pressured on the Naramata Bench and in its accessible routes into Penticton;
- there is a serious risk of a difficult to control wildfire in the area: prolonged droughts alongside increasing (and possibly not available) home insurance in risky areas are added negative factors;
- if fire were to affect a development in this area, the public cost to combat it would be extraordinary (as West Kelowna has proven);
- all of the above run precisely counter to Penticton's adopted Community Climate Action Plan.

Let's take each of the Plan's words' relevance to the proposal in turn:

Community -- a subdivision of the sort proposed and in its location actively works against community: isolated homes requiring their occupants to drive in their isolated vehicles, possibly with children also living in isolated ways from their classmates;

Climate -- the development isn't a "clean[] climate choice" because it hasn't been proposed to use any form of renewable energy sources nor heat pumps in order to help realize Penticton's reduction of greenhouse gas emissions (40% by 2030), and its over-reliance on automobile access only adds to that problem;

Action -- City Council has the full authority to take action against developments that do not align with Penticton's clean, livable, quality of life goals for its citizens. Everyday simple actions such as people walking to buy their groceries enhance physical and mental health, making Penticton a consistently desirable place in which to live. The proposal runs contrary to a sustained, positive future for our region.

Plan -- admittedly, a plan is just that -- a plan. But one that is so fully principled and carefully constructed as the CCAP really must be considered fully each and every time a new development proposal of whatever kind comes before Council to ensure that words become reality.

In closing, I would ask that you use your full imagination and envision that isolated, lonely existence on Reservoir Road on a very hot day with fire risk breathing at the door. And then, contrast that vision with Penticton's downtown citizens breathing clean air, getting together with one another by walking to nearby cafes, while they wait to walk home with their kids after school.

Which vision do you see for Penticton? The choice may in your minds seem difficult right now, but as the clock ticks us toward irreversible climate catastrophe, real green (and not green-washed) choices around the world are becoming easier and, indeed, more affordable everyday.

Please choose wisely, and think long-term.

Respectfully,
Avril Torrence V2A 2G8

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27

From:
To: [Public Hearings](#)
Subject: 1530 Reservoir Road
Date: Tuesday, September 12, 2023 9:30:30 AM
Importance: High

Caution! This message was sent from outside your organization.

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I am writing to say that I oppose the Official Community Plan Amendment Bylaw 2023-26^[1] Zoning Amendment Bylaw 2023-27 Official Community Plan Amendment Bylaw 2023-26 Zoning Amendment Bylaw 2023-27.

I am in favour of maintaining the Rural Residential designation including lot size and building guidelines as set out in the current Penticton OCP.

Allowing this amendment will create “urban sprawl” with its attendant negative transportation and environmental impacts on the area.

Allowing this amendment will also create a precedent that other developers will invoke to seek additional amendments to the OCP and continue the creation of urban sprawl on the Naramata Bench.

I support the essential thrust of the OCP which I interpret as intelligent increasing of residential density in downtown Penticton with the attending economic, environmental and affordable living benefits.

Hugh McClelland
3850 Albrecht Road, Naramata, BC

Late Submission - Public Hearing
Official Community Plan Amendment Bylaw No. 2023-26
and Zoning Amendment Bylaw No. 2023-27



Ellis Professional Building
203-383 Ellis Street
Penticton, BC, V2A 4L9
Telephone: 250.492.2425
Toll-free: 1.877.492.2644
Fax: 250.492.2451

Please reply to Michael F. Welsh, K.C.*
(mwelsh@mwelshlaw.com)

(* Legal services provided by a law corporation)

Our file: 60079.001
Your file:

September 11, 2023

BY E-MAIL ONLY

City of Penticton
171 Main Street
Penticton, BC, V2A 5A9

Attention: Mayor and Council

Good day:

Re: 1530 Reservoir Road Proposed Development and OCP amendment

I represent the Society for the Preservation of the Naramata Bench and write with respect to the upcoming decisions on whether the OCP should be amended to downsize lots in the OCP RC (rural residential) zone to 0.4 hectares from one hectare when connected to a municipal water system. In making this OCP change on lot size decision there many factors to consider, many of which have been raised by my client. However one of the most significant issues in these developments is the stability of the lands, which is why geotechnical assessments are obtained.

My clients and I are aware there are no clear levels of geotechnical guidelines at each stage of development in Penticton, and that what was asked of the geotechnical company, Interior Testing Services Ltd (ITSL) by the developer here was a high-level review of the area, not the specifics that are needed at the lot build level. That being said, we have major concerns with the integrity and reliability of the work done by ITSL. The basis for these concerns is from a review undertaken by an independent geotechnical consultant of the report done by ITSL for Canadian Horizons for the proposed Siller Road development and presented to the city. I attach a copy of that review.

You will note that the review is highly critical of the ITSL report, both as to the standards of testing and the conclusions drawn. The review analysis is replete with examples, but I note a couple of the more significant. At one point the reviewer calls a major conclusion in the report (that there are few significant fractures or jointing in an area covering over 50 ha of sloping ground that is not visible for inspection) “absurd”. It goes on to note that it is clearly apparent that there was glacial scouring of large fracture zones in the area bedrock and that there are

To: City of Penticton (Attn.: Approving Officer)
Re: Canadian Horizons Limited Partnership Subdivision Application
September 11, 2023
Page 2

thousands of such fractures and joints. It also notes that the report contains no description of terrain conditions, an essential aspect of any landslide hazard assessment.

It concludes at Section 9 that, overall, the ITSL report is “brief, generic, and lacking in details essential for any slope stability or landslide hazard assessment”, and that its “investigation and report are technically flawed” in almost every respect and should be rejected by the city as not even “remotely” meeting the Engineers & Geoscientists British Columbia (EGBC) guidelines. I urge you to read that section as it summarizes the woeful inadequacy and misleading nature of this report.

As this same company has been retained by the developer for the Reservoir Road proposed development my client suggests that the city should require a further and independent geotechnical report before proceeding further, especially as the subject property contains grades exceeding 30% for which the OCP at HS21 recommends major restrictions on developments.

On behalf of my clients I look forward to hearing back from you.

Yours truly,

MICHAEL F. WELSH LAW CORPORATION

Per: 

Michael F. Welsh, K.C.

FCI Arb, C. Arb., C. Med., C. Fam. Arb.

Lawyer, Arbitrator, Mediator

MFW/ab

Encl.

April 13, 2023

File: 131-1

Society for the Preservation of the Naramata Bench

Attention: Ian Hornby-Smith

**INDEPENDENT REVIEW OF
THE GEOTECHNICAL INVESTIGATION FOR
1050 SPILLER ROAD, PENTICTON, BC**

This report presents the results of an independent review of the geotechnical investigation conducted by Interior Testing Services Ltd. (ITSL), as summarized in their report prepared for Canadian Horizons Land Investment Corp, titled: Proposed Subdivision, 1050 Spiller Road, District Lot 2035 SDYD, Penticton, BC, dated July 20, 2022.

This report is subject to the attached Statement of General Conditions. These conditions should be clearly understood while reading or interpreting this report.

1. SCOPE OF REVIEW

McQuarrie Geotechnical Consultants Ltd. was retained to provide an independent review of ITSL's report. The objective of the review was to assess if the report is in general conformance with the *Landslide Assessment Guidelines* published by Engineers & Geoscientists British Columbia (EGBC) and other generally inferred standards of practice in geotechnical engineering and landslide hazard management. Specifically, the review focuses on:

1. the suitability of the level of investigation conducted;
2. whether the site conditions are adequately described;
3. whether appropriate analysis has been conducted;
4. whether the apparent hazards and risks are adequately identified;
5. whether mitigative measures, if needed, have been appropriately considered.

The *Scope* did not include a site visit or field review, nor did it include any design services or risk analysis but is merely a review of ITSL's report. Specific data relied upon in their assessment were not provided in the report or its appendices; therefore, some aspects of their analysis could not be verified. Responsibility for the landslide hazard assessment and its results remains with ITSL.

2. REVIEWER'S PROFESSIONAL QUALIFICATIONS

Eric McQuarrie is a geotechnical engineer and engineering geologist with more than 35 years of experience on a wide variety of geotechnical projects throughout BC, focused on landslide hazards and landslide stabilization. My specialty is assessing the probability of landslides, the causes of landslides, and designing measures to stabilize the slope or prevent destabilization. A copy of my curriculum vitae is attached.

In addition to my work experience, I have played a significant role within EGBC preparing professional guidelines, conducting professional practice reviews, and as the technical expert on several investigations into professional misconduct. I was co-author and chair of the committee that wrote EGBC's original terrain stability assessment guidelines for the Forest Sector and was on the review committee for the re-writing of EGBC's *Landslide Assessment Guidelines* published in 2022. These documents define the standards of practice in BC for professional landslide hazard work within the resource sectors and residential development sector, respectively. I was named as a *Fellow of Engineers Canada* in 2009.

3. PROFESSIONAL STANDARDS OF PRACTICE

ITSL does not specifically state that the report is a landslide hazard assessment but attached the Appendix D form titled "Landslide Assessment Assurance Statement." This form is taken directly from EGBC's "*Guidelines for Legislated Landslide Assessments for Proposed Residential Developments in BC*" (EGBC's *Guidelines*). As such, the assessment should be considered a landslide hazard assessment and should have been conducted in accordance with EGBC's *Guidelines*.

These *Guidelines* were updated in September 2022; since ITSL's report is dated July 20, 2022, this review references the previous *Guidelines* that were in effect at the time the report was written. However, since the development has not yet been approved, any approval must consider EGBC's updated *Guidelines*, now titled "*Landslide Assessments in British Columbia*", with the current version dated March 1, 2023.

This review also considered other published or inferred standards of practice, such as the Canadian Foundation Engineering Manual. Although not directly applicable, the Canadian Dam Safety Guidelines are often referenced for acceptable factors of safety.

4. PROPOSED DEVELOPMENT

ITSL's report addresses a proposed residential subdivision consisting of 56 single-family lots plus a 72 unit mobile home park, along with access roads and site servicing.

Review Comments

No description is provided as to the level of earthworks required for the development. A site plan attached to the report shows cuts and fills covering at least 50% of the development property, but the report does not describe the level of earthworks in any way. The existing trees and understory are also critical for slope stability and erosion; therefore, the report should have identified the level of clearing, grubbing, and stripping required as part of the development.

5. ITSL's INVESTIGATION

ITSL's background research included "examination of aerial photographs and topographic maps of the area ...", and review of the subdivision layout plans, both in 2017 and 2022.

ITSL's field investigation in 2017 involved digging 31 test pits within the proposed development area. The test pit logs were included in the 2017 report, which was attached to the 2022 report. Neither report describes any laboratory tests nor in-situ testing; the test pits were merely logged visually in the field.

ITSL's July 2022 investigation reportedly involved a foot traverse to visually identify surface conditions and general drainage conditions.

Review Comments

The test pit logs visually describe the soil gradation of the various units, and the depth to bedrock, but do not include any assessment of the soil density or consistency. Soil density affects stability and is, therefore, relevant to the assessment.

Although ITSL does not mention any laboratory testing, some of the test pit logs include a column titled "moisture" with a percentage given beside some of the soil units. This is presumably moisture content, but it is unclear if this was measured by laboratory test or estimated in the field by some means.

Only Test Pit 32, identified any groundwater seepage. The test pits were dug in November, while peak conditions likely occur during spring snowmelt; therefore, the observed groundwater conditions do not represent the peak conditions.

The site plan from the 2017 report does not show site drainage features, such as streams, ponds, bogs, etc., and there was no new plan attached to the 2022 report. Nor are the steeper slopes, which could be prone to instability, noted. Basically, none of the terrain features related to landslide hazards were noted, indicating that the level of field investigation was inadequate for a landslide hazard assessment.

When assessing the landslide hazards in any given area, the professional must understand the common causes of past instabilities in the general area. ITSL does not mention if they assessed past landslide or erosion hazards in the general vicinity of the development. A much smaller subdivision above Naramata, 5 km north of the Spiller Road subdivision, caused mudflows that damaged houses downslope in 2018 and 2019, and recent land clearing caused more mudflows in 2022. Although ITSL's report pre-dates the 2022 mudflows, the 2018 and 2019 mudflows received considerable media coverage and prompted at least one lawsuit. ITSL should have at least visited the sites of these mudflows, commented on their cause, and recommended measures to prevent such occurrences downslope of Spiller Road. Instead, landslide conditions in the general vicinity do not appear to have been appropriately considered.

6. GEOLOGIC CONDITIONS

6.1 Surficial Geology

ITSL provides a one paragraph description of the “surface geology”, identifying “glacial washout deposits, including predominantly silt and sand soils, with varying gravel, cobble and boulder contents overlying bedrock.” They then describe the bedrock as volcanic, “massive, medium-grained breccia, with few significant fractures or jointing.”

Reviewer’s Comments

The development property covers more than 50 hectares, yet ITSL describes the surficial geology in two sentences. They also use incorrect terminology. Surficial geology (not “surface geology”) refers to the landforms and the unconsolidated sediments above the bedrock, including glacial and post-glacial deposits. Glacial outwash (not “washout”) deposits refer to sediment carried by running water from the melting ice of a glacier and deposited in stratified units.

The test pit logs do not describe any bedding, stratigraphy, or whether the grains are rounded; therefore, the detail is insufficient to classify the origin of the units. Based on the mixture of sand, gravel, cobbles and boulders, most of the surficial deposits are likely colluvium, meaning they were deposited by gravity after the glacier had receded. Some of the finer sediments located on the gently sloping benches may be classified as slope wash, which is material deposited by non-channelized overland flow. The deposition process is important because it determines the density of the soil unit, which affects stability.

Bedrock is NOT considered part of the surficial geology and should have been described in a separate subsection. Regardless, the Geological Survey of Canada’s (GSC) Map 1736A identifies the bedrock geology over this broad area on the east side of Okanagan Lake as the Okanagan Gneiss Formation. The formation is described as “massive, medium grey weathering, resistant hornblende-biotite granodiorite orthogneiss: strongly foliated ...”. The only mention of breccia by the GSC is “quartz chlorite microbreccia and related altered rocks close to the Okanagan Fault.” Breccias are typically formed by consolidation of broken fragments created by faulting; hence the GSC states that microbreccia may be found close to the Okanagan Fault, which means near the lakeshore. Without a field assessment, this review cannot confirm that ITSL miss-identified the bedrock geology; however, their description certainly contradicts the regional geology map. ITSL does not reference the map nor appears to have reviewed the map.

To state that the bedrock beneath more than 50 ha of sloping ground has “few significant fractures or jointing” is absurd, especially when much of the bedrock is blanketed by surficial units and was visible only in the test pits. The benches and gullies were formed by glacial scouring of large fracture zones in the bedrock. The bedrock undoubtedly

includes thousands of fractures and joints, many of which would be considered significant with respect to rock mechanics and rock slope stability.

6.2 Groundwater

ITSL states that “perched groundwater is expected to vary seasonally and will be affected by drainage and infiltration conditions.” They also state that:

“installation of roads and underground utilities, including storm sewer servicing, is expected to capture and redirect much of the onsite groundwater for the post development condition. Post development breakout of lower lying bedrock cuts should be considered by your civil engineer and/or hydrogeologist. Additional infiltration drains may be recommended during site development work to control post-development groundwater.”

Review Comments

ITSL’s description is vague and could apply to virtually any development on any property. Their assessment should have identified specifically where the most likely locations are for groundwater discharge, and where groundwater discharge could affect slope stability. Instead, their description provides no information to assist in the development plans.

6.3 Terrain Conditions

ITSL provides no description of the terrain conditions on the development property.

Review Comments

ITSL’s report should have included a detailed description of the terrain conditions. The most critical terrain features that should have been noted include:

- slope angles – described in detail, specifically noting where the steepest areas are,
- slope morphology (e.g. benches, slope irregularities, concave or convex, etc.),
- areas where the surficial geologic units are located on steep ground (a slope steeper than 50% comprised of colluvium poses more of a hazard than a similar slope angle comprised of bedrock),
- drainage features (e.g. gullies and streams),
- signs of apparent or possible slope movement (e.g. solifluction, tension cracks, pistol-butted trees, etc.).

Identification of such features and conditions is essential in any landslide hazard assessment. Without detailed descriptions of the terrain conditions, slope stability cannot be assessed.

7. ITSL's RESULTS & RECOMMENDATIONS

7.1 Site Suitability for Development

ITSL states: "based on our review, the property appears well-suited for the proposed residential development from a geotechnical perspective, and safe building sites appear possible on the property particularly at the proposed development sites." ITSL notes slope stability and rockfall hazard issues will be considered during design and construction phases. As an example, they suggest development be concentrated at the "gentler slopes on the property (ie. less than 50%, 2H:1V, or 27 degrees)."

Review Comments

The statement regarding safe building sites is a conclusion not supported by any observations or analysis. They have simply not presented ANY information in the report that pertains to slope stability. What ITSL terms as "additional considerations" is supposed to be the main purpose of the report. The slope stability issues must be addressed PRIOR to approval of the development.

What ITSL considers to be "gentler slopes" are far from gentle. While recognizing that ITSL has used the adjective "gentler" in a relative sense, the term "gentle slope" is defined as between 7 and 26% (or 4 to 15°) in BC's *Terrain Classification System*. A slope of 50% (or 27°) is considered to be "moderately steep." Most municipal Hillside Development Permits Areas, including the City of Penticton's, define a "steep slope" as any slope steeper than 30% (17°). Subjective, nebulous terminology with arbitrary definitions should be avoided in technical reports.

7.2 Natural Hazard Assessment

ITSL states that their field assessment is based on observed conditions, including "historical slope erosion and instabilities in areas with similar soil types, surface drainage patterns and slope characteristics." But then state that "evidence of previous geotechnical hazards were not observed on the site."

ITSL states that "rockfall generally appears to be relatively inactive", but that "all of the exposed rock slopes could produce fragmental rockfall ... which may disintegrate further on its downslope path." ITSL then states that "there is a low likelihood for a rock avalanche to occur."

In their discussion regarding slope stability, ITSL notes evidence of creep but dismisses it because they had previously recommended that residential construction be focused on "gentler slopes (ie. 50% or less)". They then recommend a 50% or 2H:1V safeline for development on soil slopes and 100% or 1H:1V on bedrock slopes.

Review Comments

As already stated in this review, ITSL provides no description of the terrain conditions. As such, they provide no evidence or rationale to support any of their conclusions regarding the probability of a landslide. They claim to have searched for “historical slope erosion and instabilities in areas with similar soil types...” yet failed to note the mudflows that occurred on similar terrain following a much smaller development just 5 km north in Naramata.

They then mix the rockfall hazard with the rock avalanche hazard. These are two distinctly different hazards. One would not expect there to be a rock avalanche hazard at this location, so the low hazard rating is not surprising; however, ITSL does not provide a hazard rating for rockfalls. The rockfall hazard rating will be mostly determined by the height of bedrock cutslopes during development, but based on the natural slope angles, the hazard could be significant. Their statement regarding disintegrating rock fragments is misleading if not nonsensical. Rockfalls rarely mitigate themselves by disintegration.

ITSL notes evidence of creep or shallow slope movement but then dismisses the slope stability hazard because residential construction will be on slopes of 50% or less. The slope conditions where the movement was observed are not described, but presumably the creep was observed on slopes steeper than 50%. By ignoring the potential natural hazards, ITSL ignores landslide runout. If a landslide initiates on a slope steeper than 50%, it is expected to continue across the 50% slope and not even begin to deposit until 30% or less. Therefore, houses built on the benches of 50% or less could still be exposed to landslide hazards initiating upslope. This was clearly evident in the mudflows in 2018 and 2019 in Naramata.

No estimate of the natural landslide hazard is provided. The hazard assessment should have considered both the natural and post-development conditions. If signs of shallow creep are evident, the loss of trees and understorey will remove the stabilizing benefits of root support and soil-matrix suction, causing an increase in surface water runoff and erosion, and increasing the landslide potential both on the development property and downslope. None of this is discussed in the report.

ITSL’s blanket use of 2H:1V safelines without any consideration of the development grades and terrain conditions is dangerous. This implies that development on a 50% slope would require no setback from the slope at all, which ignores shallow creep that invariably occurs even on slopes of 50%. ITSL is well aware of cases in Kelowna where a 2H:1V safeline was inadequate.

7.3 Cuts and Fills

ITSL provides generic recommendations for cuts and fills and states that the existing granular soils and blasted rock can be re-used as structural fill during development.

Review Comments

ITSL provides no description of the the heights of the proposed cuts and fills, or the extent of the property that will be affected by earthworks. Aplin & Martin's *Cut and Fill Plan* shows cuts and fills up to 12 m high covering 50% or more of the entire development property (the *Cut and Fill Plan* is colour-coded and uses subtle shade changes; therefore, the heights of the cuts and fills could be even higher). Considering the extent of the earthworks, all trees, vegetation, and topsoil will likely be cleared from most of the property during construction.

No consideration is given to the impacts the cuts and fills could have on natural slope stability or surface erosion. Slope stability analysis was not conducted to measure those impacts. ITSL does not consider how the loss of trees and vegetation will affect surface water infiltration, surface run off, and erosion both during development and after. The cutslopes will undoubtedly intercept shallow groundwater, concentrating it along the ditchline and discharging it at the next culvert down the road. Drainage diversions can have a significant impact on slope stability downslope. Yet, ITSL does not comment on how the development could affect properties downslope, similar to what has occurred recently above Naramata.

7.4 Structural Fill Slopes

ITSL provides a rudimentary analysis of the factor of safety for 1.5H:1V structural fill slopes based on a factor of safety of 1.3 to 1.5 and implying that the structural fill would have an internal friction angle of 41 to 45°.

Review Comments

The proposed heights of the structural fillslopes are not take into consideration or even mentioned. It seems that ITSL was not aware of the proposed development grades when they prepared the report. Higher cutslopes and fillslopes can have a greater impact on slope stability; therefore, these generic recommendations could be problematic if the cutslope or fillslopes are significant.

Their analysis to justify a 1.5H:1V fillslope angle is over-simplified and seriously flawed in many ways.

- A factor of safety of 1.3 is too low for residential development. The normally acceptable minimum factor of safety for fill slopes supporting buildings is 1.5. This is supported by the factors of safety provided in the Canadian Dam Safety Guidelines, the Canadian Foundation Engineering Manual. Even the BC Ministry of Transportation & Infrastructure's (MoTI) standard factor of safety for roads is 1.54. MoTI allows a factor of safety of 1.34 only where the consequences of a failure are low. If there is an occupied structure at risk, the consequences cannot be considered low. Those municipal authorities that have a factor of safety risk tolerance criteria,

such as the District of North Vancouver and the Cowichan Valley Regional District, apply a minimum factor of safety of 1.5 for new development.

- The formula used is a vast over-simplification that ignores groundwater pressures and the presence of any weak layers in the soil strata.
- The friction angles of up to 50° is based on a table in a 1968 text book. The 50° value is the upper bound limit for “dense sandy gravel”. No compacted fill would reach the consistency of “dense”; it can only be achieved by being overridden by a glacier. Also, the 3rd edition of the same text book published in 1996 does not include this table because ALL modern references to typical friction angles based on soil type state much lower values. Basically, ITSL applied an out of date reference and used it out of context.
- A friction angle of 40 to 42° may be applicable for heavily compacted blasted rockfill but ITSL applies this friction angle to all granular backfill. The values are too high for rounded particles and sandy deposits, as noted in the test pits. If a more reasonable friction angle of 36° is applied, a factor of safety of 1.5 would require a fill slope angle of 26° or roughly 2H:1V.

7.5 Rock Cut Slopes

For rock cut slopes, ITSL recommends 0.5H:1V cut slopes for blasting and scaling. They also recommend a 1H:1V (or 45°) rockfall shadow angle for development directly below rock cuts. This means that residential construction should be located beyond a 1H:1V line projected from the crest of the rock slope. They also recommend a rockfall catchment area in front of the rock cut to be 3 m wide for cuts up to 6 m, and 4 m wide for cuts 6 to 10 m high. Rock cuts higher than 10 m are not recommended.

Review Comments

ITSL’s recommendations for setback at the toe of rock cuts is confusing and does not meet geotechnical standards of practice.

- ITSL’s definition of a “rockfall shadow” is incorrect. A rockfall shadow is for natural rock bluffs with a talus slope below, and the angle is measured from the top of the talus slope, not the top of the bluff. A rockfall shadow may still be appropriate if the site conditions include a bluff above sloping terrain.
- The rockfall shadow angle of 45° is far too steep. The normal rockfall shadow angle used is 27.5° (Evans & Hungr, 1993) (Wyllie, 2015). Incidentally, ITSL’s recommended rockfall shadow angle in their 2017 report was 27°, yet no explanation is given as to why it was doubled in their 2022 report.
- ITSL may have confused a rockfall shadow angle with a fahrböschung angle used in landslide runout, which is measured from the top of the slope. However, a

fahrböschung angle is used much less often for rock slopes in Canada and the angle should be no greater than 32° (Evans & Hungr, 1993).

- ITSL does not clearly state whether the rockfall catchment area is in addition to the building setback or if it is just another means of measuring the setback. The rockfall catchment areas are similar to the MoTI's rockfall catchment ditch widths; however, highway ditches are sloped away from the highway (i.e. towards the toe of the rock cut) at 4H:1V, which helps confine the rockfall. If ITSL's rockfall catchment area is flat, the widths will be too narrow to adequately contain the potential rockfall debris.
- Rockfall runout at the base of rock cuts is dependent on the cut slope angle. At 0.5H:1V, the potential rockfall runout is longer than for a steeper cutslope because the rockfall will roll farther. Either the catchment widths should be widened significantly, proper catchment ditches constructed, or catchment barriers installed.

Considering the potential damage to inhabited structures and the risk to humans, more thorough analysis is required to determine the minimum setbacks for each building area.

7.6 Road Construction

ITSL provides recommendations for pavement structures and bedrock cut slopes.

Review Comments

ITSL's recommended rockfall catchment widths for road construction are too narrow. Not only are their catchments widths narrower than MoTI's standards, MoTI's widths are based on a rock cut angle of 0.25H:1V. As mentioned above, the flatter 0.5H:1V rock cut angle will result in longer rockfall runout.

7.7 Groundwater & Drainage

ITSL notes that groundwater discharge (they refer to it as "break-out") is possible in areas with shallow bedrock. Several test pits located bedrock less than 1.5 m deep and many more areas are shown on ITSL's site plan as having bedrock exposed at the ground surface. However, ITSL still states that "it appears reasonable to dispose of site generated storm water (roof and perimeter drainage) to ground for single family lots."

For the mobile home park, ITSL does not recommend in-ground disposal of storm water; however, they instead recommend that roof drainage "be directed to a suitable disposal location such as splash pads for gradual dissipation over the ground surface."

Review Comments

The contradictions in ITSL's statements and recommendations are difficult to reconcile. In-ground disposal of storm water is acceptable for the single-family lots despite the

potential for groundwater discharge in areas of shallow bedrock. For the mobile home park, in-ground disposal of storm water is NOT recommended but uncontrolled disposal of the water on the ground surface IS acceptable.

ITSL does not consider slope stability when deciding where in-ground disposal is acceptable. Their report does not provide any information as to the terrain conditions; however, most of the property is mapped as steeper than 30%. Concentrated groundwater discharge onto moderately steep slopes can affect slope stability downslope. Poor control of storm water through either groundwater discharge or poor surface water infiltration can also concentrate water in ditches or along roads, triggering mudflows downslope of the development property.

All recommendations for storm water management should also take into consideration that disposal points concentrate the water and in-ground disposal bypasses evapotranspiration, which is critical in the Okanagan, often resulting in higher groundwater pressures. Surface disposal of storm water also concentrates the water, allowing for gradual infiltration, but the system must be properly designed. Neither in-ground nor at-surface disposal of storm water should be recommended upslope of potentially unstable terrain or where bedrock is shallow and likely to cause groundwater to discharge at the ground surface. Such areas should be clearly delineated on a site plan so it is clear which lots could be affected.

8. ITSL's CONCLUSIONS & RECOMMENDATIONS

ITSL defines the tolerable level of landslide safety as 1:2,475 per annum for seismic hazards, including earthquake-induced landslides, and 1:475 per annum for other slope hazards.

Review Comments

The levels of landslide safety are consistent with the City of Penticton's policies as summarized on their Building Bulletin No. 18-02.

9. CONCLUSIONS OF THE REVIEW

Overall, ITSL's report is brief, generic, and lacking in details essential for any slope stability or landslide hazard assessment. EGBC's *Landslide Assessment Guidelines* (even the version in effect when the report was written) provides a concise list of items that should be included in the report. From this list, the critical items missing from ITSL's report include:

- A list of background information collected and reviewed (or ITSL did not consider either surficial geology or bedrock geology maps).
- A description of the terrain conditions throughout the study area.

- A map of the property showing the natural features, roads, infrastructure and surface drainage. ITSL's plan in their 2017 report only shows the test pit locations and bedrock outcrops.
- The description of the proposed development merely states the number of lots. The *Cut and Fill Plan* by Aplin & Martin shows extensive earthworks across the development property, which is not described in the report or reflected in the assessment or recommendations.
- A description of the topography, geology, landslide processes and elements at risk.
- The potential landslide hazards are barely described and are not site-specific.
- The landslide assessment does not include any supporting rationale.
- An estimate of the residual risks is not provided.
- No photographs of the site conditions are included, which would have been particularly useful given the lack of any terrain description.

Furthermore:

- ITSL's field work seems too light for the number of properties.
- Their site and hazard descriptions do not consider the individual lots.
- Their recommendations are generic and not specific to this site or development. Most of their report could apply to almost any site.
- Their recommended setbacks from bedrock cutslopes is inadequate and based on incorrect procedures.
- Their recommendations for storm water management do not consider the impacts of concentrated groundwater discharge, which they acknowledge is a possibility.
- Their recommendations for storm water management are not site-specific and do not consider landslide safety on the development property or downslope.

The City of Penticton needs the report to include sufficient information to evaluate the geotechnical hazards and enable them to make an informed decision with respect to approval of the development. EGBC's *Guidelines* state that: "the report should be clearly written with sufficient detail to allow the client, Approving Authority and others reviewing the report to understand the methods, information used and supporting rationale for conclusions and recommendations, without necessarily visiting the property or site." ITSL's report clearly fails to meet this requirement.

In summary, ITSL's investigation and report are technically flawed in its procedures, analysis, rationale, and recommendations.

10. REVIEWER'S RECOMMENDATIONS

If the development plan is resubmitted, the City of Penticton should reject ITSL's report because it does not remotely meet the requirements of EGBC's *Guidelines*. It should be noted that this review applied the *Guidelines* in effect at the time the report was written. EGBC's *Guidelines* have been subsequently updated and require even greater effort and analysis than discussed in this review. The revised report must meet the new *Guidelines*,

which would automatically include an independent third-party review for a development of this size.

CLOSING

This report summarizes this review of ITSL's report and landslide hazard assessment. Please contact the undersigned if you have any questions regarding this review.

McQuarrie Geotechnical Consultants Ltd.
EGBC Permit #1001716



Eric McQuarrie, P.Eng., P.Geo., FEC

Attachments:

- Statement of General Conditions
- CV

STATEMENT OF GENERAL CONDITIONS

1. STANDARD OF CARE

This study and Report have been prepared in accordance with generally accepted engineering consulting practices as described in the Engineers and Geoscientists British Columbia's professional practice guidelines "*Landslide Assessments in British Columbia*", Version 4.0, dated September 29, 2022. No other warranty, expressed or implied, is made.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to the instructions given to us by the Client, communications between us and the Client, and to any other reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

In order to properly understand the recommendations and opinions expressed herein, reference must be made to the whole of the report. We are not responsible for use by any party of portions of the report without reference to the whole report.

3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives and purpose that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document are only valid to the extent that there has been no material alteration to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT. We will consent to any reasonable request by the client to approve the use of this report by other parties as "approved users. Any use that a third party makes of the Report, or any portion of the Report, are the sole responsibility of such third parties. We accept no responsibility for damages suffered by any third party resulting from unauthorized use of the Report.

5. INTERPRETATION OF THE REPORT

a) Nature and Exactness of Terrain Description: Identification of soils, rocks, terrain and geological units have been based on assessments performed in accordance with the standards set out in Paragraph 1. The field reconnaissance cannot practically cover the entire area and will only identify surface features and existing soil exposures. This type of assessment does not include subsurface investigation or measurement of soil strength properties. This assessment is qualitative, based on observed conditions and cannot be relied upon to identify conditions that may not be visible or instabilities caused by poor logging or road construction practices. Actual conditions may vary significantly between the points observed and all persons

making use of such documents or records should be aware of, and accept, this risk. Some conditions change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the time of assessment.

b) Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of persons providing information.

6. CONSTRUCTION INSPECTIONS

Our scope of work may include inspections of the work during construction or after completion. Such field reviews do not replace the need for appropriate construction inspection and supervision on the part of the client or his agents. We accept no responsibility for damages caused by unforeseen conditions unless we are on site during construction.

7. INHERENT RISKS

Landslide hazard assessments typically occur where there are risks of landslides. As such, inherent risks exist and landslides can occur even where the likelihood of instability has been identified as low. The client must operate with an understanding of this risk.

8. CONTROL OF WORK AND JOBSITE SAFETY

We are responsible only for the activities of our employees on the jobsite. The presence of our personnel on the site shall not be construed in any way to relieve the Client or any contractors on site from their responsibilities for site safety. The Client acknowledges that he, his representatives, contractors or others retain control of the site and that we never occupy a position of control of the site. The Client undertakes to inform us of all hazardous conditions, or other relevant conditions of which the Client is aware. The Client also recognizes that our activities may uncover previously unknown hazardous conditions and that such a discovery may require that certain regulatory bodies be informed and the Client agrees that notification to such bodies by us will not be a cause of action or dispute.

9. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on our interpretation of conditions revealed through limited assessment conducted within a defined scope of services. We cannot accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes decisions made to either purchase or sell land.

ERIC J. McQUARRIE, PEng, PGeo, FEC
Geotechnical/Geological Engineer

EXPERIENCE

2004 - Present Owner, McQuarrie Geotechnical Consultants Ltd.

Mr. McQuarrie manages a geotechnical consulting business focusing on landslide hazard assessments and slope stabilization for residential development, independent power projects, small earth dams, road construction, road deactivation, and logging. Selected projects are highlighted below.

Expert Witness Projects:

- Van Horne Landslide – Claim regarding a slide impacting a strata development (2020-21).
- Old Sechelt Mine Road – Claim regarding a road failure for the Community Forest (2020).
- Government of Canada – Claim regarding a forest service road (2016/17).
- Abbey Road Slide, Qualicum. Assess the cause of a landslide that destroyed a house (2015/16).
- Chilliwack Mountain – Claim regarding a mud flow that damaged a residence (2014/15).
- Copper Coast Developments et. al. v. Village of Port Alice – A claim against the Village regarding a debris flow in September 2010 (2013).
- Toba Montrose General Partnership v. Peter Kiewit & Sons Co. – Expert witness for the Owner in a claim against the design-build contractor for a hydroelectric project (2010-11).
- Directional Mining & Drilling Ltd. v. City of Whitehorse – Expert witness for the City with respect to the geotechnical investigation for a sewage lagoon outfall (2010).
- Murray v. Township of Langley - Anderson Creek Landslide, Langley, BC – Claim regarding a landslide that impacted a residential structure (2009-10).

Landslide Hazard Assessments and Road/Slope Stabilization

- Home Depot Landslide, Kamloops – Investigation and design of mitigation measures for a landslide damaging a commercial property. Detailed design of pile stabilization measures (2018-2021).
- Trim Road, Ottawa, Ont. – Landslide risk assessment for a large development to be constructed on quick clays along the Ottawa River (2021).
- Mt. Ozzard Road – Landslide hazard and worker safety assessment, and design of mitigation measures for Canadian Coast Guard's road to their radar tower near Ucluelet, BC (2020).
- Ridgeview Place, Campbell River – Landslide investigation within a residential neighbourhood (2020).
- Kirschner Mountain Landslide, Kelowna – Investigation and design of mitigation measures to stabilize a landslide affecting a pump station and several homes (2018-2019).
- McKinley Beach Landslide, Kelowna – Investigation, design and construction of mitigation measures to stabilize a landslide affecting a residential neighbourhood under construction (2017-2019)
- Old Fort Landslide, Fort St. John - Emergency assessment of an extremely large landslide that destroyed one home and required evacuation of the community of Old Fort, BC (2018).
- Kapoor Mainline, near Victoria – investigate an unstable section of road within the municipal watershed. Design and construction of stabilization measures (2017-2018).
- Park Road Landslide, Campbell River – Emergency assessment of a landslide that destroyed a single-family residence (2018).
- Mackay Creek, North Vancouver – Landslide risk assessment for several properties along a steep gully for the District of North Vancouver (2017).
- Highway 97 South of Prince George – Geotechnical engineer for the general contractor for twinning of the highway directly above the Fraser River. Review of the geotechnical design and redesign of slope stabilization measures (2016-2018).
- Beach Drive Landslides, Port McNeill – Assess a slope with a history of landslides that damaged several homes. Design of mitigative measures (2016-2017).
- Ord Road (Kamloops) - Rock slope risk analysis and design of mitigation measures (2016-2017).
- Jamieson Forest Service Road (Kamloops) – Rock slope risk analysis. Design and construction of risk mitigation measures including rockfall catchment fences (2015-2017).
- Lion's Bay Road Stabilization – Design and construction of a rockfall catchment fence and other road stabilization measures for a private access road (2016-2017).

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- Northwood Pulp Mill Settling Pond Upgrade - Geotechnical investigation, stability analysis and design of mitigation measures for 1 km of dike along the Fraser River (2015-2017).
- Puntledge River Landslide Risk Study – Assess the landslide risk to several houses along a steep gully bank for the City of Courtenay (2016).
- Inland to Lower Mainland (ILM) Transmission Line – Senior external reviewer of the landslide hazards and risk mitigation measures for the design-build team (2014-15).
- Sukunka Coil Project – feasibility design of the foundations and earthworks for the coal handling and processing plant and mine infrastructure, including engineered embankments up to 40 m high (2014).
- Mahatta Log Sort Debris Flow Barrier (2013) – Assessment of the debris flow hazard and design of a barrier to protect existing buildings and workers, previously damaged by a debris flow in 2010.
- Harrison Lake Breakwater Stability Investigation and Remediation (2013) – investigate stability of the existing breakwater adjacent to the village and design remedial works due to flood damage in 2012.
- Mt. Blenheim Landslide (2011) - Assessment of a landslide near Port Alberni, design of mitigation works, and upgrading of the entire road used to access Telus' microwave tower.
- Landslide hazard assessment of Kingcome River following the September 2010 flood.
- Holberg Landslides (2010) – Emergency response to investigate and remediate several landslides that blocked several roads, isolated the town during a record storm in late September 2010.
- Falling Creek Connector Road, Chetwynd, BC (2010) – assess and design rock cuts up to 45 m high along a new 60 km mine haul road.
- Seismic slope hazard assessment of Zeballos School located at the base of a steep mountain slope (2007). Assessment of alternative school sites (2010).
- Jordan River Subdivision (2008) – Geotechnical engineering of a 1,400 ha subdivision. Slope hazards included steep foreshore bluffs and gullies through deep glacial sediments.
- Assessment of the debris flow hazard and design of debris flow retention structures for the town of Holberg on northern Vancouver Island (2008).
- Ucona Mainline Landslide Stabilization (2008) – design and construction of a Geosynthetic Reinforced Soil (GRS) Wall to support a mainline road damaged by a landslide.
- Mosquito Creek Landslide Risk Study (2006-07) – preliminary and detailed assessment of 27 houses constructed across the crest of a steep gully bank for the City of North Vancouver.

Hydroelectric Projects & Earth Dams:

- Forrest Kerr Hydroelectric Project – investigation and design of roads, building foundations, and portal excavations. Landslide risk assessment for the transmission line along the Iskut River (2010-11).
- Stabilization of the Rosemergy Dam on Salt Spring Island (2010-11).
- Tretheway Creek Hydroelectric Project (2010) – preliminary hazard assessment near Harrison Lake.
- Culliton Creek Hydroelectric Project (2010) – preliminary hazard assessment near Squamish, BC.
- Upper Fire Creek Hydroelectric Project (2009) – preliminary hazard assessment near Harrison Lake.
- Masselpalik Creek Hydroelectric Project (2008) – preliminary hazard assessment near Hope, BC.
- Cypress Creek Hydroelectric Project, Gold River (2007-08) – design a portion of the intake, slope hazard assessment of the penstock route, assessment and mitigation of two landslides.

Professional Practice Reviews:

- General Practice Reviewer for the Association of Professional Engineers & Geoscientists of BC (APEGBC) since 2007. His duties involve reviewing the practices of geotechnical and geological engineers to evaluate if they meet current professional standards of practice.
- Independent reviewer for the District of Mission for geotechnical and landslide hazard assessments for residential development since 2010.
- Independent reviewer for the City of Nanaimo for geotechnical and landslide hazard assessments for residential development since 2011.

1991 - 2004 Senior Geotechnical Engineer, Thurber Engineering Ltd.

Mr. McQuarrie worked in all aspects of geotechnical engineering including foundation design, pavement design and slope stabilization. His focus since 1994 was terrain stability assessments primarily within the resource sectors. As the senior landslide specialist, he conducted several hundred assessments for the forest sector in coastal BC, supervised Thurber's staff of terrain specialists, assessed numerous landslides and designed remedial measures.

McQuarrie Geotechnical Consultants Ltd.

ERIC J. McQUARRIE, P.Eng. (Cont'd)

During this same period, Mr. McQuarrie was also project engineer responsible for geotechnical engineering projects including assessment and design of rock slope stabilization work, bridge foundations, and retaining walls. Major projects included:

- Seismic Slope Hazard Mapping of the Capital Regional District (*see publications*).
- Blenkinsop Lake bridge – a timber-pile supported bridge constructed across a deep peat bog and lake.
- McKenzie Interchange – a highway interchange and overpass near Victoria, BC. The project also involved construction over a peat bog using polystyrene fill.
- Upgrades to Swartz Bay ferry terminal including the loading facilities.
- Design and construction monitoring of a geosynthetic reinforced soil retaining wall near Gold River.
- Assessment of bridge abutment foundations and slope stability for a 70 m long, single-span bridge over the Machmell River.
- Design of a 25 m high rock cut at the Horseshoe Bay Ferry Terminal.
- Hartland Landfill seismic stability assessment of leachate lagoons (2002).
- Geotechnical, groundwater, slope stability, beach erosion and environmental assessments for residential redevelopment of a 620 acre gravel pit and rock quarry in Colwood, B.C.
- Upgrading of a former logging road to highway standards, Mt. Washington (1994)

1988 - 1991 Geotechnical Engineer, C.N. Ryzuk & Associates Ltd.

- Geotechnical investigations and foundation designs for local developments.
- Terrain hazard and slope stabilization assessments for subdivisions.

1987 - 1988 Geotechnical Engineer, Thurber Consultants Ltd.

- Geotechnical investigations for local developments, highways and marine developments.

1986 - 1987 Junior Engineer, B.C. Hydro, Geotechnical Division

- Investigation of Dutchman's Ridge Landslide.
- Inspection during tunnelling of Dutchman's Ridge Drainage Adit.
- Performance investigation of W.A.C. Bennett Dam.

EDUCATION

B.A.Sc. (Geological Engineering) 1986, University of British Columbia

APPOINTMENTS & AFFILIATIONS

Member of the Association of Professional Engineers and Geoscientists of BC (APEGBC).

Appointed as a General Practice Reviewer by APEGBC (2007).

Member of APEGBC's Division of Engineers and Geoscientists in the Forest Sector (DEGIFS).

DEGIFS Executive 2001 - 2004, Chairman 2002/2003.

Member of APEGBC's Professional Renewal Taskforce (2008/09).

Member of the Canadian Geotechnical Society (Vancouver Island Chairman 1989-92).

Appointed as a Fellow of Engineers Canada (2009).

PUBLICATIONS

"Guidelines for Terrain Stability Assessments in the Forest Sector" (co-author), Association of Professional Engineers & Geoscientists of British Columbia, October 2003.

"Seismic microzonation mapping in Greater Victoria, British Columbia, Canada" (with others) in Proceedings of Geotechnical Earthquake Engineering and Soil Dynamics III, American Society of Civil Engineering, Geotechnical Special Publication No. 75, pages 128 to 140.

"Earthquakes, Geology & Earthquake Engineering on Southern Vancouver Island" (with others). Presented at the Association of Professional Engineers & Geoscientists of British Columbia Annual Conference, October 1999.

McQuarrie, Eric J. and S.M. Bean, "Seismic Slope Stability Map of Greater Victoria." B.C. Ministry of Energy & Mines Geological Survey Branch, Geoscience.

McQuarrie Geotechnical Consultants Ltd.