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RESOURCES

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(Colombo, Leanne T
FLNR:EX)

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vFCBC Application

Tracking Number: 100239536
Authorization Type: Notice of Work
Status: Accepted
Status shown Client: Received
Submitter: Erwin Spletzer

Business Area: Mines and Mineral Resource Division
Submitted Date: Feb 14, 2018
Received Date: Feb 14, 2018 6:55:18 PM
Completed Date: Mar 15, 2018
Office: Cranbrook

Summary Application Form Signatures Fees and Payments Case Notes Public Documents Documents

Emails

PROCESSES

Process Type	Assigned To	Outcome	Due Date	Created Date	Completed Date
Review Application	Wade, Lori MEM:EX	Accepted	mmm dd, yyyy	Feb 15, 2018	Mar 15, 2018
Receive Application	Luxton, Laura ILMB:EX, Donald, Jo-Ann ILMB:EX, Higham, Nicole M FOR:EX, Comin, Barry FLNR:EX, Davis, Lynn FLNR:EX, Katay, Fiona MEM:EX, Wade, Lori MEM:EX, Zuk, Amber FLNR:EX, Evans, Andrea FLNR:EX, McKinnon, Lindsay, Corbeil, Paula FLNR:EX, Sweet, Alicia FLNR:EX, Butler, Tamara FLNR:EX, Hladun, Teresa FLNR:EX, Elder, Katie FLNR:EX, Caesar, Sharon FLNR:EX	Received	mmm dd, yyyy	Feb 14, 2018	Feb 15, 2018
Enter Application	Erwin Spletzer	Submitted	mmm dd, yyyy	Feb 14, 2018	Feb 14, 2018

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From: [Sweet, Alicia FLNR:EX](#)
To: ["referrals@pib.ca"](mailto:referrals@pib.ca)
Cc: [Johnson, Gregory M FLNR:EX](#); [MMD Cranbrook EMPR:EX](#); ["yilmixm@pib.ca"](mailto:yilmixm@pib.ca)
Subject: Interoute Sand and Gravel Exploration - Grand Forks
Date: Monday, April 30, 2018 10:42:00 AM
Attachments: [PIB Initial Engagement letter Interoute Sand and Gravel exploration Grand Forks.pdf](#)
[1631059201801 FN Referral Package.pdf](#)
[100239536.kml](#)

For your review and comment.



Alicia Sweet

Client Services Assistant - FrontCounter BC

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

1902 Theatre Road

Cranbrook, BC V1C 7G1

Tel: 250-426-1794

alicia.sweet@gov.bc.ca

Tell us about your experience with FrontCounter BC: [Complete an Online Comment Card](#)

From: [Sweet, Alicia FLNR:EX](#)
To: ["NRtech1@uppernicola.com"](mailto:NRtech1@uppernicola.com)
Cc: [Johnson, Gregory M FLNR:EX](#); [MMD Cranbrook EMPR:EX](#)
Subject: Interoute Sand and Gravel Exploration - Grand Forks
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From: [Sweet, Alicia FLNR:EX](#)
To: ["referrals@oib.ca"; "lands@oib.ca"](#)
Cc: [Johnson, Gregory M FLNR:EX](#); [MMD Cranbrook EMPR:EX](#)
Subject: Interoute Sand and Gravel Exploration - Grand Forks
Date: Monday, April 30, 2018 10:41:00 AM
Attachments: [OSIB Initial Engagement letter Interoute Sand and Gravel exploration Grand Forks.pdf](#)
[100239536.kml](#)
[1631059201801 FN Referral Package.pdf](#)

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Cc: [Johnson, Gregory M FLNR:EX](#); [MMD Cranbrook EMPR:EX](#)
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Tel: 250-426-1794

alicia.sweet@gov.bc.ca

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From: [Sweet, Alicia FLNR:EX](#)
To: ["okibreferrals@okanagan.org"](mailto:okibreferrals@okanagan.org)
Cc: [Johnson, Gregory M FLNR:EX](#); [MMD Cranbrook EMPR:EX](#)
Subject: Interoute Sand and Gravel Exploration - Grand Forks
Date: Monday, April 30, 2018 10:40:00 AM
Attachments: [OKIB Initial Engagement letter Interoute Sand and Gravel exploration Grand Forks.pdf](#)
[1631059201801 FN Referral Package.pdf](#)
[100239536.kml](#)

For your review and comment.



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Client Services Assistant - FrontCounter BC

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

1902 Theatre Road

Cranbrook, BC V1C 7G1

Tel: 250-426-1794

alicia.sweet@gov.bc.ca

Tell us about your experience with FrontCounter BC: [Complete an Online Comment Card](#)

From: [Sweet, Alicia FLNR:EX](#)
To: ["referrals@lsib.net"](mailto:referrals@lsib.net)
Cc: [Johnson, Gregory M FLNR:EX](#); [MMD Cranbrook EMPR:EX](#)
Subject: Interoute Sand and Gravel Exploration - Grand Forks
Date: Monday, April 30, 2018 10:40:00 AM
Attachments: [LSIB Initial Engagement letter Interoute Sand and Gravel exploration Grand Forks.pdf](#)
[1631059201801 FN Referral Package.pdf](#)
[100239536.kml](#)

For your review and comment.



Alicia Sweet

Client Services Assistant - FrontCounter BC

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1902 Theatre Road

Cranbrook, BC V1C 7G1

Tel: 250-426-1794

alicia.sweet@gov.bc.ca

Tell us about your experience with FrontCounter BC: [Complete an Online Comment Card](#)



Interoute Sand and Gravel Exploration
Grand Forks
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 30, 2018

By Email:
Lower Similkameen Indian Band
referrals@lsib.net
Attn: Referrals Coordinator

Dear Chief and Council c/o Referrals Coordinator:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

Table 1: Project Overview

PROGRAM: Mines
PROJECT DESCRIPTION: Sand and Gravel exploration involving 7 test pits on crown land.
PROVINCIAL APPROACH: Single-agency decision <input checked="" type="checkbox"/> or Multi-agency project <input type="checkbox"/>
LEGISLATION, TENURE TYPE AND TERM: Mines Act Permit
AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
PROPONENT: Interoute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
AREA Size: 0.01 ha
PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

Background Information:

To complete the test pit program, the company is looking to rent a small 300 series Cat excavator with rubber tracks for the test pitting. The test pits will typically have dimensions of 1.5 m wide by length of 3 m and 3 m depth. The excavator will remove and stockpile all vegetation (grasses) at each test dig site. The internal spoil will be temporarily stored to the side of the excavation in a stable location. The test pit soil profiles will then be logged, and occasional grab samples will be taken for further inspection and laboratory testing (analysis of quality and suitability for potential use in fill, asphalt paving, etc.). Generally four (4) to six (6) grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

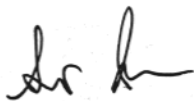
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- Okanagan Nation: Review of Anthropological and Historical Sources. MAG. Jan 2011.

In order to adequately address any concerns prior to the decision deadlines for the authorizations under review, please contact the Project Consultation Contact noted above within 30 days from the date of this letter.

Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Interroute Sand and Gravel Exploration
Grand Forks
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 30, 2018

By Email:
Okanagan Indian Band
okibreferrals@okanagan.org

Dear Chief and Council:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

Table 1: Project Overview

PROGRAM: Mines
PROJECT DESCRIPTION: Sand and Gravel exploration involving 7 test pits on crown land.
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LEGISLATION, TENURE TYPE AND TERM: Mines Act Permit
AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
PROPONENT: Interoute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
AREA Size: 0.01 ha
PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

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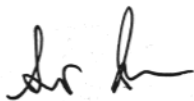
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Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Interroute Sand and Gravel Exploration
Grand Forks
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 30, 2018

By Email:
Okanagan Nation Alliance
onareception@syilx.org

Dear Grand Chief Stewart Phillip, Chair:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

Table 1: Project Overview

PROGRAM: Mines
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LEGISLATION, TENURE TYPE AND TERM: Mines Act Permit
AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
PROPONENT: Interroute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
AREA Size: 0.01 ha
PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

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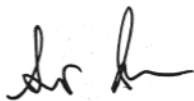
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Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Interoute Sand and Gravel Exploration
Grand Forks
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 30, 2018

By Email:
Osoyoos Indian Band
referrals@oib.ca; lands@oib.ca;

Dear Chief and Council:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

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AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
PROPONENT: Interoute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
AREA Size: 0.01 ha
PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

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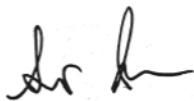
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Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Interoute Sand and Gravel Exploration
Grand Forks
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 30, 2018

By Email:
Penticton Indian Band
referrals@pib.ca
cc: Chief Chad Eneas
yilmixm@pib.ca

Dear Chief and Council:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

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AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
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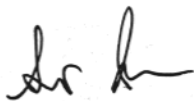
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Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

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Interoute Sand and Gravel Exploration
Grand Forks
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 30, 2018

By Email:
Upper Nicola Indian Band
NRtech1@uppernicola.com
Dear Chief and Council:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

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PROPONENT: Interoute Construction Ltd.
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AREA Size: 0.01 ha
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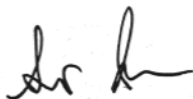
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Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Notice of Work

Volcanic Road - Aggregate Exploration

Tracking Number: 100239536

Applicant Information

If approved, will the authorization be issued to an Individual or Company/Organization? Company/Organization
What is your relationship to the company/organization? Employee

APPLICANT COMPANY/ORGANIZATION CONTACT INFORMATION

Applicant is an Individual or an Organization to whom this authorization Permit / Tenure / Licence will be issued, if approved.

Name: Interoute Construction Ltd.
Doing Business As:
Phone: 604-575-3473
Fax: 604-575-3691
Email: erwin.spletzer@terusconstruction.ca
BC Incorporation Number: 0497648
Extra Provincial Inc. No:
Society Number:
GST Registration Number:
Contact Name: Erwin Spletzer
Mailing Address: - redacted -

REFERRAL / PUBLIC COMMENT CONTACT INFORMATION

Company / Organization: Interoute Construction Ltd.
Contact Name: Erwin Spletzer
Contact Address: 201-5550 152nd Street
Surrey BC V3S 5J9
Contact Phone: 604-575-3473
Contact Email: erwin.spletzer@terusconstruction.ca

TECHNICAL INFORMATION

APPLICATION INFORMATION

Type of Notice of Work: Sand & Gravel
Is this a New Permit or an Amendment to an existing permit for this property? New Permit

MINE INFORMATION

Do you have an existing mine number? No
Name of the property: Volcanic Road - Aggregate Exploration

Tenure Numbers:

Crown Grant / District Lot Numbers:

Directions to site from nearest municipality:

The Volcanic Road aggregate exploration area (red outline) is located ~14.6 km due north of Grand Forks. To access the site you cross the Granby River bridge on the east end of Grand Forks, and turn left onto Granby Road and follow for ~15.7 km to a point just east of the Granby River Crossing, then you turn right onto North Fork Road and proceed for ~940 m to Volcanic Creek FSR located on the right. Follow Volcanic Creek FSR for ~600 m to the aggregate exploration site (Figure 1).

Geographic Coordinates of Mine: Latitude: 49.1554000 Longitude: -118.4439000
Maximum Annual Tonnage Extracted: 0 tonnes

INFORMATION ABOUT PROPOSED ACTIVITIES

Activities to be undertaken: Mechanical Trenching / Test Pits

FIRST AID

Proposed First Aid equipment on site: Level 1
Level of First Aid Certificate held by attendant: Occupational First Aid Level 1 with Transportation Endorsement

DESCRIPTION OF WORK PROGRAM

If you prefer to upload a document, please enter "see attached document" and attach the document in the "Document Upload" step later in the application under "Other".

Sufficient details of your work program to enable a good understanding of the types and scope of the activities that will be conducted:

All activities will be carried out within the proposed (red outline) area as noted on Figures 1 thru 4. Within the red outline are located the seven (7) test pits having locations as follows:

Test Pit Number	UTM 11U (Easting)	UTM 11U (Northing)
TP No. 1	394586	5445666
TP No. 2	394618	5445720
TP No. 3	394706	5445822
TP No. 4	394794	5445845
TP No. 5	394874	5445899
TP No. 6	394772	5445708
TP No. 7	394872	5445746

Within the (red outline) as noted on Figure 4, the area of testing is fairly open in nature, so trail construction will not be required to access the individual test pit sites. However, it is anticipated that for some pits there may be a requirement to cut a few trees (<10 m3) total, while in other cases the excavator will just be able to walk across the open areas to the test pit sites without any disturbances.

It should be noted that the overall area of interest is defined as upland in nature, with conifer trees aged ~105 years located throughout, and is open in nature (see Figure 4).

To complete the test pit program, the company is looking to rent a small 300 series Cat excavator with rubber tracks for the test pitting. The test pits will typically have dimensions of 1.5 m wide by length of 3 m and 3 m depth. The excavator will remove and stockpile all vegetation (grasses) at each test dig site. The internal spoil will be temporarily stored to the side of the excavation in a stable location. The test pit soil profiles will then be logged, and occasional grab samples will be taken for further inspection and laboratory testing (analysis of quality and suitability for potential use in fill, asphalt paving, etc.). Generally four (4) to six (6) grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

TIME OF PROPOSED ACTIVITIES

Original Start Date:
Proposed start and end date: Sep 3, 2018 to Oct 31, 2018

Please remember that you need to give 10 days notice to the Inspector of Mines of your intention to start work, and 7 days notice of your intention to stop work.

ACCESS

Access presently gated: No

PRESENT STATE OF LAND

Please identify what the present state of the land is where you would like to undertake your activities. If some of the questions do not apply to you please enter n/a in the space provided.

Present condition of the land:	The area is currently (conifer) treed cover, however it is upland and open in nature
Type of vegetation:	Conifer trees and shrubs
Physiography:	The area is sloping hillside without terrain hazards
Current means of access:	Public access and Forest Services Roads
Old equipment:	None
Recreational trails / use:	None

ACCESS TO TENURE

Do you need to build a road, create stream crossings or other surface disturbance that will not be on your tenure? No

LAND OWNERSHIP

Application area in a community watershed: No
Proposed activities on private land: No

Proposed activities on Crown land: Yes
Licence of Occupation: No

Have you applied for a Licence of Occupation? No

Please apply for a Licence of Occupation.

Activities in a park: No

CULTURAL HERITAGE RESOURCES

Cultural Heritage applies to a large spectrum of heritage resources that is defined as "an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people."

The Archaeology Branch of the Ministry of Forests, Land and Natural Resource Operations is responsible for the administration of the Heritage Conservation Act as it applies to archaeological sites. The Archaeology Branch has developed guidelines for companies engaged in natural resource extraction to aid in planning for and avoiding or managing impacts to protected archaeological sites.

Are you aware of any protected archaeological sites that may be affected by the proposed project? No

FIRST NATIONS ENGAGEMENT

In making decisions on authorizations, the government will be fulfilling its responsibility to consult, and where appropriate, accommodate First Nations. The government takes this responsibility seriously and encourages the applicant to engage First Nations early and often as part of any planned development.

Establishing good relations with First Nations who might be affected by a proposed development is a key part of any successful mining operation. The Ministry of Energy and Mines encourages applicants to engage and information share with First Nations that might be affected by a proposed development prior to submitting an application. The earlier in the life of a proposed activity that the avenues of communication are established the greater the likelihood that the relationships formed will be constructive and beneficial to all parties. A lack of information sharing and engagement by the applicant may result in extended timeframes for decision.

Applicants should keep a detailed record of information sharing and engagement with First Nations on their project in the event the government needs to review it. Information on First Nations information sharing and engagement should include the following: a list of First Nations contacted, whether the activity was modified based on feedback from First Nations, and whether the applicant has entered into any informal or formal agreements with First Nations in connection with the project.

The Consultative Areas Database Public Map Service is an online, interactive mapping tool that allows you to identify First Nations who have treaty rights or asserted or proven rights or title on the land base. More information can be found at <http://maps.gov.bc.ca/ess/sv/cadb/>.

Have you shared information and engaged with First Nations in the area of the proposed activity? ☐ No

MECHANICAL TRENCHING / TEST PITS

MAPS
Unless this is an area based application mark the locations of the proposed trenches/pits on the map. You will upload the maps at the document upload step later in the application process.

ACTIVITIES
Click on the "Add Activity" button to add one or more activities. Select your activity out of the list and enter the disturbed area and timber volume.

Activity	Number of sites	Disturbed Area (ha)	Merchantable timber volume (m³)
Trenches and Test Pits	7	0.01	10.00
Total:		0.01	10.00

RECLAMATION PROGRAM

Describe the proposed reclamation and timing for this specific activity:	<p>The reclamation measures and schedule proposed for the site are aimed at achieving end land use objectives as required by Part 10.7.4 and 10.7.5 of the Health, Safety and Reclamation Code for Mines in BC, 2017.</p> <p>The reclamation of the test pits will be immediately backfilled after testing, using the same native materials excavated from the pit in opposite order that the pits were dug. Due to bulking factor, the backfill will leave the ground with a mound of about 0.25 m high, however due to natural effects; the mounds will tend to dissipate (flatten) in the short order. The mineral soil, topsoil and vegetation that were stockpiled separately will be returned to their original position(s) to promote revegetation of the disturbed ground.</p>
Estimated cost of reclamation activities described above:	\$2,000.00

TIMBER CUTTING

Total merchantable timber volume: 10.00 m3

Free Use PermitBased on the information provided you will require a Free Use Permit as the total volume of merchantable timber to be cut does not exceed 50 m3. This permit will be automatically applied for as part of this Notice of Work.

EQUIPMENT

Click on the "Add Equipment" button to add one type of equipment at a time. All equipment must comply with the requirements of the Health, Safety and Reclamation Code.

Quantity	Type	Size / Capacity
1	Excavator	Cat 300 Series - 0.3 yd3

SUMMARY OF RECLAMATION

Based on the information you have provided on the previous screens the Summary of Reclamation is:

Activity	Total Affected area (ha)	Estimated cost of reclamation (\$)
Mechanical Trenching, etc.	0.01	2,000.00
Subtotal:	0.01	2,000.00
Unreclaimed disturbance from previous year:	0.00	
Disturbance planned for reclamation this year:	0.00	
Total:	0.01	2,000.00

OTHER CONTACTS

Please enter the contacts that are applicable to your application.

Contact Info	Type of Contact
Name: Erwin Spletzer Phone: 604-575-3689 Daytime Phone: 604-575-3473 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Mine manager
Contact Info	Type of Contact
Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648 GST Registration Number: Contact Name: Erwin Spletzer Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Permittee
Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648 GST Registration Number: Contact Name: Erwin Spletzer Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Tenure Holder
Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648	Site operator

GST Registration Number:**Contact Name:**

Erwin Spletzer

Mailing Address:201-5550 152nd Street
Surrey BC V3S 5J9**LOCATION INFORMATION****LAND DETAILS**

Do you have the legal description of the land or the civic address then click on 'Add Land Information'.

All applications must include the appropriate maps and applications received without maps will be returned. All maps must be in colour, computer generated, with a scale, north arrow and a detailed legend.

For Mineral, Coal and Placer applications you must provide a minimum of 3 maps:

- A Location Map which must show the location of the property in relation to the nearest community with the access route from the community to the work site clearly marked;
- A Tenure Map which must show the boundaries of the tenure(s) and tenure numbers, at a scale of 1:20,000 or less;
- A Map of Proposed Work which must show topography, water courses, existing access, existing disturbance, contour lines, known cultural heritage resources and/or protected heritage property, at a scale of 1:10,000 or 1:5,000. For site specific applications the location of all proposed exploration activities must be shown; for area-based applications the work area must be shown as a polygon, with the location of all proposed exploration activities for year 1 shown, and shape files provided of the area.

For Sand & Gravel/Quarry applications you must provide a Plan View, Cross and Longitudinal Sections and a Land Title/Crown Land Tenure Map. Details of these requirements are listed in the Sand & Gravel/Quarry Operations Activity sheet.

☒ I have one or more files (PDF, JPG, PNG etc.) with my maps

MAP FILES

Do you have a PDF or image file of a drawn map? You can upload it here.

Description	Filename
Volcanic Road_Detailed Location Map_Fig 2	Interoute_Volcanic Road_Det...
Volcanic Road_Detailed Site Map_Fig 3	Interoute_Volcanic Road_Det...
Volcanic Road_General Location Map_Fig 1	Interoute_Volcanic Road_Gen...
Volcanic Road_Orthophoto Map_Fig 4	Interoute_Volcanic Road_Ort...

☒ I have shape files from my Geographic Information System

SPATIAL FILES

Do you have a spatial file from your GIS system? You can upload it here.

Description	Filename
Volcanic_Poly.dbf	Polygon.dbf
Volcanic_Poly.prj	Polygon.prj
Volcanic_Poly.shp	Polygon.shp
Volcanic_Poly.shx	Polygon.shx

ATTACHED DOCUMENTS

Document Type	Description	Filename
Other	Badger Management Plan	Interoute_Volcanic Road_Bad...

PRIVACY DECLARATION**PRIVACY NOTE FOR THE COLLECTION, USE AND DISCLOSURE OF PERSONAL INFORMATION**

Personal information is collected by FrontCounter BC under the legal authority of section 26 (c) and 27 (1)(a)(i) of the Freedom of Information and Protection of Privacy Act (the Act).

The collection, use, and disclosure of personal information is subject to the provisions of the Act. The personal information collected by FrontCounter BC will be used to process your inquiry or application(s). It may also be shared when strictly necessary with partner agencies that are also subject to the provisions of the Act. The personal information supplied in the application package may be used for referrals or notifications as required. Personal information may be used by FrontCounter BC for survey purposes. For more information regarding the collection, use, and/or disclosure of your personal information by FrontCounter BC, please contact FrontCounter BC at 1-877-855-3222 or at:

FrontCounter BC Program Director
FrontCounter BC, Provincial Operation
441 Columbia Street
Kamloops, BC V2C 2T3

☒ Check here to indicate that you have read and agree to the privacy declaration stated above.

IMPORTANT NOTICES

- Once you click 'Next' the application will be locked down and you will NOT be able to edit it any more.

DECLARATION

☒ By submitting this application form, I, declare that the information contained on this form is complete and accurate.

OTHER INFORMATION

Is there any other information you would like us to know? No

OFFICE



Office to submit application to: Cranbrook

PROJECT INFORMATION

Is this application for an activity or project which requires more than one natural resource authorization from the Province of BC? No

OFFICE USE ONLY

Office Cranbrook	File Number	Project Number
	Disposition ID	Client Number

<div>Kootenay Boundary Region – First Nations Relations</div> <div>Consultation Request Intake Form</div> <div>FCBC.CBK@Gov.bc.ca</div>																													
DATE: (Received) February 14, 2018	DATE: (Required)	FILE NO: (Project File No. and ATS No.) Mine File 14675-20-1631059201801																											
PROGRAM/BUSINESS LINE/SECTOR: (Eg. Lands, Water Stewardship, Forests, Environment, Mines, Recreation) Ministry of Energy and Mines																													
AUTHORIZATION TYPE/LEGISLATION and SECTION: License of Occupation, Water Sec. 11, Timber: FUP/L2C, Access Manament Plan) Mines Act Permit																													
PROJECT ACTIVITY DESCRIPTION: (Eg. Forest Stewardship Plan, Gravel Quarry, Power Line Right of Way) Sand and Gravel exploration involving 7 test pits on crown land.																													
PROVINCIAL APPROACH: Single-Agency Decision <input type="checkbox"/> or Multi Agency-Project Decision <input checked="" type="checkbox"/> ONE PROCESS																													
PROPONENT: (Company, Name) Interoute Construction Ltd. Erwin Spletzer Phone: 604-575-3473 erwin.spletzer@terusconstruction.ca 201-5550 152nd Street Surrey BC V3S 5J9																													
LOCATION: (Geographic, Physical) Grand Forks, BC																													
MAPPING INFO: (Geo Mark, KML, Shape files if available) <div> gm-266E6F31DBD6498B9D32D8DCF3596907.kml</div> <div> gm-266E6F31DBD6498B9D32D8DCF3596907.htm</div>																													
AREA SIZE: (Hectares, Cubic Meters, Volume) 0.01 ha																													
CONTACT PERSON: (Statutory Decision Maker, Program/Business Officer) Gerald Crawford, Inspector of Mines																													
BACKGROUND INFORMATION: (Provide a paragraph or two, whatever is required, to provide context or background for FNR staff. What is the application and why are we doing it? What should First Nations know about the referral) NEW PERMIT																													
SUPPORTING INFORMATION example: (include information that supports the consultation review process) <table><tr><td>Application Form (Project Description)</td><td><input checked="" type="checkbox"/></td><td>_____</td></tr><tr><td>Operational/Management Plan (if applicable)</td><td><input type="checkbox"/></td><td>_____</td></tr><tr><td>Map/s (GEO Mark, shape file/s, scale, etc.)</td><td><input checked="" type="checkbox"/></td><td>_____</td></tr><tr><td>RAAD Info, AOA, AIA (if applicable)</td><td><input type="checkbox"/></td><td>_____</td></tr><tr><td>GIS Status/Clearance</td><td><input checked="" type="checkbox"/></td><td>_____</td></tr><tr><td>Proponent Information Sharing (if applicable)</td><td><input type="checkbox"/></td><td>_____</td></tr><tr><td>FN Consultation History (letters, comments)</td><td><input type="checkbox"/></td><td>_____</td></tr><tr><td>EReferrals, Other Agency Comments</td><td><input type="checkbox"/></td><td>_____</td></tr><tr><td>Other</td><td><input type="checkbox"/></td><td>_____</td></tr></table>			Application Form (Project Description)	<input checked="" type="checkbox"/>	_____	Operational/Management Plan (if applicable)	<input type="checkbox"/>	_____	Map/s (GEO Mark, shape file/s, scale, etc.)	<input checked="" type="checkbox"/>	_____	RAAD Info, AOA, AIA (if applicable)	<input type="checkbox"/>	_____	GIS Status/Clearance	<input checked="" type="checkbox"/>	_____	Proponent Information Sharing (if applicable)	<input type="checkbox"/>	_____	FN Consultation History (letters, comments)	<input type="checkbox"/>	_____	EReferrals, Other Agency Comments	<input type="checkbox"/>	_____	Other	<input type="checkbox"/>	_____
Application Form (Project Description)	<input checked="" type="checkbox"/>	_____																											
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Map/s (GEO Mark, shape file/s, scale, etc.)	<input checked="" type="checkbox"/>	_____																											
RAAD Info, AOA, AIA (if applicable)	<input type="checkbox"/>	_____																											
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Proponent Information Sharing (if applicable)	<input type="checkbox"/>	_____																											
FN Consultation History (letters, comments)	<input type="checkbox"/>	_____																											
EReferrals, Other Agency Comments	<input type="checkbox"/>	_____																											
Other	<input type="checkbox"/>	_____																											
FIRST NATION RELATIONS only: (Internal review for acceptance) <input type="checkbox"/> Yes <input type="checkbox"/> No (incomplete information return to Business Line contact person to complete request information) COMMENTS:																													



Archaeological Chance Find Procedure

Volcanic Road – Notice of Work – Aggregate Exploration Project Interoute Construction Ltd.

This protocol has been established to increase awareness of the importance of archaeological resource and to assist in planning future developments. The chance find procedures (CFP) outline the protocol to be followed if a new archaeology or heritage resources are encountered during sand and gravel excavations. These, however, can also be applied to any incidental observations of artifacts or sites that are made by non-mine personnel such as contractors or site visitors.

The general types of archaeological and heritage resources may include finds such as:

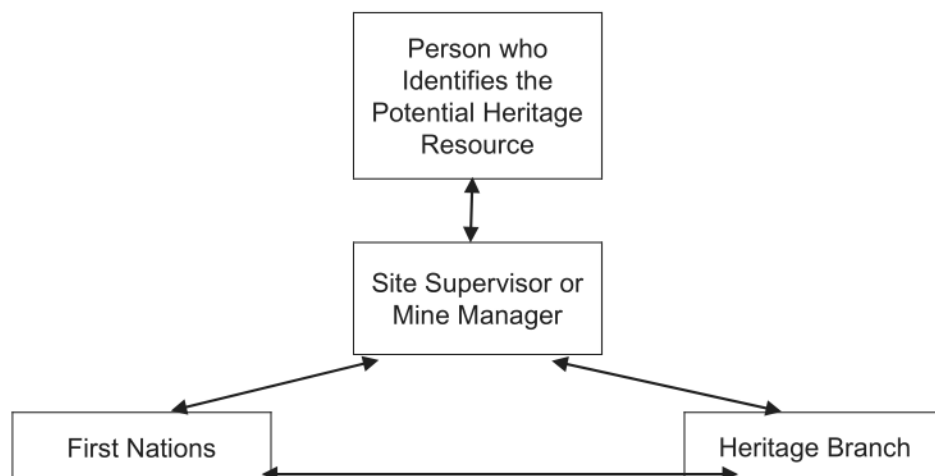
- Rock art, including pictographs and petro glyphs;
- Tree art and Culturally Modified Trees (CMT'S) such as bark stripping and planks;
- Surface features such as depressions created by former habitations, earthen fortifications; rock cairns, fish traps, clam gardens, burned rock and middens;
- Artifacts that have become visible on the land surface owing to erosion or recent land altering activity. These may be produced in a variety of materials such as stone, bone, antler, wood, or shell; and
- Buried cultural remains that may be sighted in a cut-bank, excavation, eroded shoreline, or other exposed deposit.

If any unidentified or previously unrecorded cultural heritage features are encountered during the investigation of the aggregate resource, all work will stop, and the Archaeology Branch (Ministry of Tourism, Culture and the Arts) and the affected First Nations will be informed. All archaeological sites within the province of British Columbia are protected from disturbance, whether intentional or inadvertent, by the *Heritage Conservation Act* (2003).

If you discover what you suspect may be a possible archaeological site:

- Stop all work in the area to avoid damaging the site.
- **Do not disturb any archaeological remains that you may encounter.**
- Report your discovery to your supervisor or if they are unavailable, then first to **Erwin Spletzer, Manager** who will provide further instructions, contact number – (604) 575-3473.
- If you are unable to contact **Erwin Spletzer**, please contact **Jim Spafford** of the Archaeology Branch by telephone at (250) 952-4877 or email Jim.Spafford@gov.bc.ca

Chain of Communication for Archaeological Management



May 25, 2010

- An archaeological or heritage resources site card must be completed. The person who identifies the potential archaeological/heritage resource or the site mine manager may complete the archaeology site card with the following basic information:
 - Date (when the archaeological find was first encountered)
 - Observer (name of the person recording the information on the site or artifact)
 - Site location (detailed enough so that it can be relocated, GPS if possible)
 - Type of site (e.g. archaeological site, burial site or artifact)
 - Disturbance (any obvious disturbance to the site, e.g. equipment, animals, etc.)
 - Photographs

The person collecting the information should be careful not to disturb the site further. If an artifact has been found, it must not be removed from the site.

- Archaeology site cards must be submitted to the **Interoute Construction Ltd.** site office including photographs for project (mine) records.
- The site manager will contact a qualified archaeologist, and the Archaeology Branch, and provide details of the suspected site or artifact. If photographs are available, these can be provided to the archaeologist for preliminary assessment.
- The qualified archaeologist will go onsite to survey and document the find. The qualified archaeologist will assess the significance of the remains. Mitigation options for the site or artifact will be drafted by the archaeologist, and reviewed by the Archaeology Branch, and the affected First Nations. Agreement on mitigation approach will be determined by the qualified archaeologist in coordination with the Archaeology Branch and affected First Nations.

If you discover what you suspect may be a possible human remains:

- Stop all work in the area to avoid damaging the site.
- **Do not disturb any possible human remains that you may encounter.**
- Report your discovery to your supervisor or if they are unavailable, then contact **Erwin Spletzer, Manager** who will provide further instructions.
- If you are unable to contact **Erwin Spletzer, Manager**, and if the suspected human remains appear to be current, contact the **RCMP** at Grand Forks, BC **(250) 422-8281 or 911**.
- If you are unable to contact **Erwin Spletzer, Manager** at **(604) 575-3473** please contact the Archaeology Branch by telephone at **(250) 952-4877**.

The following steps will generally be followed

- The Coroner's Office and local policing authority are notified and the Coroner's Office determines whether the matter is of contemporary forensic concern.
- If the remains are not of forensic concern, the branch will attempt to facilitate disposition of the remains.
- If a cultural affiliation for the remains can be determined, the branch will contact an organization representing that cultural group. If the remains are of aboriginal ancestry, the branch will attempt to contact the relevant First Nation(s).
- Generally, if remains are still buried and are under no immediate threat of further disturbance, they will not be excavated or removed. If the remains have been partially or completely removed, the branch will facilitate disposition.
- The branch may arrange for a qualified anthropologist or archaeologist to provide an assessment of the remains.

Archaeological Chance Find Report for the Volcanic Road Pit –Aggregate Exploration Project

Name of Recorder:

Date and Time of Discovery:

Location (site name, co-ordinate, DBS):

Description of Find:

Photographs:

Who was contacted (Interoute personnel, First Nations, Archaeological Branch)? Recorded the name, date, time, phone number, and details of conversation; use a separate sheet if necessary:

Protection measures to be implemented:

Movable or immovable:

If moved location:

Further action required:

Date and time work in area recommenced:

Printed name and signature of site contractor:

Date submitted:

AUTHORIZATION DETAILS

Required

Auth ID:	289270	Auth Name:	Notice of Work Sand and Gravel	Owned By:	Elder, Katie
Auth Region:	Kootenay Boundary	Auth Status:	Active	Date File Opened:	15-Feb-2018
Project Number:	269917	Project Name:	Interoute Construction Ltd. - Notice of Work (Volcanic Road - Aggregate Exploration)	Last Saved By:	Sweet, Alicia
Client Name:	Interoute Construction Ltd.	Project Location:	Volcanic Road - Aggregate Exploration	Last Saved Date:	30-Apr-2018
Assigned To:	Wade, Lori	Reason Closed:			
Due Date:	14-May-2018	Net Processing Time:	632		

Print

Delete Authorization

[Apply Actions](#) [First Nations](#) [Finalize](#) [Comments](#) [Manager Comments](#) [*Attachments*](#) [AOI](#) [On Hold](#)

APPLICATION INFORMATION

[Authorization Help](#)

* Application Received Date:	<input type="text" value="14-Feb-2018"/>	
Application Accepted Date:	<input type="text" value="15-Mar-2018"/>	
Application Rejected Date:	<input type="text"/>	* Required only for the pre-application stage.
Target Days:	<input type="text" value="60"/>	
Due Date:	<input type="text" value="14-May-2018"/>	
Application Fee:	<input type="text"/>	Payment Type: <input type="text" value="- Select -"/> * If Application Fee is entered.
eGARMS Receipt Number:	<input type="text"/>	
* Authorization Tracking Region:	<input type="text" value="Kootenay Boundary"/>	▼
* Authorization Intake Office:	<input type="text" value="Cranbrook"/>	▼
Authorization Adjudication Office:	<input type="text" value="Cranbrook"/>	▼
* Assigned To:	<input type="text" value="Wade, Lori"/>	▼
Business Area File Number	<input type="text"/>	
Bring Forward Date:	<input type="text"/>	

Business Area Contact

First Name:

Surname:

Save Authorization

Save and Add New Authorization

Cancel

19-96256 32 of 219 Page #

You are here: > [FCBC ATS Home](#) > [Project \(#269917\)](#)

* Require

PROJECT DETAILS

Project Number:

269917

Project Name:

Interoute Construction Ltd. - Notice of Work
(Volcanic Road - Aggregate Exploration)

Client Name:

Interoute Construction Ltd.

Prim Res Specialist:

Wade, Lori

Manager:

Lucas, Brent

Owned By:

Elder, Katie

Date file opened:

15-Feb-2018

Last saved by:

Elder, Katie

Last saved date:

15-Feb-2018

Internal Project Summary ▼

Print

Delete Project

Project Information

Contact Information

Authorization

Enquiry

Attachments

AOI

Actions

PROJECT CONTACTS

[Project Contact Help](#)

Add new Contact

- Select Contact - ▼

Name	Address	Contact	Edit	Delete
Spletzer, Erwin	201 5550 152nd Street	Primary: 604 575-3473		
	Surrey	Fax: 604 575-3691	Edit	Delete
	Canada	Email: erwin.spletzer@terusconstruction.ca		
	V3S 5J9			
Spletzer, Erwin	201 5550 152nd Street	Primary: 604 575-3473		
	Surrey	Secondary: 604 575-3689	Edit	Delete
	Canada	Fax: 604 575-3691		
	V3S 5J9	Email: Erwin.Spletzer@terusconstruction.ca		

B.C. HOME

Ministry of Agriculture and
Lands

FCBC Authorization Tracking
System

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- + [Administration](#)

Related Links

- [Tantalus](#)
- [FCBC Sharepoint Site](#)
- [eGarms](#)
- [ATS Survey](#)

Exit this e-service ▶

FCBC Authorization Tracking System (ATS)

You are logged in as: Colombo, Leanne

You are here: > [FCBC ATS Home](#)

SEARCH RESULTS

SEARCH RESULTS

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1 Records Found

Results per page:

<u>Project Number</u>	<u>Project Name</u>	<u>Date Project File Opened</u>	<u>Client Number</u>	<u>Client Name</u>	<u>City</u>
269917	Interoute Construction Ltd. - Notice of Work (Volcanic Road - Aggregate Exploration)	15-Feb-2018 13:15	311247	Interoute Construction Ltd.	Surrey

< Return to Search

Volcanic Road Pit – Badger Management Plan - 2018

If a badger is observed within the Volcanic Road Pit area, then the following actions will be implemented:

1. Note time, date and location of sighting as well as how many badgers are present and their activity. Take a picture, if possible, but do not approach the animal or disturb it. Note – Badgers are not aggressive or dangerous (unless cornered) but, as with all wildlife, should not be disturbed.
2. Report sighting to on-site supervisor.
3. If more than one badger is observed, sighting should be immediately reported to FLNRO – Cranbrook: 250-489-8540. Multiple badgers in one location usually indicate presence of mother with kits and may require a more detailed response.
4. If one badger is observed, report sightings to the BC badger website: www.badger.bc.ca
5. Badger burrows:
 - a. Fresh badger diggings are indicative that a badger is, or recently has been, in the area.
 - b. Badger burrows can be distinguished from other digging mammals – primarily Columbia ground squirrels - by their relatively large opening and oval shape. The hole is wider than it is tall (see figure). A large plume of excavated dirt is typical immediately adjacent to the burrow.
 - c. Columbia ground squirrel burrows typically have a smaller, circular shaped opening.
 - d. If a fresh burrow is noted (look for indication that dirt has moved around burrow since the last rainfall), a small stick can be placed across the entrance, stuck into the soil on each side to anchor it. If the stick is not moved over the next several days, this indicates that the badger is no longer using the burrow and has likely moved on.
 - e. If a burrow appears very fresh and is blocked just inside the entrance with dirt, this usually indicates that a badger is present in the burrow. The area should be left undisturbed and the burrow checked daily for continued presence. Once unplugged, use small sticks as above to test whether the badger is still using this burrow.
 - f. Watch for other burrows in the same vicinity as badgers will maintain more than one burrow.
6. In all cases, give the animal space to move on its own. Almost always the badger will move on and likely remain in the area for <24 hours, usually leaving the site in the night.

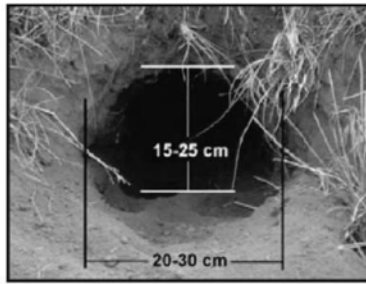
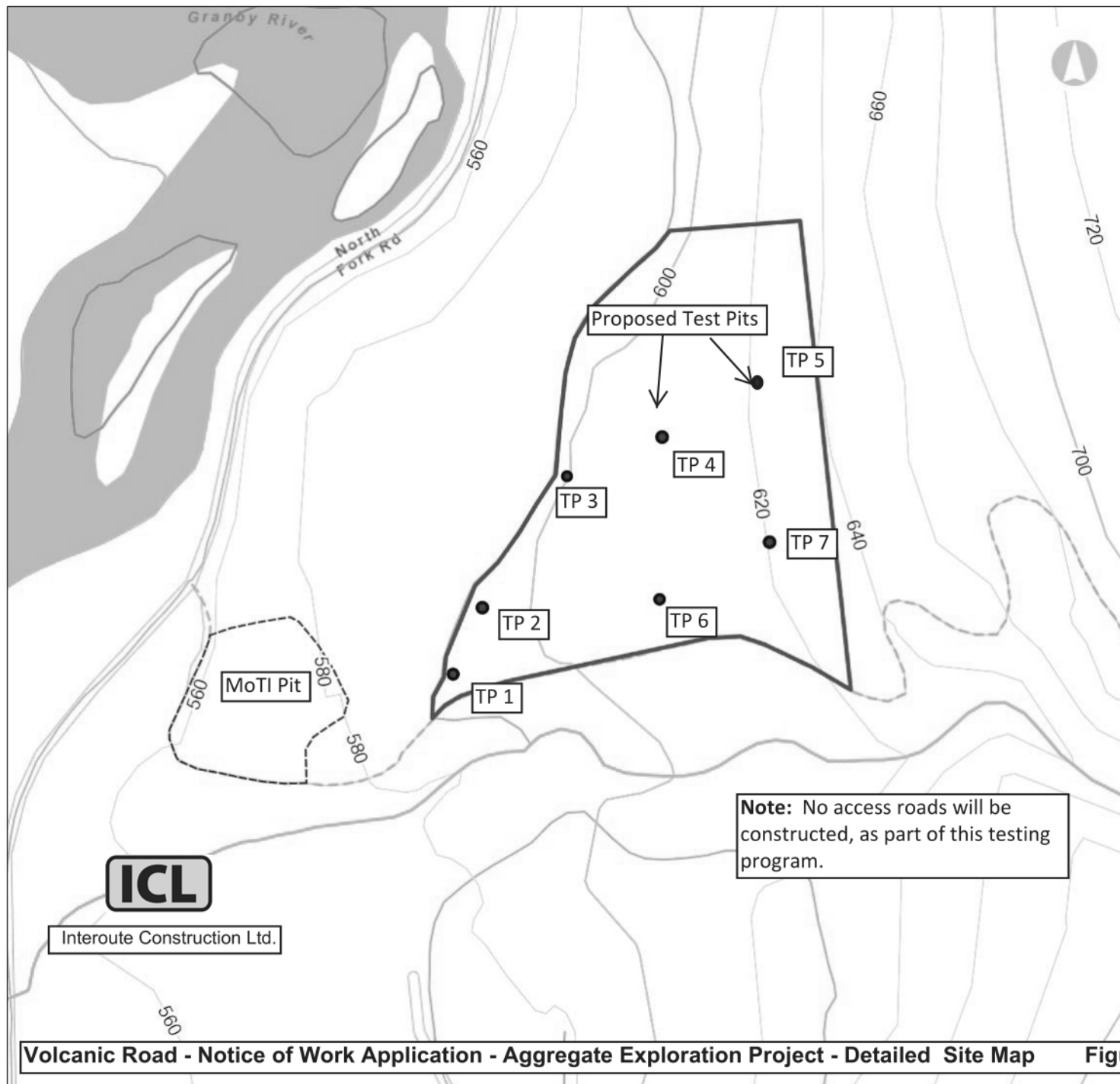


Figure 5: Badger burrow – note oval shape and usually large plume of dirt outside burrow. Source: Weir and Almuedo (2010). Photo: Richard Klafki.



Volcanic Road IA

Legend

Water - Rivers, Creeks, Sho
(1:20,000)

FCODE

- Canal
- Dam
- Dam - Beaver
- Ditch
- Falls
- Flume
- Rapids
- River or Stream - Definite
- River or Stream - Dry
- River or Stream - Indefinite
- River or Stream - Left Bank
- River or Stream - Right Bank

0 0.10 0.20 km

1: 5,000

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Datum: NAD83

Projection: NAD_1983_BC_Environment_Albers

Key Map of British Columbia



Volcanic Road - Notice of Work Application - Aggregate Exploration Project - Detailed Site Map Figure 3

Referral

Referral Type:	Notice of Work	Referral Number:	99474729
Reference Number:	269917	Completed Date:	May 23, 2018
Status:	Closed		

Status

Requests

Response Documents

Processes

Referral Details

Summary

Referral Description

This is a Notice of Work for Sand and Gravel.

Proponent: Interoute Construction Ltd.

Authorization Type: Mines Act Permit

BCGS Mapsheet: 82E.018

Legal Description/Mineral Tenure Number: Unsurveyed Crown Land in the vicinity of Grand Forks

Area of Disturbance in ha. (approx.): less than 0.01 (ha)

Volume of Timber Removed (if applicable): 10.00 m3

Please note for Municipal/Local Government:
In the event the applicant must apply for re-zoning, rezoning would not preclude the issuance of a Mines Act Permit.

Mandatory Response Days:	N/A	Reminder Days:	21
Minimum Days Open for Optional Response:	30		
* Request Owner:	Gerald Crawford		
* Response Owner:	Gerald Crawford		

REFERRAL TEXT

Mandatory

Subject:

Province of BC Referral Request on a Notice of Work for a Mines Act Permit

Preamble:

You are requested to comment on the attached Notice of Work and Reclamation Program within 30 days. If no response is received within the 30-day time period, we will consider that to be a positive response.
Unless you are informed by us to the contrary, the application will be adjudicated in a manner consistent with your response. Also, be advised that we may forward your comments directly to the applicant for action or implementation.
Your comments may be disclosed to the public to justify decisions made.
If you require more information, please do not hesitate to contact our office at MMD-Cranbrook@gov.bc.ca

Optional

Subject:

Province of BC Referral Request on a Notice of Work for a Mines Act Permit

Preamble:

You are requested to comment on the attached Notice of Work and Reclamation Program within 30 days. If no response is received within the 30-day time period, we will consider that to be a positive response.
Unless you are informed by us to the contrary, the application will be adjudicated in a manner consistent with your response. Also, be advised that we may forward your comments directly to the applicant for action or implementation.
Your comments may be disclosed to the public to justify decisions made.
If you require more information, please do not hesitate to contact our office at MMD-Cranbrook@gov.bc.ca

Notification

Subject:

Province of BC Notification on a Notice of Work for a Mines Act Permit

Preamble:

Please find attached a Notification on the following application(s) for your information. No response is required by you.

Summary

Subject:

Province of BC Summary on a Notice of Work for a Mines Act Permit

Preamble:

Please find attached a summary on the following application(s) for your information.

DOCUMENTS

Description	File Name	Publishing Level	Include in Dist.	Include in Summary	Attach to Email	Hide Document
View Maps	1631059201801_Maps.pdf	Public	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View Notice of Work application	1631059201801_ApplicationForm.pdf	Public	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Referral

Referral Type:	<u>Notice of Work</u>	Referral Number:	99474729
Reference Number:	<u>269917</u>	Completed Date:	May 23, 2018
Status:	Closed		

Status

Requests

Response Documents

Processes

Referral Details

Summary

REVIEW RESPONSE ROLL-UP REPORT

REVIEW RESPONSE ROLL-UP REPORT LEGISLATED ONLY

REVIEW RESPONSE DOCUMENTS

Working Notes (Shows in To Do List):

ATS Project Name: Interoute Construction Ltd. - Notice of Work (Volcanic Road - Aggregate Exploration)

Description: INTERROUTE CONSTRUCTION - Notice of Work 1631059201801

Location: Volcanic Road - Aggregate Exploration - Nr. Grand Forks

REFERRAL SUMMARY

SUMMARY RECOMMENDATIONS

Choose one Summary Recommendation

DOCUMENTS

Description	File Name	Publishing Level	Include in Summary	Attach to Email
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BEST PRACTICES

FOR PREVENTING THE SPREAD OF INVASIVE PLANTS DURING FOREST MANAGEMENT ACTIVITIES

A POCKET GUIDE FOR BRITISH COLUMBIA'S FOREST WORKERS

2013 EDITION



Acknowledgements

This guide was developed by the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) in partnership with the Invasive Species Council of British Columbia (ISCBC), a non-profit organization that works in collaboration to minimize the introduction, establishment and spread of invasive species.

For more information, please visit the ministry Invasive Plant Program website (www.for.gov.bc.ca/hra/plants/), and/or contact ISCBC:



Invasive Species Council of BC
www.bcinvasives.ca
info@bcinvasives.ca
1.888.933.3722



Funding for this project was provided by the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO).

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*Front cover and header images courtesy of Alex Fraser Research Forest.
Back cover and footer images courtesy of Bill Grutzmacher.*

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E. Sonntag

Field scabious in pine plantation.

Invasive Plants and Why You Should Care

An **invasive plant** is any non-native plant species that has the potential to pose undesirable or detrimental impacts on humans, animals or ecosystems. Invasive plants have the capacity to establish quickly and easily, especially on disturbed sites, and can cause widespread negative economic, social, and environmental impacts.

The term **noxious weed** is also encountered in British Columbia (B.C.), but refers solely to those invasive plant species listed under the **B.C. Weed Control Act Regulation** (see p. 4).

DID YOU KNOW?

If plants appear to be growing out-of-control on sites that have had soil disturbance, chances are they are invasive species. Use a field guide or send a photo or specimen to a provincial invasive plant specialist or your regional invasive plant/species committee for identification.



Giant knotweed in equipment storage yard.



THE PROBLEM

Invasive plants negatively impact lands across B.C. Several forestry activities can lead to introduction and spread of invasive plant species to forests, sensitive areas, and along resource roads and work sites.

DID YOU KNOW?

Moving muddy equipment to new work sites can introduce invasive plants to pristine areas. Remove mud and plant parts BEFORE leaving an infested site.

INVASIVE PLANTS AND FOREST MANAGEMENT

Invasive plant infestations may compete with natural forest vegetation and tree seedlings for resources, lead to erosion and water siltation, increase fire hazards, and reduce landscape aesthetics. They can also severely degrade riparian zones, forage production, and habitat quality for wildlife and species at risk. Reduced sight-lines along resource roads and exposure to certain plant species can endanger worker safety.

Once established, invasive plant infestations displace native vegetation, resulting in areas that are less biologically diverse, and more costly to treat.

Forest managers and field workers can help limit the introduction and spread of invasive plants by applying best practices (p. 8 - 18).

Legislation and Commitments

LEGISLATION*

B.C. Forest and Range Practices Act (FRPA)

FRPA (Section 47) requires managers of Crown forests to specify measures in their Stewardship Plans that they will implement to prevent the introduction or spread of invasive plants listed in the Invasive Plants Regulation.

B.C. Weed Control Act (WCA)

The WCA requires all land owners or occupiers of non-federal lands to control designated noxious weeds. The Act states, "Every occupier shall control, in accordance with the regulations, noxious weeds growing or located on land and premises, and on any other property located on land and premises, occupied by him." In terms of forest management, this legislation relates to private forest lands, and other private land used for activities such as log sorting and equipment storage. Within the Crown forest and range land base the Province is recognized as the occupier.



Remove mud and plant parts before moving to a new site.

Other Related Legislation

Integrated Pest Management Act (provincial)
Seeds Act (federal)

Local Government Act (regional districts) and
Community Charter Act (municipalities) enact
local invasive plant by-laws

COMMITMENTS

Professional Codes of Ethics

In B.C., forest, applied biology, and agrology professionals are bound to practise good stewardship of publicly-owned natural resources.

***Please refer to original documentation for more details. This section is meant only as a tool to raise awareness.**

DID YOU KNOW?

WorkSafeBC released a Toxic Plant Warning about Giant Hogweed. Forest workers exposed to the sap of this plant risk getting burn-like blisters. Training in plant recognition is an important safety precaution.



Giant hogweed is a safety hazard to workers.

Forestry Activities That Affect Invasive Plant Establishment and Spread

Forestry activities affect invasive plant establishment in two major ways:

- Ⓥ As a **vector** - Seeds and plant parts hitchhike in caked-on mud or get carried in to new places on boots and clothing, equipment, vehicles, and road-building materials.
- ⓓ As a source of **soil disturbance** – Exposed soil is an invitation to the establishment of invasive plants.

DID YOU KNOW?

Marsh Plume Thistle can compete with planted seedlings for resources, lead to snow-press, and is painful to walk through. This wind-borne and shade-tolerant invader has unwelcome implications to forest management.



Ministry of Forests, Lands and Natural Resource Operations

Marsh plume thistle infestation.



Forestry Field Work (e.g. timber cruising, engineering layout, silviculture surveys), via pick-up truck, all-terrain vehicle, boat, bike, and boot



Road Infrastructure Development, Maintenance, and Deactivation including stream crossings, ditching, and road construction



Cut Block Infrastructure Development including landings, bladed skid trails, and back-spar trails



Harvesting including falling, skidding, forwarding, yarding, processing, loading, and trucking



Storage of equipment and supplies when not in use, plus log sort sites



Transport of Equipment and Supplies

















































Burning including prescribed fire, wildfire, waste piles, and fuel reduction



Tree Planting and Site Preparation (creating seed beds for tree planting)

Invasive Plant (IP) Best Practices

KEY ACTIVITY	BEST PRACTICES		
	Report IP Sites	Avoid Infested Sites	Work first in uninfested areas
FIELD WORK			
ROAD WORK			
CUT BLOCK DEVELOPMENT			
HARVESTING			
STORAGE			
TRANSPORT OF EQUIPMENT AND SUPPLIES			
BURNING			
TREE PLANTING AND SITE PREPARATION			

BEST PRACTICES				
Clean Equipment BEFORE Moving	Materials are IP Free	Minimize disturbance	Revegetate Disturbed Sites	Control infestations
				
				
				
				
				
				
				
				

BEST PRACTICES FOR FOREST MANAGEMENT ACTIVITIES

- 1 Incorporate known invasive plant sites into development plans and report new sites as they are discovered.

Early in the development planning process, consult the map display module of the Invasive Alien Plant Program (IAPP) online database for known invasive plant sites (www.for.gov.bc.ca/hra/plants/application.htm). Inspect work sites and report the size and location of new infestations. Plan activities so they won't create new or spread existing infestations (see other Best Practices).

Related Forestry Activities



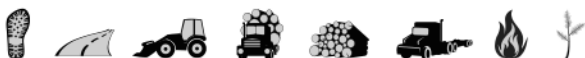
Alex Fraser Research Forest

Orange hawkweed infestation.

2 Avoid infested sites for staging, parking, and log sorting, both in the bush and storage yards.

Roadsides, landings and storage yards are frequently already infested with invasive plants. Vehicles, equipment, and logs can pick up plant parts and seeds, especially in muddy conditions, and carry them to new locations.

Related Forestry Activities



B. Grutzmacher

Culverts infested with Scotch Broom.

DID YOU KNOW?

Early identification and reporting of infestations is key to limiting the spread of invasive plants in B.C. See p. 19 for reporting protocol.

3 Work in uninfested sites before moving to infested sites.

Work sites can be widely infested by invasive plants, partially infested, or invasive plant-free. As vehicles, equipment, and clothing are vectors for seeds and plant parts, schedule work activities to begin in the most pristine sites first and end in the most infested sites last.

Related Forestry Activities



Alex Fraser Research Forest

Harvesting next to Scotch broom infestation.

DID YOU KNOW?

Invasive hawkweeds, knotweeds, Giant hogweed, and Marsh plume thistle are shade-tolerant and can become established under forest canopies.

4 Clean equipment before moving to a new work site or region.

Remove seeds and plant parts **within existing infestations** or **designated wash sites** to prevent spread to new sites. **Avoid moving unclean equipment to a new work location.** Carefully bag and dispose of seeds or plant parts picked from your clothes, boots, or equipment.

Cleaning With Water: Pressure washing all mud from vehicles and equipment is best. Prevent run-off from contaminating waterways and riparian areas. Wash within existing infestations or use designated wash sites to concentrate run-off. Alternatively, temporary sumps can be used and then buried when decommissioned.

Cleaning Without Water: Before departing infested sites, visually inspect vehicles and equipment and remove any lodged plant parts found. Knock off mud with a shovel, broom or use your boots (then knock out the boot treads).

Equipment relocated from other regions may be importing new problem plants to your area. Request that such equipment be cleaned before transport.

Related Forestry Activities

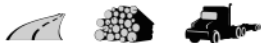


5 Inspect and ensure fill and erosion-control materials are free of invasive plants before transport and use.

Use only clean fill material from an “invasive plant free” source. Regularly inspect material sources (e.g. gravel pits) for invasive plants and record and report any infestations.

Use “Certified Weed Free” straw or hay for erosion-control. Such bales will be labeled and/or have colour-coded twine.

Related Forestry Activities



Ministry of Forests, Lands and Natural Resource Operations

Spotted knapweed infestation in active gravel pit.

6 Minimize soil disturbance and maintain native vegetation.

Minimize unnecessary soil disturbance. Every cut made by bladed equipment into previously undisturbed soil and vegetation increases the likelihood of infestation by invasive plants. A cover of native vegetation is the best defense against problem plants.

Related Forestry Activities



Harvesting with minimum disturbance.

DID YOU KNOW?

Scotch broom, which contains flammable compounds and grows tall, can both present a fire hazard and compete with tree seedlings.

7 Revegetate disturbed sites as soon as possible.

Road and bridge construction/deactivation sites, landings, and bladed trails are most likely to host new or expanding infestations if not revegetated quickly. Increase the shade levels or fill in growing space with non-invasive ground-cover and/or overstory plants.

To quickly achieve planned closed canopy tree cover on cut blocks: minimize planting delay, plant trees in high density, use large or fast-growing stock, or fertilize at time of planting.

Establish ground-cover promptly by seeding with mixtures that are free of weeds, locally adapted, non-invasive, and quick to establish (e.g. native species or non-native but non-invasive grass mixtures such as Common No. 1 Forage Mixture or better).

Request a “Certificate of Seed Analysis” and reject seed lots containing invasive species listed under the WCA Regulation or FRPA Invasive Plants Regulation (see “For More Information” on p. 65). Sow seed in the early spring or late fall for best germination results. Monitor to ensure successful establishment and re-seed as necessary.

Related Forestry Activities




Undesirable plants can be introduced through contaminants in seed mixtures!

AG SEED LAB

P.O. BOX 998, CARROT RIVER, SK, CANADA S0E 0L0
 PHONE: (306) 788-3335 FAX: (306) 788-2180
 EMAIL: agseedlab@sasktel.net WEB: www.agvision.ca

Certificate of Seed Analysis #: A09-103 CMA Accreditation No. 1287

From: CANADA Kind/Type: Greater bluestem Date: 04-Jun-10
 Seedhead: Lat: 94083

Number Pkg: 50 grams					
Permitted Noxious	Value	Other Weed Seeds	Value	Other Crop Seeds	Value
	0	Lamb's-quarters	2	Cereal rye grass	
Prohibited Noxious	0	Pasture barley	1	Bromegrass	
Secondary Noxious	0				
Total Primary + Secondary:	0	Total Weed Seeds of All Kinds:	4	Loss due to 0.5% Agency	
PURITY		GERMINATION		OTHER DETERMINATIONS	
N Pure Seed:	87.74	N Germination:	91	Seed Count:	025 g
N Inert Crop:	0.56	N Weed Seed:		Seeds EFT:	025 g
N Weed Seed:	0.05	GERMINATION (INCL. SEEDLING)		Seeds EFT:	
N Dam:	0.20	N Weed Seed:		Seeds EFT:	
N Pure Living Seed:	89			Seeds EFT:	0.0%
Number of Straw Treated:	60				
Remarks:		<div style="text-align: center;">  <p>SENIOR MEMBER OF CSIA ACCREDITED ANALYST 74 NANCY DENYSIUK</p> </div>			

This is to certify that the sample submitted from the lot designated above has been analyzed according to:
 1) ☒ Canadian Methods and Procedures for Testing Seed, CMA
 2) ☐ Rules for Testing Seeds, A.O.S.A.
 3) ☐ International Rules for Testing Seeds, I.E.T.A.
 4) ☐ As Specified by Customer 5) ☐ Other

This responsibility for any seed sold and submitted for sale under this seal/label with respect to grade or any other specifications rests entirely with Seller.

Ministry of Transportation and Infrastructure

A Certificate of Seed Analysis will list "other" seeds present and be dated, signed and sealed by an accredited laboratory. Check all species listed against provincially regulated noxious and invasive plants. Reject all seed lots that are contaminated.

8 Promptly control infestations resulting from forestry activities.

Remove invasive plants prior to seed set to prevent build-up of seed banks that will take years to control. Prioritize treatment of roadsides and landings to reduce inadvertent movement of seeds and plant parts by vehicles and equipment. Monitor to ensure control efforts are successful and re-treat if necessary. Contact the provincial Invasive Plant Specialist in your area (see p. 62) to determine the best treatment approach.

Related Forestry Activities



Herbicide crew preparing to treat a Scotch broom infestation in a plantation.

Reporting Invasive Plants

It is critical to report new infestations! Fast treatment of new infestations is key to stopping the spread of invasive plants.

Unusual plants that appear to be taking over or growing out of control should be reported in one of these four ways:

- ✓ Online through 'Report-A-Weed,' (www.for.gov.bc.ca/hra/plants/application.htm) which connects to the provincial Invasive Alien Plant Program (IAPP) application
- ✓ 'Report-A-Weed' Mobile App, for iPhone and Android smart phones (find download links at www.reportaweedbc.ca)
- ✓ Directly to your regional invasive plant/species committee (www.bcinvases.ca/partners/committees); or by
- ✓ Phone 1-888-933-3722 (ISCBC)

Please report the following information:

1. Species (include a photo whenever possible)
2. Size and density of infestation
3. UTM coordinates or directions to site
4. Reporter's contact information

DID YOU KNOW?

Early identification and reporting of infestations is key to limiting the spread of invasive plants in B.C..



PRIORITY INVASIVE PLANTS IN BRITISH COLUMBIA

Kon MacKenzie

Oxeye Daisy

Priority Invasive Plants Affecting Forest Management in B.C.

The plants included in this guide are those listed under the Invasive Plants Regulation of the **Forest and Range Practices Act** (FRPA)*. Forest Stewardship Plans for Crown forests must specify measures that prevent the introduction or spread of these species and managers have an obligation to implement those measures. Managers of private forest land should reference the B.C. **Weed Control Act** (WCA) Regulation for a listing of provincial noxious weeds.

Many additional non-listed species are also problematic—consider applying best practices to all suspect plants.

**Note: Giant hogweed is also included due to its status as a safety hazard and it is also listed under the WCA.*

Invasive Plant Treatment Recommendations

Treatment recommendations in this guide generally apply to small infestations, and only cover manual control. When addressing large infestations or highly invasive plants, consider integrated pest management: mechanical, chemical, or biological treatments. Consult a provincial invasive plant specialist or your regional committee for species and site-specific treatment recommendations, including biocontrol.

**Note: Look for a blue box on each species page*

Symbols

Invasive plants may be spread by many or all of the methods represented below. For the purpose of this booklet, only the most significant methods have been indicated.



Seed or plant pieces spread in farm produce such as hay or commercial seed



Seed or plant pieces carried on machinery, equipment and vehicles



Seed or plant pieces spread by brushing or mowing



Seed or plant pieces spread by "hitchhiking" on clothing, fur, etc.



Seed or plant pieces spread in soil



Seed eaten or carried by birds and mammals



Seed or plant pieces carried in water



Seed blown by wind



Seed or plant pieces spread by cultivation



Indicates perennial weeds (plants that grow for more than two seasons)



Indicates biennial weeds (plants that grow for two seasons)



Indicates annual weeds (plants with a growth cycle lasting one year)

Plant Flowering and Seed Production Calendars

All plants should be controlled before they flower and set seed. Calendars of flowering and seed production are included for each plant in this guide to help with forestry activity planning.

The shaded months in these calendars indicate the time of year when each species is producing one of the following:

■ *Flowers (pink squares)*

● *Seed (orange circles)*

For example, in the calendar below, the plant produces flowers from June-September and seed from July – October.

J	F	M	A	M	J	J	A	S	O	N	D
---	---	---	---	---	---	---	---	---	---	---	---

Note: Plants may flower and produce seed at times other than indicated in this guide. Contact your Regional Invasive Plant/Species Committee for local information.



Nodding thistle infestation.

Distribution map



Legend

 Invasive Plant Site

Natural Resource Operations Regions

-  Cariboo Region
-  Kootenay / Boundary Region
-  Northeast Region
-  Omineca Region
-  Skeena Region
-  South Coast Region
-  Thompson / Okanagan Region
-  West Coast Region

***Note:** Distribution maps in this guide are from the provincial Invasive Alien Plant Program (IAPP) database as of March 2013. As inventory and reporting is a continual process, maps may not entirely represent plant distribution.

ANCHUSA *Anchusa officinalis*



L. Scott



L. Scott



R. Old

To kill this plant, dig out or sever taproot at least 5cm below soil surface. Infestations can be prevented by maintaining a strong population of native perennials. Report all sightings.

Description: Upright plant up to 60cm in height.

Flowers: Found in coiled clusters at the ends of stalks. Tubular and initially reddish flowers eventually turn purplish-blue with white centers.

Leaves: Lance-shaped lower and basal leaves. Stem leaves decrease in size toward the top of the plant, and lack stalks. Leaves are covered in stiff hairs.

Stems: Angular and covered with hairs.

Other ID Tips: Forms a rosette in year one. Plant has a long taproot.



J	F	M	A	M	J	J	A	S	O	N	D
---	---	---	---	---	---	---	---	---	---	---	---



BABY'S BREATH *Gypsophila paniculata*



Hand-pull small plants or dig out large woody specimens. Seeds can mature after cutting or pulling – bag to dispose of. Report all sightings.

Description: Upright, bushy plant up to 1.0m in height. Found in disturbed areas, fields and roadsides, and often used in floral arrangements.

Flowers: Sweet-scented, five-petalled, white flowers in clusters at the end of each stem.

Leaves: Bluish appearance, linear, opposite and covered with a white film.

Stems: Highly branched, and swollen at the nodes.

Other ID Tips: Woody taproot.



J	F	M	A	M	J	J	A	S	O	N	D
---	---	---	---	---	---	---	---	---	---	---	---



BLUEWEED *Echium vulgare*



To kill the plant, dig out or sever taproot at least 5cm below soil surface. Limit or stop seed production. Report all sightings.

Description: Upright, tap-rooted plant up to 1.0m in height. Adapted to rocky, gravelly habitats like roadsides, gravel pits.

Flowers: Short, arched branches covered on upper side with purplish-blue, funnel-shaped flowers.

Leaves: Stem leaves are lance-shaped and alternately arranged.

Stems: Stiff hairs with swollen reddish bases are found along the stem. Stem hairs are prickly and can irritate skin.

Other ID Tips: Forms a rosette in year one.



J	F	M	A	M	J	J	A	S	O	N	D
---	---	---	---	---	---	---	---	---	---	---	---



BULL THISTLE *Cirsium vulgare*



Competing vegetation limits bull thistle introduction and spread. Re-vegetating disturbed areas is the best defense.

Description: This weed can grow to 3.0m tall, with branches spreading up from erect stems.

Flowers: Flowers are found clustered at the end of the branches. They are 4–5cm wide, pinkish to dark purple, and covered with spines.

Seed/Fruit: The brown, shiny seeds have a top of white, soft hairs.

Leaves: The leaves are alternate and deeply lobed, with spines at the lobes and tips. The base of each leaf surrounds the stem with spiny wings.

Stems: The stems are erect and branched.

Other ID Tips: This weed has a short, fleshy taproot. Skeletons have nodding heads. In the first year, these plants form a rosette.



J	F	M	A	M	J	J	A	S	O	N	D
---	---	---	---	---	---	---	---	---	---	---	---



CANADA THISTLE *Cirsium arvense*



L. Scott



R. Mueller



L. Scott

Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will deplete root reserves.

Description: A prickly upright plant up to 1.2m tall, often forming dense stands. Common on road rights-of-way and in riparian areas.

Flowers: Purplish-pink, less than 2.5cm across, without sharp spines.

Leaves: Stalkless, alternate, dark green leaves, with spiny lobes.

Stems: Prickly, hollow.

Other ID Tips: Forms a rosette in its first year.



J	F	M	A	M	J	J	A	S	O	N	D
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COMMON BURDOCK *Arctium minus*



First year rosettes are easily hand-pulled. Deep roots of mature plants require digging to remove as much root as possible. Preventing dispersal of burs is particularly important.

Description: Upright, tap-rooted plant up to 3m high. Found on roadsides, ditches, riparian areas, grasslands and forests.

Flowers: Globe-shaped purple flowers, to 2.5cm in diameter, on short stalks. Covered in hooked green bristles.

Leaves: Basal leaves are rhubarb-like. Upper leaves are alternate, with wavy or toothed edges. Leaves have woolly undersides.

Stems: Upright, grooved, and highly branched.

Other ID Tips: Forms a rosette in year one. Mature flower heads form a bur, which allows seeds to be spread throughout the year.



J	F	M	A	M	J	J	A	S	O	N	D
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COMMON TANSY *Tanacetum vulgare*



Small plants can be easily hand-pulled. Use shovel to loosen soil for more complete root removal. Plants can regrow from severed roots and cut stems may still produce viable seed.

Description: Bushy perennial growing up to 1.8m tall. Common on disturbed areas, streambanks, and roadsides.

Flowers: Flat-topped clusters of 'button-like' yellow flowers, at the top of stems.

Leaves: Alternate, dark green, fern-like leaves.

Stems: Mature plants have several branched stems that can be reddish, and somewhat woody near the base.

Other ID Tips: Forms a rosette in year one. Leaves and flowers aromatic when crushed.



J	F	M	A	M	J	J	A	S	O	N	D
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DALMATIAN TOADFLAX *Linaria dalmatica*

YELLOW TOADFLAX *Linaria vulgaris*



Incomplete root removal/cutting can stimulate remaining roots to re-sprout and worsen infestations. A commitment to regular, repeated cutting/pulling is required for this control method.

- Description:** Pretty, waxy-leaved, yellow-flowered plants up to 1.2m tall. Commonly found on dry sites like gravel pits, road shoulders, and cut banks.
- Flowers:** Bright yellow snapdragon-like flowers with a long spur.
- Leaves:** Pale-green, waxy leaves are stalkless and have a pointed tip.
- Stems:** Branched or unbranched.
- Other ID Tips:** Yellow toadflax has leaves pointed at both ends, and is shorter – up to 60cm in height.



Dalmatian



Yellow

J	F	M	A	M	J	J	A	S	O	N	D
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P

FIELD SCABIOUS *Knautia arvensis*



Northwest Invasive Plant Council



B. Stewart



B. Stewart

Can be challenging to hand-pull. To kill plant, dig out or sever root at least 5cm below soil surface. Report all sightings.

Description: Upright plant up to 1.3m in height. Found on dry roadsides and in pastures.

Flowers: Clover-like violet-purple flowers up to 4cm in diameter, on long leafless stalks.

Leaves: Stem leaves are deeply lobed, stalkless, and opposite.

Stems: Hairy, upright stems. Can form above-ground runners.

Other ID Tips: Forms a rosette in its first year. Woody taproot.



J	F	M	A	M	J	J	A	S	O	N	D
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GIANT HOGWEED

Heracleum mantegazzianum



Leaves and stems contain a highly toxic sap that can burn skin. Refer to WorkSafe BC guidelines and consult with regional invasive plant/species committee. Mature plants should be cut below ground. Report all sightings.

Description: Large upright plant up to 5m in height, preferring damp, rich soils. Found along roadsides, ditches, riparian areas and disturbed sites.

Flowers: Clustered white flowers in large umbrella-shaped heads up to 0.8m in diameter.

Leaves: Dark green, toothed and deeply cut into three large segments. Stiff hairs on undersides.

Stems: Hollow, ridged, green; some with reddish-purple spots.

Other ID Tips: Similar to smaller native cow parsnip (2.5m).



J	F	M	A	M	J	J	A	S	O	N	D
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GORSE *Ulex europaeus*



Young plants in very loose, sandy soil can be removed by carefully digging to remove entire root mass. Incomplete pulling or cutting can stimulate root fragments to re-sprout and worsen infestations. Be sure to re-inspect. Report all sightings.

Description: A spiny evergreen shrub which can grow upwards of 2m in height. Can be found on roadside cutbanks.

Flowers: Bright yellow flowers develop into black seed pods with dark hairs.

Leaves: Slightly waxy, narrow leaves end in sharp, rigid spines.

Stems: Heavily branched stems; bushy.

Other ID Tips: Sharp spines can puncture tires and skin.



J	F	M	A	M	J	J	A	S	O	N	D
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HOARY ALYSSUM *Berteroa incana*



Taproot may be hand-pulled from moist soil. Remove as much of the root system as possible. Report all sightings.

Description: Slender plant from the mustard family, growing up to 1.0m in height. Found on disturbed sites, especially roadsides, pastures and embankments.

Flowers: Small white almost spherical flowers found at the end of stems.

Leaves: Greyish, hairy leaves clasp the stem near the top of the plant.

Stems: Stems are covered with star-shaped hairs.

Other ID Tips: Seed pods have a distinct oval shape, and a pointy tip.



J	F	M	A	M	J	J	A	S	O	N	D
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A	B	P			
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HOARY CRESS *Cardaria draba*



L. Scott



B. Stewart



S. Dewey

Highly invasive plants. Mowing before seed set will limit seed production, but may encourage spread by runners. Prevent spread and consult your Regional Invasive Plant/Species Committee. Report all sites.

Description: Upright perennial up to 60cm in height, with flat-topped appearance. Found in pastures, rangelands, ditches and roadsides.

Flowers: Clusters of white, four-petaled flowers give plant 'flat top'.

Leaves: Alternate, blue-green leaves up to 10cm in length with toothed edges. Lower leaves are stalked; upper leaves clasp the stem.

Stems: Single stem, often branched at the top, supports one flower cluster.

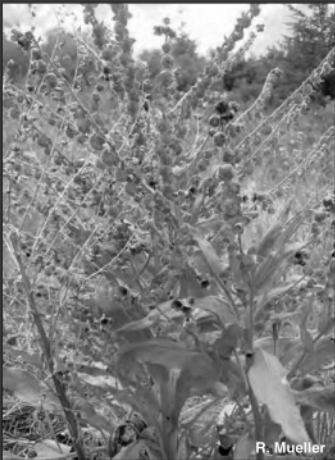
Other ID Tips: Heart-shaped, stalked seed pods.



J	F	M	A	M	J	J	A	S	O	N	D
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HOUND’S-TONGUE *Cynoglossum officinale*



First year rosettes can be easily hand-pulled. Deep roots of mature plants require digging to remove as much root as possible. In southern B.C., control of sites can be achieved through a root-attacking biological control weevil.

Description: A taprooted leafy plant, up to 1.2m in height, found along roads, trails and in meadows.

Flowers: Small, reddish-purple flowers with five petals.

Leaves: Rough, hairy leaves from 10-30cm in length.

Stems: Hairy; usually branched near the top.

Other ID Tips: Forms a rosette in its first year. Seeds are small hooked 'burs' which cling to clothing and animals.



J	F	M	A	M	J	J	A	S	O	N	D
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KNAPWEED

Diffuse *Centaurea diffusa*

Spotted *Centaurea stoebe*



Taproot may be hand-pulled from moist soil. Remove as much of the root system as possible. Report all sightings north of Clinton and on Vancouver Island.

Description: Heavily branched plants 1.0m to 1.5m in height. Found on dry roadsides, gravel pits, disturbed sites, and in fields.

Flowers: Small white, pink or purple flowers atop spiny bracts.

Leaves: Deeply lobed, hairy, grayish-green leaves. Form rosettes in their first year.

Stems: Single main-stem that divides into bushy, spreading branches on a mature plant.

Other ID Tips: Spotted knapweed flowers are usually pink to purple, and have black tipped bracts.



Diffuse



Spotted

J	F	M	A	M	J	J	A	S	O	N	D
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KNAPWEED

Meadow *Centaurea debeauxii*;
Black *Centaurea nigra*; Brown *Centaurea jacea*



Taproot may be hand-pulled from moist soil. Remove as much of the root system as possible. Dispose of bagged flowering plants into garbage.

Description: Species similar, upright, branched, up to 1 m in height. Found on dry roadsides, disturbed sites and in fields.

Flowers: Large pink to purple-red flowers supported atop comb-like bracts ranging from light to dark brown.

Leaves: Lower leaves long-stalked and shallowly lobed, covered with long to cobwebby hairs. Form rosettes in their first year.

Stems: Single main-stem that divides into branches and is somewhat hairy.

Other ID Tips: Leaves are undivided, unlike other knapweeds.



J	F	M	A	M	J	J	A	S	O	N	D
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KNOTWEED

Japanese, Giant, Bohemian *Fallopia* spp.

Himalayan *Polygonum polystachyum*



A single plant can have roots extending 20m in all directions; as little as 0.6g of rhizome can produce a new plant in six days. Do not disturb patches and redistribute material during road or skid trail construction. Report all sightings.

Description: Large, woody, bamboo-like shrubs grow 1-5m in height. Found in moist to wet areas like roadside ditches and riparian areas.

Flowers: Small, white/green flowers grow in plume-like, branched clusters along the stem and leaf joints.

Leaves: Variable. Japanese: spade-shaped; Giant: larger, heart-shaped; and Himalayan: lance-shaped, pointy.

Stems: Reddish-brown, hollow stems form dense thickets.

Other ID Tips: Japanese leaves zig-zagged along stems. Bohemian is a hybrid of giant and Japanese knotweeds.



J	F	M	A	M	J	J	A	S	O	N	D
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LEAFY SPURGE *Euphorbia esula*



Highly invasive plant. Pulling or cutting may worsen infestations. Very young plants and small patches may be removed manually with deep digging. Wear gloves as the milky sap is toxic. Report all sightings.

Description: Upright plant up to 1.0m tall, with creeping roots. Thrives in a variety of habitats.

Flowers: Greenish-yellow flower clusters on long stalks. Floral leaves are heart-shaped.

Leaves: Narrow bluish-green leaves are spirally arranged on the stem.

Stems: Smooth, hairless stems are branched near the top.

Other ID Tips: Exudes a milky juice when cut or broken. This juice is toxic to people and some animals.



J	F	M	A	M	J	J	A	S	O	N	D
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MARSH PLUME THISTLE *Cirsium palustre*



To kill plant, dig out or sever taproot at least 5cm below soil surface. Limited distribution – important to report all sightings.

Description: Slender upright plant up to 3.0m in height. Prefers moist-wet soils, and grows on roadsides, in ditches, cutblocks and riparian areas.

Flowers: Purple flowers found at the tips of stems. Bracts at flowers bases are sticky, and tipped with a prickle.

Leaves: Spiny leaves are hairy on undersides and have winged bases.

Stems: Usually unbranched, with spiny wings at leaf bases. Branching may occur at the cluster of flowers.

Other ID Tips: Forms a rosette in first year. Fibrous roots.



J	F	M	A	M	J	J	A	S	O	N	D
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NODDING THISTLE *Carduus nutans*



C. Koot



C. Koot



B.C. Ministry of Agriculture

Repeated hand-pulling or cutting prior to flowering will help reduce seed production. Expansion of nodding thistle populations in southern B.C. has been reduced through biological control agents. Report all infestations north of Quesnel.

Description: Solitary stem or several branched stems from a single base, up to 2.4m in height, with nodding flower heads. Found on dry roadsides and disturbed sites.

Flowers: Large (5cm), reddish purple flowers above spiny-tipped bracts, nodding when mature.

Leaves: Deeply lobed with spiny, edges, winged at stem. Overwinter as rosettes.

Stems: Smooth with no spines.

Other ID Tips: Similar to plumeless thistle but has no spines on stem.



J	F	M	A	M	J	J	A	S	O	N	D
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B



ORANGE HAWKWEED *Hieracium aurantiacum*

YELLOW HAWKWEED *Hieracium* spp.



Highly invasive plants. Mowing before seed set will limit seed production, but may encourage spread by runners. Prevent spread and consult your Regional Invasive Plant/Species Committee.

Description: Fast-spreading, generally hairy plants, growing up to 60cm in height. Found on grasslands, lawns, roadsides and other disturbed sites.

Flowers: Bright orange or yellow clusters, atop slender unbranched stems.

Leaves: Hairy leaves are arranged in a rosette. Few to no leaves found on stem.

Stems: Stems are covered with bristly hairs, which are black on orange hawkweed.

Other ID Tips: Above ground runners root and grow new plants. Plants produce a milky juice when broken.



J	F	M	A	M	J	J	A	S	O	N	D
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OXEYE DAISY
Chrysanthemum leucanthemum



Pull or cut prior to seed set. Pulling or cutting during or after flowering will disperse seeds. Plants will continue to flower and grow if soil is not shaken from roots.

Description: Upright plant growing up to 1.0m in height in dense clumps. Common along roadsides, in fields and in disturbed areas.

Flowers: Daisy-like flowers on the end of each stem branch.

Leaves: Alternate, and decreasing in size up the stem. Upper leaves are stalkless with wavy to toothed edges.

Stems: Smooth to sparsely hairy, and branched.

Other ID Tips: Similar to the ornamental shasta daisy and invasive scentless chamomile.



J	F	M	A	M	J	J	A	S	O	N	D
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PERENNIAL PEPPERWEED

Lepidium latifolium



Highly competitive plant that is extremely limited in distribution in B.C.. Report all sightings through Report-A-Weed or to an Invasive Plant Specialist. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations.

Description: Creeping root system results in dense colonies of plants up to 1.0m in height (taller in wet areas). Occasionally found on roadsides and in ditches; thrives in moist habitats.

Flowers: Fragrant white flowers in rounded clusters on branch tips.

Leaves: Waxy, alternate leaves, with a white midvein. Lower leaves are stalked; upper leaves are virtually stalkless.

Stems: Stems are branched.

Other ID Tips: Seed pods are attached by long stalks.



J	F	M	A	M	J	J	A	S	O	N	D
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PLUMELESS THISTLE *Carduus acanthoides*



Hand-pull rosettes. Once stalk grows, hand-pulling prior to flowering or removal of flower heads will help reduce seed production. Has an enormous seed banking potential. Limited distribution in B.C.; report all sightings.

Description: Very spiny, many branched on upper portion, up to 1.5m in height. Found on dry fields, roadsides and disturbed sites.

Flowers: Purplish-pink flowers up to 2.5cm wide, singly or in clusters at ends of branches.

Leaves: Long, narrow, very spiny. Rosette leaves are saw-toothed to the midrib.

Stems: Very spiny.

Other ID Tips: More spiny than nodding thistle and flowers upright.



J	F	M	A	M	J	J	A	S	O	N	D
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PUNCTURE VINE *Tribulus terrestris*



L. Scott



F. and K. Starr



L. Scott

After loosening soil, use thick gloves to grab plant at base of vines and pull out. Bag all plant parts and dropped seeds and dispose of in landfill. Report all sightings.

Description: Densely-matted, prostrate, trailing plant. Restricted to dry roadsides, fields and disturbed habitats in the Okanagan and Similkameen areas.

Flowers: Yellow, five-petaled single flowers on short stalks. Open only in the morning.

Leaves: Opposite, hairy leaves with four to eight oval leaflet pairs.

Stems: Trailing and up to 1.5m long, often branching along the ground.

Other ID Tips: Spines on seed pods can cause injury to the feet of people and animals, and can puncture bicycle tires.



J	F	M	A	M	J	J	A	S	O	N	D
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PURPLE LOOSESTRIFE *Lythrum salicaria*



E. Coombs



L. Scott



Ohio State University

Highly competitive. Purple loosestrife may be pulled from base of plant but it can re-grow from root fragments. Report all sightings.

Description: Competitive perennial plant, with showy purple flowers. Thrives in moist habitats, such as ditches, ponds, and wetlands.

Flowers: Spike of purple flowers found at the upper end of stems.

Leaves: Leaves are lance-shaped and can vary in arrangement from opposite to whorled.

Stems: Stiff smooth stems are square in cross-section.

Other ID Tips: Purple loosestrife is sometimes confused with native fireweed, but purple loosestrife does not produce windborne seeds and is generally found growing adjacent to water or in moist soil areas.



J	F	M	A	M	J	J	A	S	O	N	D
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RUSH SKELETONWEED *Chondrilla juncea*



Highly invasive plant with extensive deep root system. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will eventually deplete root reserves. Report all sightings.

Description: Long-lived perennial up to 1.2m tall with skeleton-like appearance. Found on disturbed, dry sites.

Flowers: Small yellow flowers randomly scattered along branches.

Leaves: Inconspicuous, narrow stem leaves.

Stems: Wiry, highly branched stems with downward pointing hairs near the base.

Other ID Tips: Forms a dandelion-like rosette in the first year. Leaves exude a milky juice when cut or broken.



J	F	M	A	M	J	J	A	S	O	N	D
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RUSSIAN KNAWEED *Acroptilon repens*



Highly competitive plant. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will deplete root reserves. Report all sightings.

Description: Upright plant up to 1.0m in height, often forming dense colonies.

Flowers: Single, pink to purple flowers are urn-shaped. Bracts are green at the base with a white, slightly hairy tip.

Leaves: Lower stem leaves are alternate, longer and deeply lobed. Upper leaves are toothed and decrease in size toward the top of the plant.

Stems: Upright, stiff, branched, and covered in soft grey hairs.

Other ID Tips: Roots are black, scaly and creeping.



J	F	M	A	M	J	J	A	S	O	N	D
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SCENTLESS CHAMOMILE

Tripleurospermum inodorum



Single plant can produce 1,000,000 seeds. To hand-pull, loosen the soil using a shovel, then pull from plant base.

Description: Small, bushy plant up to 1.0m in height.

Flowers: Daisy-like and scentless, up to 3cm in diameter.

Leaves: Feathery, and alternate.

Stems: Smooth, often reddish- purple, and highly branched near the top.

Other ID Tips: Fibrous taproot. Often found in wildflower seed mixes.



J	F	M	A	M	J	J	A	S	O	N	D
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SCOTCH BROOM *Cytisus scoparius*



Small plants should be gently pulled from moist soil. Ensure all roots are removed. Large plants may be cut off as close to the soil surface as possible, without causing soil disturbance.

Description: Taprooted evergreen shrub up to 3.0m in height. Common on roadsides, cutblocks and disturbed areas throughout southern and coastal B.C..

Flowers: Bright yellow pea-like flowers, sometimes with red markings.

Leaves: Lower leaves are stalked and have three leaflets; upper leaves are simple and un-stalked.

Stems: Five-angled and ridged, woody, and brown to green.

Other ID Tips: Flat seed pods have fine hairs on edges.



J	F	M	A	M	J	J	A	S	O	N	D
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SCOTCH THISTLE *Onopordum acanthium*



An extremely large and distinctly grey coloured thistle. Deep roots of mature plants require digging to remove as much root as possible. Limited distribution outside the North Okanagan area. Report all sightings.

Description: Spiny thistle up to 3.0m in height. Found in disturbed areas, ditches and rangelands.

Flowers: Many single violet flowers on up to 5cm long branches. Bracts are spiny.

Leaves: Very hairy, large, lobed leaves with sharp yellow spikes.

Stems: Numerous branched stems with spiny, hairy wings running down the length.

Other ID Tips: Forms a rosette in the first year, and has a fleshy taproot.



J	F	M	A	M	J	J	A	S	O	N	D
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ST. JOHN'S-WORT *Hypericum perforatum*



Repeated hand-pulling or cutting prior to flowering will help reduce seed production and deplete root reserves. Biological control has been the primary treatment method for this species across southern B.C. for over twenty-five years.

Description: Branched, up to 1m in height, with sticky seeds. Found on dry and acidic rangeland, roadsides and disturbed sites.

Flowers: Bright yellow, 5-petalled, numerous.

Leaves: Opposite, oval, small, covered with transparent dots.

Stems: Smooth, upright, and branched.

Other ID Tips: A deep root system finds water when scarce and spreads underground to produce new shoots.



J	F	M	A	M	J	J	A	S	O	N	D
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SULPHUR CINQUEFOIL *Potentilla recta*



Small patches may be manually removed using a shovel. First loosen soil, then carefully remove stolons, plants, and roots. Be sure to re-inspect. Report all sightings outside the Thompson-Okanagan area.

Description: Long-lived perennial, up to 80cm in height. Found in open forests, pastures, disturbed areas, and along roadsides.

Flowers: Stalked flowers are pale yellow with five petals, and found at the top of the stem.

Leaves: Long hairs cover the leaves, which are made up of five to seven toothed leaflets. Leaves appear yellowish-green, not grey, and are hairy on the underside.

Stems: Stems are hairy and have numerous leaves.

Other ID Tips: Can be confused with native graceful cinquefoil, whose leaves have a woolly, grey underside.



J	F	M	A	M	J	J	A	S	O	N	D
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TANSY RAGWORT *Senecio jacobaea*



L. Scott



Ministry of Agriculture



L. Scott

Seeds are viable for up to 20 years. Small plants can be easily hand-pulled. Use shovel to loosen soil for more complete root removal. Plants can regrow from severed roots and cut stems may still produce viable seed. Report all sightings outside the Lower Mainland and south coast areas.

Description: Ragged looking plant up to 1.0m in height. Found on roadsides, fields, disturbed and riparian areas.

Flowers: Yellow, daisy-like flowers are borne in clusters at the top of stems.

Leaves: Alternate leaves are deeply cut and almost ragged, and covered with web-like hairs.

Stems: Mature plants have branched stems (often purple).

Other ID Tips: In the first year it forms a rosette with 10-20 leaves. Crushed leaves have an unpleasant odour.



J	F	M	A	M	J	J	A	S	O	N	D
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TEASEL *Dipsacus fullonum*



R. Mueller



R. Mueller



R. Mueller

Species is a significant threat in moist areas where it can form impenetrable stands. Dig out or sever taproot at least 5cm below soil surface or cut stalks before flowering occurs. Report all sightings.

Description: Upright taprooted plant up to 1.8m in height. Found in moist areas like ditches and pastures, but also found on drier sites like roadsides.

Flowers: Oval-shaped flower heads over two inches in length consisting of numerous tiny purple flowers. Long, spiny, upward pointing bracts enclose the flower.

Leaves: Stem-leaves opposite, lance-shaped, veiny, with prickles on the lower part of the central vein.

Stems: Large stems have vertical ribs with rows of downward pointing prickles.

Other ID Tips: Forms a rosette in its first year.



J	F	M	A	M	J	J	A	S	O	N	D
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YELLOW FLAG IRIS *Iris pseudacorus*



Dig and pull as much of the rhizome system as possible and dispose of away from water bodies, preferably a landfill site. Re-visit site at least once per year for several years and repeat treatment. If digging is not possible, flowers, leaves and seed heads may be cut off and disposed of to reduce plant vigour and limit seed spread. Repeat cutting regularly. Report all sightings.

Description: Showy, upright plant up to 1.5m in height. Grows in wet areas like ditches and irrigation canals. Widely sold in nurseries.

Flower: Iris-like yellow flowers.

Leaves Long, sword-like leaves with bases that fold and clasp the stem in a fan-like fashion.

Other ID Tips: Forms green pods with hard, dark brown, smooth seeds, which can float.



J	F	M	A	M	J	J	A	S	O	N	D
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YELLOW STARHISTLE

Centaurea solstitialis

****Not present in B.C.****



U.S. Department of Agriculture



K. Weller



C. Roche

REPORT ALL SIGHTINGS IMMEDIATELY! Contact an Invasive Plant Specialist, use Report-A-Weed, or phone the ISC hotline.

Description: Upright plant growing up to 1.5m in height. Can form dense stands. Found in rangelands, pastures, and disturbed areas.

Flowers: Yellow, single flowers with sharp spines radiating from bracts in a star-like formation.

Leaves: Upper leaves are sharply pointed.

Stems: Winged and covered with fine hairs.

Other ID Tips: Hairy cotton-ball seed head visible throughout winter. Deep taproot.



J	F	M	A	M	J	J	A	S	O	N	D
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Assistance with Invasive Plants

Provincial Invasive Plant Program

Invasive Plant Specialists and program staff manage high risk invasive plant species on Crown land through analyzing the results of surveys, inventories, and monitoring activities to determine priority areas and sites for containment and control actions. Invasive plant priorities are identified through legislation, risk analysis, and collaborative planning with regional district weed programs and regional invasive plant/species committees. See www.for.gov.bc.ca/hra/plants/contact.htm for contact information.

Regional Invasive Plant/Species Organizations in B.C.

Regional invasive plant organizations consist of representatives from all levels of government, First Nations, forest and range agreement holders, utilities, special interest groups, and the public. Contact your regional organization to find out more about problem plants in your area, for assistance with plant identification, and to coordinate invasive plant management activities.

www.bcinvasives.ca/partners

DID YOU KNOW?

The Invasive Alien Plant Program (IAPP)

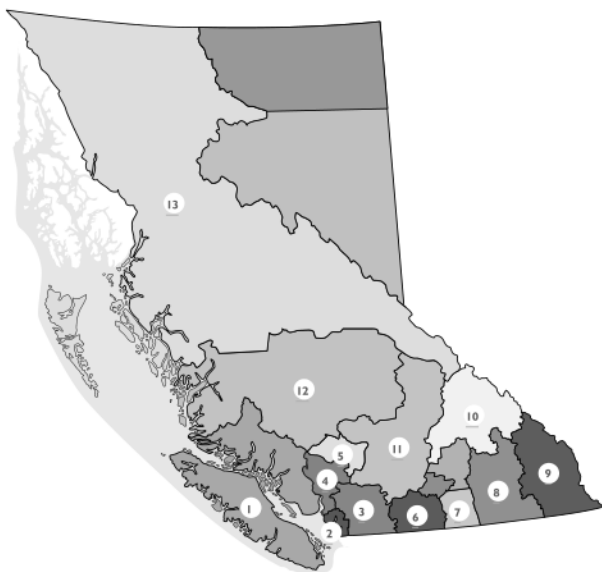
application is at: www.for.gov.bc.ca/hra/plants/application.htm. This map display module is cross-referenced with a database for all known invasive plant sites in B.C. and updated every 24 hours.

Regional Invasive Plant/Species Committees

Regional invasive plant/species committees are key partners in managing invasive plants in B.C.

Please contact your Regional Committee to find out more about problem plants in your area, for assistance with plant identification, or to coordinate weed management activities. The most current contact information can be found here:

www.bcinvasives.ca/partners



1. COASTAL INVASIVE PLANT COMMITTEE

www.coastalisc.com

2. INVASIVE SPECIES COUNCIL OF METRO VANCOUVER

www.iscmv.ca

- 
3. **FRASER VALLEY INVASIVE PLANT COUNCIL**
www.fraservalleyweeds.com
 4. **SEA TO SKY INVASIVE SPECIES COUNCIL**
www.ssisc.info
 5. **LILLOOET REGIONAL INVASIVE SPECIES SOCIETY**
Email: Irinvasives@gmail.com
 6. **OKANAGAN AND SIMILKAMEEN INVASIVE SPECIES SOCIETY**
www.oasiss.ca
 7. **BOUNDARY INVASIVE SPECIES SOCIETY**
www.rdkb.com
 8. **CENTRAL KOOTENAY INVASIVE PLANT COMMITTEE**
www.ckipc.ca
 9. **EAST KOOTENAY INVASIVE PLANT COUNCIL**
www.ekipc.com
 10. **COLUMBIA-SHUSWAP INVASIVE SPECIES SOCIETY**
www.columbiashuswapinvasives.org
 11. **SOUTHERN INTERIOR WEED MANAGEMENT COMMITTEE**
www.siwmc.ca
 12. **CARIBOO CHILCOTIN COAST INVASIVE PLANT COMMITTEE**
www.cccipc.ca
 13. **NORTHWEST INVASIVE PLANT COUNCIL**
www.nwipc.org



For More Information

Provincial Invasive Plant Program

www.for.gov.bc.ca/hra/plants/

Invasive Species Council of British Columbia

www.bcinvasives.ca

Invasive Alien Plant Program (IAPP)

www.for.gov.bc.ca/hra/plants/application.htm

Report-A-Weed B.C.

www.reportaweedbc.ca

Weeds BC

www.weedsbc.ca

Forest and Range Practices Act Invasive Plants Regulation

www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/18_2004

Noxious Weeds under the Weed Control Act Regulation

www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_66_85

BACKGROUND SOURCES

Cal-IPC. 2012. Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers (3rd ed.). Cal-IPC Publication 2012-03. California Invasive Plant Council, Berkeley, CA. www.cal-ipc.org (Accessed March 2013).

Centre for Invasive Species and Ecosystem Health. ND. Best Management Practices to Prevent the Introduction and Spread of Invasive Species. www.forestasyst.org/invasive_species.html (Accessed February, 2013).

Miller, V. and J. Kekula. 2008. *Forest and Range Practices Act: Invasive Plant Species Considerations*. B.C. Ministry of Forests and Range, unpublished report.

Parchoma, G. and J. Stape (eds.). 2002. *Guide to weeds in British Columbia*. B.C. Ministry of Agriculture, Food and Fisheries. Victoria, B.C.



Alex Fraser Research Forest

Deactivated Road Seeded with Native Groundcover Mix.

Glossary

ALTERNATE: arranged singly, one at a time; usually referring to leaves or branches.

ANNUAL: a plant that completes its lifecycle in one growing season.

BASAL LEAVES: leaves growing at the base of the stem.

BIENNIAL: a plant that lives for two years, usually flowering and producing seed in year two.

BRACT: a modified leaf, usually associated with a flower.

BUR: a rough, prickly husk around the seeds or fruit of some plants.

CLASPING LEAF: the base of the leaf surrounds the stem.

COMPOUND LEAF: a leaf that is divided into many smaller parts.

FIBROUS ROOT: root system with many fine parts.

FLORAL LEAF: a modified leaf that is part of a flower.

LANCE-SHAPED: much longer than wide; tapering towards the tip.

LEAF JOINT: a place where a leaf is attached (a node).

LEAFLET: a single segment of a compound leaf.

LINEAR LEAVES: long and narrow, with almost parallel sides.

MIDVEIN: the main vein of a leaf.

NODE: a place where a leaf or branch is attached (a joint).

OPPOSITE: arranged in pairs, like leaves on opposite sides of a branch.

PERENNIAL: a plant that lives for more than two years.

PROSTRATE: growing flat along the ground.

RHIZOME: an underground stem that can develop nodes or buds at the joints.

ROSETTE: a circular cluster of leaves found at the base of a stem.

RUNNER: a stem that spreads horizontally, often rooting at its joints.

SEED POD: the protective shell or case surrounding a seed.

SPIKE: a flower cluster in which each flower is not stalked.

TAPROOT: a main root, usually tapering and pointing down, and larger than the branching roots.

TRAILING: lying flat on the ground, but not rooting.

VEGETATIVE REPRODUCTION: reproduction without seeds or spores.

WHORLED: leaves, flowers or branches arranged around an axis in groups of three or more.



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Referral

Referral Type: Notice of Work

Referral Number: 99474729

Reference Number: 269917

Completed Date: May 23, 2018

Status: Closed

Status	Requests	Response Documents	Processes	Referral Details	Summary		
Seq No	Type	Status	Assigned To	Outcome	Sched. Start Date	Completed Date	Completed By
001	Prepare Referral	Complete	Crawford, Gerald MEM:EX	Referral Prepared	Mar 2, 2018	Apr 10, 2018	Crawford, Gerald MEM:EX
	Send Reminder	Complete	System	Sent	mmm dd, yyyy	May 1, 2018	Crawford, Gerald MEM:EX
003	Close Referral Response	Complete	Crawford, Gerald MEM:EX	Closed	May 11, 2018	May 11, 2018	Crawford, Gerald MEM:EX
004	Summarize Referral	Complete	Crawford, Gerald MEM:EX	Close	May 11, 2018	May 23, 2018	Crawford, Gerald MEM:EX

Cancel

Project / Authorization

* Project Number:269917

REFRESH FROM ATS

Include Authorizations?☒

* Project / Referral Type: Notice of Work

LOOKUP

Project AOI:

AUTHORIZATIONS

	ATS Authorization Number	File Number	* Agency
View	289270		Ministry of Energy and Mines

ADD AUTHORIZATION MANUALLY

PROJECT REFERRALS

Referral Number	Referral Type	Coordinator	Response Owner	Status
99474729	Notice of Work	Gerald Crawford	Gerald Crawford	Closed

NEW PROJECT REFERRAL

RELATED AUTHORIZATION REFERRALS

Referral Number	Referral Type	Agency Name / File Number	Coordinator	Response Owner	Status

Referral

Referral Type: Notice of Work

Referral Number: 99474729

Reference Number: 269917

Completed Date: May 23, 2018

Status: Closed

Status		Requests	Response Documents	Processes	Referral Details	Summary		
Req No	Sent	Name	Due Date	Response Method	Referral Level	Send Summary	Closed	Created From Conflict Report
<u>001</u>	Apr 10, 2018	Forests Lands & Natural Resource Operations, Habitat Mgmt (formerly MOE Ecosystems) - Nelson	May 10, 2018	Authenticated Web	Optional	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>002</u>	Apr 10, 2018	Environment - Kootenay Region - Nelson (Parks ONLY)	May 10, 2018	Authenticated Web	Optional	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>003</u>	Apr 10, 2018	Forests Lands and Natural Resource Operations - Recreation and Trails - Castlegar	May 10, 2018	Authenticated Web	Optional	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>004</u>	Apr 10, 2018	Forests Lands & Natural Resource Operations - FrontCounter BC - Castlegar	May 10, 2018	Authenticated Web	Optional	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>005</u>	Apr 10, 2018	Energy and Mines - MMD Mailbox- Cranbrook	May 10, 2018	Authenticated Web	Optional	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>006</u>	Apr 10, 2018	Wade, Lori	mmm dd, yyyy	Authenticated Web	Notification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CONFLICT REPORT(S)

UPLOAD

Referral

Referral Type: Notice of Work

Referral Number: 99474729

Reference Number: 269917

Completed Date: May 23, 2018

Status: Closed

Status

Requests

Response Documents

Processes

Referral Details

Summary

Latest Due Date: May 10, 2018

RESPONSE STATISTICS

Requested:

	Open	Overdue	Closed	No Response	Total
Mandatory	0	0	0	0	0
Notification	0	0	1	0	1
Optional	0	0	5	0	5
Summary Only	0	0	0	0	0
	0	0	6	0	6

Other:

Unsolicited:	0
Advertisement:	0

RECOMMENDATIONS

Requested	Other	Recommendation
0	0	Approval of project is supported.
0	0	Interests unaffected.
0	0	No objection to approval of project.
1	0	No objection to approval of project subject to the conditions outlined below.
0	0	Recommend refusal of project due to reasons outlined below.
0	0	N/A

REPORT

RESPONSE ROLL-UP REPORT

ResponseRequest Details

Respondent Name: Lisa Tedesco

No Response Received

This Referral has been closed.

QUESTIONS

- ☐ Yes☒ No☐ N/A
- Does this application impact your agency's legislated responsibilities? If yes, how will the proposal impact your legislated responsibility and please identify the relevant legislation (section) and what mitigative measures will be required to address these impacts in the response text box at the bottom of the page.
- ☐ Yes☒ No☐ N/A
- If the proposal proceeds, will the proponent require approval or a permit from your agency? If yes, please explain in response text box at the bottom of the page.
- ☐ Yes☒ No☐ N/A
- Will on-going compliance monitoring be required by your agency as a result of your legislated responsibilities? If yes, please explain what will be required in the response text box at the bottom of the page.
- ☐ Yes☐ No☒ N/A
- Will this application affect public use of this area? If yes, please explain in the response text box at the bottom of the page.
- ☐ Yes☐ No☒ N/A
- For Municipal/Regional Government Use Only: Is the application area zoned for the proposed purpose? If no, please provide the current zoning. In the event the applicant wishes to apply for re-zoning, please also provide the estimated time required for this decision. Your comments can be entered in the response text box at the bottom of the page.

RECOMMENDATIONS

Please check one. Where indicated or required, please explain your answer in the box provided.
If it would help to explain your answer, please upload any relevant documents below, and indicate "Document Attached" in the Response Text box.

- ☐ Approval of project is supported.
- ☐ Interests unaffected.
- ☐ No objection to approval of project.
- ☒ No objection to approval of project subject to the conditions outlined below.
- ☐ Recommend refusal of project due to reasons outlined below.
- ☐ N/A

Response Text:
Habitat Management of the Ministry of Forests, Lands and Natural Resource Operations has reviewed that above mentioned referral and provides the following comments. Please provide a copy of these comments and the attachments to the applicant.

The primary risk of concern from the proposed activities is introduction and spread of invasive plants. Invasive plants are typically introduced to British Columbia through human activities. These invasive plants lack natural predators and pathogens that would otherwise keep their populations in check. Invasive plants often establish themselves in soils disturbed from development of roads, utility lines, trails, commercial recreation sites, agriculture, etc. Once established, invasive plants have a tremendous capacity to invade adjacent, undisturbed natural plant communities displace wildlife and disrupt natural ecosystem functions.

The provincial Invasive Alien Plant Program database ([www. apps.nrs.gov.bc.ca/ext/iapp](http://www.apps.nrs.gov.bc.ca/ext/iapp)) should be reviewed to determine what invasive species have been documented in and around the proposed work site(s). Best management practices should be applied during operations and an invasive plant management strategy developed. The attached best practices document has been developed by the Invasive Species Council of BC for forestry operations but the operational guidelines describe in it can be extended to mineral exploration operations. For example, ensure incoming and outgoing vehicles are free of weed seeds and plant parts, report observations of infestation and re-vegetate disturbed areas as soon after disturbance.

For more information on individual species visit the Ministry of Agriculture site www.weedsbc.ca or the Invasive Species Council of BC website at www.bcinvvasives.ca and go to "resources". For local support on invasive plant management the applicant can contact the Boundary Invasive Species Society at boundaryinvasives@gmail.com

If works will occur within the breeding bird window (generally April 1 to August 1) the applicant should be aware of requirements under the Migratory Bird Convention Act for addressing incidental take. More information can be found at <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/overview.html>

This NoW overlaps with the following designations:

- Ungulate Winter Range Order 8-008 for mule deer. Activities should be avoided onsite during sensitive winter and early spring periods. Where tree removal is required canopy closure (snow interception cover) should be retained at 16-35% cover
- Wildlife Habitat Area 8-373 specified area for Grizzly bear. The NoW is at the western most edge of the specified area and not in high value grizzly bear habitat however animals may move through the area in spring and fall. Appropriate wildlife management should be in place (e.g. no garbage on site)
- A UREP map reserve (parcel for the use, recreation and enjoyment of the public) overlaps with the NoW area. There may be existing public use of the land for recreational purposes.

DOCUMENTS

Description	File Name
View Invasive plant best practices	Forestry_BMP_Final_WEB_04_22_2015.pdf



Notice of Work

Volcanic Road - Aggregate Exploration

Tracking Number: 100239536

Applicant Information

If approved, will the authorization be issued to an Individual or Company/Organization? Company/Organization
What is your relationship to the company/organization? Employee

APPLICANT COMPANY/ORGANIZATION CONTACT INFORMATION

Applicant is an Individual or an Organization to whom this authorization Permit / Tenure / Licence will be issued, if approved.

Name: Interoute Construction Ltd.
Doing Business As:
Phone: 604-575-3473
Fax: 604-575-3691
Email: erwin.spletzer@terusconstruction.ca
BC Incorporation Number: 0497648
Extra Provincial Inc. No:
Society Number:
GST Registration Number:
Contact Name: Erwin Spletzer
Mailing Address: 201-5550 152nd Street
Surrey BC V3S 5J9

TECHNICAL INFORMATION

APPLICATION INFORMATION

Type of Notice of Work: Sand & Gravel
Is this a New Permit or an Amendment to an existing permit for this property? New Permit

MINE INFORMATION

Do you have an existing mine number? No
Name of the property: Volcanic Road - Aggregate Exploration
Tenure Numbers:
Crown Grant / District Lot Numbers:
Directions to site from nearest municipality: The Volcanic Road aggregate exploration area (red outline) is located ~14.6 km due north of Grand Forks. To access the site you cross the Granby River bridge on the east end of Grand Forks, and turn left onto Granby Road and follow for ~15.7 km to a point just east of the Granby River Crossing, then you turn right onto North Fork Road and proceed for ~940 m to Volcanic Creek FSR located on the right. Follow Volcanic Creek FSR for ~600 m to the aggregate exploration site (Figure 1).
Geographic Coordinates of Mine: Latitude: 49.1554000 Longitude: -118.4439000
Maximum Annual Tonnage Extracted: 0 tonnes

INFORMATION ABOUT PROPOSED ACTIVITIES

Activities to be undertaken: Mechanical Trenching / Test Pits

FIRST AID

Proposed First Aid equipment on site: Level 1
Level of First Aid Certificate held by attendant: Occupational First Aid Level 1 with Transportation Endorsement

DESCRIPTION OF WORK PROGRAM

If you prefer to upload a document, please enter "see attached document" and attach the document in the "Document Upload" step later in the application under "Other".

Sufficient details of your work program to enable a good understanding of the types and scope of the activities that will be conducted:

All activities will be carried out within the proposed (red outline) area as noted on Figures 1 thru 4. Within the red outline are located the seven (7) test pits having locations as follows:

Test Pit Number	UTM 11U (Easting)	UTM 11U (Northing)
TP No. 1	394586	5445666
TP No. 2	394618	5445720
TP No. 3	394706	5445822
TP No. 4	394794	5445845
TP No. 5	394874	5445899
TP No. 6	394772	5445708
TP No. 7	394872	5445746

Within the (red outline) as noted on Figure 4, the area of testing is fairly open in nature, so trail construction will not be required to access the individual test pit sites. However, it is anticipated that for some pits there may be a requirement to cut a few trees (<10 m3) total, while in other cases the excavator will just be able to walk across the open areas to the test pit sites without any disturbances.

It should be noted that the overall area of interest is defined as upland in nature, with conifer trees aged ~105 years located throughout, and is open in nature (see Figure 4).

To complete the test pit program, the company is looking to rent a small 300 series Cat excavator with rubber tracks for the test pitting. The test pits will typically have dimensions of 1.5 m wide by length of 3 m and 3 m depth. The excavator will remove and stockpile all vegetation (grasses) at each test dig site. The internal spoil will be temporarily stored to the side of the excavation in a stable location. The test pit soil profiles will then be logged, and occasional grab samples will be taken for further inspection and laboratory testing (analysis of quality and suitability for potential use in fill, asphalt paving, etc.). Generally four (4) to six (6) grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

TIME OF PROPOSED ACTIVITIES

Original Start Date:

Proposed start and end date: Sep 3, 2018 to Oct 31, 2018

Please remember that you need to give 10 days notice to the Inspector of Mines of your intention to start work, and 7 days notice of your intention to stop work.

ACCESS

Access presently gated: No

PRESENT STATE OF LAND

Please identify what the present state of the land is where you would like to undertake your activities. If some of the questions do not apply to you please enter n/a in the space provided.

Present condition of the land:	The area is currently (conifer) treed cover, however it is upland and open in nature
Type of vegetation:	Conifer trees and shrubs
Physiography:	The area is sloping hillside without terrain hazards
Current means of access:	Public access and Forest Services Roads
Old equipment:	None
Recreational trails / use:	None

ACCESS TO TENURE

Do you need to build a road, create stream crossings or other surface disturbance that will not be on your tenure? No

LAND OWNERSHIP

Application area in a community watershed: No
Proposed activities on private land: No

Proposed activities on Crown land: Yes
Licence of Occupation: No

Have you applied for a Licence of Occupation? No

Please apply for a Licence of Occupation.

Activities in a park: No

CULTURAL HERITAGE RESOURCES

Cultural Heritage applies to a large spectrum of heritage resources that is defined as "an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people."

The Archaeology Branch of the Ministry of Forests, Land and Natural Resource Operations is responsible for the administration of the Heritage Conservation Act as it applies to archaeological sites. The Archaeology Branch has developed guidelines for companies engaged in natural resource extraction to aid in planning for and avoiding or managing impacts to protected archaeological sites.

Are you aware of any protected archaeological sites that may be affected by the proposed project? No

FIRST NATIONS ENGAGEMENT

In making decisions on authorizations, the government will be fulfilling its responsibility to consult, and where appropriate, accommodate First Nations. The government takes this responsibility seriously and encourages the applicant to engage First Nations early and often as part of any planned development.

Establishing good relations with First Nations who might be affected by a proposed development is a key part of any successful mining operation. The Ministry of Energy and Mines encourages applicants to engage and information share with First Nations that might be affected by a proposed development prior to submitting an application. The earlier in the life of a proposed activity that the avenues of communication are established the greater the likelihood that the relationships formed will be constructive and beneficial to all parties. A lack of information sharing and engagement by the applicant may result in extended timeframes for decision.

Applicants should keep a detailed record of information sharing and engagement with First Nations on their project in the event the government needs to review it. Information on First Nations information sharing and engagement should include the following: a list of First Nations contacted, whether the activity was modified based on feedback from First Nations, and whether the applicant has entered into any informal or formal agreements with First Nations in connection with the project.

The Consultative Areas Database Public Map Service is an online, interactive mapping tool that allows you to identify First Nations who have treaty rights or asserted or proven rights or title on the land base. More information can be found at <http://maps.gov.bc.ca/ess/sv/cadb/>.

Have you shared information and engaged with First Nations in the area of the proposed activity? ☐ No

MECHANICAL TRENCHING / TEST PITS

MAPS
Unless this is an area based application mark the locations of the proposed trenches/pits on the map. You will upload the maps at the document upload step later in the application process.

ACTIVITIES
Click on the "Add Activity" button to add one or more activities. Select your activity out of the list and enter the disturbed area and timber volume.

Activity	Number of sites	Disturbed Area (ha)	Merchantable timber volume (m ³)
Trenches and Test Pits	7	0.01	10.00
Total:		0.01	10.00

RECLAMATION PROGRAM

Describe the proposed reclamation and timing for this specific activity:
The reclamation measures and schedule proposed for the site are aimed at achieving end land use objectives as required by Part 10.7.4 and 10.7.5 of the Health, Safety and Reclamation Code for Mines in BC, 2017.

The reclamation of the test pits will be immediately backfilled after testing, using the same native materials excavated from the pit in opposite order that the pits were dug. Due to bulking factor, the backfill will leave the ground with a mound of about 0.25 m high, however due to natural effects; the mounds will tend to dissipate (flatten) in the short order. The mineral soil, topsoil and vegetation that were stockpiled separately will be returned to their original position(s) to promote revegetation of the disturbed ground.

Estimated cost of reclamation activities described above: \$2,000.00

TIMBER CUTTING

Total merchantable timber volume: 10.00 m3

Free Use PermitBased on the information provided you will require a Free Use Permit as the total volume of merchantable timber to be cut does not exceed 50 m3. This permit will be automatically applied for as part of this Notice of Work.

EQUIPMENT

Click on the "Add Equipment" button to add one type of equipment at a time. All equipment must comply with the requirements of the Health, Safety and Reclamation Code.

Quantity	Type	Size / Capacity
1	Excavator	Cat 300 Series - 0.3 yd3

SUMMARY OF RECLAMATION

Based on the information you have provided on the previous screens the Summary of Reclamation is:

Activity	Total Affected area	Estimated cost of
----------	---------------------	-------------------

	(ha)	reclamation (\$)
Mechanical Trenching, etc.	0.01	2,000.00
Subtotal:	0.01	2,000.00
Unreclaimed disturbance from previous year:	0.00	
Disturbance planned for reclamation this year:	0.00	
Total:	0.01	2,000.00

OTHER CONTACTS

Please enter the contacts that are applicable to your application.

Contact Info	Type of Contact
Name: Erwin Spletzer Phone: 604-575-3689 Daytime Phone: 604-575-3473 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Mine manager

Contact Info	Type of Contact
Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648 GST Registration Number: Contact Name: Erwin Spletzer Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Permittee

Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648 GST Registration Number: Contact Name: Erwin Spletzer Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Tenure Holder
--	---------------

Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648 GST Registration Number: Contact Name: Erwin Spletzer Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Site operator
--	---------------

LOCATION INFORMATION

LAND DETAILS

Do you have the legal description of the land or the civic address then click on 'Add Land Information'.

All applications must include the appropriate maps and applications received without maps will be returned. All maps must be in colour, computer generated, with a scale, north arrow and a detailed legend.

For Mineral, Coal and Placer applications you must provide a minimum of 3 maps:

- A Location Map which must show the location of the property in relation to the nearest community with the access route from the community to the work site clearly marked;
- A Tenure Map which must show the boundaries of the tenure(s) and tenure numbers, at a scale of 1:20,000 or less;
- A Map of Proposed Work which must show topography, water courses, existing access, existing disturbance, contour lines, known cultural heritage resources and/or protected heritage property, at a scale of 1:10,000 or 1:5,000. For site specific applications the location of all proposed exploration activities must be shown; for area-based applications the work area must be shown as a polygon, with the location of all proposed exploration activities for year 1 shown, and shape files provided of the area.

For Sand & Gravel/Quarry applications you must provide a Plan View, Cross and Longitudinal Sections and a Land Title/Crown Land Tenure Map. Details of these requirements are listed in the Sand & Gravel/Quarry Operations Activity sheet.

☒ I have one or more files (PDF, JPG, PNG etc.) with my maps

MAP FILES

Do you have a PDF or image file of a drawn map? You can upload it here.

Description	Filename
Volcanic Road_Detailed Location Map_Fig 2	Interoute_Volcanic Road_Det...
Volcanic Road_Detailed Site Map_Fig 3	Interoute_Volcanic Road_Det...
Volcanic Road_General Location Map_Fig 1	Interoute_Volcanic Road_Gen...
Volcanic Road_Orthophoto Map_Fig 4	Interoute_Volcanic Road_Ort...

☒ I have shape files from my Geographic Information System

SPATIAL FILES

Do you have a spatial file from your GIS system? You can upload it here.

Description	Filename
Volcanic_Poly.dbf	Polygon.dbf
Volcanic_Poly.prj	Polygon.prj
Volcanic_Poly.shp	Polygon.shp
Volcanic_Poly.shx	Polygon.shx

ATTACHED DOCUMENTS

Document Type	Description	Filename
Archaeological Chance Find Procedure	Volcanic Road_CFP_13Feb18	Interoute_Volcanic Road_CFP...
Mine Emergency Response Plan	Volcanic Road_MERP_13Feb18	Interoute_Volcanic Road_MER...

Other	Badger Management Plan	Interoute_Volcanic Road_Bad...
Other	Volcanic_Cover Letter	Interoute_Volcanic Road_Cov...

PRIVACY DECLARATION

PRIVACY NOTE FOR THE COLLECTION, USE AND DISCLOSURE OF PERSONAL INFORMATION

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The collection, use, and disclosure of personal information is subject to the provisions of the Act. The personal information collected by FrontCounter BC will be used to process your inquiry or application(s). It may also be shared when strictly necessary with partner agencies that are also subject to the provisions of the Act. The personal information supplied in the application package may be used for referrals or notifications as required. Personal information may be used by FrontCounter BC for survey purposes. For more information regarding the collection, use, and/or disclosure of your personal information by FrontCounter BC, please contact FrontCounter BC at 1-877-855-3222 or at:

FrontCounter BC Program Director
FrontCounter BC, Provincial Operation
441 Columbia Street
Kamloops, BC V2C 2T3

☒ Check here to indicate that you have read and agree to the privacy declaration stated above.

REFERRAL INFORMATION

Some applications may also be passed on to other agencies, ministries or other affected parties for referral or consultation purposes. A referral or notification is necessary when the approval of your application might affect someone else's rights or resources or those of the citizens of BC. An example of someone who could receive your application for referral purposes is a habitat officer who looks after the fish and wildlife in the area of your application. This does not apply to all applications and is done only when required.

Please enter contact information below for the person who would best answer questions about your application that may arise from anyone who received a referral or notification.

Company / Organization:	Interoute Construction Ltd.
Contact Name:	Erwin Spletzer
Contact Address:	201-5550 152nd Street Surrey BC V3S 5J9
Contact Phone:	604-575-3473
Contact Email:	erwin.spletzer@terusconstruction.ca

☒ I hereby consent to the disclosure of the information contained in this application to other agencies, government ministries or other affected parties for referral or First Nation consultation purposes.

IMPORTANT NOTICES

- Once you click 'Next' the application will be locked down and you will NOT be able to edit it any more.

DECLARATION

☒ By submitting this application form, I, declare that the information contained on this form is complete and accurate.

OTHER INFORMATION

Is there any other information you would like us to know? No

OFFICE

Office to submit application to: Cranbrook

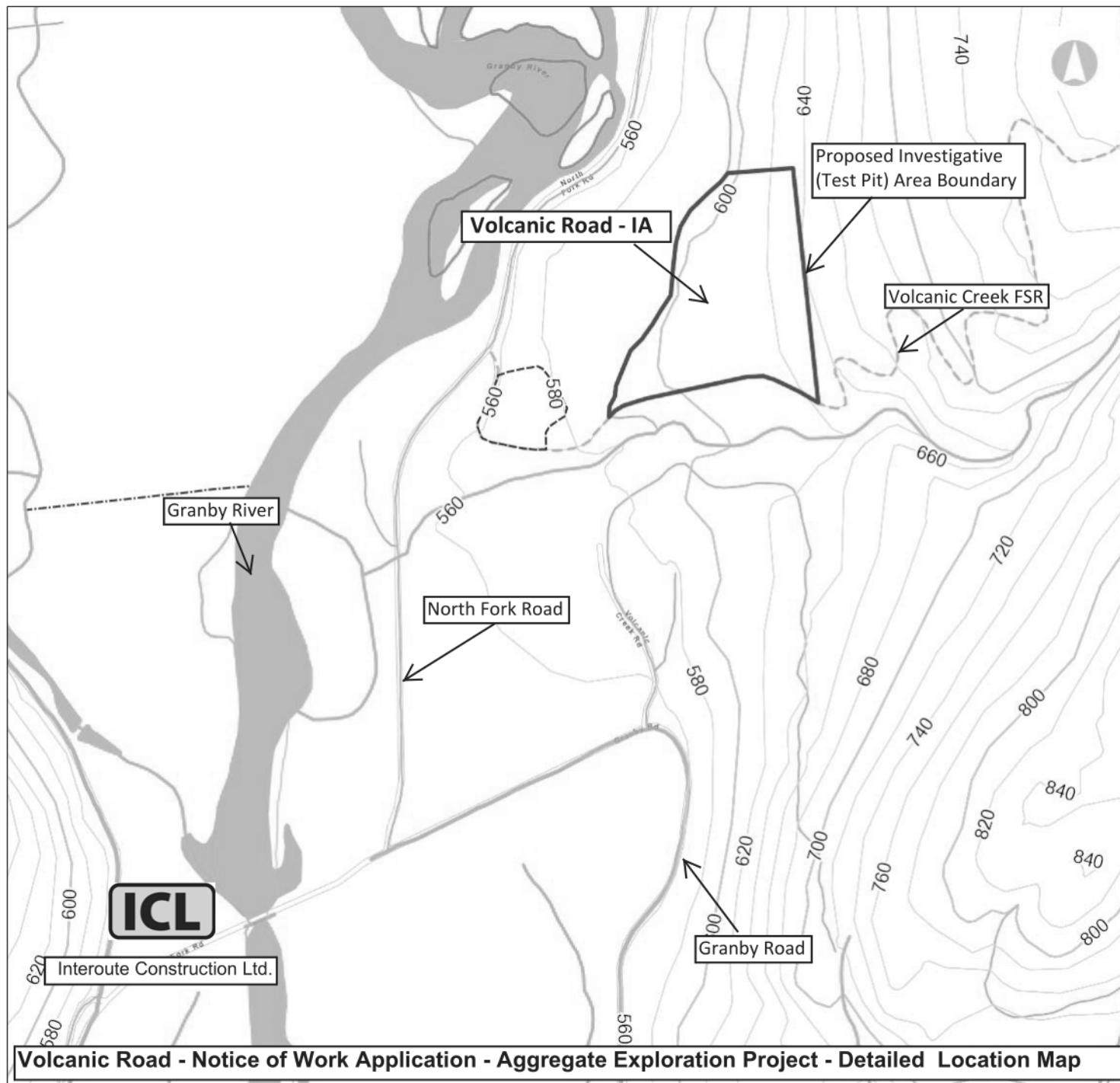
PROJECT INFORMATION

Is this application for an activity or project which No

requires more than one natural resource
authorization from the Province of BC?

APPLICANT SIGNATURE	
Applicant Signature	Date

OFFICE USE ONLY		
Office Cranbrook	File Number	Project Number
	Disposition ID	Client Number



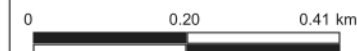
Volcanic Road IA

Legend

Water - Rivers, Creeks, Sho
(1:20,000)

FCODE

- Canal
- Dam
- Dam - Beaver
- Ditch
- Falls
- Flume
- Rapids
- River or Stream - Definite
- River or Stream - Dry
- River or Stream - Indefinite
- River or Stream - Left Bank
- River or Stream - Right Bank



1: 10,000

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Datum: NAD83

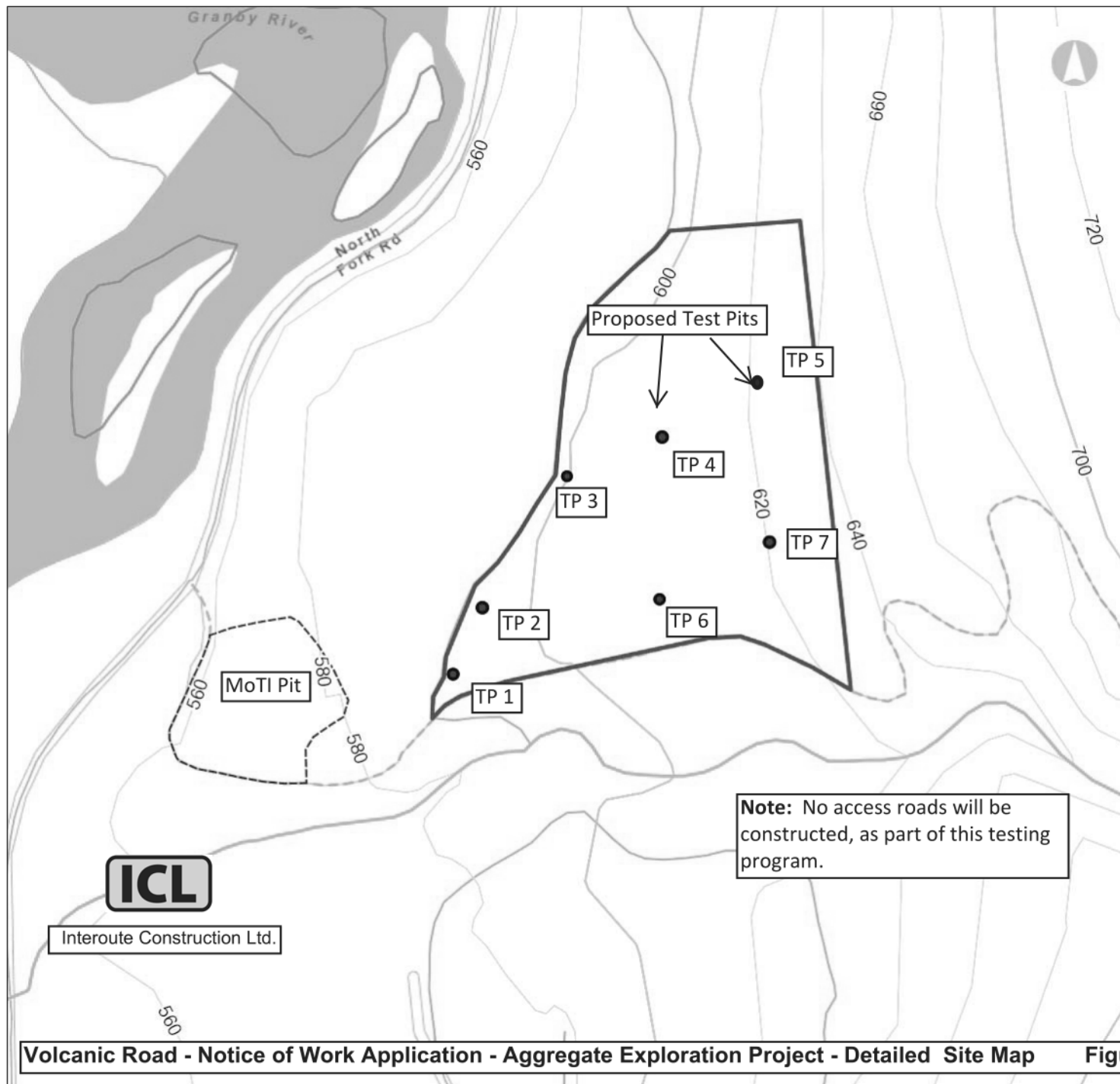
Projection: NAD_1983_BC_Environment_Albers

Key Map of British Columbia



Volcanic Road - Notice of Work Application - Aggregate Exploration Project - Detailed Location Map

Figure 2



Volcanic Road IA

Legend

Water - Rivers, Creeks, Sho
(1:20,000)

FCODE

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- Dam - Beaver
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- Flume
- Rapids
- River or Stream - Definite
- River or Stream - Dry
- River or Stream - Indefinite
- River or Stream - Left Bank
- River or Stream - Right Bank

0 0.10 0.20 km

1: 5,000

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Datum: NAD83

Projection: NAD_1983_BC_Environment_Albers

Key Map of British Columbia



Legend

Water - Rivers, Creeks, Sho
(1:20,000)

FCODE

- Canal
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- Flume
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- River or Stream - Left Bank
- River or Stream - Right Bank
- Dam - section Base
- Flooded Land - Inundated
- Lake - Definite
- Lake - Indefinite
- Lake - Intermittent
- Reservoir - Definite
- Reservoir - Indefinite
- Reservoir - Intermittent
- Marsh
- Swamp
- Glacier
- Icefield

0 1.63 3.3 km

1: 80,000.00

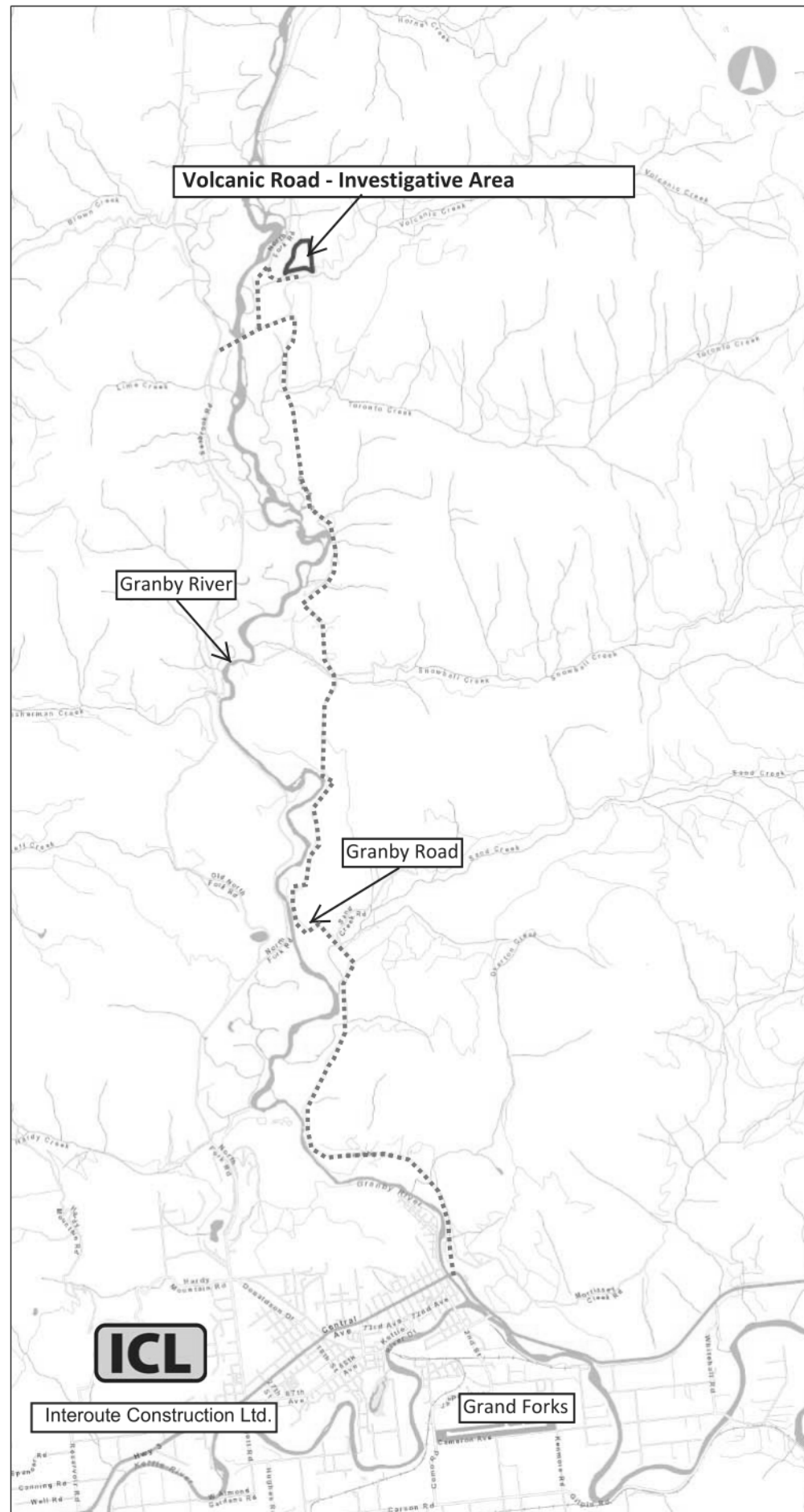
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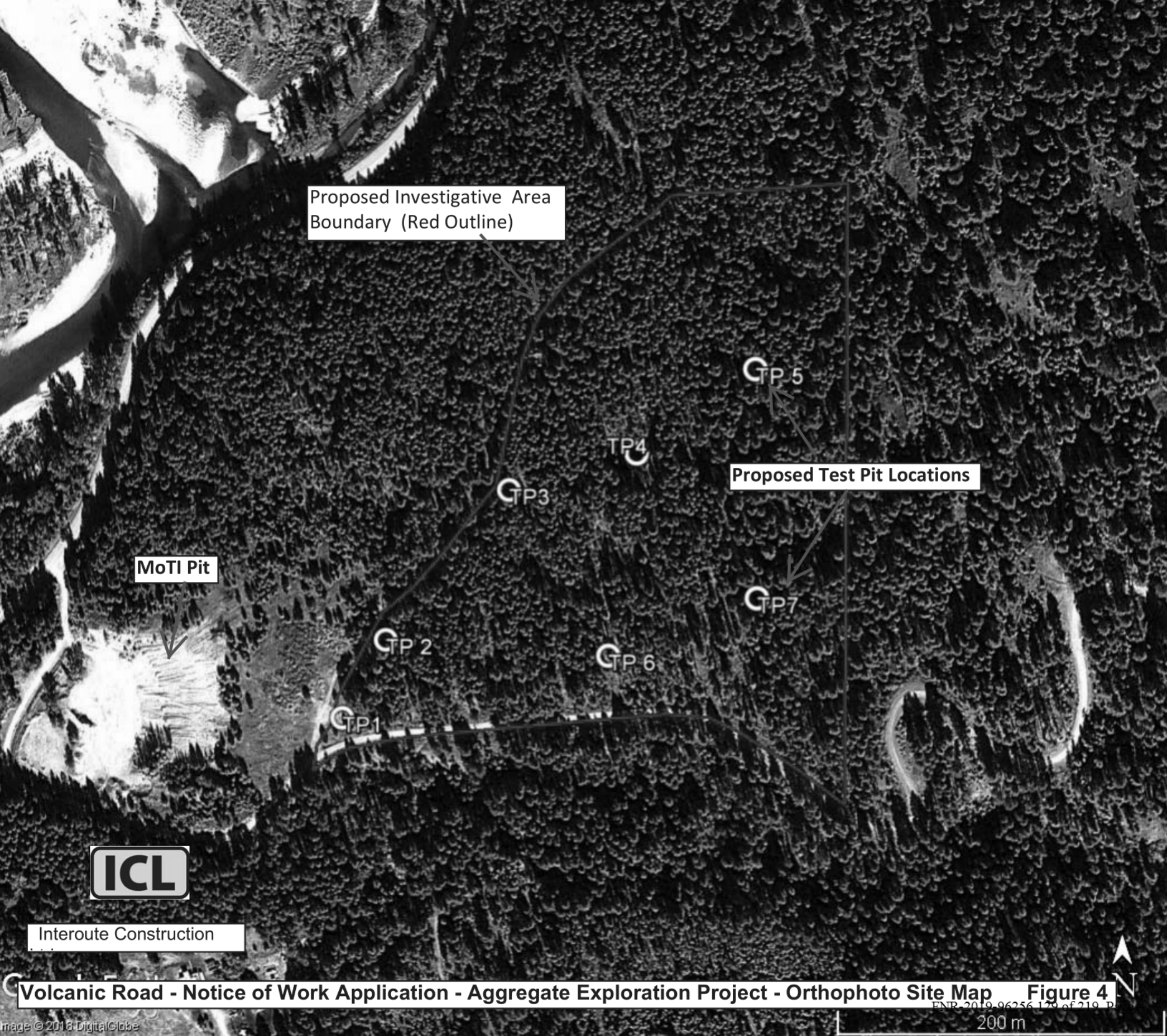
CAUTION: Maps obtained using this site are not designed to assist in navigation. These maps may be generalized and may not reflect current conditions. Uncharted hazards may exist. DO NOT USE THESE MAPS FOR NAVIGATIONAL PURPOSES.

Datum: NAD83

Projection: NAD_1983_BC_Environment_Albers

Key Map of British Columbia


Volcanic Road - Notice of Work Application - Aggregate Exploration Project - General Location Map Figure 1



Proposed Investigative Area
Boundary (Red Outline)

Proposed Test Pit Locations

MoTI Pit



Interoute Construction

Archaeological Chance Find Procedure

Volcanic Road – Notice of Work – Aggregate Exploration Project Interoute Construction Ltd.

This protocol has been established to increase awareness of the importance of archaeological resource and to assist in planning future developments. The chance find procedures (CFP) outline the protocol to be followed if a new archaeology or heritage resources are encountered during sand and gravel excavations. These, however, can also be applied to any incidental observations of artifacts or sites that are made by non-mine personnel such as contractors or site visitors.

The general types of archaeological and heritage resources may include finds such as:

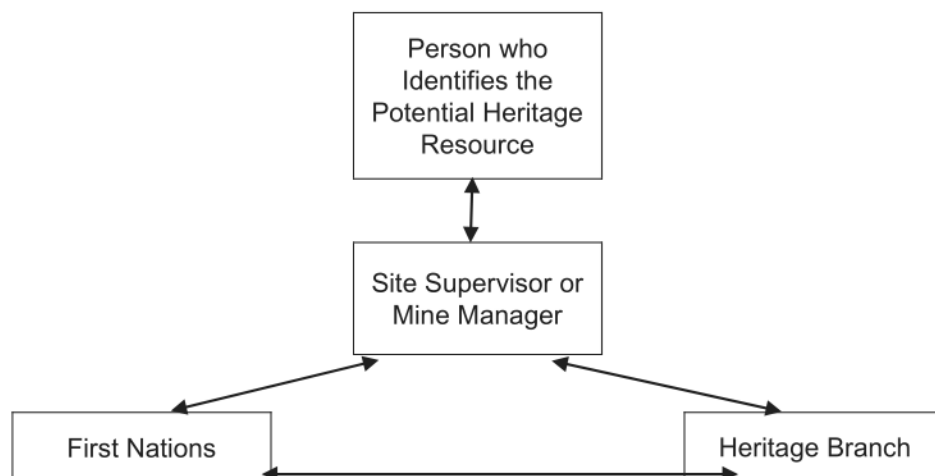
- Rock art, including pictographs and petro glyphs;
- Tree art and Culturally Modified Trees (CMT'S) such as bark stripping and planks;
- Surface features such as depressions created by former habitations, earthen fortifications; rock cairns, fish traps, clam gardens, burned rock and middens;
- Artifacts that have become visible on the land surface owing to erosion or recent land altering activity. These may be produced in a variety of materials such as stone, bone, antler, wood, or shell; and
- Buried cultural remains that may be sighted in a cut-bank, excavation, eroded shoreline, or other exposed deposit.

If any unidentified or previously unrecorded cultural heritage features are encountered during the investigation of the aggregate resource, all work will stop, and the Archaeology Branch (Ministry of Tourism, Culture and the Arts) and the affected First Nations will be informed. All archaeological sites within the province of British Columbia are protected from disturbance, whether intentional or inadvertent, by the *Heritage Conservation Act* (2003).

If you discover what you suspect may be a possible archaeological site:

- Stop all work in the area to avoid damaging the site.
- **Do not disturb any archaeological remains that you may encounter.**
- Report your discovery to your supervisor or if they are unavailable, then first to **Erwin Spletzer, Manager** who will provide further instructions, contact number – (604) 575-3473.
- If you are unable to contact **Erwin Spletzer**, please contact **Jim Spafford** of the Archaeology Branch by telephone at (250) 952-4877 or email Jim.Spafford@gov.bc.ca

Chain of Communication for Archaeological Management



May 25, 2010

- An archaeological or heritage resources site card must be completed. The person who identifies the potential archaeological/heritage resource or the site mine manager may complete the archaeology site card with the following basic information:
 - Date (when the archaeological find was first encountered)
 - Observer (name of the person recording the information on the site or artifact)
 - Site location (detailed enough so that it can be relocated, GPS if possible)
 - Type of site (e.g. archaeological site, burial site or artifact)
 - Disturbance (any obvious disturbance to the site, e.g. equipment, animals, etc.)
 - Photographs

The person collecting the information should be careful not to disturb the site further. If an artifact has been found, it must not be removed from the site.

- Archaeology site cards must be submitted to the **Interoute Construction Ltd.** site office including photographs for project (mine) records.
- The site manager will contact a qualified archaeologist, and the Archaeology Branch, and provide details of the suspected site or artifact. If photographs are available, these can be provided to the archaeologist for preliminary assessment.
- The qualified archaeologist will go onsite to survey and document the find. The qualified archaeologist will assess the significance of the remains. Mitigation options for the site or artifact will be drafted by the archaeologist, and reviewed by the Archaeology Branch, and the affected First Nations. Agreement on mitigation approach will be determined by the qualified archaeologist in coordination with the Archaeology Branch and affected First Nations.

If you discover what you suspect may be a possible human remains:

- Stop all work in the area to avoid damaging the site.
- **Do not disturb any possible human remains that you may encounter.**
- Report your discovery to your supervisor or if they are unavailable, then contact **Erwin Spletzer, Manager** who will provide further instructions.
- If you are unable to contact **Erwin Spletzer, Manager**, and if the suspected human remains appear to be current, contact the **RCMP** at Grand Forks, BC (250) 422-8281 or 911.
- If you are unable to contact **Erwin Spletzer, Manager** at (604) 575-3473 please contact the Archaeology Branch by telephone at (250) 952-4877.

The following steps will generally be followed

- The Coroner's Office and local policing authority are notified and the Coroner's Office determines whether the matter is of contemporary forensic concern.
- If the remains are not of forensic concern, the branch will attempt to facilitate disposition of the remains.
- If a cultural affiliation for the remains can be determined, the branch will contact an organization representing that cultural group. If the remains are of aboriginal ancestry, the branch will attempt to contact the relevant First Nation(s).
- Generally, if remains are still buried and are under no immediate threat of further disturbance, they will not be excavated or removed. If the remains have been partially or completely removed, the branch will facilitate disposition.
- The branch may arrange for a qualified anthropologist or archaeologist to provide an assessment of the remains.

Archaeological Chance Find Report for the Volcanic Road Pit –Aggregate Exploration Project

Name of Recorder:

Date and Time of Discovery:

Location (site name, co-ordinate, DBS):

Description of Find:

Photographs:

Who was contacted (Interoute personnel, First Nations, Archaeological Branch)? Recorded the name, date, time, phone number, and details of conversation; use a separate sheet if necessary:

Protection measures to be implemented:

Movable or immovable:

If moved location:

Further action required:

Date and time work in area recommenced:

Printed name and signature of site contractor:

Date submitted:

Legend

Water - Rivers, Creeks, Sho
(1:20,000)

FCODE

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- Flume
- Rapids
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- Lake - Definite
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- Lake - Intermittent
- Reservoir - Definite
- Reservoir - Indefinite
- Reservoir - Intermittent
- Marsh
- Swamp
- Glacier
- Icefield

0 1.63 3.3 km

1: 80,000.00

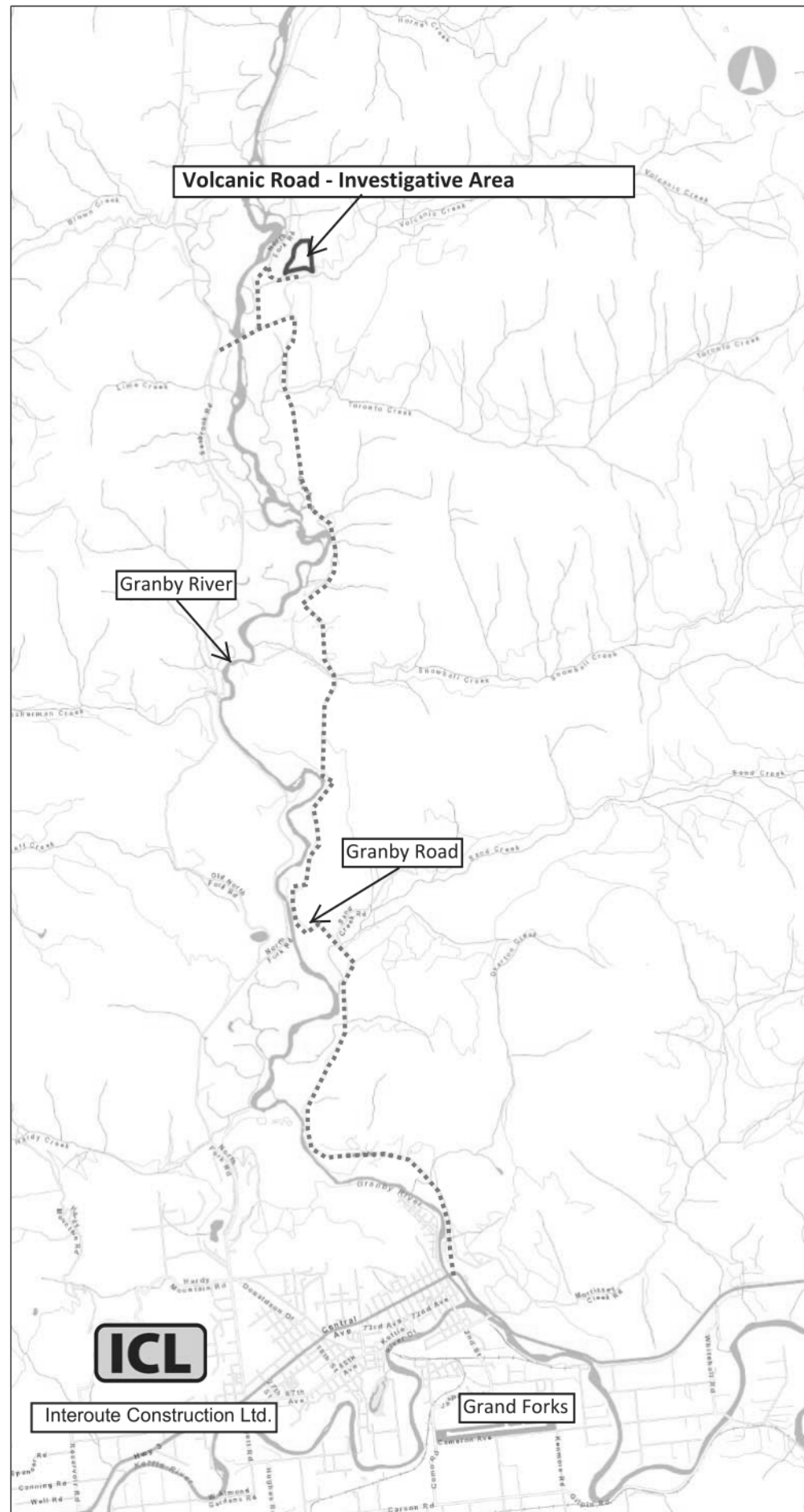
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Datum: NAD83

Projection: NAD_1983_BC_Environment_Albers

Key Map of British Columbia


Volcanic Road - Notice of Work Application - Aggregate Exploration Project - General Location Map Figure 1

This product contains sensitive information. INTERNAL PROVINCIAL GOVERNMENT USE ONLY
Status Summary

Files

#

Application Agency -> Mines

Application Agency -> Lands

Application Agency -> Water

Application Agency -> Forests

Application Received Date

Completed by NRS / Date

Status Run By / Date kgfranck - 2018-03-01

Purpose: The purpose of this status summary is to present the information gathered by each person involved in the status phase to form the complete status package. The status summary sheet should be used in conjunction with the ILRR Custom Theme Report to provide a full status package. The information on the summary is meant to benefit the business leads, decision makers and others who are preparing the tenure documents and decision summary to streamline the process by avoiding duplicate parties researching information at multiple stages in the process.

Applicant
Agents Name
Project Lead

Company Incorporation No.	
ATS Project Number	
Area in RAT	
Client Applied Area	
Dimensions	
Amendments Existing Area	
Amendments New Area	
Location	
Map Sheet	82E.018
Shapefile Source	
Geomark	
Legal Description	
PIN Intersects	4151621 - DISTRICT LOT 2700, SDYD, EXCEPT SUB-LOT 1, PLAN 1183, SUB-LOT 1A, PLAN 1183, SUB-LOT 4, PLAN 1183, SUB-LOT 5, PLAN 1183, SUB-LOT 14, PLAN 1183, 2 RAILWAY RW'S. 4473830 - DISTRICT LOT 693, SDYD 4792900 - DISTRICT LOT 2700, SDYD
PIN Ajoined	4151621 - DISTRICT LOT 2700, SDYD, EXCEPT SUB-LOT 1, PLAN 1183, SUB-LOT 1A, PLAN 1183, SUB-LOT 4, PLAN 1183, SUB-LOT 5, PLAN 1183, SUB-LOT 14, PLAN 1183, 2 RAILWAY RW'S. 4473830 - DISTRICT LOT 693, SDYD 4792900 - DISTRICT LOT 2700, SDYD
PIN Right of Ways	
PIN Reverted or Acquired	
PID Number (if titled)	

Lands note: this information may be applied to all agency application types

File Number	#
DID Number	0
DID Received Date	
IP Number	
Parcel Number	
Region	kootenay_boundary
Type	
Sub Type	
Purpose	
Sub Purpose	
Assessment Area	PENTICTON
Regional District	
Municipality	
Electoral District	Boundary-Similkameen
Provincial Forest	Granby - Granby - 1
Provincial Forest Addition	
Provincial Forest Addition2	
Provincial Forest Deletion	
Provincial Forest Deletion2	
Provincial Forest Exclusion	
Provincial Forest Exclusion2	
Forest District	Selkirk Natural Resource District
Land Title Office	KAMLOOPS
In Agricultural Land Reserve	No
Nearest Indian Res	72.9 - OSOYOOS 1 - Osoyoos (km)

Lands Adjudication Information

Upland Parcel Fronts Body of Water	
Is Upland Titled	
Foreshore Parcel Adjoins Upland	
Nearest Arch Site within 25km	5.8 - DgQp-7 (km)
Overview Assesment Potential	HIGH
	MOD

Mines - See status number at top of report

Forests

License Number
License Type
Area
Cubic Metres
Client Number
Forest Professional

Water

File Number
Stream Name
Purpose
Authorization Type
e-Licensing Report Attached

Additional Comments

--

Automated Status Run # - 11975

File: #

record	ACTIVE	FLNR
Business Identifier: Disp Trans SID: 44424 DOCUMENT NUMBER: 645/81 FILE NUMBER: 0000000		
DPR Registry Name: CROWN LANDS		
Interest Type: PRE-TANTALIS CROWN GRANT		
Name:		

record	ACTIVE	FLNR
Business Identifier: Disp Trans SID: 67010 DOCUMENT NUMBER: 1512/127 FILE NUMBER: 0000000		
DPR Registry Name: CROWN LANDS		
Interest Type: PRE-TANTALIS CROWN GRANT		
Name:		

record	ACTIVE	FLNR
Business Identifier: Disp Trans SID: 184935 DOCUMENT NUMBER: 55653 FILE NUMBER: 0092275		
DPR Registry Name: CROWN LANDS		
Interest Type: ENVIRONMENT, CONSERVATION, & RECR RESERVE/NOTATION		
Name: CORPORATION OF THE CITY OF GRAND FORKS		

record	ACTIVE	FLNR
Business Identifier: Disp Trans SID: 187332 DOCUMENT NUMBER: 63275 FILE NUMBER: 0235107		
DPR Registry Name: CROWN LANDS		
Interest Type: ENVIRONMENT, CONSERVATION, & RECR RESERVE/NOTATION		
Name: MINISTRY OF ENVIRONMENT		

record	ACTIVE	FLNR
Business Identifier: Cert No.: 800630		
DPR Registry Name: STAND ALONE COVERAGE		
Interest Type: GUIDE OUTFITTER AREA CERTIFICATE		
Name: BRANDOW BARRY		

record	ACTIVE	FLNR
Business Identifier: Surrogate ID: 2019507 FOREST FILE ID: RAN077824		
DPR Registry Name: FOREST TENURE REGISTRY		
Interest Type: GRAZING PERMIT		
Name:		

record	ACTIVE	FLNR
Business Identifier: Surrogate ID: 45 FOREST FILE ID: 0130		
DPR Registry Name: FOREST TENURE REGISTRY		
Interest Type: FOREST SERVICE ROAD		
Name:		

record	ACTIVE	FLNR
Business Identifier: QTrap Tag: TR0815T002		
DPR Registry Name: STAND ALONE COVERAGE		
Interest Type: TRAPLINE AREA		
Name:		

record	ACTIVE	FLNR
Business Identifier: Surrogate ID: 1580688 FOREST FILE ID: MN4265		
DPR Registry Name: FOREST TENURE REGISTRY		
Interest Type: FOREST MAP NOTATION		
Name:		

record	ACTIVE	FLNR
Business Identifier: Surrogate ID: 1872201 FOREST FILE ID: REC190944		
DPR Registry Name: FOREST TENURE REGISTRY		
Interest Type: FOREST RECREATION TENURE		
Name:		

record	INACTIVE	FLNR
Business Identifier: Surrogate ID: 185637 FOREST FILE ID: RAN075140		
DPR Registry Name: FOREST TENURE REGISTRY		
Interest Type: GRAZING LICENCE		
Name:		

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Conflicts & Constraints

Date : 2018-03-01

input =

\\spatialfiles.bcgov\work\lwbc\ssr\workarea\cranbrook\minesstatus\100239536\shap
efile\parcel_boundary.gdb\aoi

output =

\\spatialfiles.bcgov\work\lwbc\ssr\workarea\cranbrook\minesstatus\100239536\shap
efile\one_status_common_datasets_aoi.xlsx

[Overview Map 1:50000](#)

[Overview Map 1:100000](#)

[Overview Map 1:300000](#)

Crossed By

Crossed by River or Creek FWA

Crossed by River or Creek TRIM

Crossed by Road or Highway DRA

blank field - Road - None

Crossed by FSR or Permit Roads

Crossed by FSR or Permit Roads within right of way allowance

Crossed by Surveyed Right of way

Crossed by Right of way

Crossed by Railway Tracks

Crossed by Railway Crossings

[view map](#)

[view map](#)

Adjoined By

Adjoined by River or Creek FWA

Adjoined by River or Creek TRIM

Adjoined by Highway DRA

Adjoined by Road DRA

Adjoined by FSR or Permit Roads

Adjoined by Surveyed Right of way

Adjoined by Right of way

Adjoined by Transportation Corridors

Adjoined by Railway Tracks

Adjoined by Railway Crossings

[view map](#)

FCBC Preliminary Status

Indian Reserves

IR within 2 km

National Park

Park and Protected Areas

Conservancy Areas

Conservation Lands including Wildlife Management Areas

NGO Conservation Areas

Integrated Cadastral Fabric Restricted Access

FCBC Conflicts

Consultative Areas

Okanagan Indian Band - Okanagan Indian Band

Okanagan Nation Alliance - Lower Similkameen Indian Band

Okanagan Nation Alliance - Okanagan Nation Alliance

Okanagan Nation Alliance - Penticton Indian Band

Okanagan Nation Alliance - Upper Nicola Indian Band

Osoyoos Indian Band - Osoyoos Indian Band

Secwepemc RFA - Secwepemc RFA

Splats'in First Nation - Splats'in First Nation

[view map](#)

First Nation Statement of Intent Boundaries

MFR First Nation Agreement Boundaries

Lower Similkameen (Smilqmixw) Indian Band Forest and Range Agreement - EXP - 2010-11-15 00:00:00

Lower Similkameen Indian Band - FCRSA - EXP - 2014-04-25 00:00:00

Lower Similkameen Indian Band - FTOA Amendment #1 - EXC - 2027-11-19 00:00:00

Lower Similkameen Indian Band MPB Agreement - EXP - 2012-05-30 00:00:00

Lower Similkameen Indian Band Spruce Beetle Agreement - EXP - 2011-11-19 00:00:00

Lower Similkameen Indian Band - EXP - 2017-07-21 00:00:00

OKIB FTOA_NRFL - EXC - 2022-11-05 00:00:00

OKIB FTOA_RFL - EXC - 2035-11-05 00:00:00

Okanagan Indian Band First Nations Wildfires Agreement - EXP - 2006-12-03 00:00:00

Osoyoos Indian Band - FCRSA - EXP - 2014-02-28 00:00:00

Osoyoos Indian Band FCRSA - EXP - 2017-03-24 00:00:00

Osoyoos Indian Band FTOA - EXC - 2017-03-06 00:00:00

Osoyoos Indian Band FTOA - EXC - 2019-02-09 00:00:00

Osoyoos Indian Band Forest and Range Agreement - EXP - 2010-07-28 00:00:00

Osoyoos Indian Band MPB Agreement - EXP - 2013-01-22 00:00:00

Osoyoos Indian Band - EXC - 2020-02-10 00:00:00

Penticton Indian Band of the Okanagan Nation Interim Agreement on Forest and Range Opportunities - EXP - 2014-03-01 00:00:00

Penticton Indian Band - EXP - 2017-06-11 00:00:00

Splats'in First Nation Interim Agreement on Forest & Range Opportunities - EXP - 2011-06-05 00:00:00

Splats'in First Nation Short Term MPB Agreement - EXP - 2009-11-09 00:00:00

Splatsin (R/Amendment) - FCRSA - EXC - 2019-03-20 00:00:00

Splatsin FTOA - EXC - 2020-11-23 00:00:00

Splatsin FTOA - EXP - 2016-01-11 00:00:00

Splatsin First Nation FTOA - EXC - 2017-08-24 00:00:00

Upper Nicola FN Meritt_FTOA - EXC - 2030-08-24 00:00:00

Upper Nicola FN Okanogan_FTOA - EXC - 2030-08-24 00:00:00

[view map](#)

First Nation Traditional Use Study Area

Traditional Use Points

Traditional Use Lines

Traditional Use Polygons	
Timber Supply Area and Blocks	view map
Boundary TSA - Boundary TSA Block C	
Boundary TSA - None	
Primary Survey Parcels Tantalus	view map
DISTRICT LOT 693, SDYD - 4473830.0	
Land Act Subdivisions	
Integrated Cadastral Fabric	view map
DL 693 SIMILKAMEEN DIVISION YALE DISTRICT EXC (1) PT SHWN COLOURED RED ON PL ATTACHED TO DD 11156 (2) PLS B629 & 19789 - DL 693 SDYD - 014792214	
blank field - None - None	
ParcelMap BC	view map
DISTRICT LOT 693 SIMILKAMEEN DIVISION YALE DISTRICT EXCEPT: (1) PART SHOWN COLOURED RED ON PLAN ATTACHED TO DD. 11156 (2) PLANS B629 AND 19789 - 014792214 - Crown Provincial	
Part of Primary: DISTRICT LOT 2700, SDYD - None - None	
Crown Granted Mineral Claims	
Crown Tenure Tantalus Application	
Crown Tenure Tantalus Tenure	view map
0092275 - RESERVE/NOTATION - NOTATION OF INTEREST - ENVIRONMENT, CONSERVATION, & RECR - WATERSHED RESERVE - ALL THAT UNALIENATED AND UNENCUMBERED LAND SITUATED IN ODYD - UCL & UFS SDYD BEING GLADSTONE PARK - UCL & UFS BEING GRANBY PARK - UCL & UFS BEING GRANBY PARK - 0235107 - RESERVE/NOTATION - SEC 17 DESIGNATED USE AREA - ENVIRONMENT, CONSERVATION, & RECR - UREP/RECREATION RESERVE - DISTRICT LOT 693, SDYD -	
Crown Tenure Inventory	
Crown Tenure PreTantalus	
Grazing Leases Tantalus	
Crown Acquisitions	
Crown Reversions	
Transfers of Admin and Control	
Guide Outfitter	view map
BRANDOW, Barry - ACTIVE - 800630	
Trapline	view map
TR0815T002	
FTEN Roads	
FTEN Roads within right of way allowance	view map
0130 - 01	
FTEN Special Access Roads Line	
FTEN Special Access Roads Poly	
FTEN Range Tenure	view map
RAN077824 - CARL SIDWELL - ACTIVE	
FTEN Harvest Authority	
FTEN Cut Blocks Current and Application	
FTEN Communication Sites	
FTEN Real Property Projects	
FTEN Special Use Permits	
FTEN Timber Licence Polygons	
FTEN Timber Licence Remaining Polygons	
FTEN Timber Licence Elimination Polygons	
FTEN Managed Licenses	
FTEN Free Use Permits	
FTEN Map Notation Lines	
FTEN Map Notation Polys	view map
MN4265 - ACTIVE	
FTEN Map Notation Points	

TFL	
TFL Additions	
TFL Deletions	
TFL Schedule A	
Research Plots	
Growth and Yield Plots	view map
15-4-5G - Y	
FTEN Recreation Tenure Polys	
FTEN Recreation Tenure Lines	view map
REC190944 - Recreation Trail - Volcanic - ACTIVE	
Section 58 Recreation Order Points	
Section 58 Recreation Order Lines	
Section 58 Recreation Order Polygons	
RESULTS Openings	
RESULTS Reserves	
Climate Stations	
Hydrometric Stations	
Water Allocation Restrictions Points	
Water Allocation Restrictions Streams	
Points of Diversion	
Drinking Water Points of Diversion	
Drinking Water Extraction Points	
Water Licenced Work Linear Features	
Water Licenced Work Point Features	
Water Approvals	
Reservoirs Permits over Crown Land	
BC Dams	
Coal Application	
Coal Lease	
Coal Licence	
Mineral and Placer Tenures	
Petroleum Tenures	
Archaeology Sites	
Archaeology Sites within 50 metres	
Historic Sites	
Historic Sites within 50 metres	
Large Cultural Cedar	
Environmental Remediation Sites	
Environmental Monitoring Stations	
NOW Centre Points within area of interest	
NOW Centre Points with 500 metre radius	view map
1630784 - S	

FCBC Constraints	
Agriculture Land Reserve	
Transportation Corridors	
Alpine Ski controlled Recreation	
Snowmobile Management Areas	
Reserve Mineral Sites	
Placer Reserve Sites	
Species and Ecosystems at Risk Public Occurrences	
Species and Ecosystems at Risk Masked Secured Occurrences	view map

573884	
Community Watersheds	
Flood Plains in BC	
Water Wells	
Ground Water Aquifers	
Water Reserves	
Water Allocation Restrictions	
Non Trim Hydrography	
Water Licencing Temporary Cadastral	
Flood Protection Works Appurtenant Structures	
Active Snow Course Locations	
Active Snow Pillow Locations	
Wildlife Habitat Area_Legal	view map
Grizzly Bear - 8-373	
Wildlife Habitat_Proposed	
Ungulate Winter Range Legal	view map
M-ODHE - u-8-008	
Ungulate Winter Range Legal with 5 km buffer	view map
M-ALAL - u-8-007	
M-ODHE - u-8-008	
M-ORAM - u-8-009	
M-OVCA - u-8-010	
Ungulate Winter Range Proposed	
Caribou Habitat Areas WHA GAR order	
Caribou Habitat Areas UWR GAR order	
Proposed Fisheries Sensitive Watersheds	
Approved Fisheries Sensitive Watersheds	
Critical Habitat for Federally listed Species at Risk	
Eelgrass Areas	
Kelp Beds	
Wildlife Management Areas	
Wildlife Management Units	view map
8-15	
Provincial Forest	view map
Granby	
Provincial Forest Additions	
Provincial Forest Deletions	
Provincial Forest Exclusions	
Terrain Mapping Project Boundaries	view map
Boundary	
Boundary Forest District (Wallace, Gable, MTVSS, EBKP and Jump Creeks Watersheds): Detailed Mapping*	
Boundary Forest District: Reconnaissance Terrain Stability Mapping	
Fpc 80 BFD	
Landscape Units	view map
Lynch - Intermediate	
Strategic Land Resource Plans	view map
Boundary Scenic GAR Order	
Kootenay Boundary Higher Level Plan Order	
Kootenay Boundary Land Use Plan Implementation Strategy	
Legal OGMA	
Non Legal OGMA	
Legal Strategic Land and Resource Planning Objectives polygons	view map

Resource Management Zones	
Legal Strategic Land and Resource Planning Objectives point	
Legal Strategic Land and Resource Planning Objectives line	
Non Legal Strategic Land and Resource Planning Features polygon	view map
Biodiversity Emphasis Options	
Human Settlement Corridors	
Land Use Designated Areas	
Maintained Ecosystem Restoration Areas	
Ungulate Winter Range	
Non Legal Strategic Land and Resource Planning Features point	
Non Legal Strategic Land and Resource Planning Features line	
Archaeological Potential	view map
HIGH	
MOD	
Fish Passage Lines Fish Habitat	
Fish Passage Lines Fish Habitat with 5km buffer	view map
FISH HABITAT - INFERRED	
FISH HABITAT - OBSERVED	
Fish Passage Road Stream Crossings	
Fish Passage Road Stream Crossings with 5km buffer	view map
FISH HABITAT - INFERRED	
FISH HABITAT - OBSERVED	
Known Fish Observations	
Known Fish Observations within 5km	view map
Brook Trout - GRANBY RIVER	
Brook Trout - PASS CREEK	
Mountain Whitefish - GRANBY RIVER	
No Mussels Found - GRANBY RIVER	
Rainbow Trout - BROWN CREEK	
Rainbow Trout - GRANBY RIVER	
Rainbow Trout - PASS CREEK	
Sculpin (General) - GRANBY RIVER	
Speckled Dace - GRANBY RIVER	
Historic Known Fish Distribution Points with Spawning and Rearing	
Historic Known Fish Dist Points with Spawning and Rearing 5km buffer	view map
Fish observed at this point or zone	
Biogeoclimatic Zone	view map
IDFxh4 - Interior Douglas-fir	
Energy Production Tenures Tantalus	
OGC Road Permit Areas	
OGC Road Application Areas	
OGC Well Facility Permits	
OGC Well Facility Applications	
OGC Pipeline Area Permits	
OGC Pipeline Area Applications	
OGC Pipeline Area Permits within 50m	
OGC Pipeline Area Applications within 50m	
OGC Construction Corridor	
OGC Seismic Permits	
OGC Seismic Applications	
OGC Facility Location Permits	
OGC Ancillary Permits	
OGC Ancillary Applications	

OGC Sump Locations
OGC Waste Disposal Sites
LEGACY OGC Petroleum Development Roads within 50m
LEGACY OGC Petroleum Development Roads Pre 2006 within 50m
LEGACY OGC Petroleum Access Roads within 50m
LEGACY OGC Wellsites
LEGACY OGC Wellsite Surface Holes
LEGACY OGC Pipelines within 50m
LEGACY OGC Seismic
LEGACY OGC Facility Locations
LEGACY OGC Facility Locations Pre 2016
LEGACY OGC Ancillary and Other Sites

FCBC Admin Areas

MOT District Boundaries

West Kootenay

[view map](#)

MOE District Boundaries

Okanagan

[view map](#)

Health Authority Boundaries

Interior

[view map](#)

Land Districts

SDYD

[view map](#)

Regional Districts

Regional District of Kootenay Boundary
--

[view map](#)

Muskwa Kechika Management Area

Natural Resource District

Selkirk Natural Resource District

[view map](#)

Natural Resource Regions

Kootenay-Boundary Natural Resource Region

[view map](#)

Natural Resource ADM Areas

South Natural Resource Area

[view map](#)

Water Management Districts

Grand Forks

[view map](#)

Water Management Precincts

Grand Forks

[view map](#)

Municipalities

Nanwakolas Area Significance

First Nation Treaty Lands

First Nation Treaty Related Lands

First Nation Treaty Areas

Land Claim Settlement Areas

First Nations

Ktunaxa Treaty Areas

Forestry AOA

Planning Areas

Snowmobile Management Areas

Section 58 Recreation Orders

Timber Reserve

CPR Timber Reserve

Data Sources

Database Connections\BCGW.sde\WHSE_BASEMAPPING.FWA_STREAM_NETWORKS_SP	
Database Connections\BCGW.sde\WHSE_BASEMAPPING.TRIM_WATER_LINES	
Database Connections\BCGW.sde\WHSE_BASEMAPPING.DRA_DGTL_ROAD_ATLAS_MPAR_SP	
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_ROAD_SECTION_LINES_SVW	
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_ROAD_SECTION_LINES_SVW	
Database Connections\BCGW.sde\WHSE_TANTALIS.TA_SURVEYED_ROW_PARCELS_SVW	
Database Connections\BCGW.sde\WHSE_TANTALIS.TA_CROWN_RIGHTS_OF_WAY_SVW	
Database Connections\BCGW.sde\WHSE_BASEMAPPING.GBA_RAILWAY_TRACKS_SP	
Database Connections\BCGW.sde\WHSE_BASEMAPPING.GBA_RAILWAY_CROSSINGS_SP	
Database Connections\BCGW.sde\WHSE_BASEMAPPING.FWA_STREAM_NETWORKS_SP	
Database Connections\BCGW.sde\WHSE_BASEMAPPING.TRIM_WATER_LINES	
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Database Connections\BCGW.sde\WHSE_BASEMAPPING.GBA_RAILWAY_TRACKS_SP	
Database Connections\BCGW.sde\WHSE_BASEMAPPING.GBA_RAILWAY_CROSSINGS_SP	
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Database Connections\BCGW.sde\WHSE_ADMIN_BOUNDARIES.ADM_INDIAN_RESERVES_BANDS_SP	
Database Connections\BCGW.sde\WHSE_ADMIN_BOUNDARIES.CLAB_NATIONAL_PARKS	
Database Connections\BCGW.sde\WHSE_TANTALIS.TA_PARK_ECORES_PA_SVW	
Database Connections\BCGW.sde\WHSE_TANTALIS.TA_CONSERVANCY_AREAS_SVW	
Database Connections\BCGW.sde\WHSE_LEGAL_ADMIN_BOUNDARIES.WCL_CONSERVATION_LANDS_SP	
Database Connections\BCGW.sde\WHSE_LEGAL_ADMIN_BOUNDARIES.WCL_CONSERVATION_AREAS_NGO_SP	
Database Connections\BCGW.sde\WHSE_CADASTRE.CBM_INTGD_CADASTRAL_FABRIC_SVW	"OWNERSHIP_CLASS" = 'CROWN FEDERAL' OR "OWNERSHIP_CLASS" = 'CROWN MUNICIPAL'
Database Connections\BCGW.sde\WHSE_ADMIN_BOUNDARIES.CBD_BOUNDARY_POLY_SVW	
Database Connections\BCGW.sde\REG_LEGAL_AND_ADMIN_BOUNDARIES.QSOI_BC_REGIONS	
Database Connections\BCGW.sde\WHSE_HUMAN_CULTURAL_ECONOMIC.FNIRS_AGREEMENT_BOUNDARY_SVW	
Database Connections\BCGW.sde\WHSE_HUMAN_CULTURAL_ECONOMIC.TUS_TRAD_USE_STUDY_POLY_MVW	
Database Connections\BCGW.sde\WHSE_HUMAN_CULTURAL_ECONOMIC.TUS_TRD_USE_STD_SITE_POINT_MVW	
Database Connections\BCGW.sde\WHSE_HUMAN_CULTURAL_ECONOMIC.TUS_TRD_USE_STD_SITE_LINE_MVW	
Database Connections\BCGW.sde\WHSE_HUMAN_CULTURAL_ECONOMIC.TUS_TRD_USE_STD_SITE_POLY_MVW	
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Database Connections\BCGW.sde\WHSE_CADASTRE.PMBC_PARCEL_FABRIC_POLY_FA_SVW	
Database Connections\BCGW.sde\WHSE_MINERAL_TENURE.MTA_CROWN_GRANT_MIN_CLAIM_SVW	
Database Connections\BCGW.sde\WHSE_TANTALIS.TA_CROWN_TENURES_SVW	"TENURE_STAGE" = 'APPLICATION'

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Database Connections\BCGW.sde\WHSE_TANTALIS.TA_CROWN_TENURES_SVW	"TENURE_STAGE" = 'PRE-TANTALIS'
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Database Connections\BCGW.sde\WHSE_TANTALIS.TA_REVERSION_SHAPES	
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Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_ROAD_SECTION_LINES_SVW	
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Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_HARVEST_AUTH_POLY_SVW	
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Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_COMM_SITE_POLY_SVW	
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_REAL_PROPERTY_POLY_SVW	
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_SPEC_USE_PERMIT_POLY_SVW	"LIFE_CYCLE_STATUS_CODE" <> 'RETIRED'
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_TIMBER_LICENCE_POLY_SVW	"LIFE_CYCLE_STATUS_CODE" <> 'RETIRED'
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_TL_REMAINING_POLY_SVW	
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_TL_ELIMINATION_POLY_SVW	
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_MANAGED_LICENCE_POLY_SVW	
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_FREE_USE_PERMIT_POLY_SVW	
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Database Connections\BCGW.sde\WHSE_FOREST_VEGETATION.RESPROJ_RSRCH_INSTLTNS_GOV_SVW	
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Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_RECREATION_POLY_SVW	
Database Connections\BCGW.sde\WHSE_FOREST_TENURE.FTEN_RECREATION_LINES_SVW	
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Database Connections\BCGW.sde\WHSE_HUMAN_CULTURAL_ECONOMIC.RST_SECTION_58_ORDERS_POLY	"FILE_STATUS" = 'Active'
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Database Connections\BCGW.sde\WHSE_FOREST_VEGETATION.RSLT_FOREST_COVER_RESERVE_SVW	
Database Connections\BCGW.sde\WHSE_IMAGERY_AND_BASE_MAPS.GSR_CLIMATE_STATIONS_SVW	{ DESCRIPTION = 'Environment Canada Climate Station' AND
Database Connections\BCGW.sde\WHSE_ENVIRONMENTAL_MONITORING.ENVCAN_ACT_HYDMETRIC_STN_SVW	"ACTIVE_ENVCAN_WEATHER_STN_IND" = 'Y') OR
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Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_POD_LICENCE_SP	
Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_BC_POD_DRINKNG_SOURCES_SP	
Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.BCHA_DRNKNG_WATR_EXTR_SITES_SP	
Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_WATER_LICENCED_WRK_LINE_SP	
Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_WATER_LICENCED_WRK_LOC_SP	
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Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_RESERVOIR_PMT_LICENSEE_SP	

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Database Connections\BCGW.sde\WHSE_MINERAL_TENURE.PTSA_PETROLEUM_TITLE_POLY

Database Connections\BCGW.sde\WHSE_ARCHAEOLOGY.RAAD_TFM_SITES_SVW

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Database Connections\BCGW.sde\WHSE_LEGAL_ADMIN_BOUNDARIES.OATS_ALR_POLYS

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Database Connections\BCGW.sde\WHSE_WILDLIFE_INVENTORY.AMA_SNOWMOBILE_MGMT_AREAS_SP

Database Connections\BCGW.sde\WHSE_MINERAL_TENURE.MTA_SITE_SP

Database Connections\BCGW.sde\WHSE_MINERAL_TENURE.MTA_SITE_SP

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Database Connections\BCGW.sde\WHSE_TERRESTRIAL_ECOLOGY.BIOT_OCCR_MASKED_SENS_AREA_SP

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Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_WATER_RESERVE_LOC_SVW

Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_WATER_RESTRICTION_LOC_SVW

Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_NON_TRIM_HYDRGRPH_LINE_SVW

Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.WLS_TEMP_CADASTRE_LINES_SP

Database Connections\BCGW.sde\WHSE_WATER_MANAGEMENT.FPW_APPURTENANT_STRUCTURE_SVW

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Database Connections\BCGW.sde\WHSE_WILDLIFE_MANAGEMENT.CRIMS_KELP_BEDS

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Database Connections\BCGW.sde\WHSE_WILDLIFE_MANAGEMENT.WAA_WILDLIFE_MGMT_UNITS_SVW

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Database Connections\BCGW.sde\WHSE_ADMIN_BOUNDARIES.FADM_PROV_FOREST_DELETION

Database Connections\BCGW.sde\WHSE_ADMIN_BOUNDARIES.FADM_PROV_FOREST_EXCLUSION

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'APPLICATION'

"TENURE_SUB_TYPE_DESCRIPTION" = 'LEASE'

"TENURE_TYPE_DESCRIPTION" = 'Coal' AND

"TENURE_SUB_TYPE_DESCRIPTION" = 'LICENSE'

"TENURE_TYPE_DESCRIPTION" <> 'Coal'

"RECORD_STATUS_CODE" = 'ACTIVE'

"SKI_HILL_NAME" <> ''

"SITE_MINERAL_IND" = 'Y'

SITE_PLACER_IND = 'Y'

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"COMMON_SPECIES_NAME" LIKE '%Caribou%'

"SPECIES_1" LIKE 'M-RATA%'

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AND "BEO_SUB_TYPE_APPLICABLE" = 'Y') OR
"BEO_SUB_TYPE_APPLICABLE" = 'N'

FISH_HABITAT like 'FISH HABITAT%'

FISH_HABITAT like 'FISH HABITAT%'

FISH_HABITAT like 'FISH HABITAT%'

FISH_HABITAT like 'FISH HABITAT%'

"TENURE_PURPOSE" = 'ENERGY PRODUCTION'

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Interoute Sand and Gravel exploration
(Grand Forks)
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 25, 2018

By Email:
Lower Similkameen Indian Band
referrals@lsib.net
Attn: Referrals Coordinator

Dear Chief and Council c/o Referrals Coordinator:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

Table 1: Project Overview

PROGRAM: Mines
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PROVINCIAL APPROACH: Single-agency decision <input checked="" type="checkbox"/> or Multi-agency project <input type="checkbox"/>
LEGISLATION, TENURE TYPE AND TERM: Mines Act Permit
AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
PROPONENT: Interoute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
AREA Size: 0.01 ha
PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

Background Information:

Ministry of Forests, Lands and
Natural Resource Operations
and Rural Development

Kootenay-Boundary Natural
Resource Region

Mailing Address:
1902 Theatre Road
Cranbrook, BC V1C 7G1

Telephone: 250-426-1766
Fax: 250-426-1767
Website: www.gov.bc.ca/for

To complete the test pit program, the company is looking to rent a small 300 series Cat excavator with rubber tracks for the test pitting. The test pits will typically have dimensions of 1.5 m wide by length of 3 m and 3 m depth. The excavator will remove and stockpile all vegetation (grasses) at each test dig site. The internal spoil will be temporarily stored to the side of the excavation in a stable location. The test pit soil profiles will then be logged, and occasional grab samples will be taken for further inspection and laboratory testing (analysis of quality and suitability for potential use in fill, asphalt paving, etc.). Generally four (4) to six (6) grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

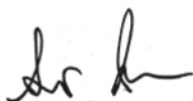
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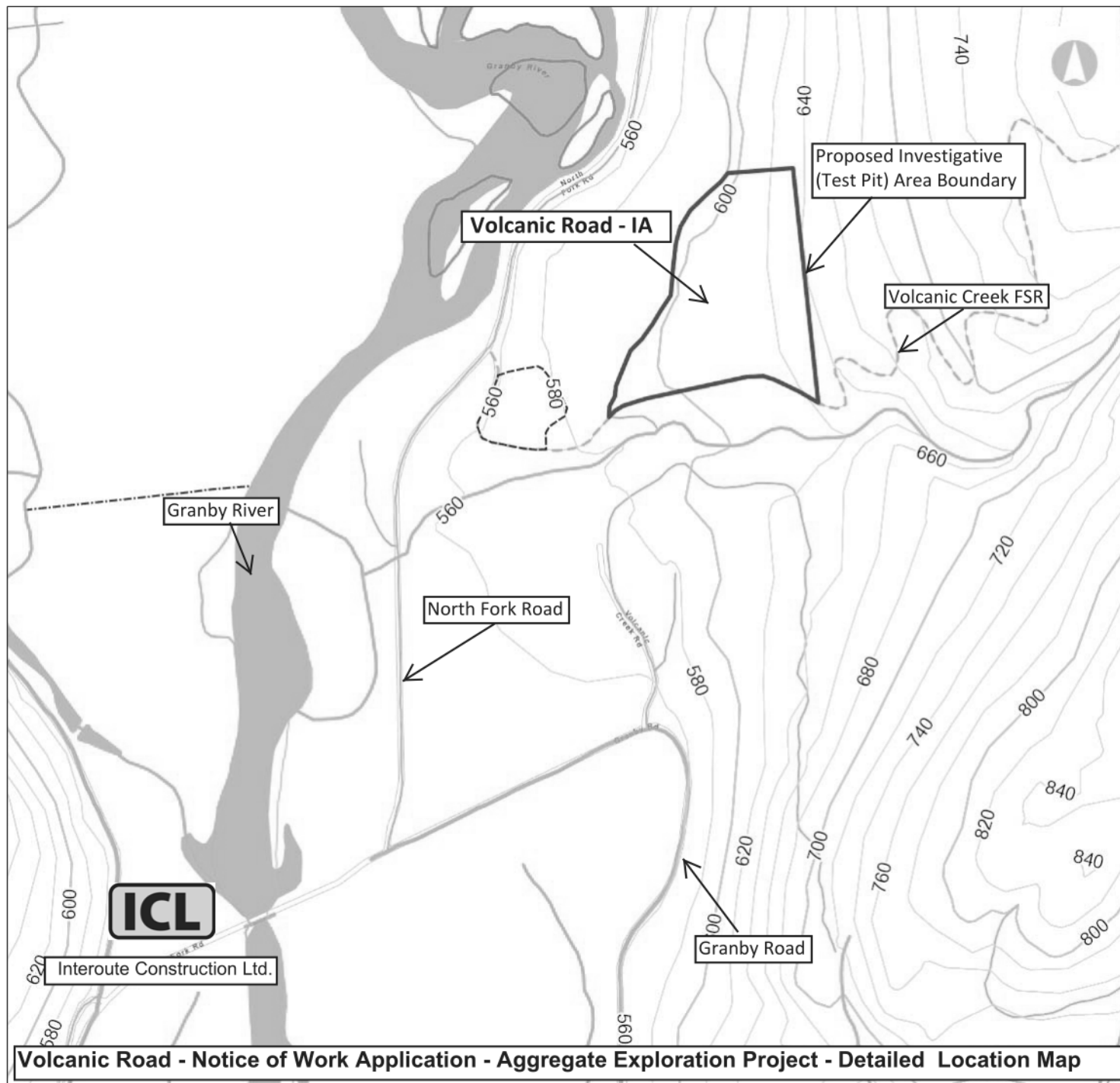
In order to adequately address any concerns prior to the decision deadlines for the authorizations under review, please contact the Project Consultation Contact noted above within 30 days from the date of this letter.

Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Volcanic Road IA

Legend

Water - Rivers, Creeks, Sho
(1:20,000)

FCODE

- Canal
- Dam
- Dam - Beaver
- Ditch
- Falls
- Flume
- Rapids
- River or Stream - Definite
- River or Stream - Dry
- River or Stream - Indefinite
- River or Stream - Left Bank
- River or Stream - Right Bank



1: 10,000

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CAUTION: Maps obtained using this site are not designed to assist in navigation. These maps may be generalized and may not reflect current conditions. Uncharted hazards may exist. DO NOT USE THESE MAPS FOR NAVIGATIONAL PURPOSES.

Datum: NAD83

Projection: NAD_1983_BC_Environment_Albers

Key Map of British Columbia



Volcanic Road - Notice of Work Application - Aggregate Exploration Project - Detailed Location Map

Figure 2

Notice of Work Review (NRS)

vFCBC Trk#: 100239536

ATS #: 269917

Mapsheet/Location:

Applicant: Interoute Construction

Agent: Erwin Spletzer

Type of Application: ☐ Placer ☐ Mineral ☒ S&G/Quarry ☐ Coal Exploration

Term : ☐ 1 year ☐ 2-5 years ☐ MYAB ☒ New ☐ Amendment

Triage: ☐ FUP <50m³ ☒ LTC >50m³ ☐ Water Lic / STU ☐ Other (Lic. / Permit

☐ ltr of consent/ ☐ ltr of agency required ☐ business not in good standing

☐ access route on tenure map ☐ description of work or incomplete ☐ op. plan (quarry)

☐ work area/location on map ☐ for Quarry (mineral/S&G) profile

☐ on private land ☒ on crown land ☐ under title (MTO)

Mapping standards not met: ☐ gen. location ☐ overview ☐ detail ☐ profile-x sec

General Notes: ☐ , **Request for Information (notes):** 1) ☐ 2) ☐ (sent to client)

- ☐ - **Note to MEM, I have made 2 previous attempts to get the appropriate information from the client to complete this application (ie worthy). I have advised the client that that I have recommended MEM cancel the application until the required information is made available ie they must re-submit. (action MMD Cranbrook in ATS, close Review date)**

- on crown land, Temp Licence required
- within survey crown lot PID 014 792 214
- possibly under MoTI (ie no address, deep status required)

Worthy to Receive: ☒ yes ☐ no

Actions (NRS): ☒ confirm tenure/title (MTO/MLT) ☒ check requirements (iMAP/ILRR)

☒ business in good standing

☒ - in ATS action KB Status, MMD Cranbrook, FN Advis. (NA) and CSA

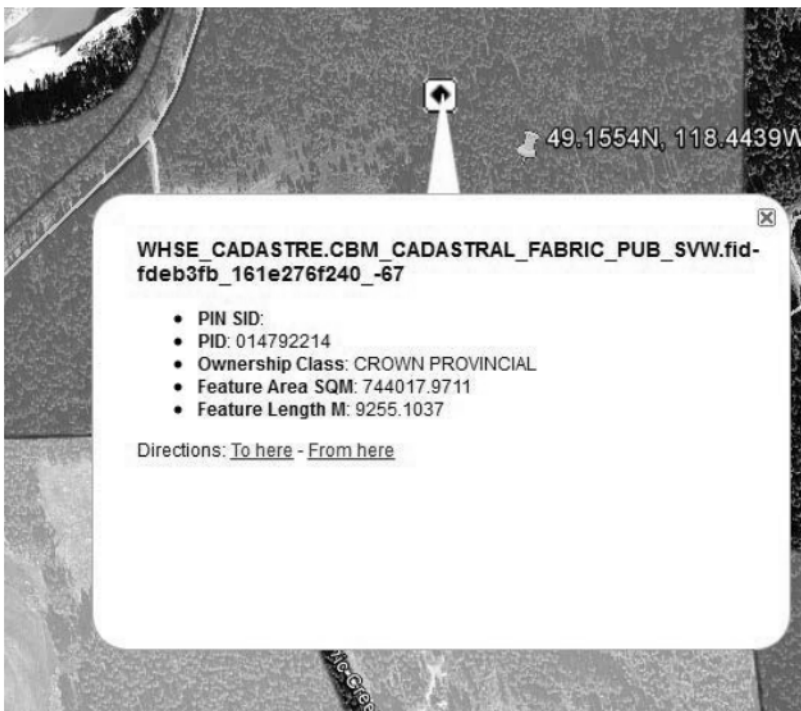
 - input submission review date

 - attach notes, CRIF (NA), KML (NA)

☒ vFCBC (attach notes) ☒ hard copy to CSA

Mapping Review / Checks / Title-Claim : (attached with “snipping tool”) :





Show Cancelled Information

CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN

Land Title District

Land Title Office

KAMLOOPS

KAMLOOPS

Title Number

From Title Number

KD48120

AFB 2/897/1756A

Application Received

1990-06-04

Application Entered

1990-06-05

Registered Owner in Fee Simple

Registered Owner/Mailing Address:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA
NO ADDRESS ON FILE FOR THIS OWNER**Taxation Authority**

Penticton Assessment Area

Description of Land

Parcel Identifier:

014-792-214

Legal Description:

DISTRICT LOT 693 SIMILKAMEEN DIVISION YALE DISTRICT EXCEPT:

(1) PART SHOWN COLOURED RED ON PLAN ATTACHED TO DD. 11156

(2) PLANS B629 AND 19789

Legal Notations

RE PARAGRAPHS (E) AND (F) SEC 23(1) LTA SEE DF. W1547



Interoute Sand and Gravel exploration
(Grand Forks)
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 25, 2018

By Email:
Okanagan Indian Band
okibreferrals@okanagan.org

Dear Chief and Council:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

Table 1: Project Overview

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LEGISLATION, TENURE TYPE AND TERM: Mines Act Permit
AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
PROPONENT: Interoute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
AREA Size: 0.01 ha
PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

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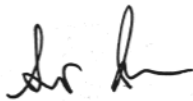
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Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Interoute Sand and Gravel exploration
(Grand Forks)
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 25, 2018

By Email:
Okanagan Nation Alliance
onareception@syilx.org

Dear Grand Chief Stewart Phillip, Chair:

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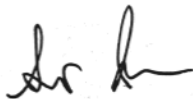
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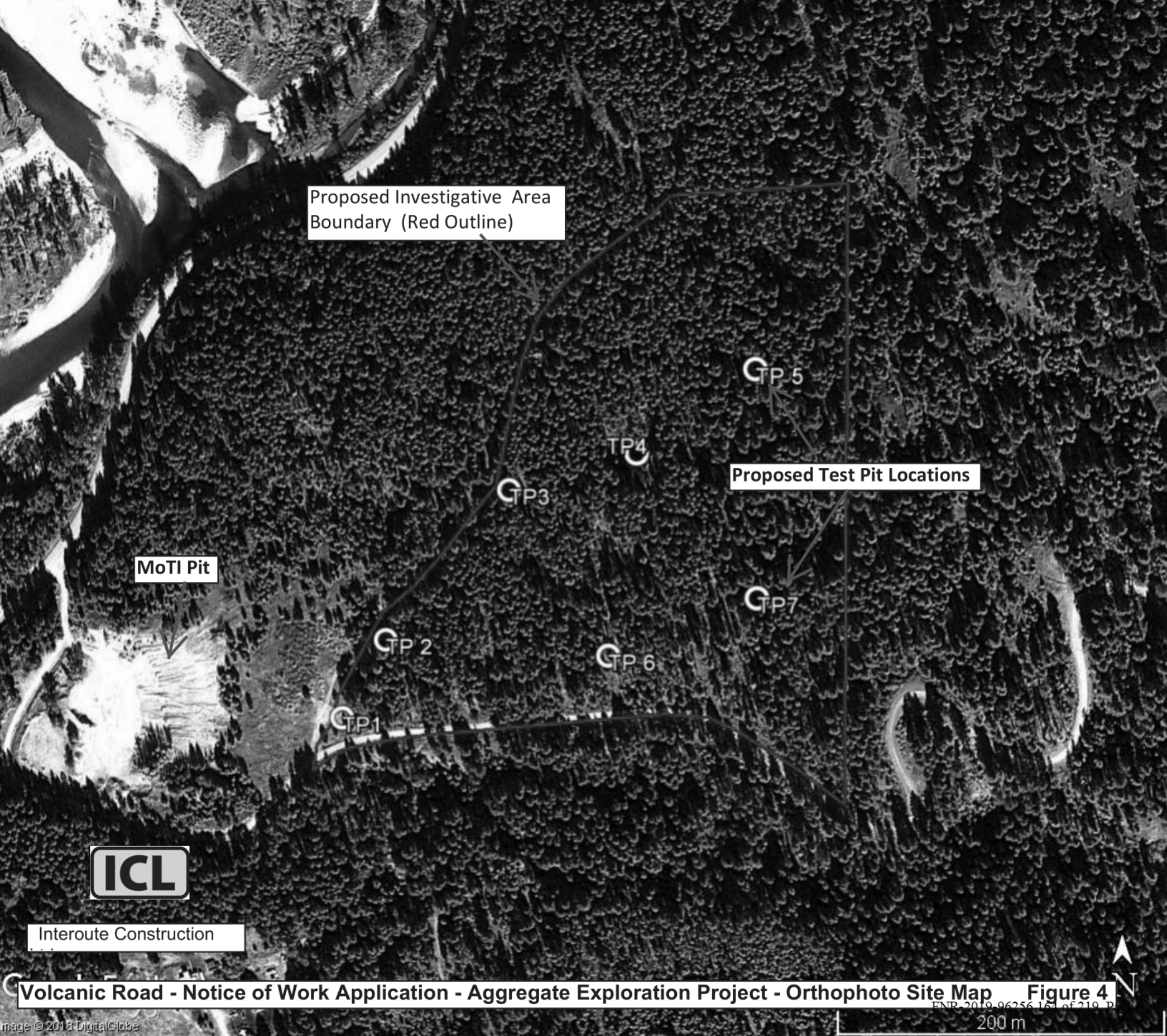
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Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Proposed Investigative Area
Boundary (Red Outline)

Proposed Test Pit Locations

MoTI Pit



Interoute Construction



Interoute Sand and Gravel exploration
(Grand Forks)
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 25, 2018

By Email:
Osoyoos Indian Band
referrals@oib.ca; lands@oib.ca;

Dear Chief and Council:

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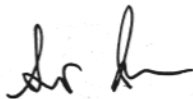
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Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

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Interoute Sand and Gravel exploration
(Grand Forks)
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 25, 2018

By Email:
Penticton Indian Band
referrals@pib.ca
cc: Chief Chad Eneas
yilmixm@pib.ca

Dear Chief and Council:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

Table 1: Project Overview

PROGRAM: Mines
PROJECT DESCRIPTION: Sand and Gravel exploration involving 7 test pits on crown land.
PROVINCIAL APPROACH: Single-agency decision <input checked="" type="checkbox"/> or Multi-agency project <input type="checkbox"/>
LEGISLATION, TENURE TYPE AND TERM: Mines Act Permit
AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
PROPONENT: Interoute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
AREA Size: 0.01 ha
PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

Background Information:

Ministry of Forests, Lands and
Natural Resource Operations
and Rural Development

Kootenay-Boundary Natural
Resource Region

Mailing Address:
1902 Theatre Road
Cranbrook, BC V1C 7G1

Telephone: 250-426-1766
Fax: 250-426-1767
Website: www.gov.bc.ca/for

To complete the test pit program, the company is looking to rent a small 300 series Cat excavator with rubber tracks for the test pitting. The test pits will typically have dimensions of 1.5 m wide by length of 3 m and 3 m depth. The excavator will remove and stockpile all vegetation (grasses) at each test dig site. The internal spoil will be temporarily stored to the side of the excavation in a stable location. The test pit soil profiles will then be logged, and occasional grab samples will be taken for further inspection and laboratory testing (analysis of quality and suitability for potential use in fill, asphalt paving, etc.). Generally four (4) to six (6) grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

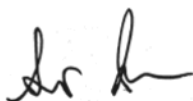
The reclamation of the test pits will be immediately backfilled after testing, using the same native materials excavated from the pit in opposite order that the pits were dug. Due to bulking factor, the backfill will leave the ground with a mound of about 0.25 m high, however due to natural effects; the mounds will tend to dissipate (flatten) in the short order. The mineral soil, topsoil and vegetation that were stockpiled separately will be returned to their original position(s) to promote revegetation of the disturbed ground.

The Province recognizes that your First Nation has asserted Aboriginal interests in the proposal area, and is interested in understanding further the nature of these aboriginal interests and how they may be impacted by this project. To assist in understanding how the project may impact your Aboriginal interests, the Province will be relying on information you provide, or otherwise arises during this consultation process, as well as the information noted below. The information may also be used to inform the development of potential measures to mitigate or avoid impacts to your aboriginal interests. The following information was reviewed:

- Okanagan Nation: Review of Anthropological and Historical Sources. MAG. Jan 2011.

In order to adequately address any concerns prior to the decision deadlines for the authorizations under review, please contact the Project Consultation Contact noted above within 30 days from the date of this letter.

Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml

From: SWAP Connect
To: [Johnson, Gregory M FLNR:EX](#); [Sweet, Alicia FLNR:EX](#)
Subject: [SWAP Connect] Referral Submission Received
Date: Monday, April 30, 2018 10:13:13 AM

Single Window Administrative Portal

Submission Reference number: 1135

- Issuing Agency file number(s)

File Number: 100239536 - ATS Project: 269917

- Referral Issuant

Greg Johnson (FLNRORD)

- Proponent

Interoute Construction Ltd.

- Level

Normal

- Response due date

June 3, 2018

- Government Statute(s)

Mines Act

- Matrix name

Mines

- Details

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grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

- Location

located ~14.6 km due north of Grand Forks.

- Area

0.01 hectares

[SWAP__Initial_Engagement_letter_Interoute_Sand_and_Gravel_exploration_Grand_Forks.pdf](#)

Engagement Letter

[1631059201801_FN_Referral_Package.pdf](#)

Referral Package

[100239536.kml](#)

KML

[View Submission](#)

From: [Sweet, Alicia FLNR:EX](#)
To: ["ray_cormier@splatsin.ca"](mailto:ray_cormier@splatsin.ca)
Cc: [Johnson, Gregory M FLNR:EX](#); [MMD Cranbrook EMPR:EX](#)
Subject: Interoute Sand and Gravel Exploration - Grand Forks
Date: Monday, April 30, 2018 10:39:00 AM
Attachments: [SWAP Initial Engagement letter Interoute Sand and Gravel exploration Grand Forks.pdf](#)
[1631059201801_FN_Referral_Package.pdf](#)
[100239536.kml](#)

For your review and comment. Please reference SWAP Submission 1135.



Alicia Sweet

Client Services Assistant - FrontCounter BC

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

1902 Theatre Road

Cranbrook, BC V1C 7G1

Tel: 250-426-1794

alicia.sweet@gov.bc.ca

Tell us about your experience with FrontCounter BC: [Complete an Online Comment Card](#)



Interroute Sand and Gravel Exploration
Grand Forks
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 30, 2018

By Electronic submission:
Secwepemc Reconciliation Framework Agreement
www.swapconnect.ca

Dear Secwepemc:

The Province of British Columbia has received an application for the above-noted project and is initiating consultation with you to inform our decision making process. We invite your input on how this proposal may impact Aboriginal interests you may have in the area.

Table 1: Project Overview

PROGRAM: Mines
PROJECT DESCRIPTION: Sand and Gravel exploration involving 7 test pits on crown land.
PROVINCIAL APPROACH: Single-agency decision <input checked="" type="checkbox"/> or Multi-agency project <input type="checkbox"/>
LEGISLATION, TENURE TYPE AND TERM: Mines Act Permit
AGENCY RESPONSIBLE & DECISION MAKER: Ministry of Forests, Lands and Natural Resource Operations and Rural Development
PROPONENT: Interroute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
AREA Size: 0.01 ha
PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

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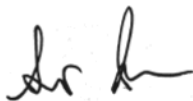
The Province recognizes that Secwepemc has asserted aboriginal rights in the project area and will rely on any information you provide or otherwise arises during the consultation process, and the information readily available to the Province to assess the nature of Secwepemc's aboriginal interests. The information available to the Province is not considered conclusive, therefore, based on our Initial Review of readily available information on your aboriginal interests, the Province is initiating a Normal level of consultation with the appropriate Division(s)/Band(s) to better understand the nature of those interests, how Secwepemc considers the proposed Project may impact those interests, and what potential measures you might recommend to address your concerns.

The Province will be making a decision on the application after the Engagement End Date, so please respond as early as possible so that your response can be fully considered before the Province proceeds to decision-making.

Engagement Level: Normal

Engagement End Date: June 03, 2018

Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Interoute Sand and Gravel exploration
(Grand Forks)
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 25, 2018

By Electronic submission:
Secwepemc Reconciliation Framework Agreement
www.swapconnect.ca

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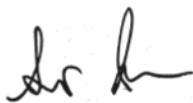
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Engagement Level: Normal

Engagement End Date: June 03, 2018

Yours truly,

A handwritten signature in black ink, appearing to be 'Dr. H' or similar, written in a cursive style.

Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml



Interoute Sand and Gravel exploration
(Grand Forks)
Engagement Letter

File Number: 100239536
ATS Project: 269917

April 25, 2018

By Email:
Upper Nicola Indian Band
NRtech1@uppernicola.com
Dear Chief and Council:

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PROPONENT: Interoute Construction Ltd.
LOCATION: located ~14.6 km due north of Grand Forks.
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PROVINCIAL GOVERNMENT CONSULTATION CONTACT: Greg Johnson - Advisor, First Nation Relations at 250-426-1752 or Gregory.Johnson@gov.bc.ca This contact will provide you with access to agency personnel and decision makers as needed, and provide information that you share with the Province to relevant agencies who have decisions related to this project.

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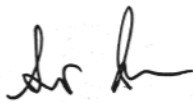
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- Okanagan Nation: Review of Anthropological and Historical Sources. MAG. Jan 2011.

In order to adequately address any concerns prior to the decision deadlines for the authorizations under review, please contact the Project Consultation Contact noted above within 30 days from the date of this letter.

Yours truly,



Greg Johnson Advisor, First Nations Relations
Ministry of Forests, Lands and Natural Resource Operations and Rural Development
Kootenay Boundary Region

Attachments: 1631059201801_FN_Referral_Package.pdf and 100239536.kml

Receive Application for vFCBC Application

Job Description: vFCBC Application		Business Area:	Mines and Mineral Resource Division	Case Notes
Return to Job: 100239536		Authorization Type:	Notice of Work	
Assigned To:	Butler, Tamara FLNR:EX, Caesar, Sharon FLNR:EX, Comin, Barry FLNR:EX, Corbeil, Paula FLNR:EX, Davis, Lynn FLNR:EX, Donald, Jo-Ann ILMB:EX, Elder, Katie FLNR:EX, Evans, Andrea FLNR:EX, Higham, Nicole M FOR:EX, Hladun, Teresa FLNR:EX, Katay, Fiona MEM:EX, Luxton, Laura ILMB:EX, McKinnon, Lindsay, Sweet, Alicia FLNR:EX, Wade, Lori MEM:EX, Zuk, Amber FLNR:EX	Scheduled Start Date: Feb 13, 2018		
Completed By:	Elder, Katie FLNR:EX	Due Date:	mmm dd, yyyy	
Submitter:	Erwin Spletzer	Completed Date:	Feb 15, 2018	
<div>Details Checklist</div>				

Only the Office needs to be selected if the application is going to be reassigned.
Office reassigned to: (None)

APPLICANT

The application was submitted by an agent; and, the applicant information is shown below. Please identify the Applicant's client record.

Legal Name:	Interoute Construction Ltd.	Address:	201-5550 152nd Street
Doing Business As:			Surrey BC V3S 5J9
Phone:	(604) 575-3473	Ext.	
Fax:	(604) 575-3691		
Email:	erwin.spletzer@terusconstruction.ca		
BC Incorporation Number:	0497648		
Extra Provincial Inc. No:			
Society Number:			
GST Registration Number:			
Contact Name:	Erwin Spletzer		

GST Registration Number:

Contact Name: Erwin Spletzer

* Client Record

Legal Name	Phone	Ext.	Linked to ATS?
<u>Interoute Construction Ltd.</u>	(604) 575-3473		Yes

NOTICE OF WORKS INFORMATION

Mine Number:

ATS INFORMATION

ATS Project Number: 269917

ATS Authorization Number: 289270

ATS Project Description: INTERROUTE CONSTRUCTION - Notice of Work

ATS Project Location Description: Volcanic Road - Aggregate Exploration

REQUEST MORE INFORMATION

Application Submitted From: External (BCeID)

Submitter Email: Erwin.Spletzer@terusconstruction.ca

Reason for requesting more Information:

Maximum File Size: 50mb

Since the application was submitted with a BCeID, an email will be sent to the submitter with a link to their application to fill in the requested information.

Outcome: Received

vFCBC Application

Tracking Number:	100239536	Business Area:	Mines and Mineral Resource Division
Authorization Type:	Notice of Work	Submitted Date:	Feb 14, 2018
Status:	Accepted	Received Date:	Feb 14, 2018 6:55:18 PM
Status shown Client:	Received	Completed Date:	Mar 15, 2018
Submitter:	Erwin Spletzer	Office:	Cranbrook

- Summary
- Application Form
- Signatures
- Fees and Payments
- Case Notes
- Public Documents
- Documents

Emails

CASE NOTES:

Last Update Date	Last Update By	Note Text
<div>NEW NOTE</div>		

CASE NOTE DOCUMENTS

File Name	Description	Created By	Uploaded Date
Edit View NRS Review (NoW) 269917 (interoute, S&G).docx	NRS review	Comin, Barry	Mar 1, 2018

UPLOAD

Enter Application for vFCBC Application

Job Description: vFCBC Application

Return to Job: 100239536

Assigned To: Erwin Spletzer

Completed By: Erwin Spletzer

Submitter: Erwin Spletzer

Applicant: Interoute Construction Ltd.

Scheduled Start Date: Feb 13, 2018

Due Date: mmm dd, yyyy

Completed Date: Feb 14, 2018

Details

Outcome: Submitted

Cancel

Save

vFCBC Application

Tracking Number: 100239536
 Authorization Type: Notice of Work
 Status: Accepted
 Status shown Client: Received
 Submitter: Erwin Spletzer

Business Area: Mines and Mineral Resource Division
 Submitted Date: Feb 14, 2018
 Received Date: Feb 14, 2018 6:55:18 PM
 Completed Date: Mar 15, 2018
 Office: Cranbrook

Summary Application Form Signatures Fees and Payments Case Notes Public Documents Documents Emails

Any document on this tab with the Viewable column checked will be made available to the applicant on their My Applications page.

LETTERS

File Name	Description	Created By	Created Date	Viewable?
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Review Application for vFCBC Application

Job Description: vFCBC Application	Business Area: Mines and Mineral Resource Division	Case Notes
Return to Job: 100239536	Authorization Type: Notice of Work	
Assigned To: Wade, Lori MEM:EX	Scheduled Start Date: Feb 13, 2018	
Completed By: Wade, Lori MEM:EX	Due Date: mmm d, yyyy	
Submitter: Erwin Spletzer	Completed Date: Mar 15, 2018	

Details Checklist

Would you like to request more information from the client? ☐ Yes ☒ No

NOTICE OF WORKS (MMS)

☒ Send Application To MMS

Mine Number: 1631059

WEB SERVICE STATUS

Queued Date	Sent Date	Status	Message
Mar 15, 2018 12:41 PM	Mar 15, 2018 12:43 PM	Success	

BUSINESS AREA NUMBER

Business Area Number:

Only the Office needs to be selected if the application is going to be reassigned.

Office reassigned to: (None)

Outcome: Accepted

vFCBC Application

Tracking Number:	100239536	Business Area:	Mines and Mineral Resource Division
Authorization Type:	Notice of Work	Submitted Date:	Feb 14, 2018
Status:	Accepted	Received Date:	Feb 14, 2018 6:55:18 PM
Status shown Client:	Received	Completed Date:	Mar 15, 2018
Submitter:	Erwin Spletzer	Office:	Cranbrook

Summary	Application Form	Signatures	Fees and Payments	Case Notes	Public Documents	Documents
Emails						
To Address	From Address	Subject	Sent Date			

vFCBC Application

Tracking Number:	100239536	Business Area:	Mines and Mineral Resource Division
Authorization Type:	Notice of Work	Submitted Date:	Feb 14, 2018
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Summary		Application Form		Signatures		Fees and Payments		Case Notes		Public Documents		Documents		Emails		
Document Type				File Name				Description				Created By		Uploaded Date		
View	Archaeological Chance Find Procedure			▼	Interoute_Volcanic Road_CFP_13Feb18.pdf				Volcanic Road_CFP_13Feb18				Erwin Spletzer		Feb 13, 2018	
View	Map File				Interoute_Volcanic Road_Detailed Location Map_Fig 2_13Feb18.pdf				Volcanic Road_Detailed Location Map_Fig 2				Erwin Spletzer		Feb 13, 2018	
View	Map File				Interoute_Volcanic Road_Detailed Site Map_Fig 3_13Feb18.pdf				Volcanic Road_Detailed Site Map_Fig 3				Erwin Spletzer		Feb 13, 2018	
View	Map File				Interoute_Volcanic Road_General Location Map_Fig 1_13Feb18.pdf				Volcanic Road_General Location Map_Fig 1				Erwin Spletzer		Feb 13, 2018	
View	Map File				Interoute_Volcanic Road_Orthophoto_Fig 4_13Feb18.pdf				Volcanic Road_Orthophoto Map_Fig 4				Erwin Spletzer		Feb 13, 2018	
View	Mine Emergency Response Plan			▼	Interoute_Volcanic Road_MERP_13Feb18.pdf				Volcanic Road_MERP_13Feb18				Erwin Spletzer		Feb 13, 2018	
View	Other			▼	Interoute_Volcanic Road_Badger Management Plan_13Feb18.pdf				Badger Management Plan				Erwin Spletzer		Feb 13, 2018	
View	Other			▼	Interoute_Volcanic Road_Cover Letter_14Feb18.pdf				Volcanic_Cover Letter				Erwin Spletzer		Feb 14, 2018	
View	Spatial File				Polygon.dbf				Volcanic_Poly.dbf				Erwin Spletzer		Feb 13, 2018	
View	Spatial File				Polygon.prj				Volcanic_Poly.prj				Erwin Spletzer		Feb 13, 2018	
View	Spatial File				Polygon.shp				Volcanic_Poly.shp				Erwin Spletzer		Feb 13, 2018	
View	Spatial File				Polygon.shx				Volcanic_Poly.shx				Erwin Spletzer		Feb 13, 2018	
<div>DOWNLOAD</div>																

Review Application for vFCBC Application

Job Description: vFCBC Application

Return to Job: [100239536](#)

Assigned To: Wade, Lori MEM:EX

Completed By: Wade, Lori MEM:EX

Submitter: Erwin Spletzer

Business Area: Mines and Mineral Resource Division

Authorization Type: Notice of Work

Scheduled Start Date: Feb 13, 2018

Due Date: mmm d, yyyy

Completed Date: Mar 15, 2018

[Case Notes](#)

Details

Checklist

Complete? Checklist

Comments



Perform FCBC review:

1. Ensure applicant has rights to land, or consent from rights holder
2. Where applicable, has a sufficient Letter of Agency been submitted?
3. Ensure application meets application criteria, including maps to standard
4. Check for secondary authorizations and advise client



Perform Ops Coordinator Review:

1. Pre-acceptance review
2. Push to MMS from vFCBC

Notice of Work Review (NRS)

vFCBC Trk#: 100239536

ATS #: 269917

Mapsheet/Location:

Applicant: Interoute Construction

Agent: Erwin Spletzer

Type of Application: ☐ Placer ☐ Mineral ☒ S&G/Quarry ☐ Coal Exploration

Term : ☐ 1 year ☐ 2-5 years ☐ MYAB ☒ New ☐ Amendment

Triage: ☐ FUP <50m³ ☒ LTC >50m³ ☐ Water Lic / STU ☐ Other (Lic. / Permit

☐ ltr of consent/ ☐ ltr of agency required ☐ business not in good standing

☐ access route on tenure map ☐ description of work or incomplete ☐ op. plan (quarry)

☐ work area/location on map ☐ for Quarry (mineral/S&G) profile

☐ on private land ☒ on crown land ☐ under title (MTO)

Mapping standards not met: ☐ gen. location ☐ overview ☐ detail ☐ profile-x sec

General Notes: ☐ , **Request for Information (notes):** 1) ☐ 2) ☐ (sent to client)

- ☐ - **Note to MEM, I have made 2 previous attempts to get the appropriate information from the client to complete this application (ie worthy). I have advised the client that that I have recommended MEM cancel the application until the required information is made available ie they must re-submit. (action MMD Cranbrook in ATS, close Review date)**

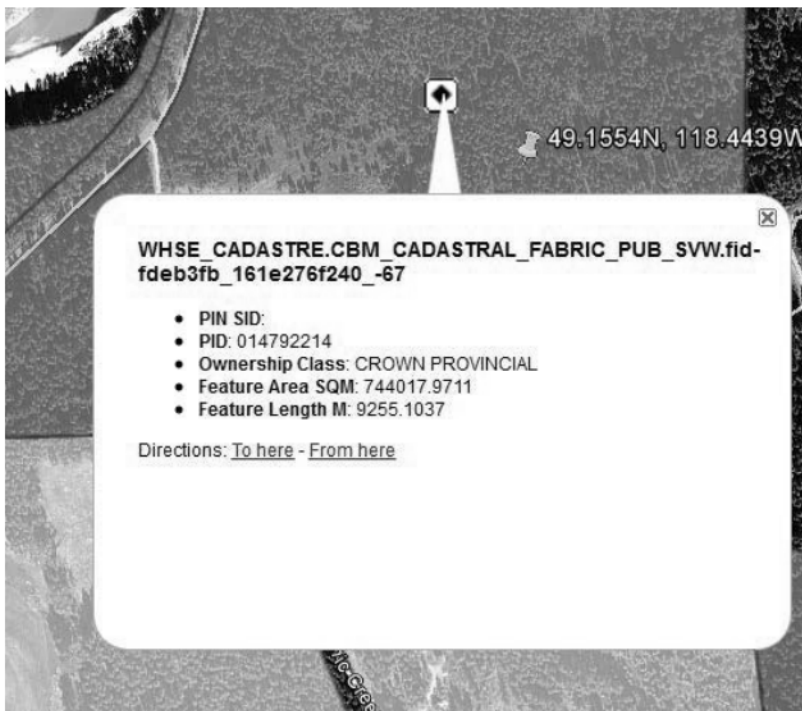
- on crown land, Temp Licence required
- within survey crown lot PID 014 792 214
- possibly under MoTI (ie no address, deep status required)

Worthy to Receive: ☒ yes ☐ no

- Actions (NRS): ☒ confirm tenure/title (MTO/MLT) ☒ check requirements (iMAP/ILRR)
- ☒ business in good standing
- ☒ - in ATS action KB Status, MMD Cranbrook, FN Advis. (NA) and CSA
- input submission review date
- attach notes, CRIF (NA), KML (NA)
- ☒ vFCBC (attach notes) ☒ hard copy to CSA

Mapping Review / Checks / Title-Claim : (attached with “snipping tool”) :





Show Cancelled Information

CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN

Land Title District

Land Title Office

KAMLOOPS

KAMLOOPS

Title Number

From Title Number

KD48120

AFB 2/897/1756A

Application Received

1990-06-04

Application Entered

1990-06-05

Registered Owner in Fee Simple

Registered Owner/Mailing Address:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA
NO ADDRESS ON FILE FOR THIS OWNER**Taxation Authority**

Penticton Assessment Area

Description of Land

Parcel Identifier:

014-792-214

Legal Description:

DISTRICT LOT 693 SIMILKAMEEN DIVISION YALE DISTRICT EXCEPT:

(1) PART SHOWN COLOURED RED ON PLAN ATTACHED TO DD. 11156

(2) PLANS B629 AND 19789

Legal Notations

RE PARAGRAPHS (E) AND (F) SEC 23(1) LTA SEE DF. W1547



Notice of Work

Volcanic Road - Aggregate Exploration

Tracking Number: 100239536

Applicant Information

If approved, will the authorization be issued to
an Individual or Company/Organization? Company/Organization

What is your relationship to the
company/organization? Employee

APPLICANT COMPANY/ORGANIZATION CONTACT INFORMATION

Applicant is an Individual or an Organization to whom this authorization Permit / Tenure / Licence will be issued, if approved.

Name: Interoute Construction Ltd.

Doing Business As:

Phone: 604-575-3473

Fax: 604-575-3691

Email: erwin.spletzer@terusconstruction.ca

BC Incorporation Number: 0497648

Extra Provincial Inc. No:

Society Number:

GST Registration Number:

Contact Name: Erwin Spletzer

Mailing Address: 201-5550 152nd Street
Surrey BC V3S 5J9

TECHNICAL INFORMATION

APPLICATION INFORMATION

Type of Notice of Work: Sand & Gravel

Is this a New Permit or an Amendment to an
existing permit for this property? New Permit

MINE INFORMATION

Do you have an existing mine number? No

Name of the property: Volcanic Road - Aggregate Exploration

Tenure Numbers:

Crown Grant / District Lot Numbers:

Directions to site from nearest
municipality: The Volcanic Road aggregate exploration area (red outline) is located ~14.6 km due north of Grand Forks. To access the site you cross the Granby River bridge on the east end of Grand Forks, and turn left onto Granby Road and follow for ~15.7 km to a point just east of the Granby River Crossing, then you turn right onto North Fork Road and proceed for ~940 m to Volcanic Creek FSR located on the right. Follow Volcanic Creek FSR for ~600 m to the aggregate exploration site (Figure 1).

Geographic Coordinates of Mine: Latitude: 49.1554000 Longitude: -118.4439000

Maximum Annual Tonnage Extracted: 0 tonnes

INFORMATION ABOUT PROPOSED ACTIVITIES

Activities to be undertaken: Mechanical Trenching / Test Pits

FIRST AID

Proposed First Aid equipment on site: Level 1
Level of First Aid Certificate held by attendant: Occupational First Aid Level 1 with Transportation Endorsement

DESCRIPTION OF WORK PROGRAM

If you prefer to upload a document, please enter "see attached document" and attach the document in the "Document Upload" step later in the application under "Other".

Sufficient details of your work program to enable a good understanding of the types and scope of the activities that will be conducted:

All activities will be carried out within the proposed (red outline) area as noted on Figures 1 thru 4. Within the red outline are located the seven (7) test pits having locations as follows:

Test Pit Number	UTM 11U (Easting)	UTM 11U (Northing)
TP No. 1	394586	5445666
TP No. 2	394618	5445720
TP No. 3	394706	5445822
TP No. 4	394794	5445845
TP No. 5	394874	5445899
TP No. 6	394772	5445708
TP No. 7	394872	5445746

Within the (red outline) as noted on Figure 4, the area of testing is fairly open in nature, so trail construction will not be required to access the individual test pit sites. However, it is anticipated that for some pits there may be a requirement to cut a few trees (<10 m³) total, while in other cases the excavator will just be able to walk across the open areas to the test pit sites without any disturbances.

It should be noted that the overall area of interest is defined as upland in nature, with conifer trees aged ~105 years located throughout, and is open in nature (see Figure 4).

To complete the test pit program, the company is looking to rent a small 300 series Cat excavator with rubber tracks for the test pitting. The test pits will typically have dimensions of 1.5 m wide by length of 3 m and 3 m depth. The excavator will remove and stockpile all vegetation (grasses) at each test dig site. The internal spoil will be temporarily stored to the side of the excavation in a stable location. The test pit soil profiles will then be logged, and occasional grab samples will be taken for further inspection and laboratory testing (analysis of quality and suitability for potential use in fill, asphalt paving, etc.). Generally four (4) to six (6) grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

TIME OF PROPOSED ACTIVITIES

Proposed start and end date: Sep 3, 2018 to Oct 31, 2018

Please remember that you need to give 10 days notice to the Inspector of Mines of your intention to start work, and 7 days notice of your intention to stop work.

ACCESS

Access presently gated: No

PRESENT STATE OF LAND

Please identify what the present state of the land is where you would like to undertake your activities. If some of the questions do not apply to you please enter n/a in the space provided.

Present condition of the land:	The area is currently (conifer) treed cover, however it is upland and open in nature
Type of vegetation:	Conifer trees and shrubs
Physiography:	The area is sloping hillside without terrain hazards
Current means of access:	Public access and Forest Services Roads
Old equipment:	None
Recreational trails / use:	None

ACCESS TO TENURE

Do you need to build a road, create stream crossings or other surface disturbance that will not be on your tenure? No

LAND OWNERSHIP

Application area in a community watershed: No
Proposed activities on private land: No

Proposed activities on Crown land: Yes
Licence of Occupation: No

Have you applied for a Licence of Occupation? No

Please apply for a Licence of Occupation.

Activities in a park: No

CULTURAL HERITAGE RESOURCES

Cultural Heritage applies to a large spectrum of heritage resources that is defined as "an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people."

The Archaeology Branch of the Ministry of Forests, Land and Natural Resource Operations is responsible for the administration of the Heritage Conservation Act as it applies to archaeological sites. The Archaeology Branch has developed guidelines for companies engaged in natural resource extraction to aid in planning for and avoiding or managing impacts to protected archaeological sites.

Are you aware of any protected archaeological sites that may be affected by the proposed project? No

FIRST NATIONS ENGAGEMENT

In making decisions on authorizations, the government will be fulfilling its responsibility to consult, and where appropriate, accommodate First Nations. The government takes this responsibility seriously and encourages the applicant to engage First Nations early and often as part of any planned development.

Establishing good relations with First Nations who might be affected by a proposed development is a key part of any successful mining operation. The Ministry of Energy and Mines encourages applicants to engage and information share with First Nations that might be affected by a proposed development prior to submitting an application. The earlier in the life of a proposed activity that the avenues of communication are established the greater the likelihood that the relationships formed will be constructive and beneficial to all parties. A lack of information sharing and engagement by the applicant may result in extended timeframes for decision.

Applicants should keep a detailed record of information sharing and engagement with First Nations on their project in the event the government needs to review it. Information on First Nations information sharing and engagement should include the following: a list of First Nations contacted, whether the activity was modified based on feedback from First Nations, and whether the applicant has entered into any informal or formal agreements with First Nations in connection with the project.

The Consultative Areas Database Public Map Service is an online, interactive mapping tool that allows you to identify First Nations who have treaty rights or asserted or proven rights or title on the land base. More information can be found at <http://maps.gov.bc.ca/ess/sv/cadb/>.

Have you shared information and engaged with First Nations in the area of the proposed activity? No

MECHANICAL TRENCHING / TEST PITS

MAPS

Unless this is an area based application mark the locations of the proposed trenches/pits on the map. You will upload the maps at the document upload step later in the application process.

ACTIVITIES

Click on the "Add Activity" button to add one or more activities. Select your activity out of the list and enter the disturbed area and timber volume.

Activity	Number of sites	Disturbed Area (ha)	Merchantable timber volume (m³)
Trenches and Test Pits	7	0.01	10.00
Total:		0.01	10.00

RECLAMATION PROGRAM

Describe the proposed reclamation and timing for this specific activity:

The reclamation measures and schedule proposed for the site are aimed at achieving end land use objectives as required by Part 10.7.4 and 10.7.5 of the Health, Safety and Reclamation Code for Mines in BC, 2017.

The reclamation of the test pits will be immediately backfilled after testing, using the same native materials excavated from the pit in opposite order that the pits were dug. Due to bulking factor, the backfill will leave the ground with a mound of about 0.25 m high, however due to natural effects; the mounds will tend to dissipate (flatten) in the short order. The mineral soil, topsoil and vegetation that were stockpiled separately will be returned to their original position(s) to promote revegetation of the disturbed ground.

Estimated cost of reclamation activities described above: \$2,000.00

TIMBER CUTTING

Total merchantable timber volume: 10.00 m3

Free Use PermitBased on the information provided you will require a Free Use Permit as the total volume of merchantable timber to be cut does not exceed 50 m3. This permit will be automatically applied for as part of this Notice of Work.

EQUIPMENT

Click on the "Add Equipment" button to add one type of equipment at a time. All equipment must comply with the requirements of the Health, Safety and Reclamation Code.

Quantity	Type	Size / Capacity
1	Excavator	Cat 300 Series - 0.3 yd3

SUMMARY OF RECLAMATION

Based on the information you have provided on the previous screens the Summary of Reclamation is:

Activity	Total Affected area (ha)	Estimated cost of reclamation (\$)
Mechanical Trenching, etc.	0.01	2,000.00
Subtotal:	0.01	2,000.00
Unreclaimed disturbance from previous year:	0.00	
Disturbance planned for reclamation this year:	0.00	
Total:	0.01	2,000.00

OTHER CONTACTS

Please enter the contacts that are applicable to your application.

Contact Info	Type of Contact
Name: Erwin Spletzer	Mine manager
Phone: 604-575-3689	
Daytime Phone: 604-575-3473	
Fax: 604-575-3691	
Email: erwin.spletzer@terusconstruction.ca	
Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	

Contact Info	Type of Contact
Name: Interoute Construction Ltd.	Permittee
Doing Business As:	
Phone: 604-575-3698	
Fax: 604-575-3691	
Email: erwin.spletzer@terusconstruction.ca	
BC Inc. Number: 0497648	
Extra Provincial Number:	
Society Number:	
GST Registration Number:	
Contact Name: Erwin Spletzer	
Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	

Name: Interoute Construction Ltd.	Tenure Holder
Doing Business As:	
Phone: 604-575-3698	
Fax: 604-575-3691	
Email: erwin.spletzer@terusconstruction.ca	
BC Inc. Number: 0497648	
Extra Provincial Number:	
Society Number:	
GST Registration Number:	
Contact Name: Erwin Spletzer	
Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	

Name: Interoute Construction Ltd.	Site operator
Doing Business As:	
Phone: 604-575-3698	
Fax: 604-575-3691	
Email: erwin.spletzer@terusconstruction.ca	
BC Inc. Number: 0497648	
Extra Provincial Number:	
Society Number:	
GST Registration Number:	
Contact Name: Erwin Spletzer	
Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	

LOCATION INFORMATION

LAND DETAILS

Do you have the legal description of the land or the civic address then click on 'Add Land Information'.

DRAWINGS

All applications must include the appropriate maps and applications received without maps will be returned. All maps must be in colour, computer generated, with a scale, north arrow and a detailed legend.

For Mineral, Coal and Placer applications you must provide a minimum of 3 maps:

- A Location Map which must show the location of the property in relation to the nearest community with the access route from the community to the work site clearly marked;
- A Tenure Map which must show the boundaries of the tenure(s) and tenure numbers, at a scale of 1:20,000 or less;
- A Map of Proposed Work which must show topography, water courses, existing access, existing disturbance, contour lines, known cultural heritage resources and/or protected heritage property, at a scale of 1:10,000 or 1:5,000. For site specific applications the location of all proposed exploration activities must be shown; for area-based applications the work area must be shown as a polygon, with the location of all proposed exploration activities for year 1 shown, and shape files provided of the area.

For Sand & Gravel/Quarry applications you must provide a Plan View, Cross and Longitudinal Sections and a Land Title/Crown Land Tenure Map. Details of these requirements are listed in the Sand & Gravel/Quarry Operations Activity sheet.

☒ I have one or more files (PDF, JPG, PNG etc.) with my maps

MAP FILES

Do you have a PDF or image file of a drawn map? You can upload it here.

Description	Filename
Volcanic Road_Detailed Location Map_Fig 2	Interoute_Volcanic Road_Det...
Volcanic Road_Detailed Site Map_Fig 3	Interoute_Volcanic Road_Det...
Volcanic Road_General Location Map_Fig 1	Interoute_Volcanic Road_Gen...
Volcanic Road_Orthophoto Map_Fig 4	Interoute_Volcanic Road_Ort...

☒ I have shape files from my Geographic Information System

SPATIAL FILES

Do you have a spatial file from your GIS system? You can upload it here.

Description	Filename
Volcanic_Poly.dbf	Polygon.dbf
Volcanic_Poly.prj	Polygon.prj
Volcanic_Poly.shp	Polygon.shp
Volcanic_Poly.shx	Polygon.shx

ATTACHED DOCUMENTS

Document Type	Description	Filename
Archaeological Chance Find Procedure	Volcanic Road_CFP_13Feb18	Interoute_Volcanic Road_CFP...

Other Badger Management Plan

Interoute_Volcanic Road_Bad...

Other Volcanic_Cover Letter

Interoute_Volcanic Road_Cov...

PRIVACY DECLARATION**PRIVACY NOTE FOR THE COLLECTION, USE AND DISCLOSURE OF PERSONAL INFORMATION**

Personal information is collected by FrontCounter BC under the legal authority of section 26 (c) and 27 (1)(a)(i) of the Freedom of Information and Protection of Privacy Act (the Act).

The collection, use, and disclosure of personal information is subject to the provisions of the Act. The personal information collected by FrontCounter BC will be used to process your inquiry or application(s). It may also be shared when strictly necessary with partner agencies that are also subject to the provisions of the Act. The personal information supplied in the application package may be used for referrals or notifications as required. Personal information may be used by FrontCounter BC for survey purposes. For more information regarding the collection, use, and/or disclosure of your personal information by FrontCounter BC, please contact FrontCounter BC at 1-877-855-3222 or at:

FrontCounter BC Program Director
FrontCounter BC, Provincial Operation
441 Columbia Street
Kamloops, BC V2C 2T3

☒ Check here to indicate that you have read and agree to the privacy declaration stated above.

REFERRAL INFORMATION

Some applications may also be passed on to other agencies, ministries or other affected parties for referral or consultation purposes. A referral or notification is necessary when the approval of your application might affect someone else's rights or resources or those of the citizens of BC. An example of someone who could receive your application for referral purposes is a habitat officer who looks after the fish and wildlife in the area of your application. This does not apply to all applications and is done only when required.

Please enter contact information below for the person who would best answer questions about your application that may arise from anyone who received a referral or notification.

Company / Organization:	Interoute Construction Ltd.
Contact Name:	Erwin Spletzer
Contact Address:	201-5550 152nd Street Surrey BC V3S 5J9
Contact Phone:	604-575-3473
Contact Email:	erwin.spletzer@terusconstruction.ca

☒ I hereby consent to the disclosure of the information contained in this application to other agencies, government ministries or other affected parties for referral or First Nation consultation purposes.

IMPORTANT NOTICES

- Once you click 'Next' the application will be locked down and you will NOT be able to edit it any more.

DECLARATION

☒ By submitting this application form, I, declare that the information contained on this form is complete and accurate.

OTHER INFORMATION

Is there any other information you would like us to know? No

OFFICE

Office to submit application to: Cranbrook

PROJECT INFORMATION

Is this application for an activity or project which requires more than one natural resource authorization from the Province of BC?

No

APPLICANT SIGNATURE	
Applicant Signature	Date

OFFICE USE ONLY		
Office Cranbrook	File Number	Project Number
	Disposition ID	Client Number



Notice of Work

Volcanic Road - Aggregate Exploration

Tracking Number: 100239536

Applicant Information

If approved, will the authorization be issued to an Individual or Company/Organization? Company/Organization
What is your relationship to the company/organization? Employee

APPLICANT COMPANY/ORGANIZATION CONTACT INFORMATION

Applicant is an Individual or an Organization to whom this authorization Permit / Tenure / Licence will be issued, if approved.

Name: Interoute Construction Ltd.
Doing Business As:
Phone: 604-575-3473
Fax: 604-575-3691
Email: erwin.spletzer@terusconstruction.ca
BC Incorporation Number: 0497648
Extra Provincial Inc. No:
Society Number:
GST Registration Number:
Contact Name: Erwin Spletzer
Mailing Address: 201-5550 152nd Street
Surrey BC V3S 5J9

TECHNICAL INFORMATION

APPLICATION INFORMATION

Type of Notice of Work: Sand & Gravel
Is this a New Permit or an Amendment to an existing permit for this property? New Permit

MINE INFORMATION

Do you have an existing mine number? No
Name of the property: Volcanic Road - Aggregate Exploration
Tenure Numbers:
Crown Grant / District Lot Numbers:
Directions to site from nearest municipality: The Volcanic Road aggregate exploration area (red outline) is located ~14.6 km due north of Grand Forks. To access the site you cross the Granby River bridge on the east end of Grand Forks, and turn left onto Granby Road and follow for ~15.7 km to a point just east of the Granby River Crossing, then you turn right onto North Fork Road and proceed for ~940 m to Volcanic Creek FSR located on the right. Follow Volcanic Creek FSR for ~600 m to the aggregate exploration site (Figure 1).
Geographic Coordinates of Mine: Latitude: 49.1554000 Longitude: -118.4439000
Maximum Annual Tonnage Extracted: 0 tonnes

INFORMATION ABOUT PROPOSED ACTIVITIES

Activities to be undertaken: Mechanical Trenching / Test Pits

FIRST AID

Proposed First Aid equipment on site: Level 1
Level of First Aid Certificate held by attendant: Occupational First Aid Level 1 with Transportation Endorsement

DESCRIPTION OF WORK PROGRAM

If you prefer to upload a document, please enter "see attached document" and attach the document in the "Document Upload" step later in the application under "Other".

Sufficient details of your work program to enable a good understanding of the types and scope of the activities that will be conducted:

All activities will be carried out within the proposed (red outline) area as noted on Figures 1 thru 4. Within the red outline are located the seven (7) test pits having locations as follows:

Test Pit Number	UTM 11U (Easting)	UTM 11U (Northing)
TP No. 1	394586	5445666
TP No. 2	394618	5445720
TP No. 3	394706	5445822
TP No. 4	394794	5445845
TP No. 5	394874	5445899
TP No. 6	394772	5445708
TP No. 7	394872	5445746

Within the (red outline) as noted on Figure 4, the area of testing is fairly open in nature, so trail construction will not be required to access the individual test pit sites. However, it is anticipated that for some pits there may be a requirement to cut a few trees (<10 m3) total, while in other cases the excavator will just be able to walk across the open areas to the test pit sites without any disturbances.

It should be noted that the overall area of interest is defined as upland in nature, with conifer trees aged ~105 years located throughout, and is open in nature (see Figure 4).

To complete the test pit program, the company is looking to rent a small 300 series Cat excavator with rubber tracks for the test pitting. The test pits will typically have dimensions of 1.5 m wide by length of 3 m and 3 m depth. The excavator will remove and stockpile all vegetation (grasses) at each test dig site. The internal spoil will be temporarily stored to the side of the excavation in a stable location. The test pit soil profiles will then be logged, and occasional grab samples will be taken for further inspection and laboratory testing (analysis of quality and suitability for potential use in fill, asphalt paving, etc.). Generally four (4) to six (6) grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

TIME OF PROPOSED ACTIVITIES

Original Start Date:

Proposed start and end date: Sep 3, 2018 to Oct 31, 2018

Please remember that you need to give 10 days notice to the Inspector of Mines of your intention to start work, and 7 days notice of your intention to stop work.

ACCESS

Access presently gated: No

PRESENT STATE OF LAND

Please identify what the present state of the land is where you would like to undertake your activities. If some of the questions do not apply to you please enter n/a in the space provided.

Present condition of the land:	The area is currently (conifer) treed cover, however it is upland and open in nature
Type of vegetation:	Conifer trees and shrubs
Physiography:	The area is sloping hillside without terrain hazards
Current means of access:	Public access and Forest Services Roads
Old equipment:	None
Recreational trails / use:	None

ACCESS TO TENURE

Do you need to build a road, create stream crossings or other surface disturbance that will not be on your tenure? No

LAND OWNERSHIP

Application area in a community watershed: No
Proposed activities on private land: No

Proposed activities on Crown land: Yes
Licence of Occupation: No

Have you applied for a Licence of Occupation? No

Please apply for a Licence of Occupation.

Activities in a park: No

CULTURAL HERITAGE RESOURCES

Cultural Heritage applies to a large spectrum of heritage resources that is defined as "an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people."

The Archaeology Branch of the Ministry of Forests, Land and Natural Resource Operations is responsible for the administration of the Heritage Conservation Act as it applies to archaeological sites. The Archaeology Branch has developed guidelines for companies engaged in natural resource extraction to aid in planning for and avoiding or managing impacts to protected archaeological sites.

Are you aware of any protected archaeological sites that may be affected by the proposed project? No

FIRST NATIONS ENGAGEMENT

In making decisions on authorizations, the government will be fulfilling its responsibility to consult, and where appropriate, accommodate First Nations. The government takes this responsibility seriously and encourages the applicant to engage First Nations early and often as part of any planned development.

Establishing good relations with First Nations who might be affected by a proposed development is a key part of any successful mining operation. The Ministry of Energy and Mines encourages applicants to engage and information share with First Nations that might be affected by a proposed development prior to submitting an application. The earlier in the life of a proposed activity that the avenues of communication are established the greater the likelihood that the relationships formed will be constructive and beneficial to all parties. A lack of information sharing and engagement by the applicant may result in extended timeframes for decision.

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The Consultative Areas Database Public Map Service is an online, interactive mapping tool that allows you to identify First Nations who have treaty rights or asserted or proven rights or title on the land base. More information can be found at <http://maps.gov.bc.ca/ess/sv/cadb/>.

Have you shared information and engaged with First Nations in the area of the proposed activity? No

MECHANICAL TRENCHING / TEST PITS

MAPS

Unless this is an area based application mark the locations of the proposed trenches/pits on the map. You will upload the maps at the document upload step later in the application process.

ACTIVITIES

Click on the "Add Activity" button to add one or more activities. Select your activity out of the list and enter the disturbed area and timber volume.

Activity	Number of sites	Disturbed Area (ha)	Merchantable timber volume (m ³)
Trenches and Test Pits	7	0.01	10.00
Total:		0.01	10.00

RECLAMATION PROGRAM

Describe the proposed reclamation and timing for this specific activity:

The reclamation measures and schedule proposed for the site are aimed at achieving end land use objectives as required by Part 10.7.4 and 10.7.5 of the Health, Safety and Reclamation Code for Mines in BC, 2017.

The reclamation of the test pits will be immediately backfilled after testing, using the same native materials excavated from the pit in opposite order that the pits were dug. Due to bulking factor, the backfill will leave the ground with a mound of about 0.25 m high, however due to natural effects; the mounds will tend to dissipate (flatten) in the short order. The mineral soil, topsoil and vegetation that were stockpiled separately will be returned to their original position(s) to promote revegetation of the disturbed ground.

Estimated cost of reclamation activities described above:

\$2,000.00

TIMBER CUTTING

Total merchantable timber volume: 10.00 m3

Free Use PermitBased on the information provided you will require a Free Use Permit as the total volume of merchantable timber to be cut does not exceed 50 m3. This permit will be automatically applied for as part of this Notice of Work.

EQUIPMENT

Click on the "Add Equipment" button to add one type of equipment at a time. All equipment must comply with the requirements of the Health, Safety and Reclamation Code.

Quantity	Type	Size / Capacity
1	Excavator	Cat 300 Series - 0.3 yd3

SUMMARY OF RECLAMATION

Based on the information you have provided on the previous screens the Summary of Reclamation is:

Activity	Total Affected area	Estimated cost of
----------	---------------------	-------------------

	(ha)	reclamation (\$)
Mechanical Trenching, etc.	0.01	2,000.00
Subtotal:	0.01	2,000.00
Unreclaimed disturbance from previous year:	0.00	
Disturbance planned for reclamation this year:	0.00	
Total:	0.01	2,000.00

OTHER CONTACTS

Please enter the contacts that are applicable to your application.

Contact Info	Type of Contact
Name: Erwin Spletzer Phone: 604-575-3689 Daytime Phone: 604-575-3473 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Mine manager

Contact Info	Type of Contact
Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648 GST Registration Number: Contact Name: Erwin Spletzer Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Permittee

Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648 GST Registration Number: Contact Name: Erwin Spletzer Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Tenure Holder
--	---------------

Name: Interoute Construction Ltd. Doing Business As: Phone: 604-575-3698 Fax: 604-575-3691 Email: erwin.spletzer@terusconstruction.ca BC Inc. Number: 0497648 GST Registration Number: Contact Name: Erwin Spletzer Mailing Address: 201-5550 152nd Street Surrey BC V3S 5J9	Site operator
--	---------------

LOCATION INFORMATION

LAND DETAILS

Do you have the legal description of the land or the civic address then click on 'Add Land Information'.

All applications must include the appropriate maps and applications received without maps will be returned. All maps must be in colour, computer generated, with a scale, north arrow and a detailed legend.

For Mineral, Coal and Placer applications you must provide a minimum of 3 maps:

- A Location Map which must show the location of the property in relation to the nearest community with the access route from the community to the work site clearly marked;
- A Tenure Map which must show the boundaries of the tenure(s) and tenure numbers, at a scale of 1:20,000 or less;
- A Map of Proposed Work which must show topography, water courses, existing access, existing disturbance, contour lines, known cultural heritage resources and/or protected heritage property, at a scale of 1:10,000 or 1:5,000. For site specific applications the location of all proposed exploration activities must be shown; for area-based applications the work area must be shown as a polygon, with the location of all proposed exploration activities for year 1 shown, and shape files provided of the area.

For Sand & Gravel/Quarry applications you must provide a Plan View, Cross and Longitudinal Sections and a Land Title/Crown Land Tenure Map. Details of these requirements are listed in the Sand & Gravel/Quarry Operations Activity sheet.

☒ I have one or more files (PDF, JPG, PNG etc.) with my maps

MAP FILES

Do you have a PDF or image file of a drawn map? You can upload it here.

Description	Filename
Volcanic Road_Detailed Location Map_Fig 2	Interoute_Volcanic Road_Det...
Volcanic Road_Detailed Site Map_Fig 3	Interoute_Volcanic Road_Det...
Volcanic Road_General Location Map_Fig 1	Interoute_Volcanic Road_Gen...
Volcanic Road_Orthophoto Map_Fig 4	Interoute_Volcanic Road_Ort...

☒ I have shape files from my Geographic Information System

SPATIAL FILES

Do you have a spatial file from your GIS system? You can upload it here.

Description	Filename
Volcanic_Poly.dbf	Polygon.dbf
Volcanic_Poly.prj	Polygon.prj
Volcanic_Poly.shp	Polygon.shp
Volcanic_Poly.shx	Polygon.shx

ATTACHED DOCUMENTS

Document Type	Description	Filename
Archaeological Chance Find Procedure	Volcanic Road_CFP_13Feb18	Interoute_Volcanic Road_CFP...
Mine Emergency Response Plan	Volcanic Road_MERP_13Feb18	Interoute_Volcanic Road_MER...

Other	Badger Management Plan	Interoute_Volcanic Road_Bad...
Other	Volcanic_Cover Letter	Interoute_Volcanic Road_Cov...

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Please enter contact information below for the person who would best answer questions about your application that may arise from anyone who received a referral or notification.

Company / Organization:	Interoute Construction Ltd.
Contact Name:	Erwin Spletzer
Contact Address:	201-5550 152nd Street Surrey BC V3S 5J9
Contact Phone:	604-575-3473
Contact Email:	erwin.spletzer@terusconstruction.ca

☒ I hereby consent to the disclosure of the information contained in this application to other agencies, government ministries or other affected parties for referral or First Nation consultation purposes.

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- Once you click 'Next' the application will be locked down and you will NOT be able to edit it any more.

DECLARATION

☒ By submitting this application form, I, declare that the information contained on this form is complete and accurate.

OTHER INFORMATION

Is there any other information you would like us to know? No

OFFICE

Office to submit application to: Cranbrook

PROJECT INFORMATION

Is this application for an activity or project which No

requires more than one natural resource
authorization from the Province of BC?

APPLICANT SIGNATURE	
Applicant Signature	Date

OFFICE USE ONLY		
Office Cranbrook	File Number	Project Number
	Disposition ID	Client Number



Interoute Construction Ltd.

February 13, 2018

Ministry of Energy, Mines and Petroleum Resources
202 - 100 Cranbrook Street South
Cranbrook, BC V1C 3P9

Email: MMD-Cranbrook@gov.bc.ca

Re: Notice of Work (Investigative Use) Application – Volcanic Road – Aggregate Exploration Project

Interoute Construction Ltd. is providing through this notification, pertinent information relating to a Notice of Work (Investigative Use) application for sand and gravel (aggregate) exploration dated February 2018.

Section A – Project Overview

This particular project involves a test pit program that will be undertaken on a section of crown land noted as "That part of District Lot 693, SDYD" located in the vicinity of Volcanic Creek. A point of reference for the test pit area is UTM (11U) 394720E and 5445730N. The Volcanic Road aggregate exploration area (red outline) is located ~14.6 km due north of Grand Forks. To access the site you cross the Granby River bridge on the east end of Grand Forks, and turn left onto Granby Road and follow for ~15.7 km to a point just east of the Granby River Crossing, then you turn right onto North Fork Road and proceed for ~940 m to Volcanic Creek FSR located on the right. Follow Volcanic Creek FSR for ~600 m to the aggregate exploration site (Figure 1).

The current corporate plan anticipates the test pit evaluations to occur over a short period between September 1, 2018 and October 31, 2018, depending on equipment availability.

Section B – Project Description

Part I. – Description of Work

All activities will be carried out within the proposed (red outline) area as noted on Figures 1 thru 4. Within the red outline are located the seven (7) test pits having locations as follows:

Test Pit Number	UTM 11U (Easting)	UTM 11U (Northing)
TP No. 1	394586	5445666
TP No. 2	394618	5445720
TP No. 3	394706	5445822
TP No. 4	394794	5445845
TP No. 5	394874	5445899
TP No. 6	394772	5445708
TP No. 7	394872	5445746

Within the (red outline) as noted on Figure 4, the area of testing is fairly open in nature, so trail construction will not be required to access the individual test pit sites. However, it is anticipated that for some pits there may be a requirement to cut a few trees (<10 m³) total, while in other cases the excavator will just be able to walk across the open areas to the test pit sites without any disturbances.

It should be noted that the overall area of interest is defined as upland in nature, with conifer trees aged ~105 years located throughout, and is open in nature (see Figure 4).

To complete the test pit program, the company is looking to rent a small 300 series Cat excavator with rubber tracks for the test pitting. The test pits will typically have dimensions of 1.5 m wide by length of 3 m and 3 m depth. The excavator will remove and stockpile all vegetation (grasses) at each test dig site. The internal spoil will be temporarily stored to the side of the excavation in a stable location. The test pit soil profiles will then be logged, and occasional grab samples will be taken for further inspection and laboratory testing (analysis of quality and suitability for potential use in fill, asphalt paving, etc.). Generally four (4) to six (6) grab samples, each containing up to 20 kilograms of soil, per test pit will be sufficient.

Part II. - Present State of Land

- The site is not within the ALR.
- The site is within the Regional District Kootenay Boundary (RDKB), designated under the Electoral Area D/Rural Grand Forks - Official Community Plan, Bylaw No. 1555, 2016 and Electoral Area D Zoning Bylaw 1299.
- The zoning for this site is Parks and Recreation, due to an historical UREP/Recreational Reserve that is covered under FLNRO File No. 0235107.
- The company is of opinion this may be American Badger territory, and to this end will operate under a Badger Management Plan (see attached).
- The topography of the site is sloping to the north and east, however there are no hazard terrain issues, and
- The site appeared dry, and with no watercourses that could be affected by the aggregate evaluation program.

Part III. - Reclamation

The reclamation measures and schedule proposed for the site are aimed at achieving end land use objectives as required by **Part 10.7.4** and **10.7.5** of the Health, Safety and Reclamation Code for Mines in BC, 2017.

The reclamation of the test pits will be immediately backfilled after testing, using the same native materials excavated from the pit in opposite order that the pits were dug. Due to bulking factor, the backfill will leave the ground with a mound of about 0.25 m high, however due to natural effects; the mounds will tend to dissipate (flatten) in the short order. The mineral soil, topsoil and vegetation that were stockpiled separately will be returned to their original position(s) to promote revegetation of the disturbed ground.

Interoute does not have any photographs of the aggregate exploration site at this time.

Section C – Additional Information

The site investigation is not expected to have any environmental or socio-community impacts given its small size and/or location. The company will have in place, plans regarding emergency response and fuel management prior to start of operations.

It is expected that Interoute Construction Ltd., will operate and use Best Management Practices approach during the exploration (investigation) work.

If you have any questions, please contact the undersigned by email erwin.spletzer@terusconstruction.ca or (604) 575-3689.

Regards



Erwin Spletzer, Aggregate Manager
Interoute Construction Ltd.
Direct Office Line: 604-575-3473

Attachments



**Mine Emergency Response Plan
(Including Fuel Management & Spill Contingencies)
for the Volcanic Road – Aggregate Exploration Project**

Date Created: February 13, 2018

Date Revised:

Acknowledgment

This Mine Emergency Response Plan has been compiled from various public and private information sources, such as the ***Health, Safety and Reclamation Code for Mines in BC, 2017 (HSRC)***. The information contained herein is consistent with the level of involvement and has been produced from the noted information sources. Any other use of, or reliance on this plan by any third party is at that party's sole risk.

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1.0 INTRODUCTION and PURPOSE

The mine emergency response plan is intended to fulfil the requirements of the *Health, Safety and Reclamation Code for Mines in British Columbia, 2017 (HSRC)*. Under **Part 1.7.1** of the **HSRC**, the manager is required to report fatalities, accidents, and dangerous occurrences to the local Ministry of Energy and Mines (MEM) inspectors (**see Emergency Contact List**). The company will maintain a copy of the necessary reporting form for these incidences at the office in Crescent Valley, BC.

The Mine Emergency Response Plan (hereinafter referred to as the “MERP”) has been prepared to provide key officials, agencies, departments and employees within the mining operation with a “general” guideline to the initial response to an emergency and an overview of their responsibilities during an emergency. For this plan to be effective, it is important that all concerned be made aware of its provisions and that every official, agency, department and employee be prepared to carry out their assigned functions and responsibilities in an emergency.

2.0 SITE and OPERATIONAL INFORMATION

Mine Name: Volcanic Road

Site Map Location(s): Map Sheet No. 082E.018

Lat and Long: 49° 09' 19" N (49.1554) and -118° 26' 38" W (-118.4439)

UTM 11U: 394720E and 5445730N

Specific Directions to the Site: The Volcanic Road aggregate exploration area (red outline) is located ~14.6 km due north of Grand Forks. To access the site you cross the Granby River bridge on the east end of Grand Forks, and turn left onto Granby Road and follow for ~15.7 km to a point just east of the Granby River Crossing, then you turn right onto North Fork Road and proceed for ~940 m to Volcanic Creek FSR located on the right. Follow Volcanic Creek FSR for ~600 m to the aggregate exploration site (Figure 1).

Site Phone No.: None

Mine Manager: Erwin Spletzer

Contact Phone No.: (604) 575-3473

Email Address: Erwin.Spletzer@terusconstruction.ca

Type of Operation: Sand and Gravel (Aggregate) Exploration

Number of Employees on site: 2

Note: Site map attached at end of this Emergency Response Plan, and each member working on-site will receive a copy of this document, and will be instructed in regards to emergency procedures.

3.0 UPDATED EMERGENCY NOTIFICATION CHART

MEDICAL EMERGENCY CONTACTS	Phone Number
Hospital (Grand Forks Regional Hospital)	250-442-2100
RCMP (Grand Forks)	250-442-8281 or 911
BC Ambulance Service	1-800-461-9911
Grand Forks Volunteer Fire Dept.	250-442-8266 or 911
Poison Control	1-800-567-8911
General Emergency Number	911
MINISTRY OF ENERGY, MINES and PETROULEUM RESOURCES (MEMPR)	
MEM (Mines Inspector - Permitting) – Lloyd Bell	1-250-417-6014 (Work)
	1-250-417-7032 (Cell)
email	Lloyd.Bell@gov.bc.ca
MEM (Mines Inspector – Health & Safety) – Jerrold Jewsbury	1-250-417-6007 (Work)
	1-250-420-1860 (Cell)
email	Jerrold.Jewsbury@gov.bc.ca
MEM (Mines Inspector - Permitting) – Glen Hendrickson	1-250-417-6033 (Work)
	1-250-919-2548 (Cell)
email	Glen.Hendrickson@gov.bc.ca
MEM (Mines Inspector - Permitting) – Nadia Bruemmer Hendrickson	1-250-417-6037 (Work)
	1-250-412-3486 (Cell)
email	Nadia.Bruemmer@gov.bc.ca
MEM (Mines Inspector – Health & Safety) – Alan Day	1-250-417-6013 (Work)
	1-250-893-9543 (Cell)
email	Alan.Day@gov.bc.ca
MEM (Cranbrook Office)	1-250-417-6134 (Phone)
	1-250-417-6133 (Fax)
	MMD-Cranbrook@gov.bc.ca
OTHER PROVINCIAL CONTACTS	
Worker's Compensation Board (WCB)	1-604-561-3700
Emergency Management BC (EMBC) (24 hour - Spills)	1-800-663-3456
Conservation Officer	1-800-663-9453
SPILLS AND DISASTER CONTACTS	
Forest Fire Reporting	1-800-663-5555
Provincial Emergency Program (Spills)	1-800-663-3456
Environment Canada (Emergency Reports)	1-604-666-6100
COMPANY CONTACTS	
Erwin Spletzer (Mine Manager)	1-604-575-3473
email	erwin.spletzer@terusconstruction.ca

4.0 HAZARD ANALYSIS OF OPERATION

- Fire on Equipment;
- Environmental;
- Injury to workers;
- Equipment failures; and
- Fuel Spills

The above is only a limited list of potential hazards; therefore this document is designed to be a living document that will grow with the mining operation. Annual reviews of risk hazards must and will be completed by a trained and authorized company representative.

5.0 EMERGENCY EQUIPMENT

There will be a specific location and certain equipment utilized at the mine site, such as:

- Level 1 Transport First Aid Equipment;
- Cell phones – Located on personnel on-site, as well as phone in the main office;
- Fire equipment on-site for fires – Located in shop;
- Spill Response Equipment; and
- Fire extinguishers on each piece of machinery.

All personnel on-site will receive basic fire fighting training, and all employees and contractors will be required to have at a minimum Level 1 and Transportation First Aid Certification to work on the site.

The company or its contractors will supply the first aid equipment, supplies and facilities that must be kept clean, dry and ready for use, and be readily accessible at any time a worker works in the workplace. The company will comply with **Part 33** of the Occupational Health and Safety Regulation, Work Safe BC as a means to meet **Part 3.6.1** of the **HSRC**.

6.0 PROCEDURES FOR HANDLING MEDICAL EMERGENCIES

The following assessment will be necessary during any medical emergency whether it is minor or life threatening the first aider will use the following simplified **Priority Action Approach**

1) **Scene Assessment** – Mechanism of Injury? Hazards? Environment?

- | | | |
|------|--------|---|
| I. | First | Observe for bleeding/deformities/eyes |
| II. | Second | Observe the skin/level of consciousness – moving/verbal |
| III. | Third | Spinal Precautions |
| IV. | Fourth | Airways – With C-spine: open/clear – manually stabilize head
Breathing – rate and quality
Circulation – radial/carotid, skin – colour, temperature and condition |
| V. | Fifth | Rapid Body Search (RBS) – rapid/through life threatening |
| VI. | Sixth | Warmth - blankets/reassurance/support Injuries |

2) **Transport Decision** – Load and Go (Hospital and/or Call for an ambulance)/Stay and Play (Administer First Aid).

3) **Communicate to Emergency Services** (**Grand Forks Regional Hospital**) or call for help from other persons on-site.

- 4) **Secondary Assessment** Vital, History, Head to Toe Evaluation
- 5) **Definitive Treatment** Ice, Dressings, Splitting, Wound Cleaning, etc.

Typical first aid scenarios that you might encounter during operations– so be prepared for this and know how to treat them

- Bleeding from cuts and abrasions;
- Slips and Falls – Injuries such as strains, sprains and broken bones (fractures) or concussions;
- Burns; and
- Allergic Reactions

7.0 PROCEDURES TO FOLLOW WHEN CALLING FOR A PROVINCIAL AMBULANCE

When instructed by the First Aid Attendant or the Direct Supervisor, follow these steps.

Call AMBULANCE: Phone 1 - 800 - 461 – 9911 or 911

When asked "For what place?" answer **"Grand Forks – Volcanic Road"**.

State that "We have life threatening injuries and request vehicle or helicopter evacuation.

There will be a number of questions that will asked including:

"Your exact location?"

Specific Directions to the Site: The Volcanic Road aggregate exploration area (red outline) is located ~14.6 km due north of Grand Forks. To access the site you cross the Granby River bridge on the east end of Grand Forks, and turn left onto Granby Road and follow for ~15.7 km to a point just east of the Granby River Crossing, then you turn right onto North Fork Road and proceed for ~940 m to Volcanic Creek FSR located on the right. Follow Volcanic Creek FSR for ~600 m to the aggregate exploration site (Figure 1).

Site Map Location(s): Map Sheet No. 082E.018
Lat and Long: 49° 09' 19" N (49.1554) and -118° 26' 38" W (-118.4439)
UTM 11U: 394720E and 5445730N

"What is the nature of the problem?"

"What is the number of patients?"

"What is the age of the patient(s)?"

"What is the level of consciousness of the patient(s)?"

"What is the breathing status of the patient(s)?"

Additional questions may follow:

If you are calling for an air ambulance then you must make ready a helicopter landing pad. This area must be clearly marked and cleared of debris that may damage any rotors or result in flying objects. A guard must be posted in this area and all traffic in the vicinity stopped.

The helicopter will be looking for this area and can be guided into the landing area.

8.0 PROCEDURES FOR HANDLING HYDROCARBON SPILL EMERGENCIES

Action Items for Initial Spill Identification, Notification and Assessment

- Identify spilled material;
- Safety of personnel;
- Determine and note initial spill description;
- Notify EMBC 1-800-663-3456, if required;
- Description of spill into the receiving environment;
- Determine equipment needed for initial containment, recovery, in addition, clean-up; and
- Initial spill response for combustible products with actions to be undertaken;

Initial Spill Response for Combustible Products with actions to be undertaken

- Act Fast & Think Safety;
- Containment & Recovery; and
- Disposal and Site Restoration

Spill Response Strategies

The proposed spill response strategies constitute the following:

- Notify key personnel who have emergency response duties;
- Initial assessment of the spill to understand the nature and extent of the situation;
- Mobilization of resources needed to address the spill;
- Do not handle hazardous waste without sufficient protective gear;
- Evaluate method to control activities;
- Initiation & development of safety & environmental monitoring to identify potential effects of the spill;
- Reporting to management, regulatory agencies, personnel and the public; and
- Development of an action plan for cleanup and remediation.

Spill Prevention Procedures

- The supervisor shall review any proposed activity out of the ordinary that could pose a potential for environmental contamination;
- Any worker who is aware of any potential or actual release of a pollutant to the environment must first attempt to prevent the release, then immediately contact their supervisor;
- All work shall be planned to limit the uncontrolled release of pollutant materials to the environment, so far as is practical;
- Approved containers shall be used for the transport and storage of potential pollutants. All such containers shall be labeled as to the contents and the potential hazard; and
- Personnel will receive appropriate training in the use of environmental cleanup equipment for their area of operations.

9.0 FUEL MANAGEMENT AND SPILL CONTINGENCY PLAN (FMSCP)

This Fuel Management and Spill Contingency Plan (FMSCP) has been developed under the umbrella of “Best Management Practices”, and provides emphasis on reducing risks of spills given that fuel will not be stored or transported on-site. Regarding spill contingency, the plan includes mechanisms for initiating and carrying out the required notifications, spill containment, clean-up and remedial actions.

In regards to the spill contingency plan, it was developed in accordance with the BC Guidelines for Industrial Emergency Response Contingency Plans (1992).

It is expected that all fueling will occur from a small tidy tank located inside the box of the company’s and/or contractor’s pick-up.

The following information provided below was acquired from the document “Fuel Tanks and Refueling Stations for Diesel and Gasoline, Rev 05/10/11, Fraser Lake Sawmills”, it covers the level of fueling activities expected for the sand and gravel operations.

Mobile Equipment Refuelling:

- Only authorized personnel may operate the dispensers. (FC 4.6.8.4)

Mobile Fuelling Procedures: (FC 4.6.8.6)

- Ensure vehicle engine is shut off.
- Ensure no open sources of ignition or smoking within 7.5 m.
- Put fuel nozzle into the fuel tank fill tube.
- Turn on the power for the dispensing pump.
- Do not use any object or device that is not an integral part of the fuel nozzle to maintain the flow of fuel. Report any leaks.
- To the extent possible, observe the fuel piping, dispensing pump, and hose assembly during fuel transfer to determine if there are any leaks present.
- Operator must remain in attendance during fuel dispensing to vehicles.
- Do not overfill the fuel tank.
- When tank is full, shut off the power to the dispensing pump.
- Remove the dispensing nozzle and replace in the holder.

Emergency Response: (FC 4.1.6.3 & FC 4.6.9.2)

- All reasonable steps shall be taken to recover escaped fuel and to remove or treat contaminated soil. (FC 4.1.6.3)
- See above spill response strategies.

Emergency Procedures:

- Take action only if safe to do so.
- In the event of a spill shut off the fuel nozzle and pump.
- Contact additional resources from Grand Forks, if necessary.
- Use spill response equipment such as absorbent materials to control the spill and to collect the spilled fuel.
- Arrange for the collection and disposal of used absorbent materials.

The operator will immediately contain, and remediate any spill of hydrocarbon or other deleterious substances. Any such occurrence will be reported to the District Inspector of MEMPR and to EMBC in accordance with the Spill Reporting Regulation of the **Environmental Management Act**. Contaminated materials will be disposed of in a manner acceptable to the Ministry of Environment.

It is expected that emergency spill response kits will be maintained on-site by the company. A list of required emergency spill response equipment is included below.

Suggested Spill Response Equipment for the Volcanic Road – Aggregate Exploration Project

<i>Spill Kit Guidelines</i>	
<i>Recommended Location of Kit</i>	<i>Recommended Spill Kit Contents</i>
On all heavy equipment and pickups	<ul style="list-style-type: none"> • 5 - 18"X18" absorbent pads or equivalent • Round nose shovel or equivalent • <i>Heavy Duty plastic garbage bag or equivalent</i>
Pickup truck carrying auxiliary fuel greater than 100 liters	<ul style="list-style-type: none"> • Round nose shovel or equivalent • 10 - 18"X18" absorbent pads or equivalent • 2 - 3"x48" absorbent socks • 1 - large container of bio-remediation agent (i.e. Oil Gator) • 1 - small container of stop leak putty or crystals (i.e. Plug N' Dyke) • Several heavy duty plastic garbage bags or equivalent; and • <i>Personal Protective equipment (not part of kit)</i>
<i>(After Galore Creek Project – Spill Response Plan v 1.0 May 2007)</i>	

Legend

Water - Rivers, Creeks, Sho
(1:20,000)

FCODE

- Canal
- Dam
- Dam - Beaver
- Ditch
- Falls
- Flume
- Rapids
- River or Stream - Definite
- River or Stream - Dry
- River or Stream - Indefinite
- River or Stream - Left Bank
- River or Stream - Right Bank
- Dam - section Base
- Flooded Land - Inundated
- Lake - Definite
- Lake - Indefinite
- Lake - Intermittent
- Reservoir - Definite
- Reservoir - Indefinite
- Reservoir - Intermittent
- Marsh
- Swamp
- Glacier
- Icefield

0 1.63 3.3 km

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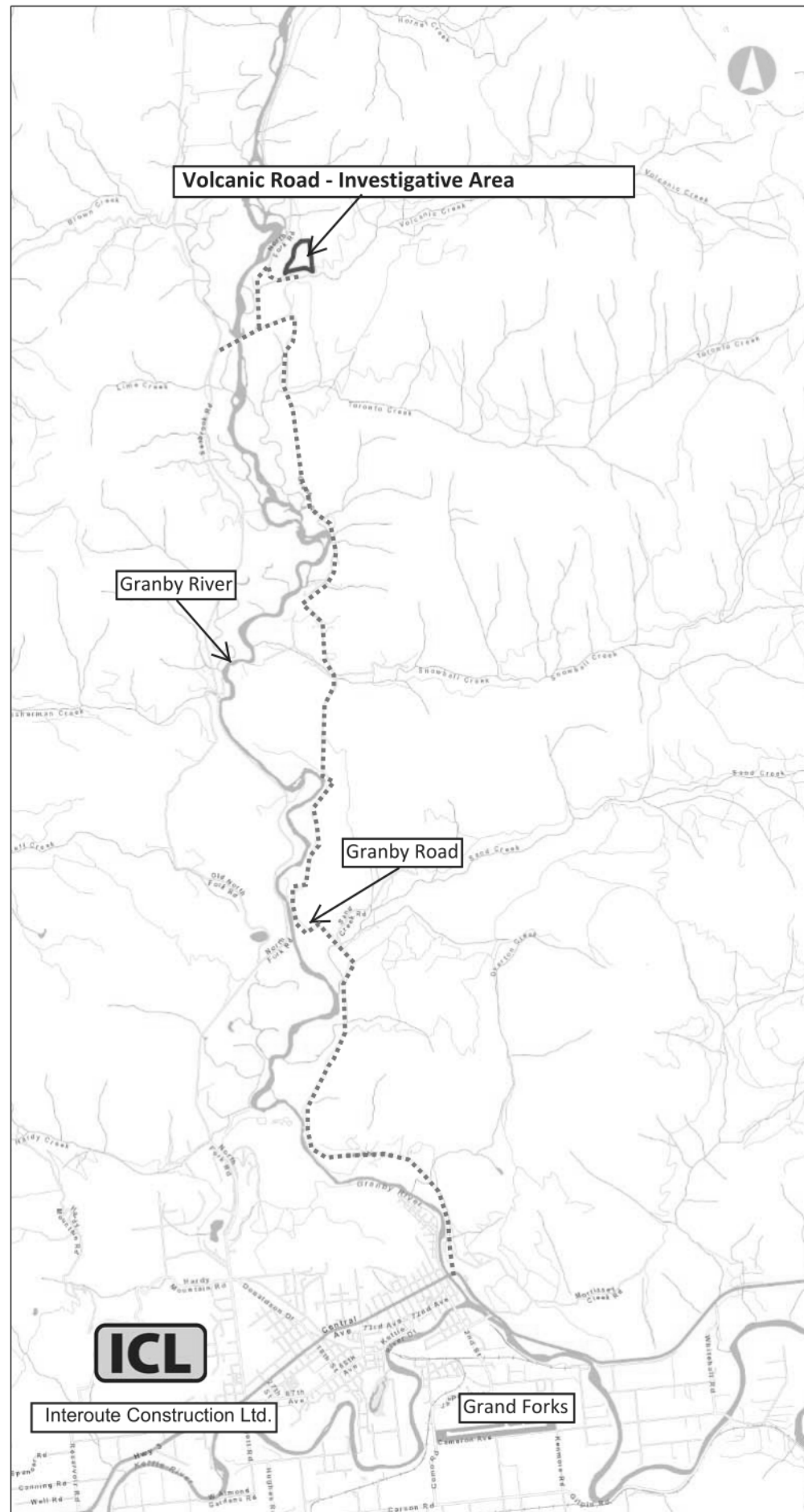
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Key Map of British Columbia


Volcanic Road - Notice of Work Application - Aggregate Exploration Project - General Location Map Figure 1