BRITISH COLUMBIA
ARCHAEOLOGICAL IMPACT ASSESSMENT
INTERIM REPORT FORM

1. REPORT TITLE

2020-0176-010, AIA of BCTS SNBA block RAI20_04

2. MANAGEMENT SUMMARY

2.1. Protected HCA Sites
N/A
2.2. Brief Overview of Study
BCTS SNBA requested an archaeological assessment within proposed forestry cut block RAI20_04. Ecofor conducted a detailed pre-field review, followed by an archaeological impact assessment (AIA) survey within the development. The survey focused primarily on the areas identified during the pre-field review as having high archaeological potential—around unnamed tributary streams of Kilner Creek in the centre of the block and portions of the assessment buffer.
2.3. Results
No archaeological sites were identified, no subsurface testing was conducted, and no areas of potential (AOP) were identified. No culturally modified trees (CMTs) were found. The development area has been assessed as having low archaeological potential due to continuously sloping and poorly drained terrain that lacks defined landform features.
2.4. Management Recommendations
No further archaeological work is recommended provided development boundaries do not change significantly.

3. ADMINISTRATIVE INFORMATION

3.1. Permit Holder:	Greg Holland	
3.2. Permit Holder Affiliation:	Ecofor Consulting Ltd. 1321 Noranda Rd E Prince George, BC V2K 5R6	Phone: 250-960-1155 ext. 237 Email: greg@ecofor.ca
3.3. Proponent Contact:	David Zurevinski	
3.4. Proponent Affiliation:	BCTS Stuart Nechako Business Area 1560 Highway 16 East Vanderhoof, BC V0J 3A0	Phone: 250-567-6331 Email: david.zurevinski@gov.bc.ca
3.5. Interim Report Author(s):	Emily Stach	
3.6. Interim Report Date (dd/mm/yy) & Version:	29/01/21, V1	
3.7. Notification of Work Date:	15/05/20	
3.8. OGC Ref No.:	N/A	

4. PROPOSED DEVELOPMENT

4.1. Description:	Proposed block for timber harvest RAI20_04 (235.7 ha) with two associated proposed access roads and a 250 m assessment buffer. The roads and block boundaries were

	flagged at the time of the assessment. An assessed area for the AIA is illustrated on Figure 3.
4.2. Location:	Rainbow Operating Area, Stuart Nechako Natural Resource District A point near the centre of RAI20_04 is located 6.5 km northeast of Nendatoo Lake, 15.7 km southeast of Kalder Lake, and 13.3 km north of Jaw Lake (see Figure 1). To access the block from the intersection of Tachie Road and Germansen Landing Road near Fort St. James, travel north on Germansen Landing Road for 58.2 km then turn right (northwest) onto the Rainbow FSR. Continue for 3.25 km then turn right (east) onto an unnamed road. Follow for 2.5 km then turn right (east) onto an unnamed road, then drive or UTV for 5 km to block. UTM coordinates of block centre: NAD 83, Zone 10N, 434590 E, 6087391 N NTS Mapsheet (1:50,000): 93K/16 BCGS Mapsheet (1:20,000): 93K.100

5. FIELD CREW

Table 1. Field Crew

Date (dd/mm/yy)	*Field Director (On site? Y/N)*	*Field Supervisor*	*Other Field Personnel*
01-02/10/20	Johnny Huynh (N)	Brianne Harris	David Quewezance (Nak'azdli Whut'en)

6. ARCHAEOLOGICAL METHODS & RESULTS

6.1. Pre-field Methodology

☒	*Archaeological potential and sites are indicated on Figures 1 and 3*
☒	*An AOA and/or archaeological predictive model exists for the study area* *Details:* The Fort St. James Forest District Archaeological Predictive Model (Marshall and Bond 2004) does not indicate any areas of high potential in the block or along the proposed access roads. Small areas of high potential are indicated in the southeastern assessment buffer surrounding hydrological features.
☐	*Previous field studies influenced this assessment* *Details:* N/A
☒	*Review of Provincial Heritage Register (RAAD)* *Date Accessed:* 05/06/20
☒	*Review of Vegetation Resources Inventory (VRI) Data* *Details:* VRI data indicates a tree cover consisting of age class 6-8 (101-250 years) Engelmann spruce and sub-alpine fir. Portions of the road assessment buffer have been previously logged and VRI indicates age class 2 (21-40 years old) pine, hybrid spruce, and Engelmann spruce.
☒	*Pre-field Potential Assessment* *Details:* Topographical analysis through Terrain Resources Information Management (TRIM) contour data indicate the block is located on moderately to steeply sloping terrain within a hilly region. Overall, potential in the area is considered to be low due to the sloping terrain and a lack of hydrological feature features in most areas. However, high archaeological potential is predicted in the centre of the block and portions of the road buffer, in association with Streams C, G, and H (unnamed tributaries of Kilner Creek to the southeast) where TRIM contours indicate possible breaks-in-slope that overlook the streams.

	Potential for pre-1846 CMTs is considered to be low throughout the block as VRI data indicates no presence of mature or old growth pine trees.

Table 2. Archaeological Sites in the Vicinity of the Study Area

Borden No.	*Distance & Direction from Proposed Development*	*Site Type*	*Permit No. of Previous Visits*	*Site in Conflict (Y/N)*
No sites within a 5 km radius of the block.				

6.2. In-field Methodology

6.2.1. Subsurface Testing

☐	Subsurface test measurements are a minimum of 35 x 35 cm, excavated by shovel, screened through 6 mm mesh, and backfilled. Date Accessed: N/A
☐	Describe if other: N/A

6.2.2. Pedestrian Survey

Number of Crew Members:	Crew consisted of 2 members.
Crew Spacing and Visibility:	Crew members were spaced 5-20 m apart. Visibility ranged from 10-40 m throughout the assessment area.
Other:	Crew members conducted transects which inspected surfaces for sites and areas of potential. The survey followed predicted archaeological potential (see Section 6.1 above), hydrological features, landforms, arbitrary compass bearings, proposed roads, study area extents, and flagged block boundaries. Pedestrian transects are shown on Figures 2 and 3.

6.2.3. Site Recording

☐	CMTs were flagged and recorded. Describe: N/A
☐	Trail(s) recorded. Describe: N/A
☐	Other. Describe: N/A

6.3. In-field Observations

6.3.1. Hydrology & Associated Landforms

Stream B is not flowing and is located within an east-southeast aspect draw that the associated terrain follows with a gentle to moderate slope (Photo 1).

Stream F is an undefined stream bed in a low-lying saturated area. The surrounding terrain has a gentle to moderate grade continuous slope towards Stream C.

Stream G is within a small gully that has a moderate northeast aspect slope, which begins near the south end of the stream (Photo 2). The surrounding terrain slopes continuously and is poorly drained.

Stream H is in a low-lying saturated area with no flowing water. The surrounding terrain is poorly drained and level to gently sloping to the northeast (Photo 3).

Stream I is indistinguishable from the surrounding terrain, which is poorly drained and has a continuous gentle to moderate east-southeast aspect slope (Photo 4).

Stream N is a low-lying wet area with pooled water. The surrounding terrain has a gentle continuous slope on either side with northwest and southeast aspects.

The remainder of the hydrological features shown on Figures 2 and 3 were not observed during the assessment as they did not exist or were located in untraversed areas.

6.3.2. Topography

Along the proposed road in the southern portion of the block, the terrain is continuously side sloping with a northeast aspect slope (Photo 5). The terrain begins to undulate to the east with no breaks in slope. The grade of this slope is generally moderate to steep, with some level to gently sloping low-lying areas. The mid-southern portion has a gentle continuous southwest to southeast aspect slope, that changes to a continuous moderate northeast aspect towards the centre of the block. The northern portion of the block is characterised by a moderate continuous south aspect side slope with the northwest section changing to a gentle to moderate south-southwest aspect slope. The terrain in the northeast section has a continuous gentle to moderate southeast aspect slope which becomes steeper with an east aspect slope further to northeast (Photo 6). Terrain throughout the block is poorly drained and no defined landforms were observed during the survey.

6.3.3. Vegetation

The overstory was observed to be consistent with VRI data. The understory is dominated by wet indicator plants and includes alder, willow, five leaved bramble, fireweed, gooseberry, rose, mountain ash, devil's club, thimbleberry, and queen's cup.

6.3.4. In-field Assessed Archaeological Potential

In contrast to the pre-field review, the entirety of the assessed area was evaluated to have low archaeological potential based on the continuously sloping, featureless, and poorly drained terrain that was encountered during the assessment. The areas surrounding Stream C, G, and H were predicted during the pre-field review to have high potential based on the TRIM suggested presence of breaks-in-slope in these areas, but crew members instead observed continuously sloping, featureless terrain.

Areas not traversed during the survey include the southwestern extent of the block and centre portions surrounding Stream C. These areas were assessed to have low potential based on the pre-field review and continuously sloping, poorly drained, and featureless terrain observed throughout the remainder of the assessment area. The in-field assessment of areas predicted to have low potential were consistent with the pre-field review.

The potential for pre-1846 CMTs was assessed to be low as no CMTs were encountered during the survey.

6.4. Results

6.4.1. Subsurface Testing

No subsurface testing was conducted within the block.

6.4.2. Untested Areas of Potential

No untested areas of potential are present within the block.

6.4.3. Sites Not Protected by the HCA

No traditional use, post-1846, or modern sites were identified during the survey.

7. ARCHAEOLOGICAL SITE SUMMARY

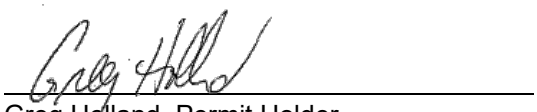
No archaeological sites were identified during the assessment.

8. DISCLOSURE STATEMENT & SIGNATURE

Although every attempt was made to locate and record all archaeological and cultural heritage features within the specified survey area, the possibility exists that materials may have been missed. If any unidentified archaeological or cultural heritage materials are encountered during development activities, work in the vicinity must stop and the Archaeology Branch, relevant First Nations, and/or the Ministry of Forests, Lands and Natural Resource Operations must be informed. These agencies will then provide direction as to an appropriate course of action to take regarding management of the materials.

It was not the intent of this survey to identify, evaluate, or comment on the presence or absence of aboriginal rights in the survey area. Completion of this survey does not "abrogate or derogate from Aboriginal treaty rights" (Heritage Conservation Act Sec. 8). The survey was conducted without prejudice to First Nations' treaty negotiations, Aboriginal rights, or Aboriginal title.

As permit holder, it is my opinion that the field work and reporting were completed in accordance with the Heritage Inspection Permit issued by the Archaeology Branch.



Greg Holland, Permit Holder

9. REFERENCES CITED

Marshall, Amanda and Tara Bond. 2004. *Fort St. James Forest District Archaeological Predictive Model Revision Project: Final Report*. Ecofor Consulting Ltd., Fort St. James, BC.

10. REPORT DISTRIBUTION

Contact	Affiliation
Damian Hind	Archaeology Branch
David Zurevinski	BCTS SNBA
Kelley Williams	Binche Whut'en
Robin Young, Clara Jack	Nak'azdli Whut'en
Natural Resources Dept	Tl'azt'en Nation

11. SHAPEFILES

☒ Study area shapefiles have been sent to archsiteform@gov.bc.ca

12. APPENDICES

☒ Appendix A – Photos (required)
☐ Appendix B – Subsurface Test Log (where applicable)
☐ Appendix C – Sites Not Protected by the HCA (where applicable)
☒ Appendix D – Figures (per Archaeology Branch Mapping and Spatial File Standards released November 1, 2017)

- ☒ General Location Map (required)
- ☒ Midrange Location Map (required)
- ☒ Detailed Results Map (required)
- ☐ Detailed Site Map (where applicable)

APPENDIX A – PHOTOS

Photo 1. Stream B and associated terrain, view south.

Photo 2. Stream G and associated terrain, northeast view.

Photo 3. Stream H and associated terrain, north view.

Photo 4. Stream I and associated terrain, view east.

Photo 5. Proposed road area in the southern portion of the block, northeast view.

Photo 6. Northeast block terrain, view southeast.

APPENDIX D – FIGURES

The following maps are included in Appendix D:
Figure 1. General Location Map
Figures 2a/2b. Midrange Location Maps
Figure 3. Detailed Results Map

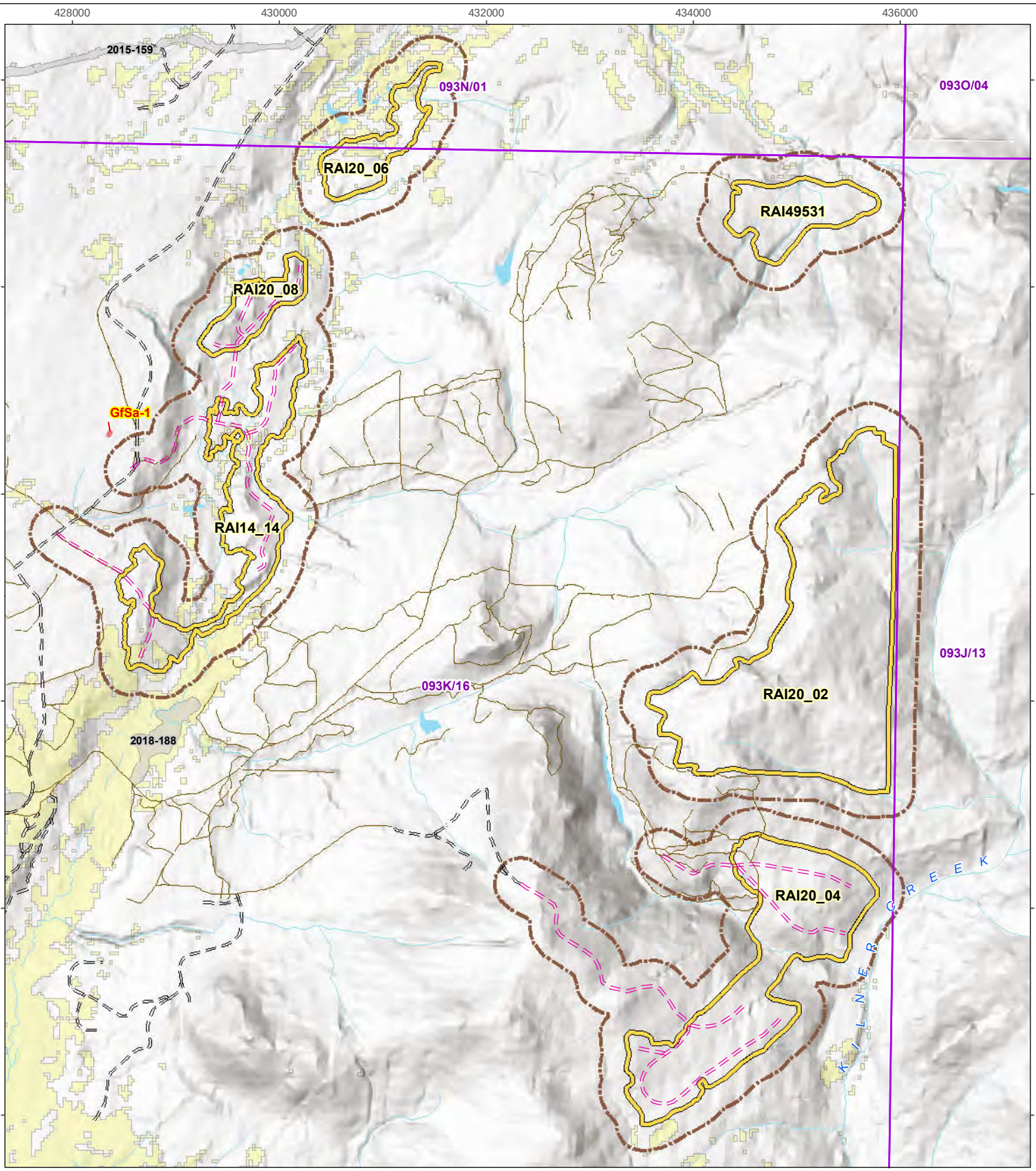


FIGURE 1
GENERAL LOCATION MAP

BCTS BC Timber Sales

ECOFOR natural and cultural resource consultants

Ecofor Consulting Ltd. May 14, 2020 (JM)

N

1:50,000 (at original document size of 8.5 x 11")

0 1 2Km

NAD 1983 UTM Zone 10N

Disclaimer: This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The base data layers have been obtained from the British Columbia Geographic Warehouse (BCGW). Archaeological Site Boundaries were obtained by the Ministry of Forests, Lands and Natural Resources Operations Archaeology Branch's RAAD Sites. Service Layer Credits: Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GSI and the GIS User Community

- Proposed Road
- Road - Resource
- Road - Other
- Stream
- Waterbody
- Proposed Block
- Assessment Buffer (250m)
- Previously Assessed Block
- High Archaeological Potential (FTSJ)
- Previously Recorded Archaeological Site
- NTS 50K GRID

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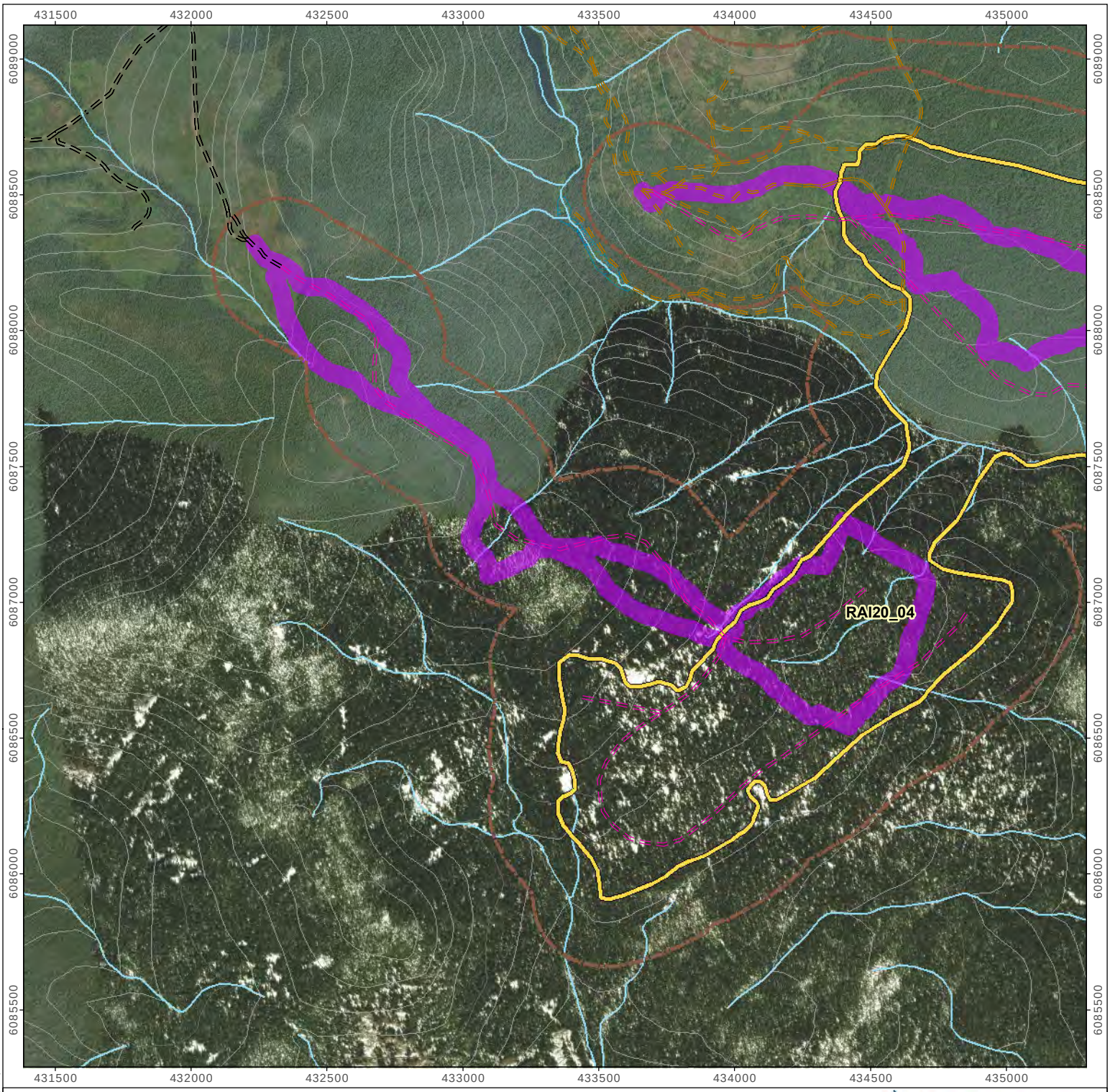

FIGURE 2a. MIDRANGE LOCATION MAP

RAI20_04 Map 1 of 2

BCTS BC Timber Sales

ECOFOR

Ecofor Consulting Ltd. October 26, 2020 (ED)

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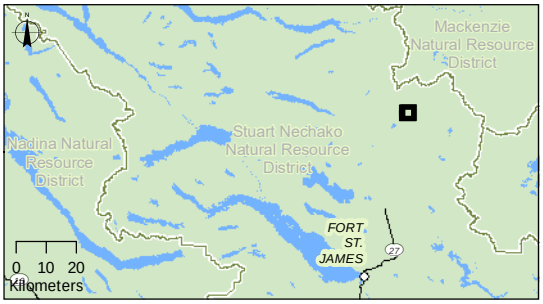
Meters

NAD 1983 UTM Zone 10N
BCGS MAPSHEET:93K.100
NTS MAPSHEET: 93K/16

Permit Number: 2020-0176

EPN: 2020-1203-015

- Contour (100m)
- Contour (20m)
- Stream - Definite
- Stream - Indefinite
- Waterbody
- Wetland
- Road - Resource
- Road - Other
- Proposed Road
- Assessment Buffer (250m)
- Adjacent Block
- Proposed Block
- Survey Transect Area



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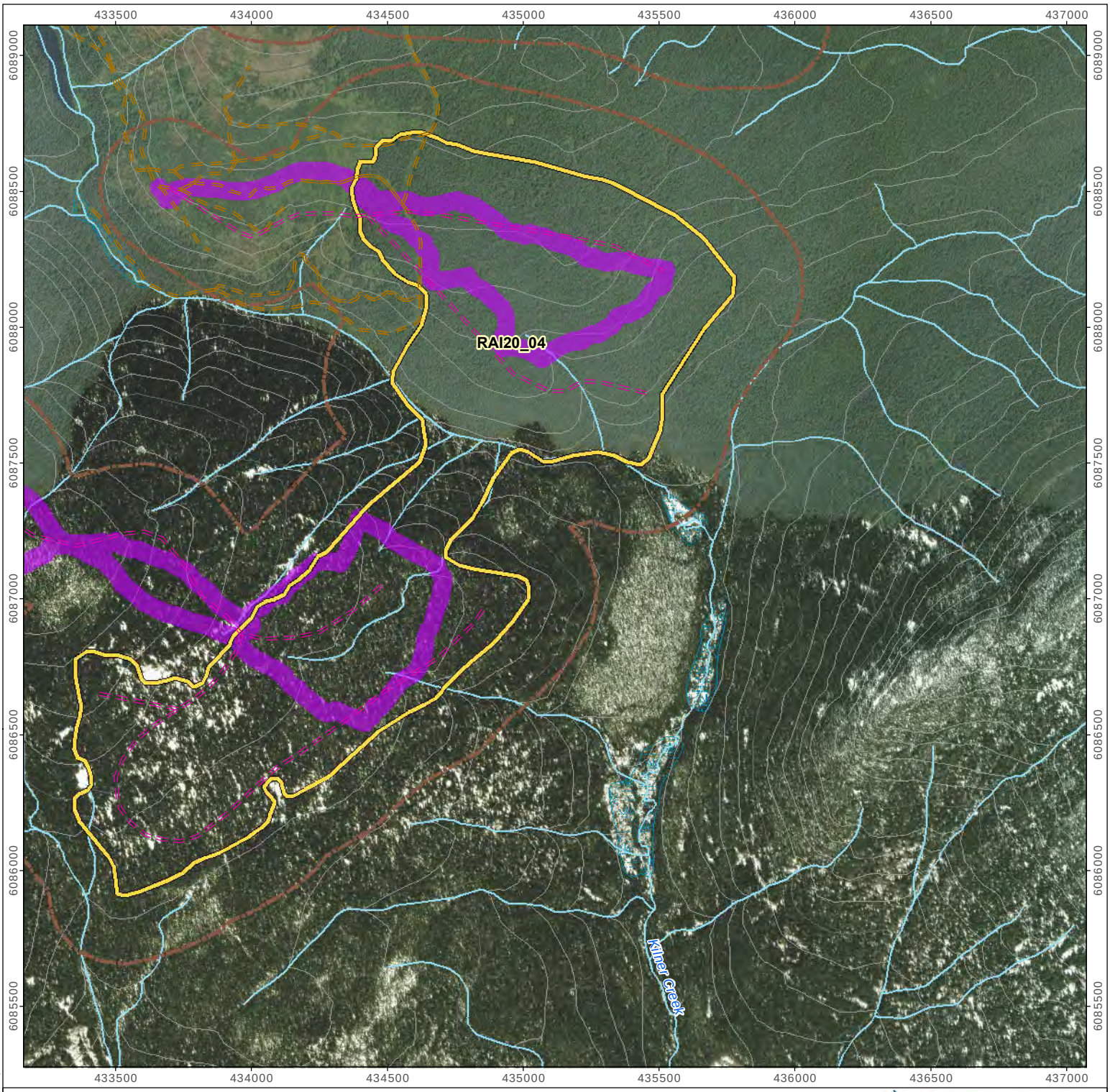

FIGURE 2b. MIDRANGE LOCATION MAP

RAI20_04 Map 2 of 2

BCTS BC Timber Sales

ECOFOR

Ecofor Consulting Ltd. October 26, 2020 (ED)

N

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0 400 800

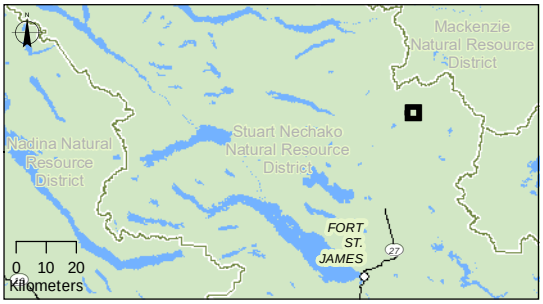
Meters

NAD 1983 UTM Zone 10N
BCGS MAPSHEET:93K.100
NTS MAPSHEET: 93K/16

Permit Number: 2020-0176

EPN: 2020-1203-015

- Contour (100m)
- Contour (20m)
- Stream - Definite
- Stream - Indefinite
- Waterbody
- Wetland
- Road - Other
- Proposed Road
- Assessment Buffer (250m)
- Adjacent Block
- Proposed Block
- Survey Transect Area



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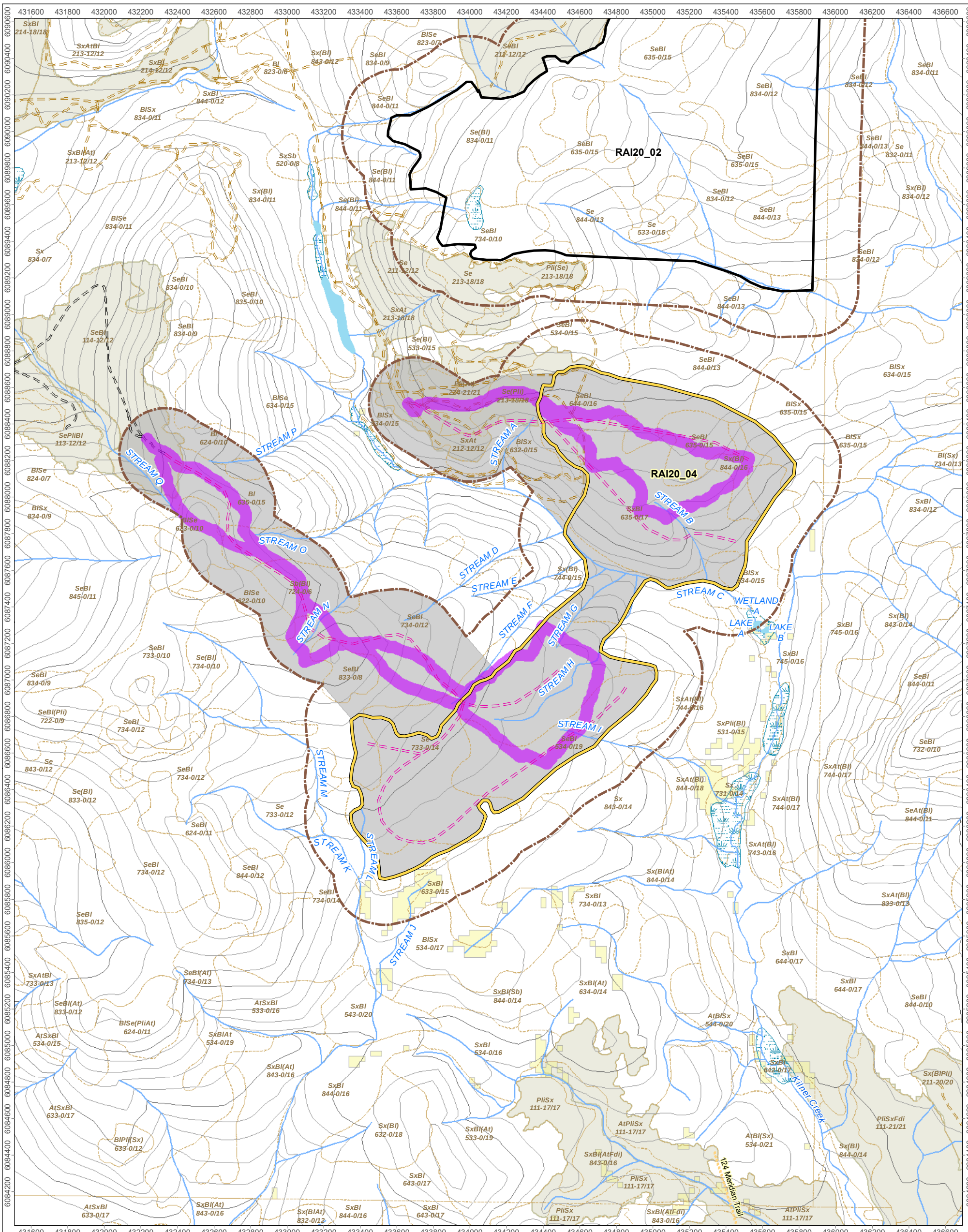

FIGURE 3
ARCHAEOLOGICAL RESULTS MAP
RAI20_04

BCTS BC Timber Sales

ECOFOR

Ecofor Consulting Ltd. December 3, 2020 (ED)

- Contour (100m)
- Contour (20m)
- Stream - Definite
- Stream - Indefinite
- Waterbody
- Wetland
- Proposed Road
- Assessed Area
- Adjacent Block
- Proposed Block
- Survey Transect Area
- Assessment Buffer (250m)
- Road - Resource
- Road - Other
- Trails - Estimated
- Forest Cover (VRI)
- Cutblock
- High Archaeological Potential (FTSJ)

N

1:20,000

0 500 1,000m

NAD 1983 UTM Zone 10N
BCGS MAPSHEET: 93K.100
NTS MAPSHEET: 93K/16

Block ID:	RAI20_04
Permit Number:	2020-0176
EPN:	2020-1203-015
Easting:	434590
Northing:	6087391
Area (Ha):	235.7
Culture Area:	Interior Plateau

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