August 4, 2016 1654325/2000

Highway Engineering Services
Parks Canada,
Government of Canada
PO Box 900,
Banff, Alberta,
T1L 1K2

Attention: Michael Stefanyk, B.Sc.
Environmental Assessment Scientist

RE: LETTER OF CLEARANCE: Archaeological Impact Assessment; Rogers Pass National Historic Sites (RP NHS) within Glacier National Park (GNP) Canada Federal Infrastructure Improvements

1 INTRODUCTION

This Letter of Clearance details the preliminary results of the Archaeological Impact Assessment (AIA) conducted prior to the Rogers Pass National Historic Sites (RP NHS) within Glacier National Park (GNP) Canada Federal Infrastructure Improvements. The Rogers Pass, as indicated in the 1998 Commemorative statement (Parks Canada 1998), is a National Historic Site significant in the interpretation of the early exploration of passes through the Mountains, the history of the Canadian Pacific Railway, its role in the formative era in Canada's national transportation system, and the construction and operation of the TransCanada Highway (TCH). The RP NHS and much of the TCH corridor occurs in a tightly constrained valley bottom containing numerous historic archaeological sites, including the original 1885 railroad grade;

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railway stations, sidings, snowshed remains; and bridges, trestle and culvert remains. It is also quite likely that the remains of railway construction, logging and tie camps, historic trails and roads, and construction camps associated with the building of the TCH also exist in this narrow corridor. As such, any development in this constrained and historic landscape needs to first assess potential impacts on potential and existing cultural resources.

It is against this background that the Statement of Work (SOW) for the heritage resource work for the RP NHS, TCH Improvements was written. The SOW was divided into three components:

I. Archaeological AIA and Monitoring: Illecillewaet Curve TCH Highway Widening

II. Archaeological Site Updates: Sites Paralleling the TCH Rogers Pass NHS,

III. Archaeological Monitoring: Rogers Pass Stormwater and Grading Upgrades (411T5 & 1247T)

The first component involved the pedestrian survey and shovel testing of the tree clearing boundary (the area to be potentially disturbed by the TCH highway widening activities). The portion of the TCH between Glacier Siding and the Rogers Pass Monument was cleared of trees in late April/ early May, but not grubbed. The portion between the Rogers Pass Monument and the Hermit Hut Trail head is still to be cleared of trees and grubbed at a future date. The focus of this component was primarily prospection for pre-contact sites, but the assessment of a number of heritage resources sites was also included. The assessment of these heritage resource sites was primarily to determine proximity to the area of impact of known historic sites/features (1247T, 411T05, 411T06, 411T08, 411T42). The second component involved relocating sites and updating of site forms and report records for a selection of sites (n=24) located parallel and in close proximity to the TCH. The third and final component will involve archaeological monitoring during ground disturbance in the vicinity of 23T, 411T05, 411T31, 411T50, 529T, 1247T. To date no grubbing or additional tree removal has occurred, and as such, the final component (monitoring during ground disturbance activities), has not occurred. Only the fieldwork portions of Component I and II have been completed to date. The work was conducted under Parks Canada Agency *Research and Collection Permit* GLA-2016-21558, issued to Patrick Young of Golder Associates Ltd. (Golder). The fieldwork was completed by Golder

archaeologists Michael Turney and Clinton Coates. Prior to fieldwork, a discussion was held with the Revelstoke field office, and it was determined that the *Research and Collection Permit* would not need to be amended due to the addition of new field archaeologists.

This current Letter of Clearance focuses primarily on the components detailed above. It covers only those locations within the area to be impacted by the Illecillewaet Curve TransCanada Highway widening and associated upgrades. Sites revisited during the course of the Archaeological assessment as part of Component II, but located outside of the clearing boundary, will be detailed in the subsequent final report. Details of the Component I heritage resource investigation results are presented in section 4.2 of this report.

2 OBJECTIVES AND METHODOLOGY

2.1 Objectives

As detailed in the Statement of Work (SOW), received June 27th, 2016, the objective was to conduct "*an archaeological impact assessment (AIA) and undertake archaeological monitoring along the Trans-Canada Highway (TCH) corridor within Glacier National Park and Rogers Pass National Historic Site of areas that are to be impacted as a result of planned construction: the Illecillewaet Curve TCH and at the existing operations facility at Rogers Pass*."

The primary objectives of the project were to:

1. identify and evaluate archaeological resources within the project area;
2. evaluate potential adverse impacts to any identified archaeological sites that might result from the proposed infrastructure construction project; and
3. recommend viable options for avoiding or managing potential adverse impacts to any identified archaeological sites.

2.2 Field Methods

The project area was subject to a specific assessment of archaeological potential based on field observations gathered during a pedestrian survey. Biophysical characteristics which are generally positively correlated with archaeological sites such as favourable aspect,

suitable terrain and slope, good ground drainage, suitable forest cover, and proximity to water and food resources, were used in the specific assessment of archaeological potential. Other characteristics which may influence archaeological potential ratings include the presence or absence of micro-environmental features; steep, rocky or rough terrain; massive ground disturbance; or other modern-day impacts to the landscape.

A program of shovel testing was also undertaken to assist with the assessment of archaeological potential. Shovel tests, measuring 40 cm by 40 cm in size, were excavated at depths ranging from 30 cm to 60 cm below surface in order determine the integrity of the subsurface deposits within the project area. Subsurface tests were excavated to glacial deposits, bedrock, or the C soil horizon, where possible. The locations of the shovel tests were mapped on existing development plans using a hand held GPS, and stratigraphy was described in notes. All materials excavated from shovel tests were screened through a 6 mm (¼-inch) metal mesh. Removed matrices were replaced into their respective shovel test holes. Artifacts were collected and bagged according to standard procedures outlined in the SOW (as outlined in *Parks Canada Recording Manual: Excavation and Surveys* (http://www.pc.gc.ca/apps/rps/page1_e.asp).).

2.3 First Nations Involvement

Following standard practice for Archaeology investigations in British Columbia, and prior to commencement of the field program, several First Nations were contacted by Golder archaeologist Clinton Coates to discuss the project and to arrange for First Nation representatives to participate in the fieldwork. A face to face meeting was held with the Shuswap Nation on June 30th and a pre-field assessment visit was planned between Wayne Choquette (archaeological representative for the Shuswap Nation) and Golder Archaeologist Clinton Coates on July 7th. During the pre-field visit a number of landforms with potential for pre-contact remains were identified within the stretch of the TCH to be widened. The following First Nations expressed interest and participated in the field assessment (July 11–14th) : the Shuswap Indian Band, Splatsin First Nation, Neskolith Indian Band, Adams Lake Indian Band, Little Shuswap Indian Band, the Okanagan Nation

Alliance, the Upper Nicola Indian Band, The Lower Similkameen Indian Band, the Penticton Indian Band, the Okanagan Indian Band, and the Ktunaxa Nation Council.

3 REPORTING

As detailed in section 5.2 of the SOW, this interim archaeological report serves as a Letter of Clearance, presented within fourteen (14) days of the completion of fieldwork. It details the locations investigated and outlines which locations Golder recommends are cleared for development to proceed. It also lists those areas where additional mitigative measures may be necessary in order to protect heritage resources.

At the completion of all fieldwork/archaeological monitoring, this interim report will be followed by a Final Report submitted ninety (90) days after the cessation of fieldwork. This final report will follow the instructions in section 5.2 of the SOW. Copies of this final report will be forwarded to the designated Heritage Resource Specialist with Parks Canada Terrestrial Archaeology and to the Parks Canada Agency Mount Revelstoke and Glacier National Parks Field Unit.

4 RESULTS

4.1 Prefield Studies

The initial background research for the project indicates (the AOA prepared by Gwyn Langemann and Bill Perry, Feb 3rd, 2016; Francis and Porter 2000; Sumpter and Perry 1988; Site forms and shapefiles maintained by the Calgary office of Archaeology and History Branch Parks Canada) that numerous archaeological sites occur within the tightly constrained landscape. These archaeological sites are primarily historic in nature and largely date to the period between 1881 and 1917 after which the 1885 railway route was abandoned for the Connaught Diversion and Tunnel. Previously conducted heritage resource investigations have primarily focused on the railway route, but the valley slopes and river banks have received less attention. Although historic sites are plentiful, no pre-

contact sites have been recorded. The Rogers Pass valley bottom has already been subjected to large amounts of disturbance (such as the construction of the TCH in the early 1960's, avalanche activity, and erosion by the Illecillewaet River) and as such all remaining intact heritage resource sites have increased significance.

At the same time as background research was being undertaken, several First Nations were contacted by Golder archaeologist Clinton Coates to discuss the project and to arrange for First Nation representatives to participate in the fieldwork. At the request of the Shuswap Nation (meeting on June 30th 2016), Wayne Choquette and Golder archaeologists were to visit and assess the study area prior to the survey with the crew. The study area was examined by Wayne Choquette (archaeological representative for the Shuswap Nation), Clinton Coates (Golder) and Krista Royle (Parks Canada) on July 7th 2016. The route was driven and a limited amount of pedestrian survey was conducted. A number of terraces and benches thought to hold potential for pre-contact remains were identified.

4.2 Field Studies

4.2.1 Pedestrian and Shovel testing

During the impact assessment, conducted between July 12 and 14th, the entire route was driven and both the cleared area (cleared in early April 2016) and the area to be cleared to facilitate highway improvements was given a pedestrian survey by all of the First Nation participants, participating Parks Canada staff, and Golder archaeologists. First Nation participants included: Pauline Eugene (Shuswap IB), Ryan Felix (Splatsin FN), Jim Phelps (Neskolith IB), Fern Jules (Adams Lake IB), Wyatt Bonneau (Okanagan IB), and John Nicholas (Ktunaxa Nation Council). Parks Canada Staff from the local Field Office (Revelstoke) also participated in the pedestrian and shovel testing program (Sarah Boyle, Bruno Delesalle, Krista Royle, Claire Seiber, and Megan Miller).

After the pedestrian survey a number of areas were selected for shovel testing. These areas were selected based on suggestions of Wayne Choquette, the participants, and on the combined experience of the Golder archaeologists.

Shovel testing largely focused on the terraces and benches on the east side of the TCH, below the CPR vent shaft access road, but before the Illecillewaet curve; an area bisected by a drainage just south of the Monument, and across from the CPR vent shaft access road; and the area behind the Hermit Trail Head (Table 1). In all cases, with the exception of the area behind the hermit trail head, mixed and disturbed deposits were identified. The excavations behind the hermit trail head proved insightful as they revealed to all participants what undisturbed forest soils in the Rogers Pass area look like, as opposed to the largely disturbed profiles experienced on the road shoulders. Plate 1 and Plate 2 illustrate the disturbed nature of the deposits contrasted with intact forest soils of the Rogers Pass. In the last area tested (the area bisect by the drainage across from the CPR vent shaft access road) a number of historic artifacts were recovered including two historic railroad spikes and historic brass rifle cartridge at approximately 40-50 cm below surface. Subsequent historic research and historic photographs supplied by Parks Canada show the depth and extent of disturbance during the construction of the TCH through the Rogers Pass (Plates 3 and 4). See Appendix 1, for field maps illustrating the locations and number of shovel tests. As part of the final day of the pedestrian survey/shovel testing program, heritage resource sites Glacier Siding (411T42) and the Refuse dump (1247T) were visited.

Table 1: Results of the Shovel Testing Program

Target Area	Location Data (NAD 83')	Description	Shovel Tests	Results
1	11U 464511 5680569	Low knoll overlooking creek to east	6	Negative
	11 U 464513 5680592	Low ridge overlooking creek to east	4	Negative
2	11U 464473 5680678	Small terrace overlooking creek to east	9	Negative
3	11 U 464384 5680943	Low bowl/terrace edge facing	12	Negative
4	11 U 464255 5681237	Long east facing terrace, overlooking creek to east	11	Negative
5	11 U 464217 5681336	Long east facing terrace, overlooking creek to east	4	Negative
6a	11U 464162 5681693	Small terrace bisected by creek (north side)	8	Negative
6b	11U 464172 5681728	Small terrace bisected by creek (south side)	7	Negative
7	11U 464270 5684896	Tests on base of slope behind Hermit Hut Trailhead	5	Negative

Plate 1: Disturbed soil profile, from within Clearing Boundary south of Rogers Pass

Plate 2: Undisturbed soil profile, in vicinity of Hermit Hut Trail head

Plate 3: View illustrating Construction of TCH in early 1960's, looking towards the Rogers Pass (historic photo supplied by Parks Canada staff)

Plate 4: View illustrating clearing boundary limit on East Side of TCH, looking towards the Rogers Pass

4.2.2 Preliminary Investigations of Historic Sites

After the completion of the pedestrian survey and shovel testing program of the clearing boundary, a number of historic sites were revisited to determine their proximity to areas of impact and to make recommendations if any further mitigations were necessary.

1247T, Refuse Dump (Rogers Pass)

Although outside of the impact zone of the TCH widening project, planned drainage improvements within the Parks Canada / Public Works Compound require the cutting of a swale across the eastern edge of this historic refuse dump behind the kitchens and bunkhouse (Plate 5). Prior to tree clearing a number of shovel testes were placed along the proposed alignment of the swale. Out of the seven shovel test that were excavated, five proved positive for historic cultural material. Culture material recovered included glass

bottle fragments, a metal drain cover, ceramics, brick fragments, mortar, melted glass, and slag from coal stoves. In addition, a layer of buried and in some cases burned cultural material is visible in the southern cutbank/exposure. This included mostly clear/opaque, aqua, green, dark green, and brown bottle glass, clear pane glass, and brick fragments. Results of the shovel test program indicate that while not visible on the surface, the majority of historic material is present between 40 to 50 cm below surface. The amount of impact to the historic resources caused by tree clearing will be minimal as long stumps are left in the ground, tree removal does not involve dragging felled trees over the ground surface, and no grubbing occurs. Any ground disturbance is cautioned until the expected depth and width of the proposed swale is known. Prior to any ground disturbance, a small program of test excavation may be necessary to achieve a large enough sample to determine the age and association of the refuse deposit.

Plate 5: View looking over east extent of 1247T post tree clearing for proposed swale

411T05, Rogers Pass Station No. 3 & 4

Little remains of much of the original Rogers Pass Station Yard Complex (No. 3 and 4), due to the construction of the TCH in the early 1960's and subsequent ongoing development. However, structural platforms, small depressions, refuse middens, and part of a historic trail were readily observable during the most recent site visit. The majority of the middens, structural platforms, and depressions appear associated with the workers houses of the original railyard and occur at the foot of slope behind the Vacant Gas Station, current Rogers Pass Discovery Centre, and the vacant Rogers Pass Hotel (Plate 6). The above features/remains occur outside of the impact zone of the TCH widening project. These are located well outside of the clearing boundary, as such no shovel testing was conducted. However, the proximity of these features to an interpretive trail behind the Rogers Pass Discovery Centre and vacant Gas Station (the trail bisects a linear arrangement of structural platforms) leaves this site particularly vulnerable to "pot-hunting" by the public. Numerous bottle piles were observed (some groupings of bottles obviously lined up in rows), as well as work gloves, and fairly recent excavations, suggesting that pot hunting of this site has occurred in the not too distant past (Plate 7). At the time of our visit, an ornate cast iron stove leg, a nearly complete chaffing dish/soup tureen lid, and a decorated Japanese tea pot where collected and turned over to the local Field Office for safe keeping (notes and photographs were taken to provenience prior to artefact removal). On the basis of these findings, the recommendations forwarded here are for a more detailed mapping program and surface collection to be conducted. The collection would provide valuable insight into the railway workers lives, particularly if compared to similar collections from the nearby Glacier House tourist hotel.

Plate 6: View looking west at location of 411T05, railway workers housing remains occurs behind vacant gas station

Plate 7: View looking over "pot-hunters" collection of excavated bottles

411T06, Snowshed No. 16

This site is located on the north side of the Rogers Pass Monument interpretive area and can be reached by trail from the Rogers Pass monument and the vacant Rogers Pass Gas Station (Plate 8). This is located well outside of the clearing boundary and is not in immediate danger of being impacted by the infrastructure improvements. As such, no shovel testing was conducted.

411T08, Snowshed No. 17

Snowshed No. 17 is bisected by the TCH highway. Much of the middle portion of this snowshed has been destroyed as it currently occurs under the Rogers Pass Monument parking lot and interpretive facility, the TCH highway, and a trucker pull-out and avalanche gun emplacement on the opposite side of the TCH highway. The northern section of Snowshed 17, which has most recently had a boardwalk installed to facilitate interpretation, is situated on the west side of the TCH highway and is located outside of the clearing boundary (Plate 9). The western edge of an earthen berm associated with southern section of Snowshed No. 17 is situated on the east side of TCH highway is located just within the clearing limits (Plate 10). As such, monitoring occurred during tree felling, and care was taken not to drive on or impact the earthen berm. Intact piles and posts are located on the other side of the berm, so monitoring should occur during grubbing and ground disturbance to ensure no impacts to the remaining portion of the structure.

Plate 8: View looking north over Snowshed No. 16.

Plate 9: View looking south over extant northern portion of Snowshed No. 17.

Plate 10: View looking north over extant southern portion of Snowshed No. 17.

411T42, Glacier Siding

The Glacier Siding, Station, and Townsite includes a large complex of buildings and features. Most pertinent to this development are those structures and features located adjacent and north of the TCH (Plate 11). Using the original site form sketch map, and the mapped stream as reference, the "blazed trees with wire" and two outhouses were located; however much of the adjacent ground has been disturbed by fairly recent stream erosion which cuts a wide swath east of the standing outhouse structures. An attempt was made to relocate the mapped structural platforms, but they could not be located. It is postulated that the dense vegetation (Devils Club and willow) obscured much of these from view. It is likewise possible that the stream erosion has also impacted the structural platform to the east of the outhouses. Of particular concern is a large structural platform mapped south of the outhouses, this would place it at the foot or base of the slope, an area currently obstructed by stacked trees (trees cleared in early spring and stacked at the foot of the slope). As the majority of the features are located north of the disturbance limit, this

structural platform is the only feature with potential to be disturbed by the proposed road works. It is therefore recommended that monitoring should occur during tree removal, and prior to grubbing, to determine if this structural platform is within the disturbance limit and to minimize impacts to the remaining portion of the structure.

Plate 11: View looking over margin of TCH adjacent to Glacier Siding

5 SUMMARY AND RECOMMENDATIONS

Based on the results of the field investigation of the archaeological impact assessment, it appears that further archaeological investigations are only warranted at a few locations.

The pedestrian survey and shovel testing program revealed no evidence of either pre-contact or historic sites being located within the tree-clearing boundary. As noted above, subsequent research and historic photographs indicate that the amount of disturbance during the construction of the TCH in the early 1960's was wider than anticipated, and

even those landforms (benches and terraces) that looked to hold potential for pre-contact remains had been impacted by heavy machinery and earth moving activities.

The preliminary results for 411T05 and 411T06 indicate that both are located outside the proposed limit of disturbance and, as such, no further work is recommended for these sites provided that the disturbance limit boundaries do not change (Table 2). Likewise, most of 411T08 is located outside of the proposed limit of disturbance, but monitoring should occur during grubbing and ground disturbance to ensure no impacts to the remaining portion of the structure east of the TCH.

In the event that the disturbance limit boundaries change, or any development is planned for the sites mentioned above (1247T, 411T05, 411T06, 411T08, and 411T42) beyond what has been discussed, Parks Canada is advised that, at a minimum, archaeological monitoring of construction activities is recommended. Prior to the commencement of land-altering activities, systematic data recovery (archaeological excavation) may also be recommended in order to recover an adequate sample of archaeological data. This systematic data recovery is usually undertaken in the event of unavoidable conflicts between a proposed development and an archaeological site, and is designed to investigate the age of the deposits, period of use, site function(s), and contribute to the regional archaeological record. The scope of a systematic data recovery program would depend on development plans and should be developed in consultation with the developer and would be commensurate with the anticipated level of disturbance to a site

Table 2: Recommendations for Historic Sites in Vicinity of Tree Clearing Boundary

Site Number	Name/Description	Recommendations (regarding tree clearing and grubbing)
1247T	Refuse Dump (Rogers Pass)	Prior to any ground disturbance, a small program of test excavation may be necessary to achieve a large enough sample to determine the age and association of the refuse deposit. Monitoring should occur during grubbing and ground disturbance to ensure no impacts
411T05	Rogers Pass Station No. 3 & 4	No further Recommendations. In the near future, a detailed mapping program and surface collection should occur to mitigate unauthorized collection activities.

Table 2: Recommendations for Historic Sites in Vicinity of Tree Clearing Boundary

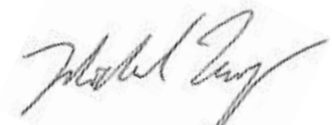
Site Number	Name/Description	Recommendations (regarding tree clearing and grubbing)
411T06	Snowshed No. 16	No further Recommendations. This is located well outside of the clearing boundary, and is not in immediate danger of being impacted by the infrastructure improvements.
411T08	Snowshed No. 17	Monitoring should occur during grubbing and ground disturbance of southern portion (east side of TCH) to ensure no impacts to the remaining portion of the structure.
411T42	Glacier Siding	Monitoring should occur during grubbing and ground disturbance to ensure no impacts to the remaining portion of the structure.

6 CLOSURE

We trust the information contained in this interim report is sufficient for your present needs. If you have any questions or concerns regarding this interim report please contact Michael Turney at (403) 510-9635, or at mturney@golder.com.

Yours Sincerely,

GOLDER ASSOCIATES LTD.



Michael Turney, M.A.
Archaeologist, Permit Holder

Sean Webster, Ph.D.
Principal, Senior Archaeologist

7 REFERENCES

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Parks Canada

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n.d. *Parks Canada's Guidelines for the Management of Archaeological Resources, and Parks Canada's Archaeological Recording Manual: Excavation and Surveys* http://www.pc.gc.ca/eng/docs/pc/guide/fp-es/index.aspx

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APPENDIX I

FIELD MAPS

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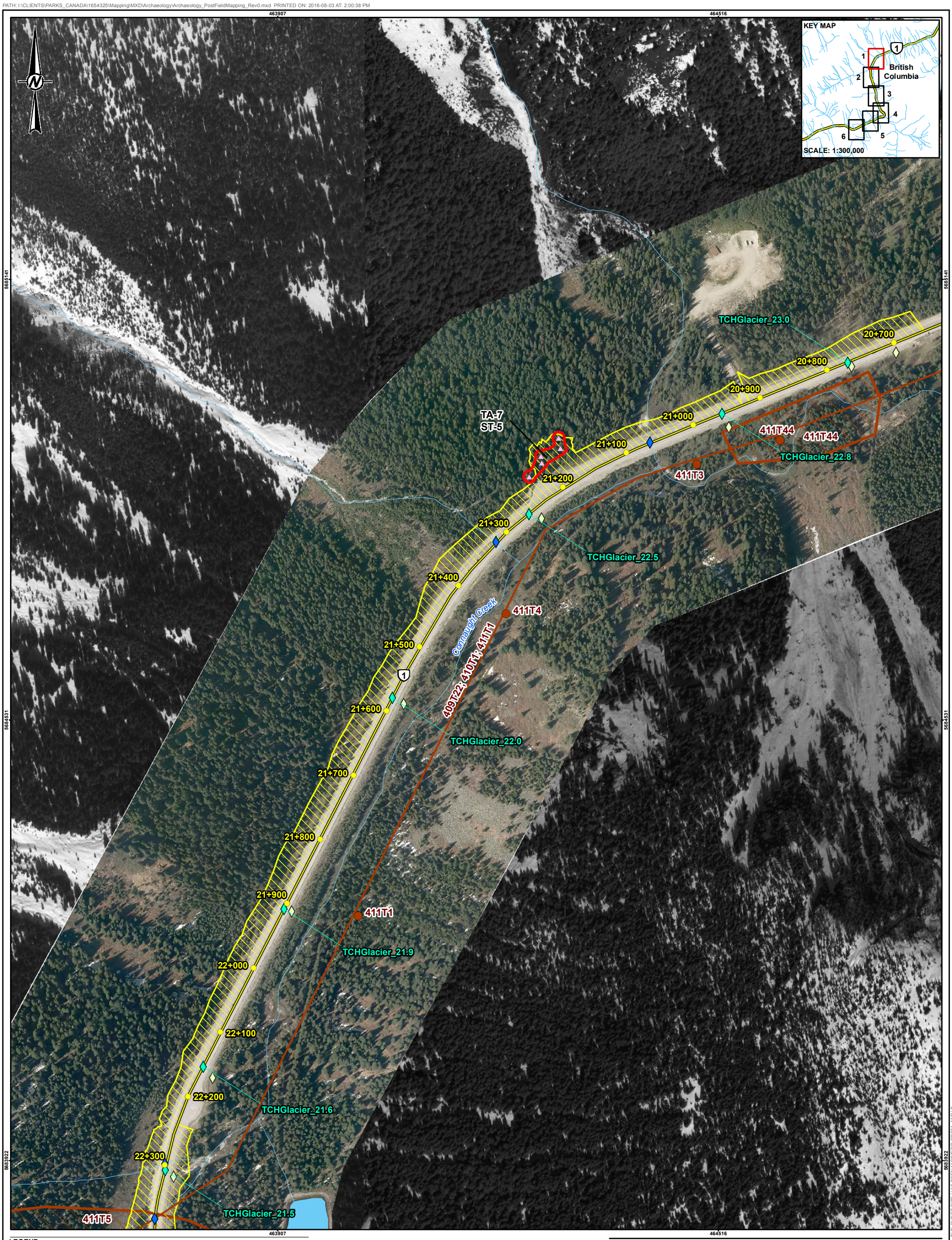

LEGEND

- ARCHAEOLOGICAL SITE
- CULVERT
- NEGATIVE SHOVEL TEST
- STREAM CROSSING
- TCH KILOMETRE POST WITHIN GLACIER NATIONAL PARK
- WATERCOURSE CROSSING
- HISTORIC LINEAR FEATURE
- LOCAL ROAD
- TRANS-CANADA HIGHWAY (TCH)
- WATERCOURSE
- ARCHAEOLOGICAL AREA
- WATERBODY
- GRUBBING AND CLEARING LIMIT
- SHOVEL TEST LOCATION AND NUMBER OF TESTS

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PROJECT
ILLECILLEWAET CURVE GEOTECHNICAL INVESTIGATION

TITLE
SHOVEL TEST LOCATIONS ALONG THE ILLECILLEWAET CURVE

CONSULTANT
Golder Associates

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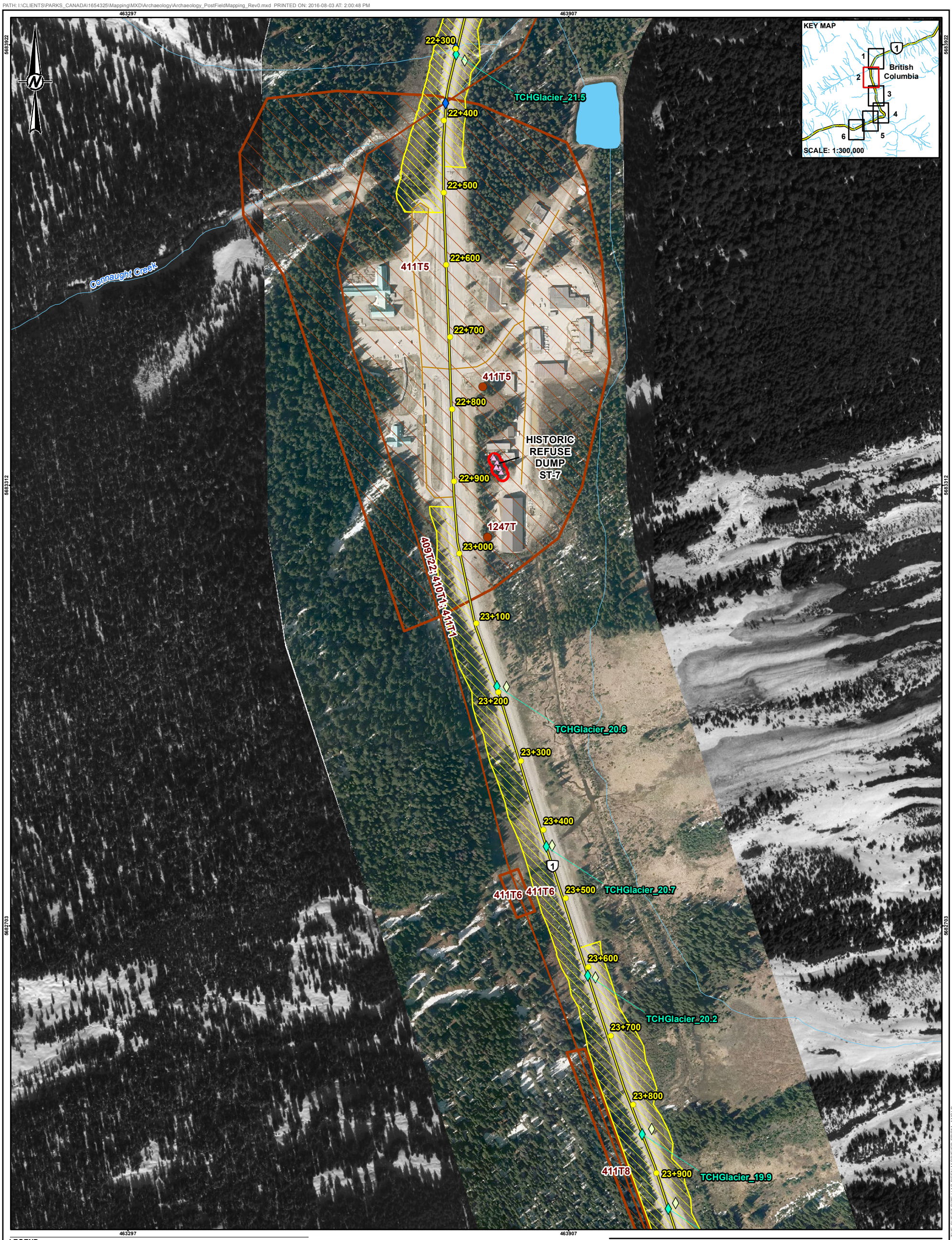

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- ARCHAEOLOGICAL SITE
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- NEGATIVE SHOVEL TEST
- STREAM CROSSING
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- WATERCOURSE CROSSING
- HISTORIC LINEAR FEATURE
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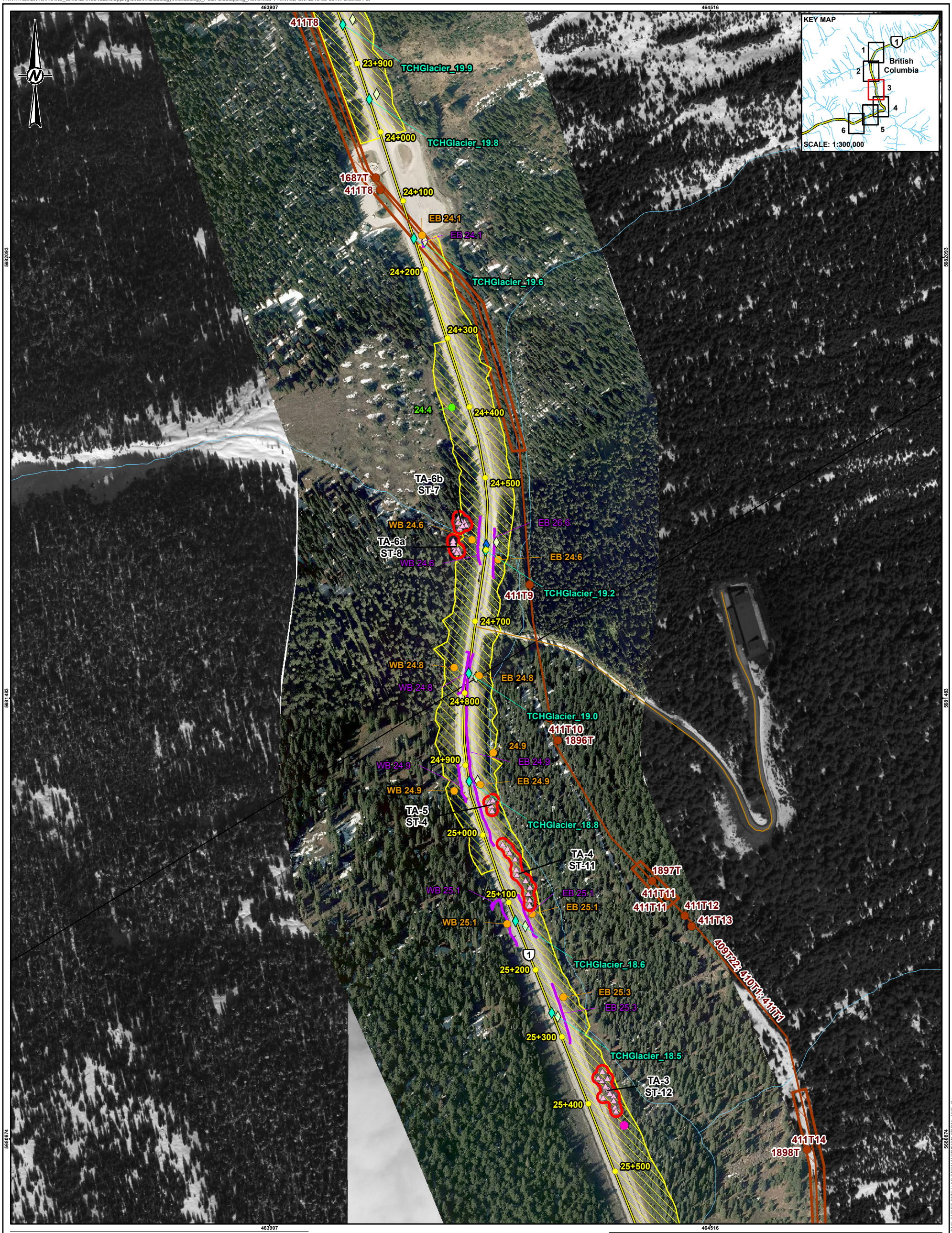

LEGEND

- ADDITIONAL HISTORIC / ARCHAEOLOGICAL FEATURE
- ARCHAEOLOGICAL SITE
- CULVERT
- HISTORIC HIGHWAY SIGNAGE
- NEGATIVE SHOVEL TEST
- STREAM CROSSING
- TCH KILOMETRE POST WITHIN GLACIER NATIONAL PARK
- WATERCOURSE CROSSING
- WATERCOURSE, WATERBODY OR CULVERT CROSSING ASSESSMENT LOCATION
- HISTORIC LINEAR FEATURE
- FLAGGED SECTION
- LOCAL ROAD
- RAILROAD
- TRANS-CANADA HIGHWAY (TCH)
- WATERCOURSE
- ARCHAEOLOGICAL AREA
- GRUBBING AND CLEARING LIMIT
- SHOVEL TEST LOCATION AND NUMBER OF TESTS

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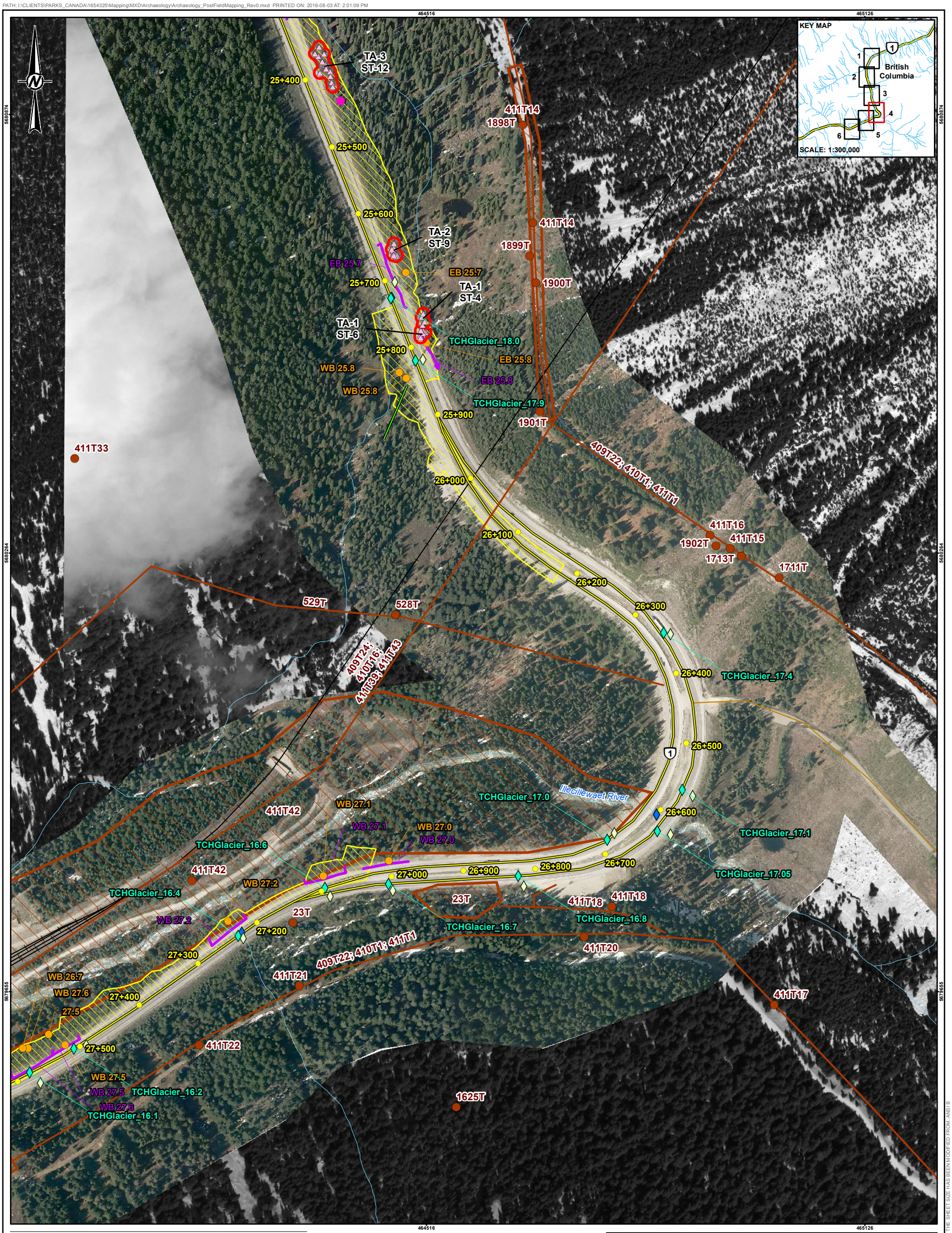

LEGEND

- ARCHAEOLOGICAL SITE
- CULVERT
- HISTORIC HIGHWAY SIGNAGE
- NEGATIVE SHOVEL TEST
- STREAM CROSSING
- TCH KILOMETRE POST WITHIN GLACIER NATIONAL PARK
- WATERCOURSE CROSSING
- WATERCOURSE, WATERBODY OR CULVERT CROSSING ASSESSMENT LOCATION
- HISTORIC LINEAR FEATURE
- FLAGGED SECTION
- LOCAL ROAD
- PENSTOCK
- RAILROAD
- TRANS-CANADA HIGHWAY (TCH)
- WATERCOURSE
- ARCHAEOLOGICAL AREA
- GRUBBING AND CLEARING LIMIT
- SHOVEL TEST LOCATION AND NUMBER OF TESTS

0 100 200

1:5,000 METRES

REFERENCE(S)

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4. ALL OTHER DATA OBTAINED FROM CLIENT.

DATUM: NAD 83 UTM ZONE 11

CLIENT
PARKS CANADA

PROJECT
ILLECILLEWAET CURVE GEOTECHNICAL INVESTIGATION

TITLE
SHOVEL TEST LOCATIONS ALONG THE ILLECILLEWAET CURVE

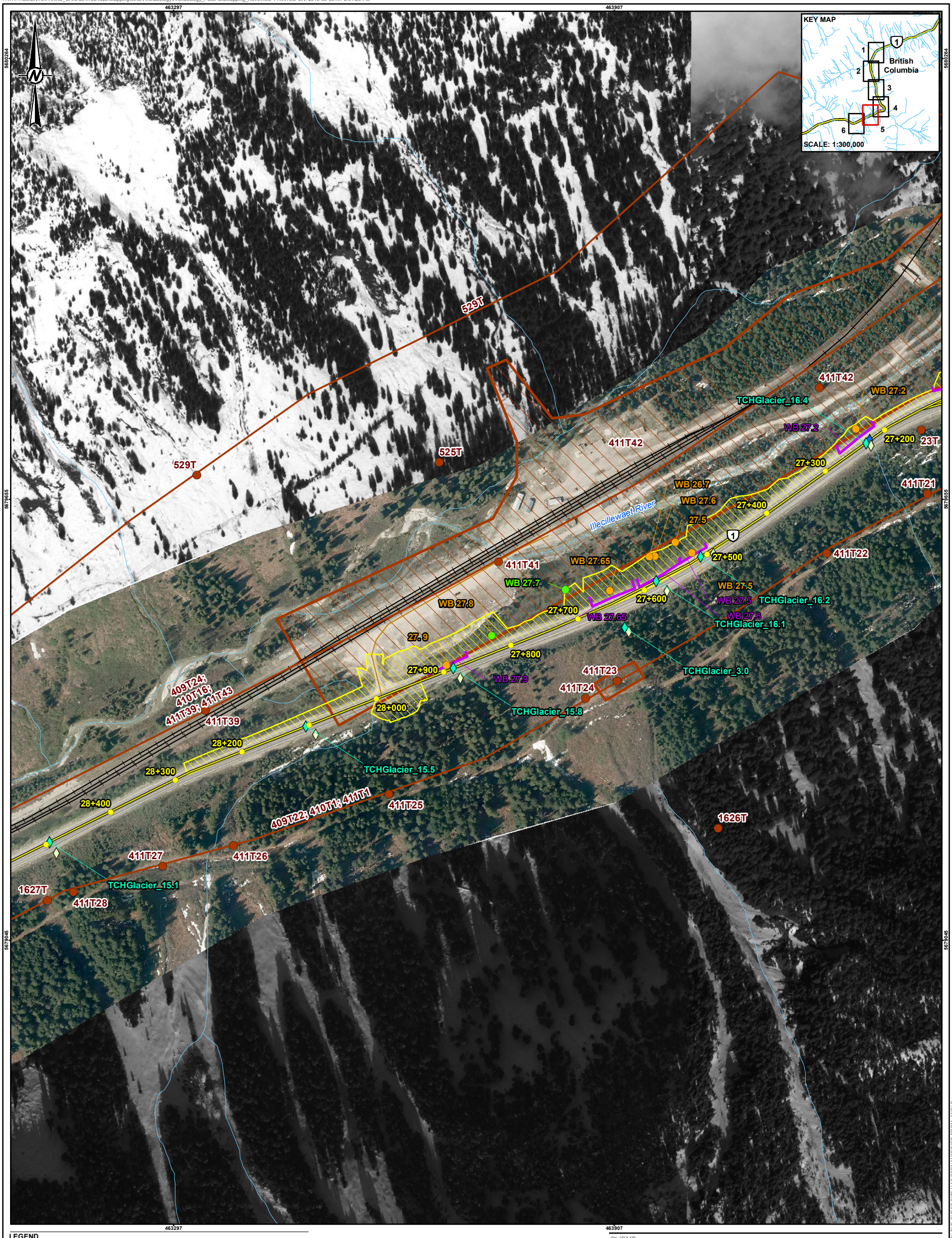
CONSULTANT
Golder Associates

YYYY-MM-DD	2016-08-03
DESIGNED	MT
PREPARED	SG
REVIEWED	SW
APPROVED	SW

PROJECT NO.	CONTROL	REV.	FIGURE
1654325		0	4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in
0



LEGEND

- ADDITIONAL HISTORIC / ARCHAEOLOGICAL FEATURE
- ARCHAEOLOGICAL SITE
- CULVERT
- STREAM CROSSING
- TCH KILOMETRE POST WITHIN GLACIER NATIONAL PARK
- WATERCOURSE CROSSING
- WATERCOURSE, WATERBODY OR CULVERT CROSSING ASSESSMENT LOCATION
- HISTORIC LINEAR FEATURE
- FLAGGED SECTION
- LOCAL ROAD
- RAILROAD
- TRANS-CANADA HIGHWAY (TCH)
- WATERCOURSE
- ARCHAEOLOGICAL AREA
- GRUBBING AND CLEARING LIMIT

0 100 200
1:5,000 METRES

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DATUM: NAD 83 UTM ZONE 11

CLIENT
PARKS CANADA

PROJECT
ILLECILLEWAET CURVE GEOTECHNICAL INVESTIGATION

TITLE
SHOVEL TEST LOCATIONS ALONG THE ILLECILLEWAET CURVE

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-08-03
DESIGNED	MT
PREPARED	SG
REVIEWED	SW
APPROVED	SW

PROJECT NO.	CONTROL	REV.	FIGURE
1654325		0	5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
1 in
0

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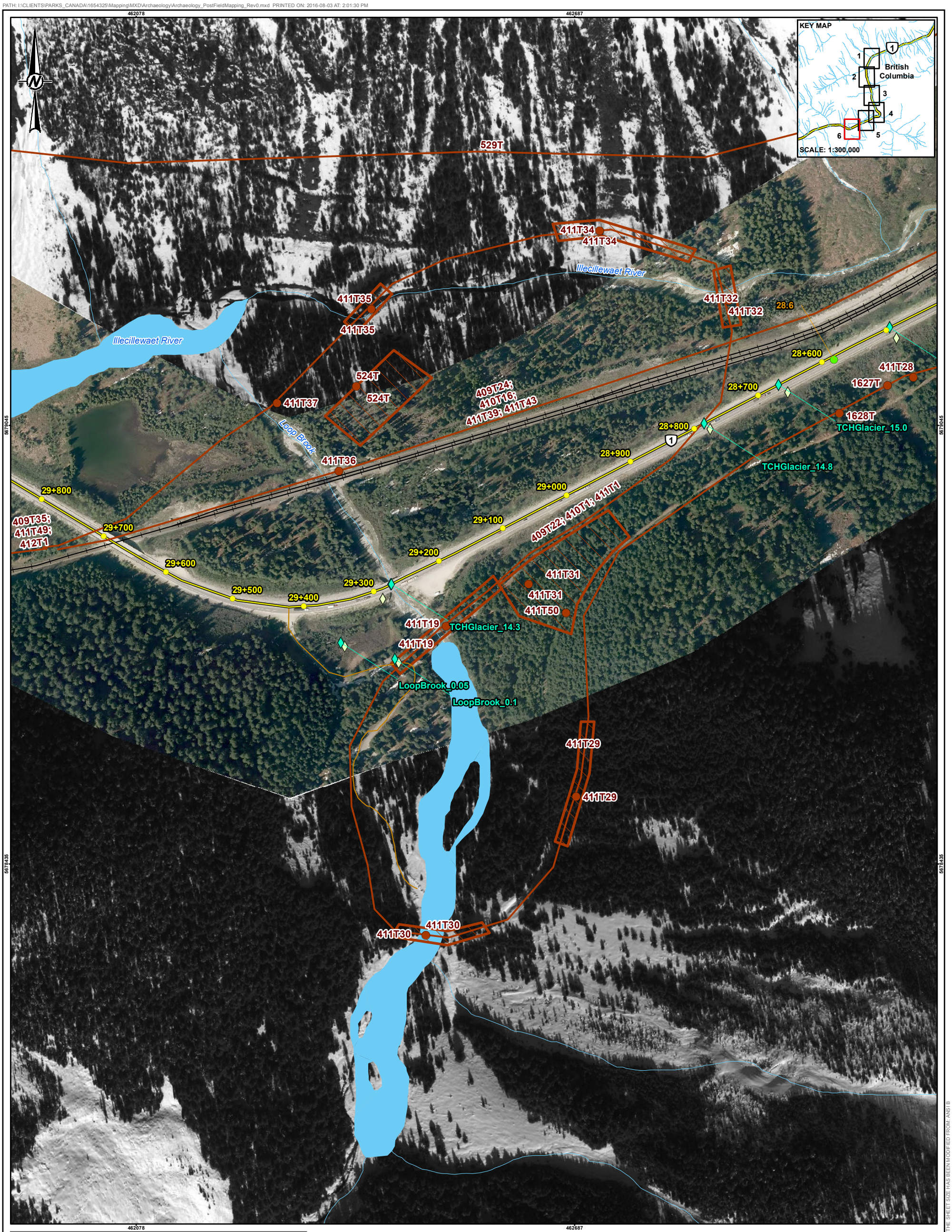
462078 462687



462078 462687

LEGEND

- ADDITIONAL HISTORIC / ARCHAEOLOGICAL FEATURE
- ARCHAEOLOGICAL SITE
- CULVERT
- STREAM CROSSING
- TCH KILOMETRE POST WITHIN GLACIER NATIONAL PARK
- WATERCOURSE CROSSING
- HISTORIC LINEAR FEATURE
- LOCAL ROAD
- RAILROAD
- TRANS-CANADA HIGHWAY (TCH)
- WATERCOURSE
- ARCHAEOLOGICAL AREA
- WATERBODY

0 100 200

1:5,000 METRES

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DATUM: NAD 83 UTM ZONE 11

CLIENT
PARKS CANADA

PROJECT
ILLECILLEWAET CURVE GEOTECHNICAL INVESTIGATION

TITLE
SHOVEL TEST LOCATIONS ALONG THE ILLECILLEWAET CURVE

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-08-03
DESIGNED	MT
PREPARED	SG
REVIEWED	SW
APPROVED	SW

PROJECT NO.	CONTROL	REV.	FIGURE
1654325		0	6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0