

Parks Canada  
Agency

L'Agence Parcs  
Canada

KM 88.5 TO 89.2  
TRANS-CANADA HIGHWAY  
SLOPE REPROFILING

YOHO NATIONAL PARK  
BRITISH COLUMBIA

PCA PROJECT No.  
569.01  
GOLDER PROJECT No.  
1777048/2000/2401

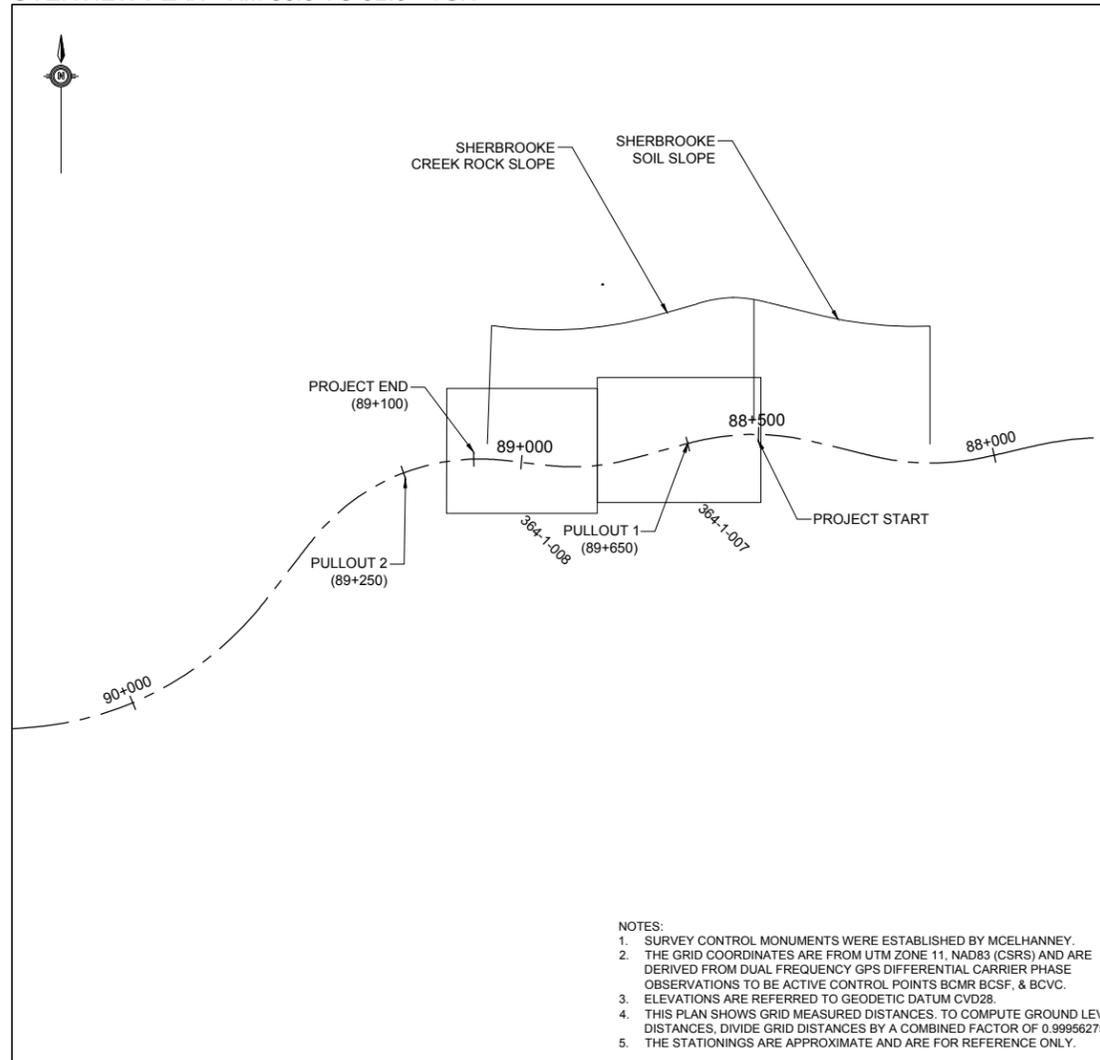


ISSUED FOR TENDER  
FEBRUARY 2018

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011	ROCK SLOPE CROSS SECTIONS STA. 88+740 TO STA. 88+840	0	2018-02-01
012	ROCK SLOPE CROSS SECTIONS STA. 88+860 TO STA. 88+960	0	2018-02-01
013	ROCK SLOPE CROSS SECTIONS STA. 88+980 TO STA. 89+100	0	2018-02-01



OVERVIEW PLAN - KM 86.0 TO 92.0 - TCH



- NOTES:
1. SURVEY CONTROL MONUMENTS WERE ESTABLISHED BY MCELHANNEY.
  2. THE GRID COORDINATES ARE FROM UTM ZONE 11, NAD83 (CSRS) AND ARE DERIVED FROM DUAL FREQUENCY GPS DIFFERENTIAL CARRIER PHASE OBSERVATIONS TO BE ACTIVE CONTROL POINTS BCMR BCSF, & BCVC.
  3. ELEVATIONS ARE REFERRED TO GEODETIC DATUM CVD28.
  4. THIS PLAN SHOWS GRID MEASURED DISTANCES. TO COMPUTE GROUND LEVEL DISTANCES, DIVIDE GRID DISTANCES BY A COMBINED FACTOR OF 0.999562753.
  5. THE STATIONINGS ARE APPROXIMATE AND ARE FOR REFERENCE ONLY.

SCALE: 1:20,000

**LEGEND**

	MAJOR TOPOGRAPHY CONTOUR
	MINOR TOPOGRAPHY CONTOUR
	CONTROL LINE AND STATIONING
	CONTROL POINT
	BORDER OF WILDERNESS ZONE
	SHERBROOKE ROCK CUT SLOPE FACE
	TREES FELLED BY OTHERS
	DITCH BOTTOM
	LIMIT OF RIPARIAN ZONE

**MISCELLANEOUS ABBREVIATIONS**

BH	BORE HOLE	PROP	PROPOSED
BW	BACK OF SIDEWALK	PP	POWER POLE
CB	CATCH BASIN	S	SANITARY
C&G	CURB AND GUTTER	ST	STORM
C.I.P.	CAST IN PLACE CONCRETE	W	WATER
CI	CULVERT INLET	NB	NORTHBOUND
CO	CULVERT OUTLET	SB	SOUTHBOUND
DES	DESIGN	EB	EASTBOUND
EP	EDGE OF PAVEMENT	WB	WESTBOUND
EX	EXISTING	N.I.C.	NOT IN CONTRACT
LOG	LIP OF GUTTER		
LS	LIGHT STANDARD		
MH	MANHOLE		

**YOHO CONTROL MONUMENTS**

MONUMENT No.	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION	LOCATION
1238	5698552.932	543722.045	1570.583	TH	88+242	SHERBROOKE SOIL SLOPE
1239	5698562.787	543654.634	1566.206	TH	88+310	SHERBROOKE SOIL SLOPE
1906	5698572.137	543599.649	1563.273	TH	88+365	SHERBROOKE SOIL SLOPE
1240	5698587.207	543525.981	1559.986	TH	88+442	SHERBROOKE SOIL SLOPE
2077	5698558.38	543329.171	1550.343	TH (3031)	88+651	SHERBROOKE CREEK ROCK SLOPE
2076	5698546.342	543273.142	1548.381	TH (3030)	88+709	SHERBROOKE CREEK ROCK SLOPE
2075	5698542.152	543234.137	1547.168	TH (3029)	88+747	SHERBROOKE CREEK ROCK SLOPE
2074	5698534.687	543183.637	1546.062	TH (3028)	88+797	SHERBROOKE CREEK ROCK SLOPE
2073	5698526.085	543133.986	1544.282	TH (3027)	88+846	SHERBROOKE CREEK ROCK SLOPE
2072	5698522.826	543086.518	1542.400	TH (3026)	88+892	SHERBROOKE CREEK ROCK SLOPE
2071	5698527.283	543037.585	1539.829	TH (3025)	88+939	SHERBROOKE CREEK ROCK SLOPE
2070	5698532.797	542986.168	1537.027	TH (3024)	88+990	SHERBROOKE CREEK ROCK SLOPE
2069	5698540.342	542920.379	1533.835	TH (3023)	89+057	SHERBROOKE CREEK ROCK SLOPE
2067	5698515.470	542757.464	1525.629	TH (3021)	89+230	LR. SHERBROOKE CREEK ROCK SLOPE
1947	5698492.143	542719.031	1523.624	TH	89+277	LR. SHERBROOKE CREEK ROCK SLOPE
2066	5698474.004	542670.840	1521.315	TH (3020)	89+331	LR. SHERBROOKE CREEK ROCK SLOPE



0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR
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 BRITISH COLUMBIA**  
  
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 SLOPE REPROFILING**

Designed by/Concept par  
**J. RICHMOND**

Drawn by/Dessine par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

Drawing Title/Titre du dessin

**DRAWING INDEX, LEGEND,  
 YOHO CONTROL MONUMENTS,  
 PROJECT LOCATION AND KEY PLAN**

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569.01	001	0



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**GENERAL**

- ALL COORDINATES ARE IN UTM COORDINATE SYSTEM AND ALL ELEVATIONS ARE TO NAD83 SET AT 800 METRES. SEE DWG. 201541-004 FOR ESTABLISHMENT OF SURVEY MONUMENTS.
- ALL ELEVATIONS ARE IN METRES.
- AZIMUTH IS MEASURED AS A POSITIVE ANGLE CLOCKWISE FROM TRUE NORTH.
- QUALITY OF CONSTRUCTION REQUIRED. PERFORMANCE LEVELS OF WORKMANSHIP, MANUFACTURING AND INDUSTRY STANDARDS, STRENGTH AND PHYSICAL REQUIREMENTS OF MATERIALS, CONFORMANCE TO CODES AND REGULATIONS, GUARANTEES AND OTHER PROJECT REQUIREMENTS ARE PROVIDED IN THE SPECIFICATIONS.
- IF THE MATERIALS, QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS OR SPECIFICATIONS ARE NOT IN AGREEMENT WITH THESE NOTES, THE BETTER QUALITY AND/OR GREATER QUANTITY, STRENGTH OR SIZE INDICATED, SPECIFIED, OR NOTED SHALL BE PROVIDED.
- PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. ANY CHANGES PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO DEPARTMENTAL REPRESENTATIVE FOR APPROVAL PRIOR TO BEGINNING THE WORK. WHERE APPLICABLE, DESIGN CHANGES SHALL BE SUBMITTED FOR APPROVAL AND DESIGN BY THE COMPANY REPRESENTATIVE. ALL DESIGN CHANGES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA.
- IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE WORKS AND ITS COMPONENT PARTS DURING CONSTRUCTION.
- ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL CONFORM TO THE DESIGN REQUIREMENTS, AND SUIT THE CONTRACTOR'S MEANS AND METHODS.
- EXISTING SITE INFORMATION SHOWN ON THESE DRAWINGS IS FROM SURVEYS PERFORMED BY McELHANNEY CONSULTING SERVICES LTD. THIS INFORMATION IS PRESUMED TO BE AN ACCURATE REPRESENTATION OF THE CONDITIONS AT THE SITE. WORK PERFORMED AT EACH SITE OR WITHIN THE PUBLIC RIGHT-OF-WAY SINCE THE DATE OF THE SURVEY MAY NOT BE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT EACH SITE AND REPORT SIGNIFICANT DIFFERENCES, IF ANY, TO DEPARTMENTAL REPRESENTATIVE IMMEDIATELY.
- THE CONTRACTOR SHALL SUBMIT A PRE-CONSTRUCTION CONDITIONS SURVEY AT EACH WORK SITE PRIOR TO COMMENCING ANY WORK, AS OUTLINED IN THE SPECIFICATIONS.
- THE CONTRACTOR IS REQUIRED TO UNDERTAKE A PRE MOBILIZATION SUBSURFACE UTILITY INVESTIGATION TO LOCATE EXISTING UTILITIES & STRUCTURES TO PERFORM THE WORK. UNDERGROUND UTILITY LOCATIONS WERE IDENTIFIED THROUGH RECORDS PROVIDED BY BC ONE CALL. VERTICAL AND HORIZONTAL LOCATION AND SIZE OF UTILITIES MAY VARY FROM THE PLAN.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF EXISTING UTILITIES, STRUCTURES, AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR IS ALSO RESPONSIBLE FOR COORDINATION OF ANY NECESSARY RELOCATIONS WITH PARKS CANADA AGENCY (PCA).
- FINAL FACE TOLERANCE SHALL BE WITHIN +/- 0.30 m OF THE DESIGN SURFACE WHERE SHOWN ON THE DRAWINGS.
- EXISTING GRADE SHOWN IN PROFILE IS APPROXIMATE. CONTRACTOR TO FIELD VERIFY AS NECESSARY TO PERFORM WORK
- REFER TO GEOTECHNICAL FACTUAL DATA REPORT (TETRA TECH EBA, JANUARY 2016) FOR ALL EXPLORATION DATA OBTAINED AS PART OF THIS CONTRACT.
- EXCAVATION LINES SHOWN ARE NOT INTENDED TO BE REPRESENTATIVE OF ANTICIPATED GROUND CONDITIONS OR AMOUNT OF OVERBREAK THAT MAY OCCUR DURING EXCAVATION. FOR AVAILABLE GEOLOGIC DATA, SEE THE GEOTECHNICAL DATA REPORT (TETRA TECH EBA, JANUARY 2016).
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL SAFETY REQUIREMENTS AND WITH EXERCISING APPROPRIATE PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF THE GENERAL PUBLIC, CONSTRUCTION EMPLOYEES, AND VEHICULAR TRAFFIC. THE CONTRACTOR SHALL INITIATE, INSTALL, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE LIGHTS, SIGNS, AND BARRICADES AS MAY BE NECESSARY FOR THE WORK INCLUDING BUT NOT LIMITED TO, AREAS OF OPEN EXCAVATIONS THROUGHOUT THE PROJECT.
- REFERENCED DRAWINGS LISTED ON A DRAWING MUST BE READ IN CONJUNCTION WITH THAT DRAWING.
- FIGURE DIMENSIONS AND COORDINATES SHALL ALWAYS BE FOLLOWED. DIMENSIONS AND ELEVATIONS SHALL NOT BE SCALED FROM DRAWINGS UNLESS OTHERWISE NOTED.
- EXCAVATED MATERIAL SHALL BE SORTED, STOCKPILED AND PLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
- EXCAVATED MATERIAL SHALL BE STORED AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.

**ROCK BLASTING**

- ALL ROCK BLASTING SHALL BE CARRIED OUT IN ACCORDANCE WITH SECTION 31 24 13 (ROADWAY AND DRAINAGE EXCAVATION) AND 01 14 00 (WORK RESTRICTION).
- TRAFFIC HOLD TIMES ARE DEFINED IN SPECIFICATION 01 35 31 (SPECIAL PROCEDURES FOR TRAFFIC CONTROL).
- WHERE SHOWN ON THE DRAWINGS, PEAK PARTICLE VELOCITIES SHALL BE LESS THAN 50 mm/s AS MEASURED AT ANY CP RAIL INFRASTRUCTURE.
- ALL FLYROCK LANDING OUTSIDE THE WORK SITE SHALL BE RETRIEVED AT THE CONTRACTOR'S EXPENSE.
- HORIZONTAL BLAST HOLES SHALL ONLY BE CONSIDERED FOR PIONEERING ACCESS ROADS AT THE DEPARTMENTAL REPRESENTATIVES WRITTEN ACCEPTANCE.
- THE CONTRACTOR SHOULD ANTICIPATE EXISTING CAMOUFLAGED ROCK BOLTS / ANCHORS MAY BE PRESENT IN ANY OF THESE ROCK FACES.
- BLASTING MAY NOT COMMENCE UNTIL EQUIPMENT, MATERIALS AND SUITABLY QUALIFIED PERSONNEL FOR SCALING AND ROCK SLOPE SUPPORT INSTALLATIONS (ROCK ANCHORS) ARE ON-SITE.

**ENVIRONMENTAL NOTES**

- THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION ENVIRONMENTAL PROTECTION PLAN (EPP) IN ACCORDANCE WITH SECTION 01 35 43 ENVIRONMENTAL PROCEDURES.
- THE CONTRACTOR SHALL RETAIN A QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) WITH PROFESSIONAL EXPERTISE AND EXPERIENCE ON CONSTRUCTION PROJECTS OF A SIMILAR NATURE AND SCOPE TO ASSIST IN THE DEVELOPMENT AND IMPLEMENTATION OF ITS EPP.
- AS PART OF ITS CONSTRUCTION ENVIRONMENTAL MANAGEMENT PROGRAM, PCA WILL RETAIN AN ENVIRONMENTAL SURVEILLANCE OFFICER (ESO) TO MONITOR CONTRACTOR COMPLIANCE WITH RESPECT TO REGULATORY REQUIREMENTS AND WORK PRACTICES AND PROCEDURES SET OUT IN THE BMP AND EPP AND TO EVALUATE THE EFFECTIVENESS OF THE CONTRACTOR'S MITIGATION AND MANAGEMENT MEASURES, AND EMERGENCY RESPONSE PROCEDURES. THE CONTRACTOR IS ADVISED THAT THE ESO WILL HAVE AUTHORITY TO MAKE DECISIONS REGARDING THE SELECTION AND USE OF ENVIRONMENTAL MITIGATION MEASURES AND TO STOP CONSTRUCTION ACTIVITIES IF THOSE ACTIVITIES POSE AN IMMEDIATE DETRIMENTAL RISK TO THE ENVIRONMENT AND/OR CONTRAVENE THE INTENT OF THE BMP, EPP OR REGULATORY REQUIREMENTS.
- PCA'S CONSTRUCTION BMP SETS OUT REQUIREMENTS TO BE FOLLOWED BY THE CONTRACTOR WITH RESPECT TO ISSUES INCLUDING, BUT NOT LIMITED TO:
  - DELINEATION OF WORK ZONES
  - PROTECTION OF SURFACE AND GROUNDWATER QUALITY
  - EROSION, AND SEDIMENT CONTROL
  - MATERIALS AND WASTE MANAGEMENT
  - WILDLIFE PROTECTION
  - CONTROL OF DUST, NOISE AND VIBRATION
  - MANAGEMENT OF HAZARDOUS SUBSTANCES
  - BLASTING MANAGEMENT
  - SPILL PREVENTION AND EMERGENCY RESPONSE.
  - CULTURAL RESOURCES
  - NATIONAL HISTORIC SITES
  - ARTIFACTS.
- THROUGHOUT THE COURSE OF CONSTRUCTION, THE ESO SHALL PROVIDE ALL MEMBERS OF THE CONSTRUCTION CREW WITH ON-SITE TRAINING REGARDING, BUT NOT LIMITED TO, APPLICABLE FEDERAL AND PROVINCIAL ENVIRONMENTAL REGULATORY REQUIREMENTS, SITE-SPECIFIC ENVIRONMENTAL REQUIREMENTS, IMPLEMENTATION OF PROJECT-SPECIFIC ENVIRONMENTAL MITIGATION AND SPILL RESPONSE MEASURES, AND ENVIRONMENTAL MONITORING / REPORTING PROTOCOLS AND PROCEDURES.



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0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR

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**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
  
**KM 88.5 TO KM 89.2  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**J. RICHMOND**

Drawn by/Dessine par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
  
**GENERAL NOTES AND  
 SPECIFICATIONS**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
569.01	002	0



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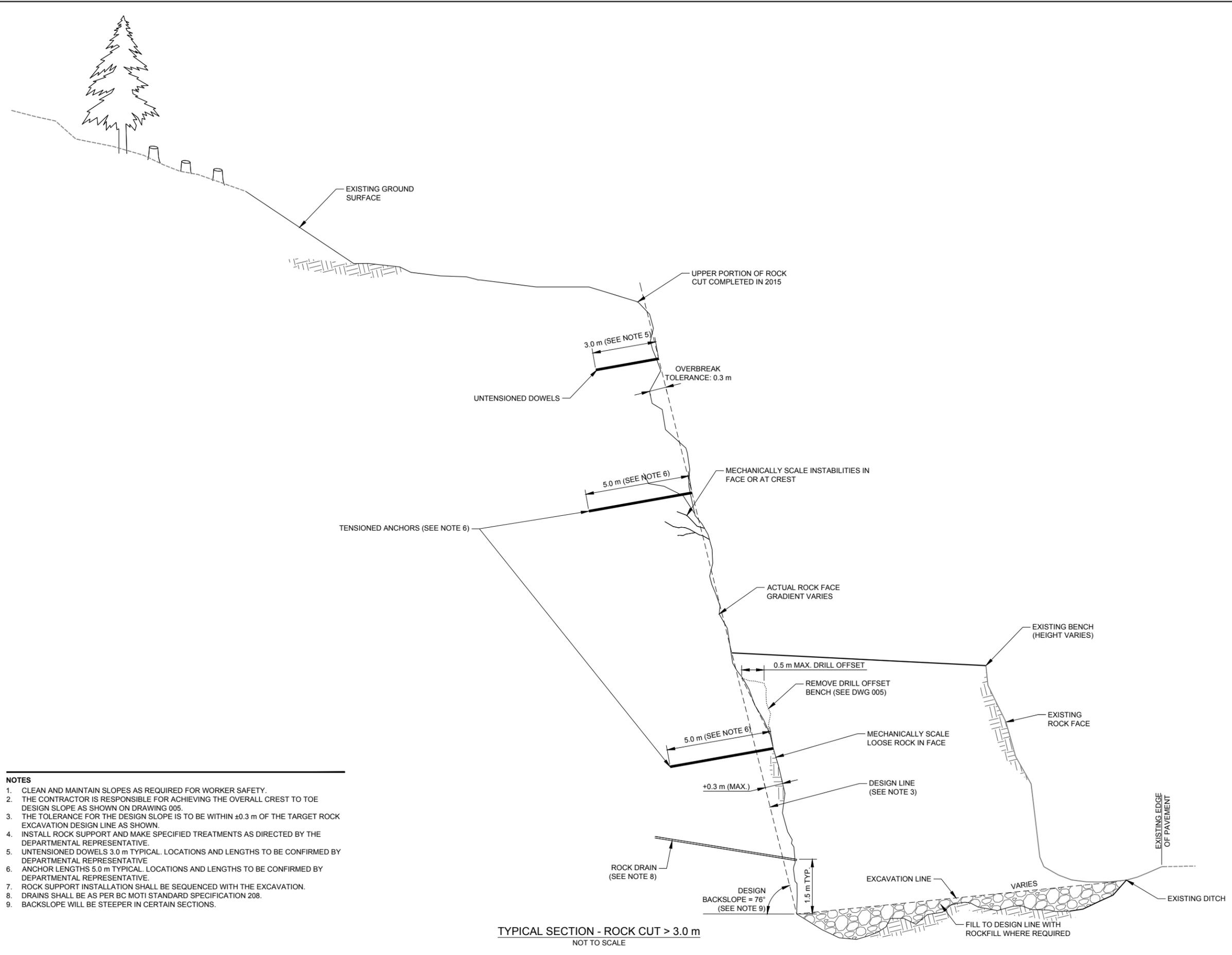
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Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 TYPICAL SECTION AND  
 ROCK SUPPORT**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
569.01	003	0



- NOTES**
- CLEAN AND MAINTAIN SLOPES AS REQUIRED FOR WORKER SAFETY.
  - THE CONTRACTOR IS RESPONSIBLE FOR ACHIEVING THE OVERALL CREST TO TOE DESIGN SLOPE AS SHOWN ON DRAWING 005.
  - THE TOLERANCE FOR THE DESIGN SLOPE IS TO BE WITHIN ±0.3 m OF THE TARGET ROCK EXCAVATION DESIGN LINE AS SHOWN.
  - INSTALL ROCK SUPPORT AND MAKE SPECIFIED TREATMENTS AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
  - UNTENSIONED DOWELS 3.0 m TYPICAL. LOCATIONS AND LENGTHS TO BE CONFIRMED BY DEPARTMENTAL REPRESENTATIVE
  - ANCHOR LENGTHS 5.0 m TYPICAL. LOCATIONS AND LENGTHS TO BE CONFIRMED BY DEPARTMENTAL REPRESENTATIVE.
  - ROCK SUPPORT INSTALLATION SHALL BE SEQUENCED WITH THE EXCAVATION.
  - DRAINS SHALL BE AS PER BC MOTI STANDARD SPECIFICATION 208.
  - BACKSLOPE WILL BE STEEPER IN CERTAIN SECTIONS.





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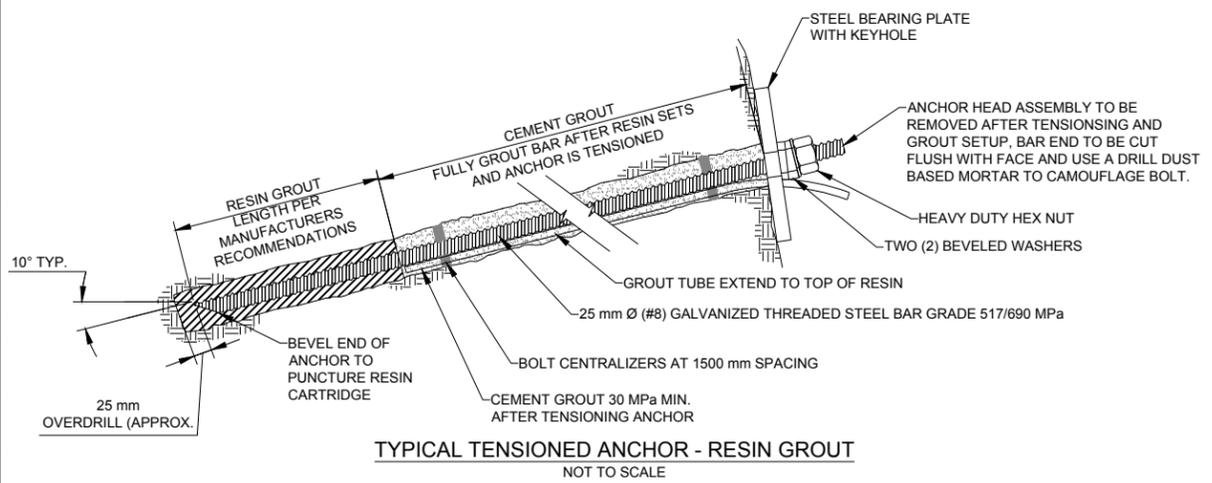
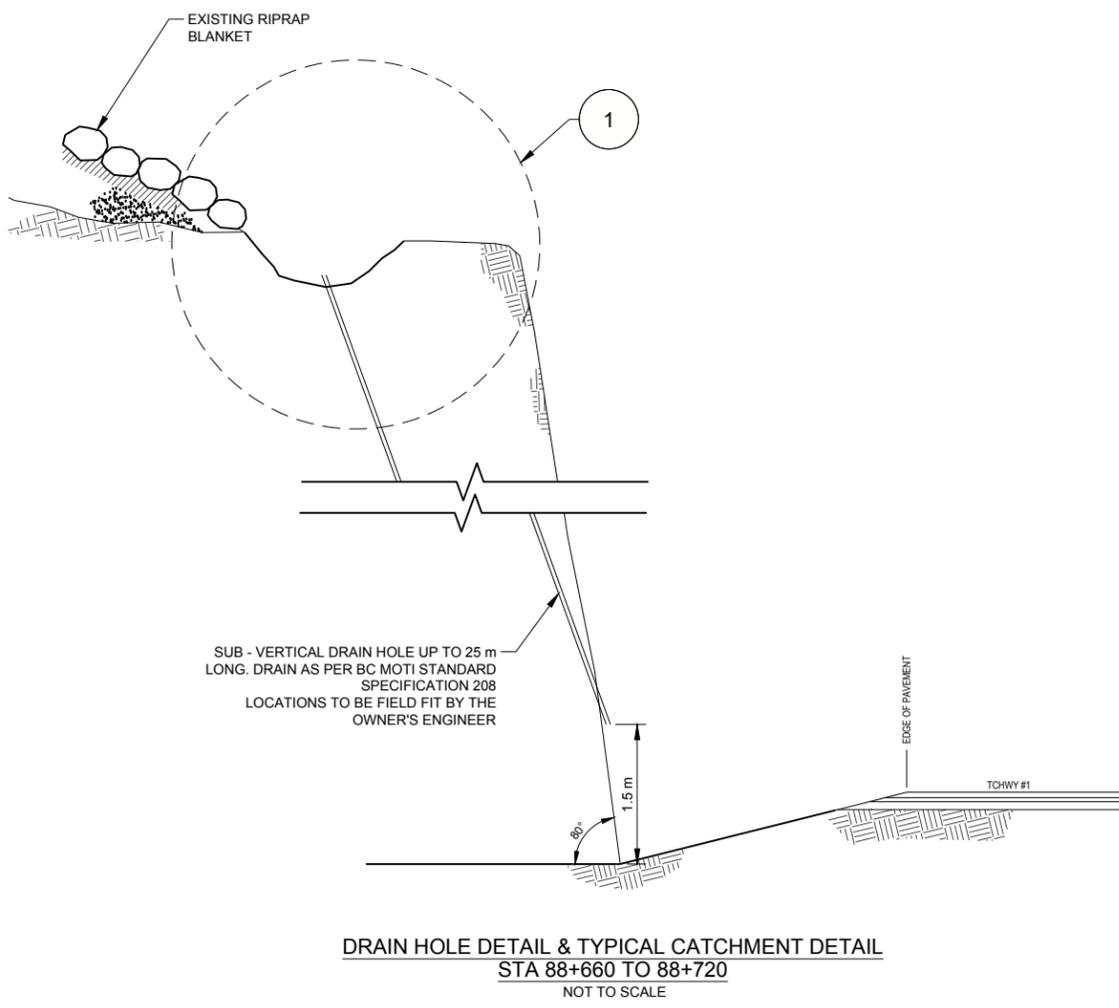
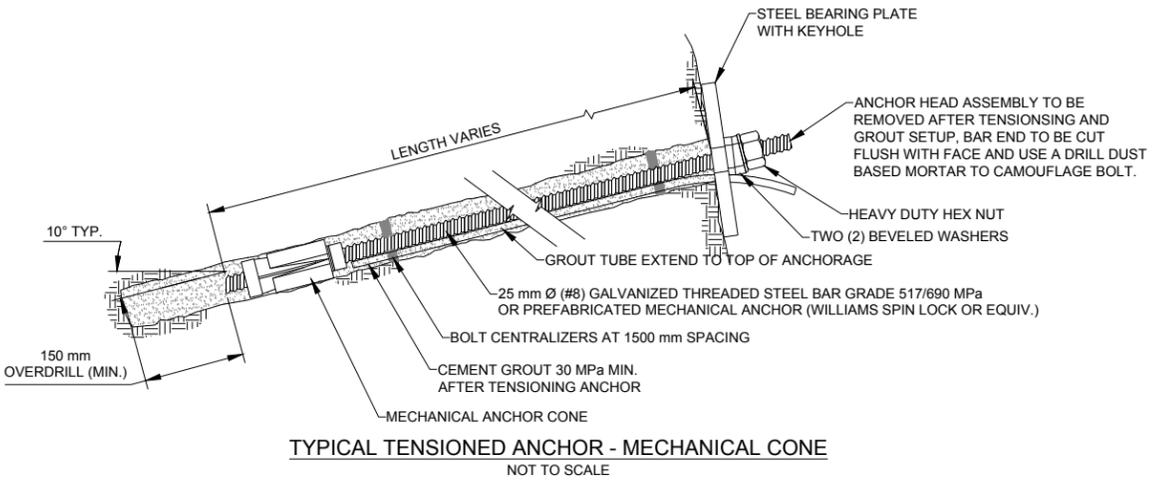
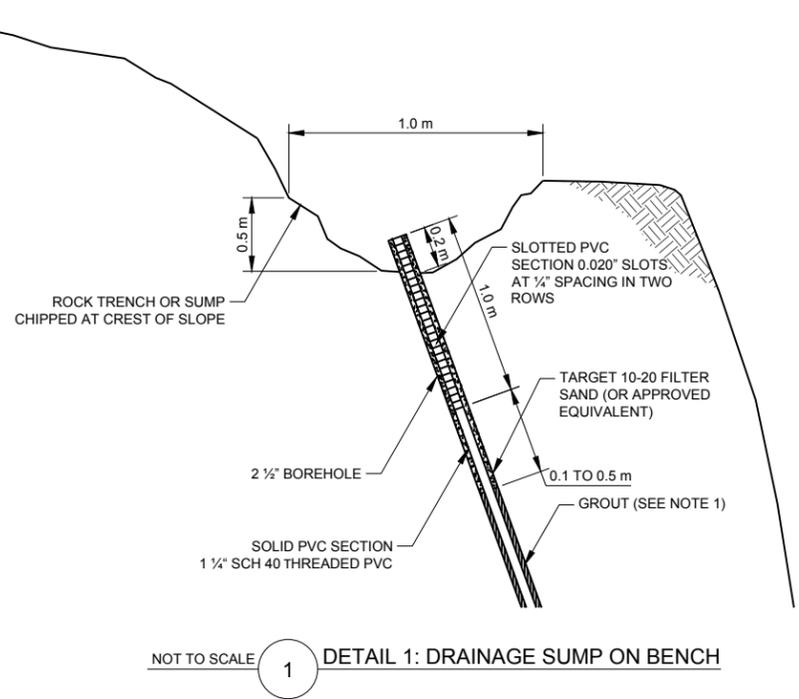
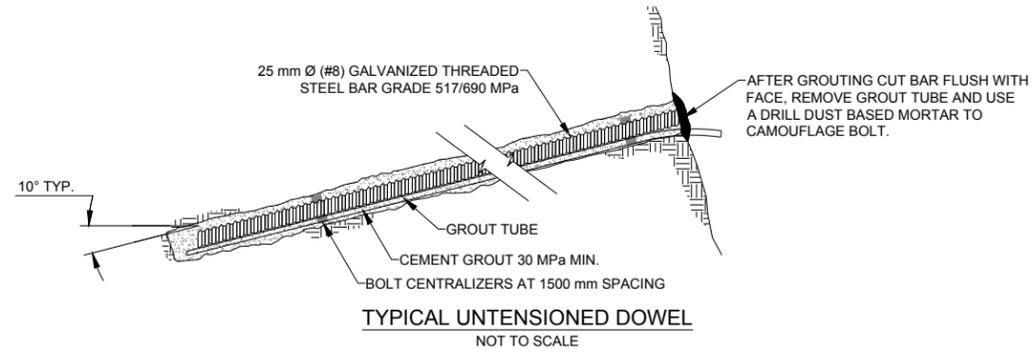
Drawn by/Dessine par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**ROCK SUPPORT AND  
 CATCHMENT  
 TYPICAL DETAILS**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
569.01	004	0

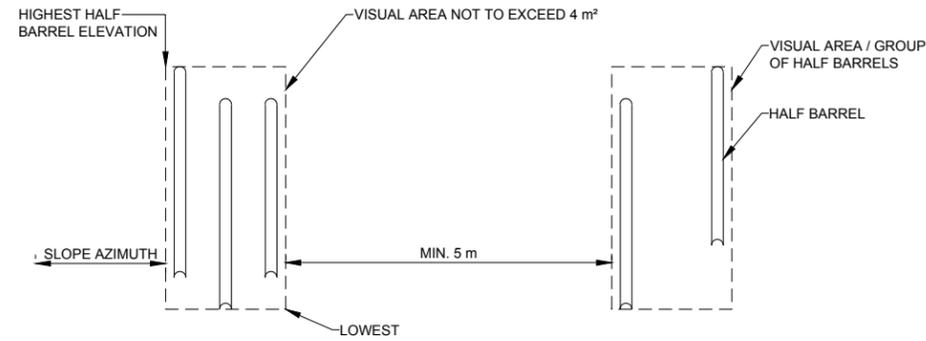


- NOTES**
- GROUT MIX PROPORTIONS FOR SUB-VERTICAL DRAINS - PORTLAND CEMENT (1); WATER (2.5); BENTONITE POWDER (0.3)

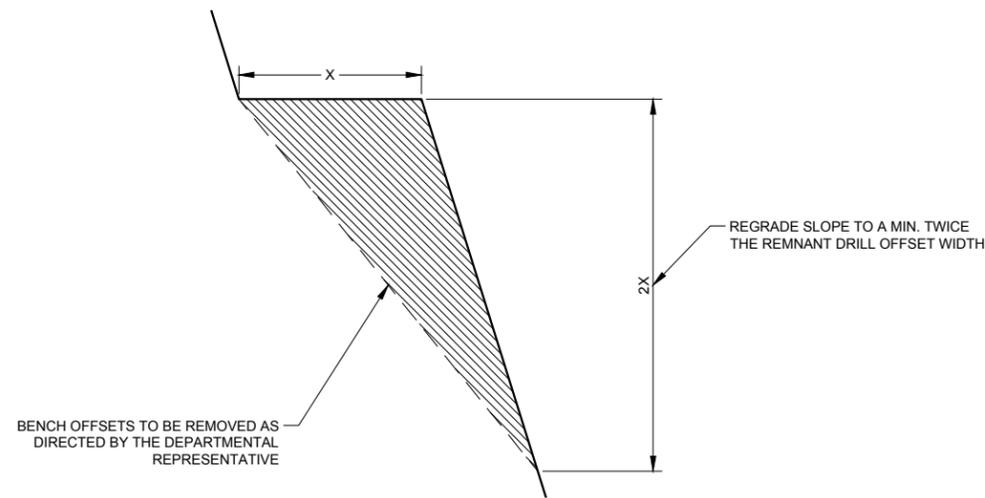
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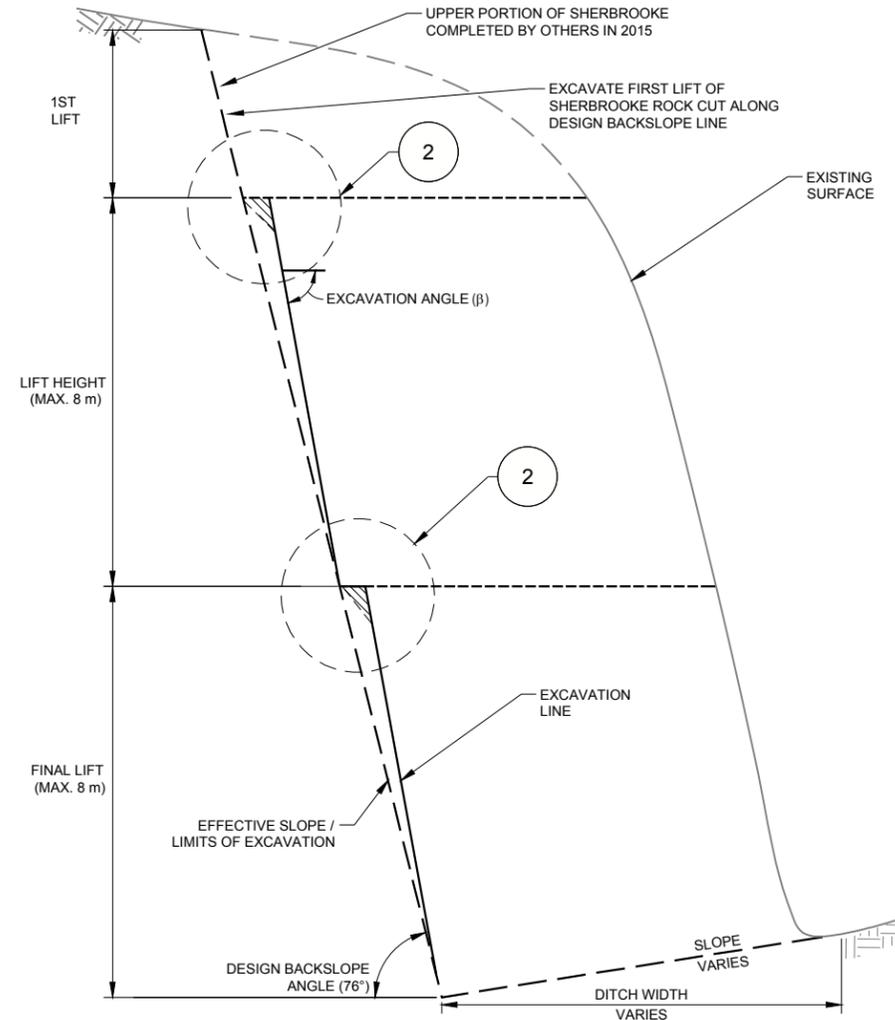
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HALF BARREL OR DRILL HOLE ACCEPTABILITY (ELEVATION VIEW OF ROCK FACE)  
 NOT TO SCALE



NOT TO SCALE **2** DETAIL 2: REMOVAL OF DRILL OFFSET BENCH



EXCAVATION BACKSLOPE SHOWING DRILL OFFSETS  
 NOT TO SCALE  
 FOR INFORMATION PURPOSES

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**ROCK SLOPE  
 FINISHING DETAILS**

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**NOTES**

1. THE CONTRACTOR IS RESPONSIBLE FOR ACHIEVING THE OVERALL CREST TO TOE EXCAVATION ANGLE USING THE MAXIMUM BENCH CUT HEIGHT AND MAXIMUM DRILL OFFSET ALLOWANCES OUTLINED IN THE PROJECT SPECIFICATIONS.





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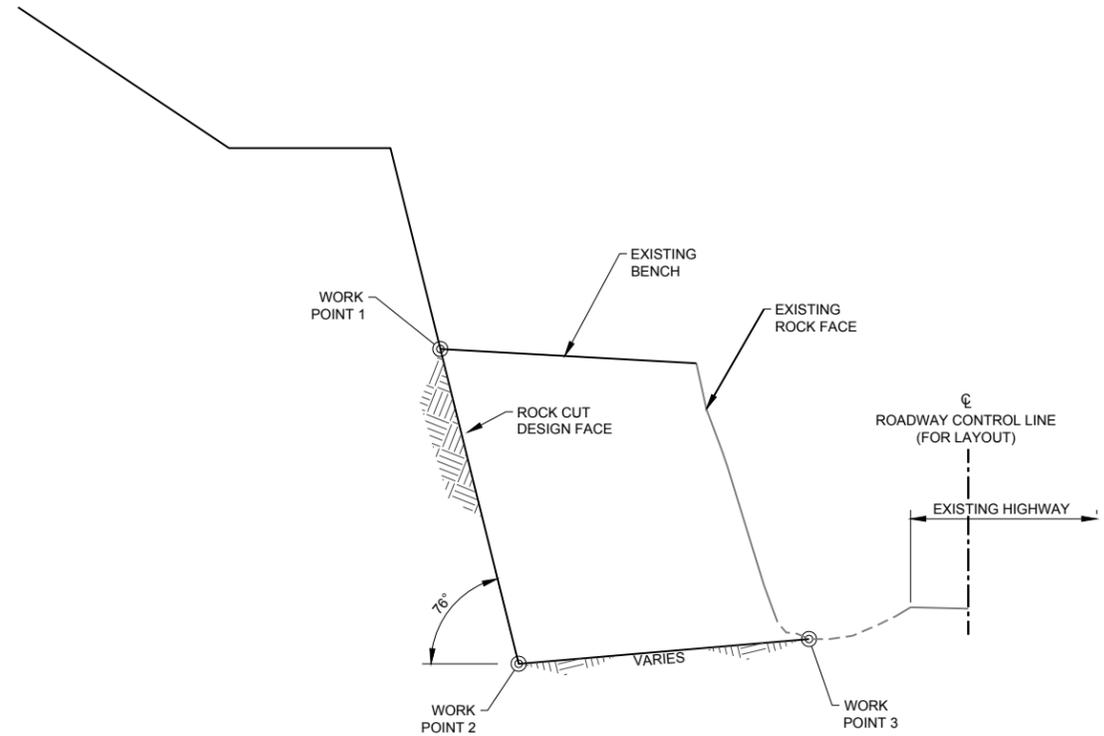
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**ROCK CUT CONSTRUCTION LAYOUT  
 TYPICAL SECTION  
 SHERBROOKE**

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<b>569.01</b>	<b>006</b>	<b>0</b>



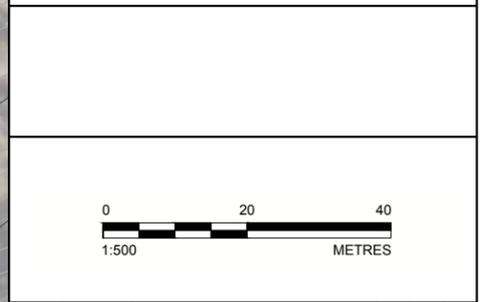
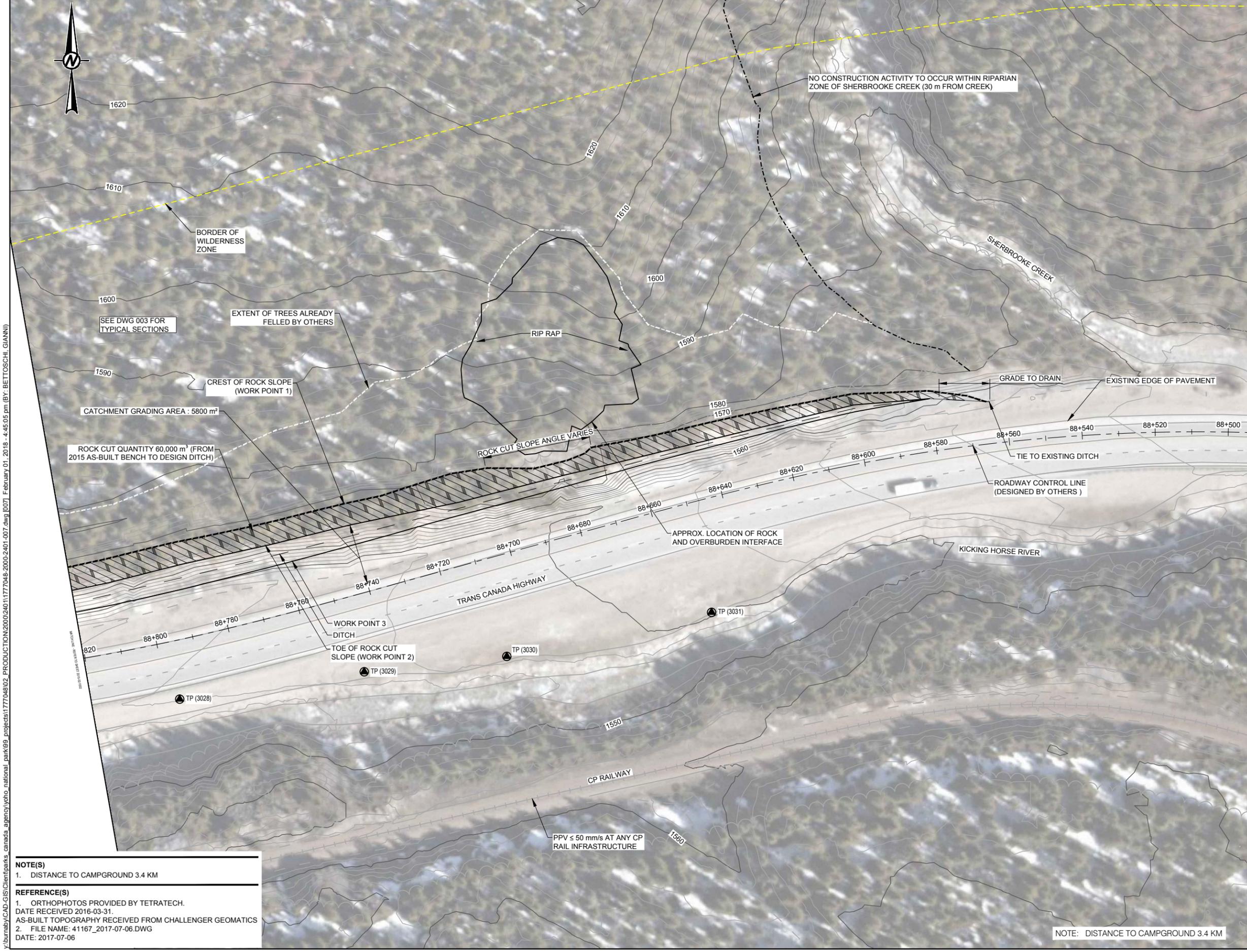
**ROCK SLOPE CONSTRUCTION LAYOUT POINTS**  
 NOT TO SCALE

**SHERBROOKE ROCK SLOPE CONSTRUCTION LAYOUT POINTS**

STATION	WORK POINT No.	NORTHING	EASTING	ELEVATION (m)	STATION	WORK POINT No.	NORTHING	EASTING	ELEVATION (m)	STATION	WORK POINT No.	NORTHING	EASTING	ELEVATION (m)	STATION	WORK POINT No.	NORTHING	EASTING	ELEVATION (m)
88+560	1	5698620.395	543409.458	1559.38	88+700	1	5698596.129	543268.271	1573.379	88+860	1	5698560.279	543116.691	1549.03	89+040	1	5698569.545	542940.252	1538.685
	2	5698619.559	543409.524	1556.018		2	5698590.012	543269.961	1547.926		2	5698558.148	543116.841	1540.464		2	5698568.42	542940.146	1534.37
	3	5698613.099	543410.032	1556.632		3	5698580.126	543272.694	1549.239		3	5698548.253	543117.542	1541.826		3	5698558.092	542939.171	1535.089
88+580	1	5698617.650	543388.636	1561	88+710	1	5698594.761	543258.274	1570.564	88+880	1	5698559.089	543097.586	1547.405	89+060	1	5698569.627	542919.741	1538.083
	2	5698616.206	543388.845	1555.147		2	5698589.197	5698589.197	1547.414		2	5698557.156	543097.634	1539.649		2	5698567.513	542919.607	1533.80
	3	5698607.814	543390.058	1555.617		3	5698577.498	543263.045	1548.713		3	5698544.926	543097.943	1541.121		3	5698561.919	542919.252	1534.599
88+600	1	5698618.443	543367.531	1564.327	88+720	1	5698592.994	543248.429	1570.013	88+900	1	5698560.470	543078.468	1546.741	89+080	1	5698569.654	542899.155	1537.195
	2	5698615.710	543368.038	1553.206		2	5698587.450	543249.920	1546.902		2	5698558.391	543078.426	1538.458		2	5698567.909	542899.118	1532.40
	3	5698605.915	543369.857	1554.528		3	5698575.035	543253.351	1548.122		3	5698544.332	543078.141	1540.298		3	5698563.124	542899.016	1534.989
88+620	1	5698615.018	543347.047	1566.854	88+740	1	5698590.042	543228.476	1569.18	88+920	1	5698562.545	543059.416	1550.11					
	2	5698611.410	543347.860	1552.076		2	5698584.440	543230.020	1545.872		2	5698559.414	543059.221	1537.527					
	3	5698602.102	543349.956	1553.132		3	5698569.539	543234.125	1547.215		3	5698545.568	543058.356	1539.21					
88+640	1	5698610.336	543327.030	1568.168	88+760	1	5698584.510	543209.529	1568.078	88+940	1	5698564.429	543040.178	1550.644					
	2	5698606.188	543328.084	1551.001		2	5698578.909	543211.012	1544.839		2	5698561.000	543039.856	1536.827					
	3	5698596.754	543330.483	1551.92		3	5698567.553	543214.019	1546.189		3	5698547.776	543038.616	1538.828					
88+660	1	5698605.196	543307.363	1568.303	88+780	1	5698580.487	543189.883	1567.617	88+960	1	5698566.139	543020.677	1548.645					
	2	5698600.797	543308.557	1549.976		2	5698574.747	543191.403	1543.802		2	5698563.038	543020.325	1536.128					
	3	5698591.489	543311.083	1550.943		3	5698563.846	543194.290	1544.905		3	5698551.603	543019.025	1537.981					
88+670	1	5698603.093	543297.491	1570.297	88+800	1	5698576.323	543171.861	1568.111	88+980	1	5698566.354	543000.736	1546.994					
	2	5698598.090	543298.869	1549.463		2	5698570.158	543173.142	1542.854		2	5698563.606	543000.400	1535.891					
	3	5698587.841	543301.691	1550.175		3	5698558.562	543175.550	1544.226		3	5698554.310	542999.264	1537.181					
88+680	1	5698599.276	543288.151	1571.787	88+820	1	5698572.139	543153.482	1567.068	89+000	1	5698568.293	542980.826	1543.598					
	2	5698595.395	543289.224	1548.95		2	5698565.961	543154.489	1541.96		2	5698566.207	542980.570	1535.169					
	3	5698585.176	543292.048	1549.753		3	5698553.226	543156.565	1543.389		3	5698557.130	542979.461	1536.572					
88+690	1	5698597.711	543278.209	1572.882	88+840	1	5698567.692	543135.083	1562.003	89+020	1	5698570.185	542960.759	1541.57					
	2	5698592.703	543279.593	1548.438		2	5698562.508	543135.689	1541.067		2	5698568.439	542960.560	1534.525					
	3	5698582.083	543282.528	1549.641		3	5698550.191	543137.126	1542.539		3	5698557.632	542959.327	1535.665					

- NOTES**
- ROCK TO BE EXCAVATED BELOW WORK POINT 2 AND 3, AND GRADED TO THE DESIGN LINE AS SHOWN IN THE TYPICAL SECTION ON DRAWING 003.
  - IF THE DESIGN LINE LIES ABOVE THE EXISTING GROUND SURFACE, NO EXCAVATION IS REQUIRED.
  - IF DESIGN LINE IS BELOW EXISTING EXCAVATION, CONTRACTOR IS TO CARRY ROCK EXCAVATION TOWARDS EXISTING EDGE OF PAVEMENT.
  - WORK POINT 1 AS SHOWN ON THE CROSS-SECTIONS, TO BE CONFIRMED IN THE FIELD.





0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR
Revision/	Date/Date	Description/Description	DES	DWN	CHK

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88.5 TO KM 89.2  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**J. RICHMOND**

Drawn by/Dessiné par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE CREEK  
 ROCK SLOPE PLAN  
 STA 88+580 TO 88+820**

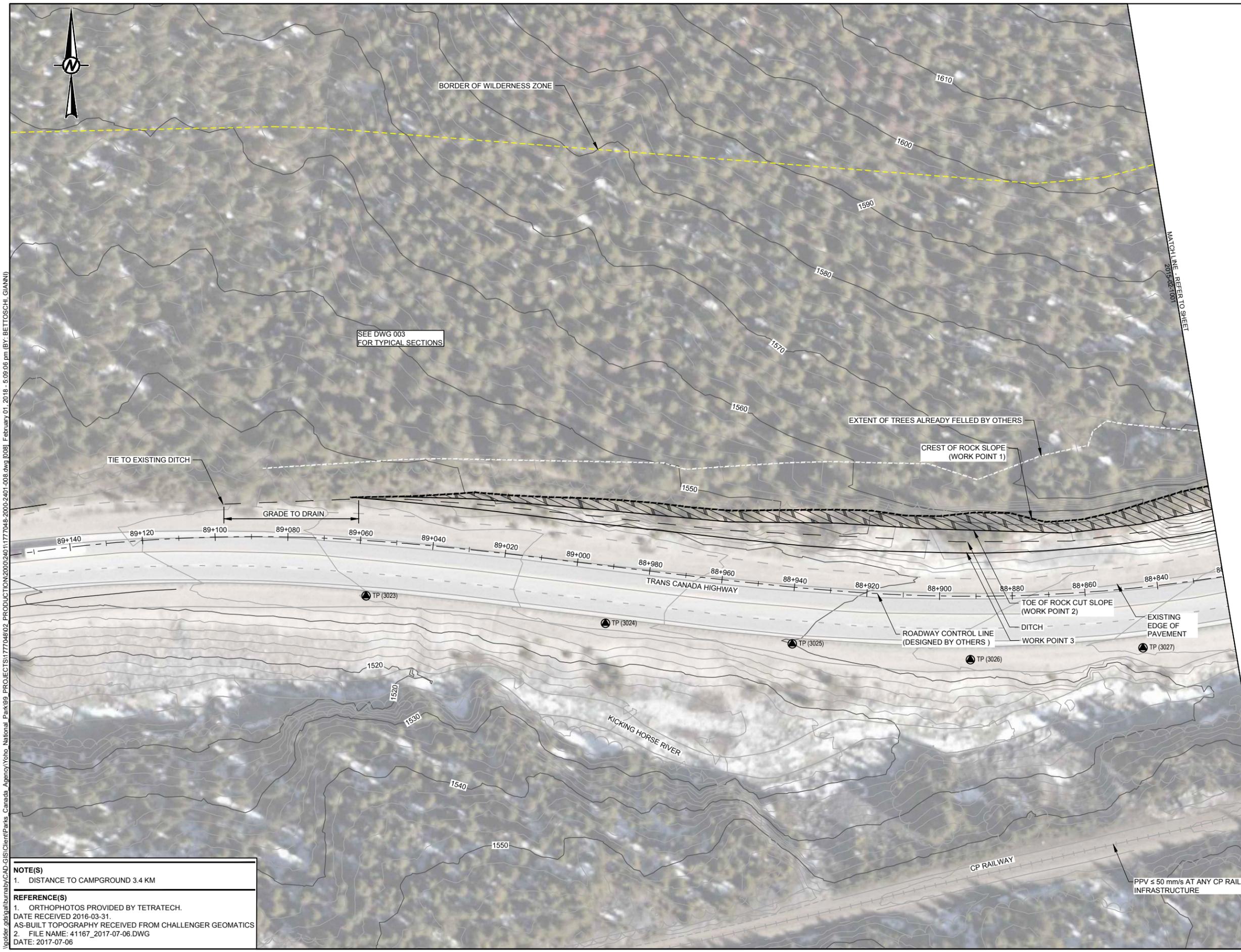
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**NOTE(S)**  
 1. DISTANCE TO CAMPGROUND 3.4 KM

**REFERENCE(S)**  
 1. ORTHOPHOTOS PROVIDED BY TETRATECH.  
 DATE RECEIVED 2016-03-31.  
 AS-BUILT TOPOGRAPHY RECEIVED FROM CHALLENGER GEOMATICS  
 2. FILE NAME: 41167\_2017-07-06.DWG  
 DATE: 2017-07-06

NOTE: DISTANCE TO CAMPGROUND 3.4 KM





Client/client  
**Parks Canada** L'Agence Parcs Canada  
**Golden Associates**

0 20 40  
 1:500 METRES

0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR
Revision/	Date/Date	Description/Description	DES	DWN	CHK

Project title/Titre du projet  
**YOHO NATIONAL PARK**  
**BRITISH COLUMBIA**  
**KM 88.5 TO KM 89.2**  
**TRANS-CANADA HIGHWAY**  
**SLOPE REPROFILING**

Designed by/Concept par  
**J. RICHMOND**

Drawn by/Dessiné par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE CREEK**  
**ROCK SLOPE PLAN**  
**STA 88+820 TO 89+060**

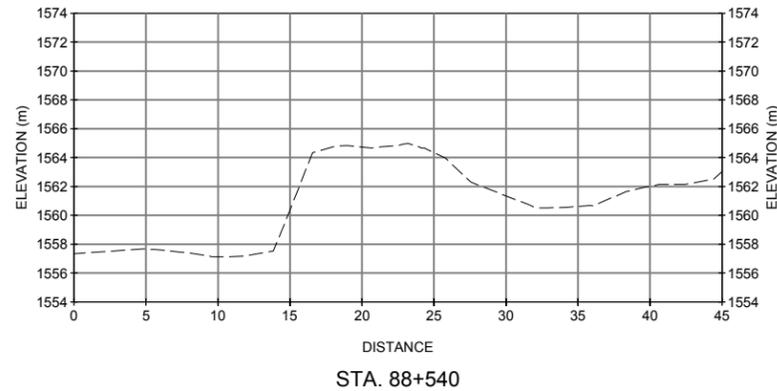
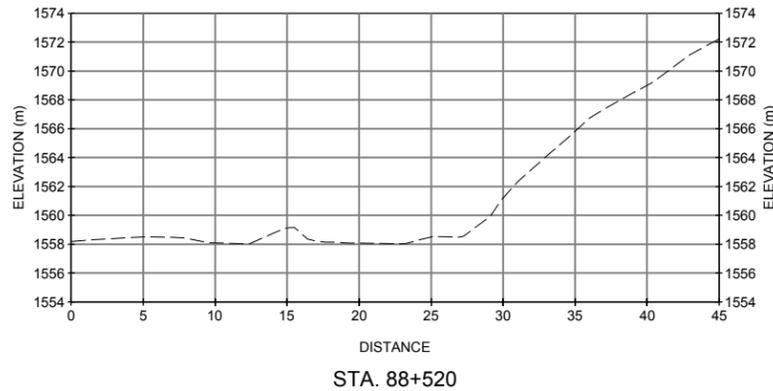
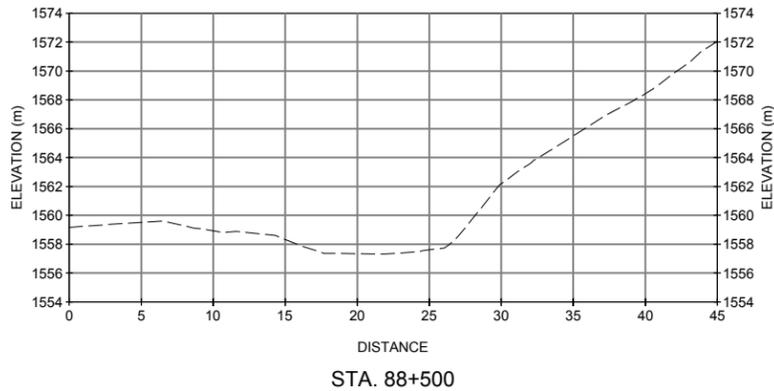
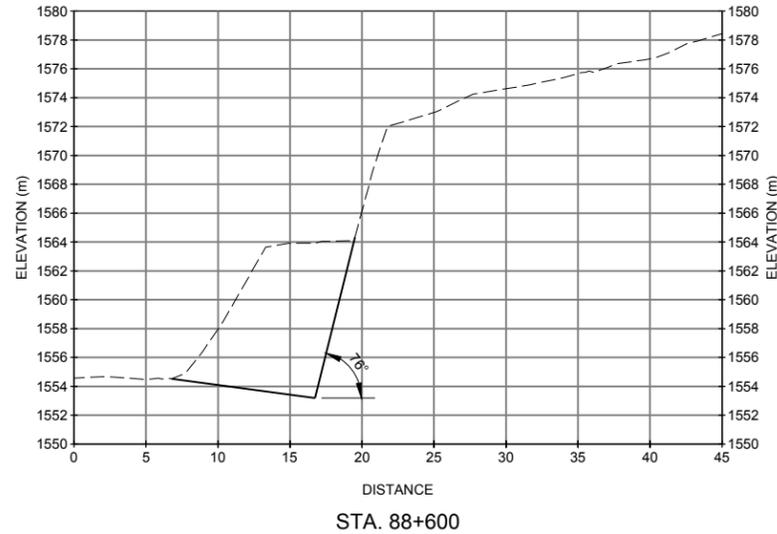
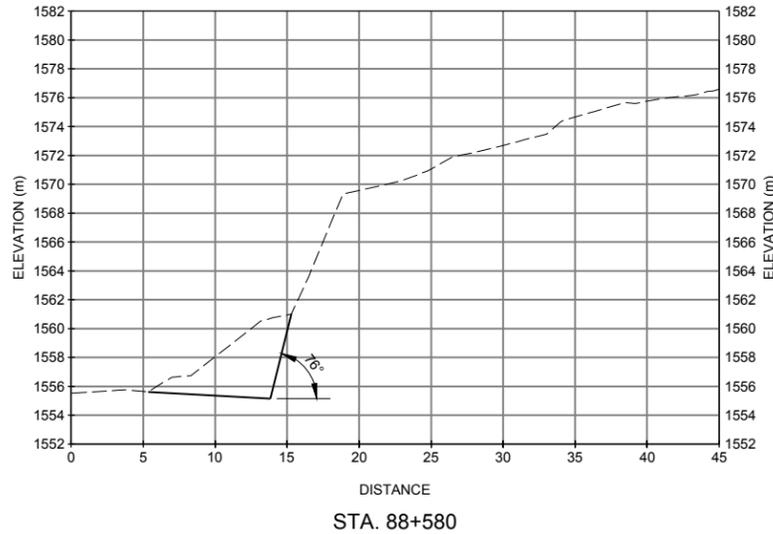
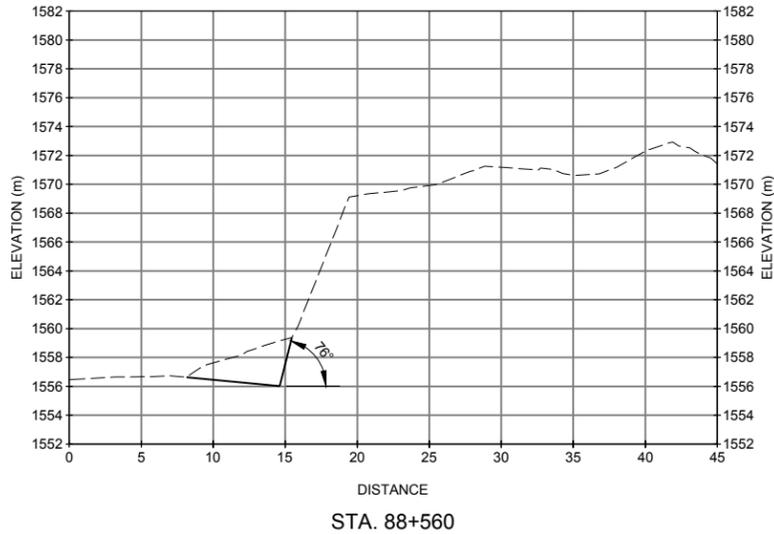
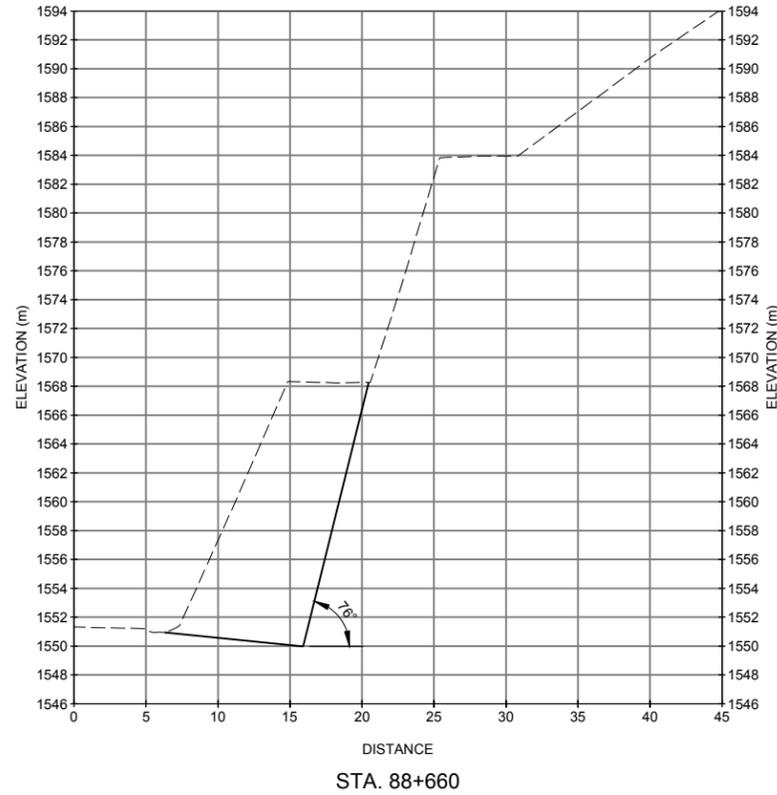
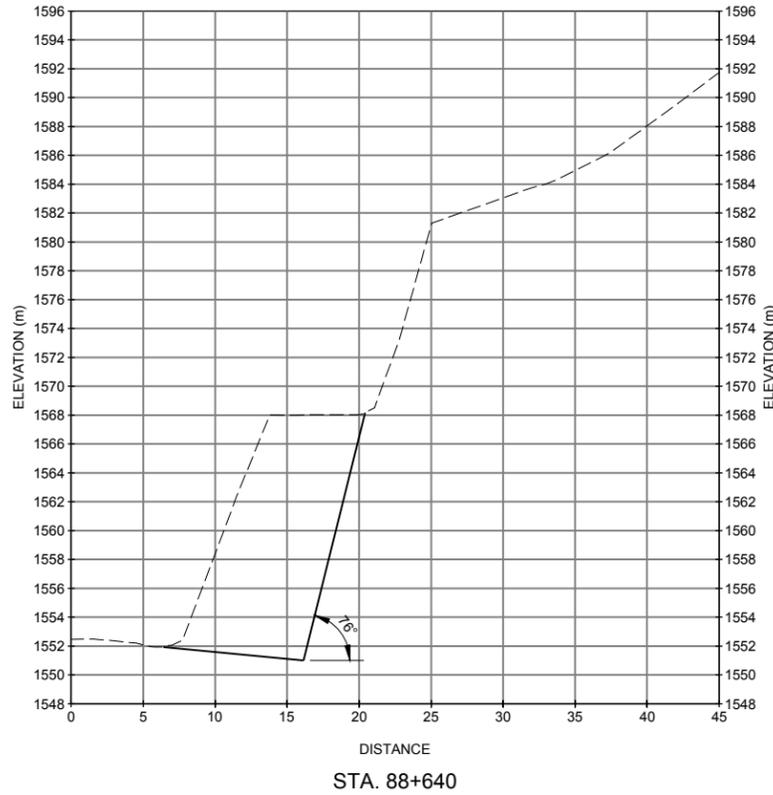
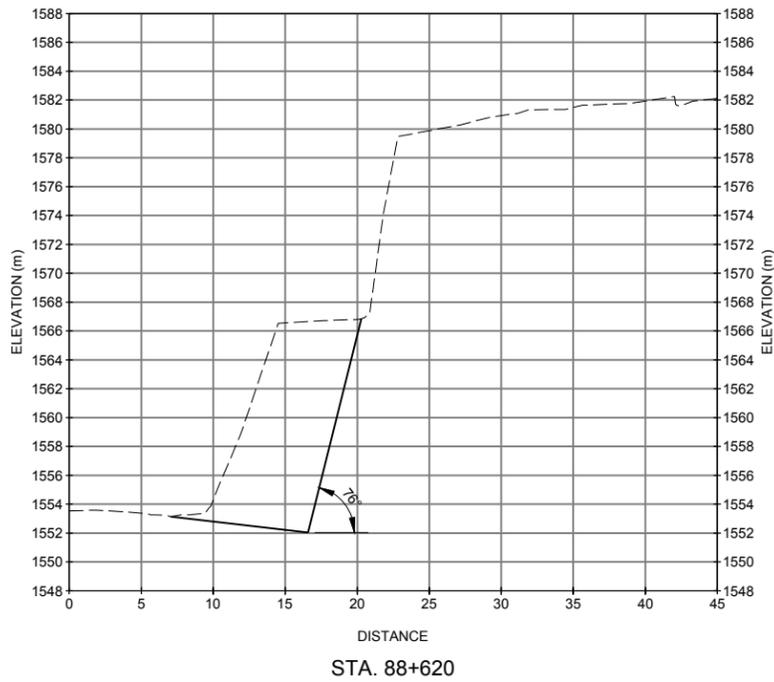
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**NOTE(S)**  
 1. DISTANCE TO CAMPGROUND 3.4 KM

**REFERENCE(S)**  
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 DATE RECEIVED 2016-03-31.  
 AS-BUILT TOPOGRAPHY RECEIVED FROM CHALLENGER GEOMATICS  
 2. FILE NAME: 41167\_2017-07-06.DWG  
 DATE: 2017-07-06



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Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR

Project Title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
  
**KM 88.5 TO KM 89.2  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**J. RICHMOND**

Drawn by/Dessine par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

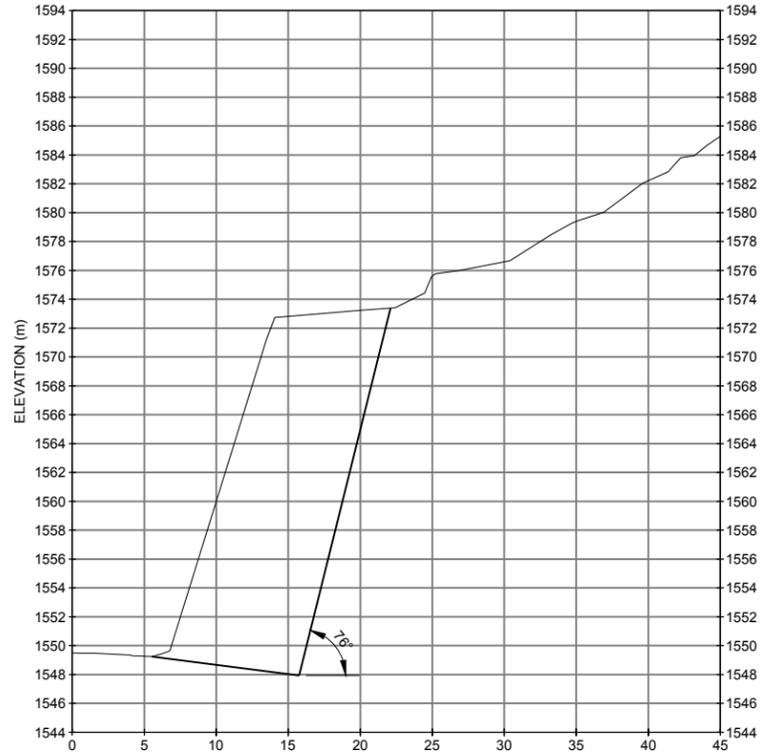
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**SHERBROOKE CREEK  
 ROCK SLOPE CROSS SECTIONS  
 STA. 88+500 TO STA. 88+660**

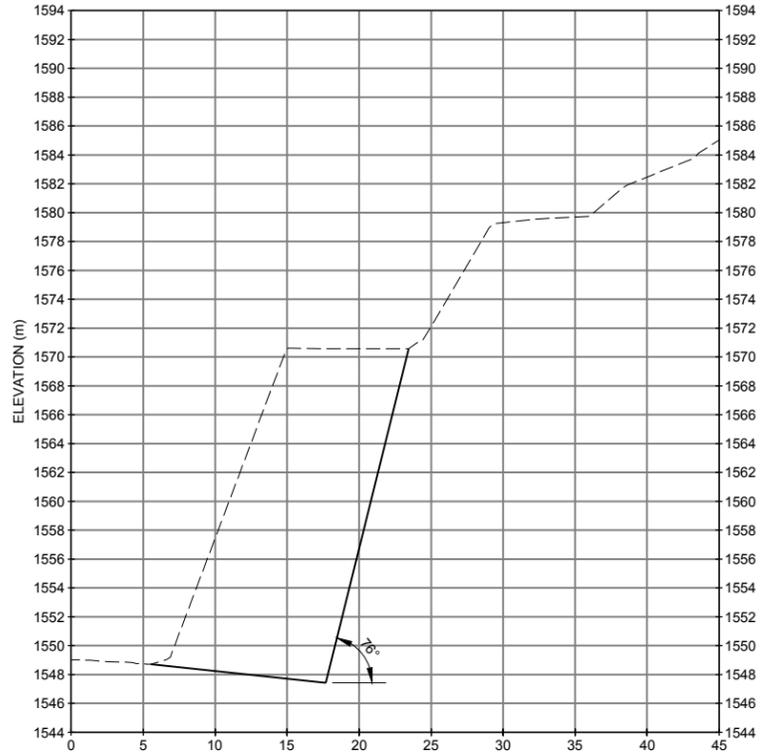
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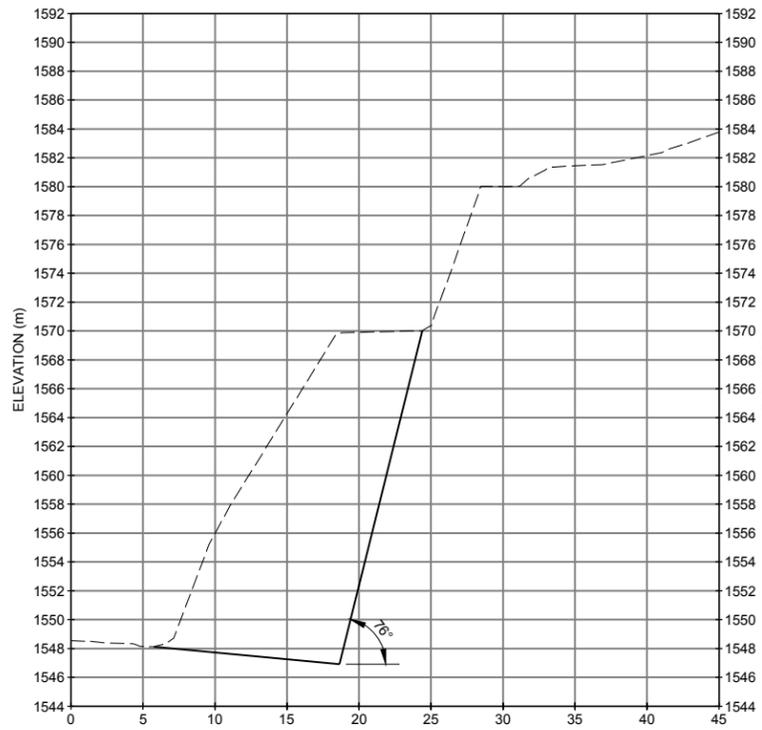
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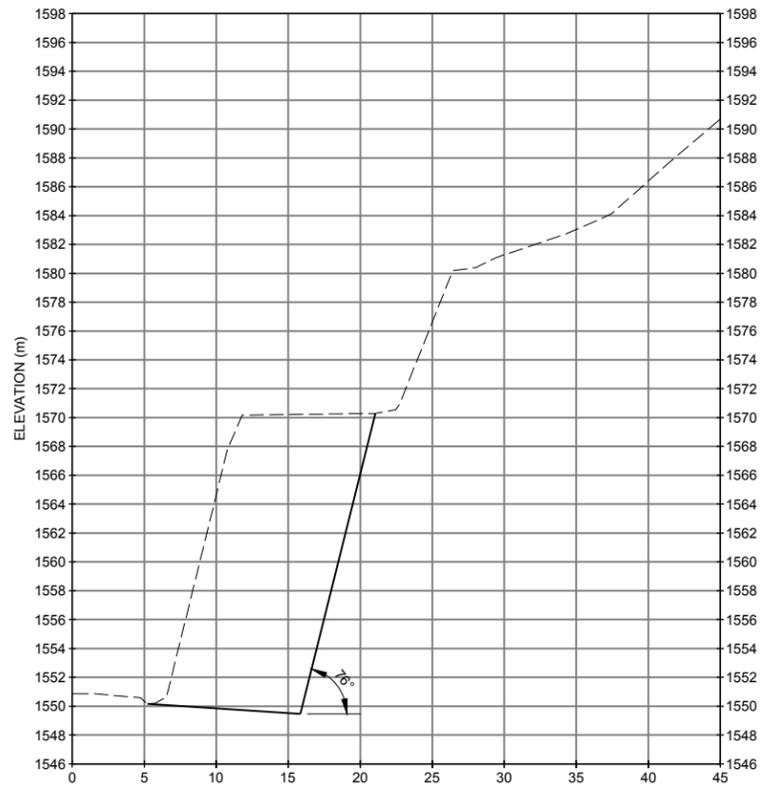
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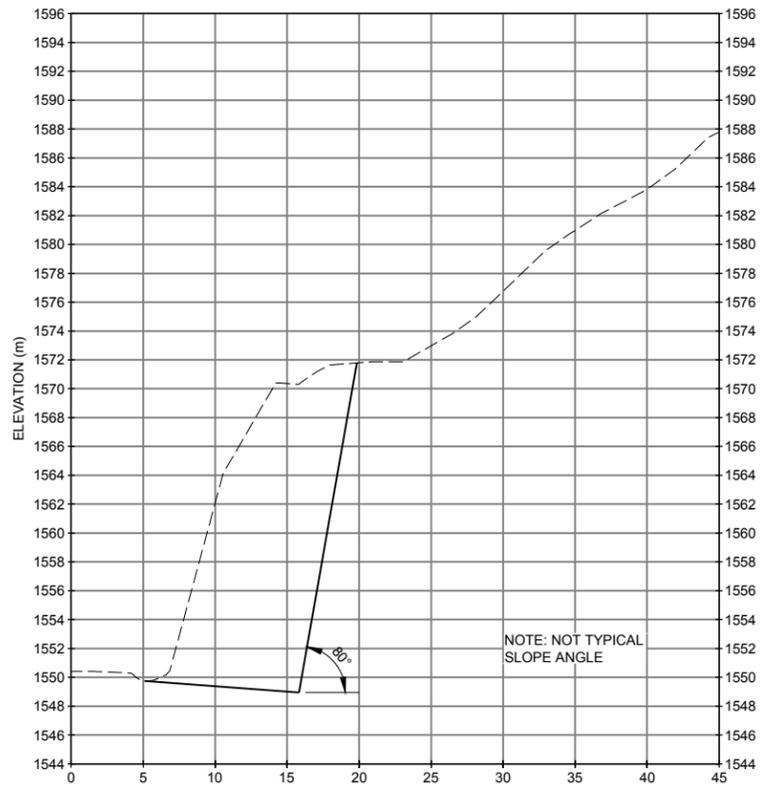
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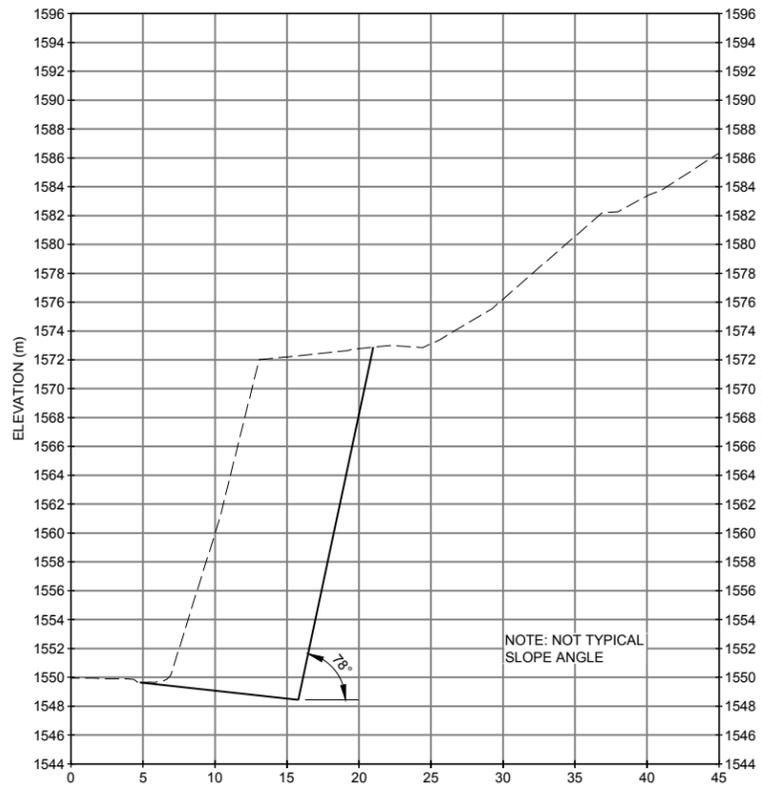
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STA. 88+720



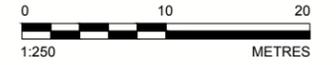
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STA. 88+670



DISTANCE  
STA. 88+680



DISTANCE  
STA. 88+690



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR

Project Title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
  
**KM 88.5 TO KM 89.2  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**J. RICHMOND**

Drawn by/Dessine par  
**J. DHALIWAL**

Seal/Joint

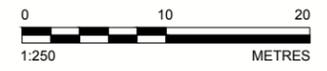
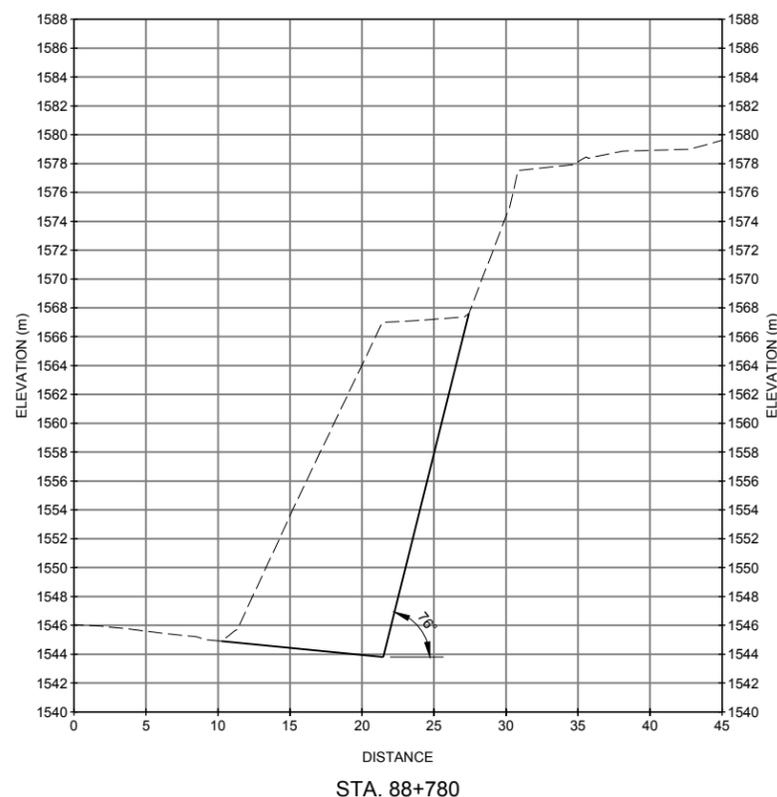
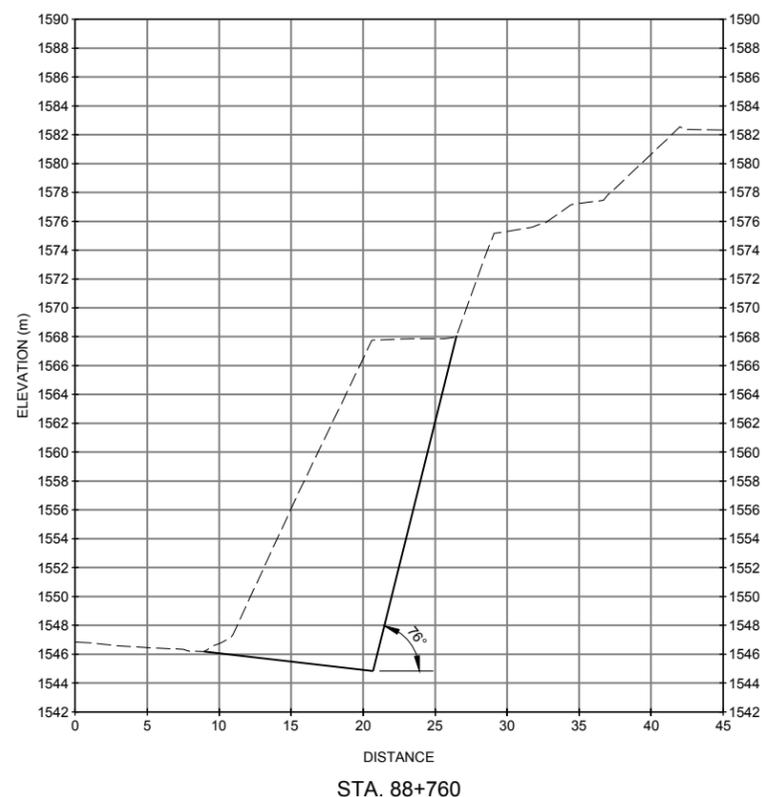
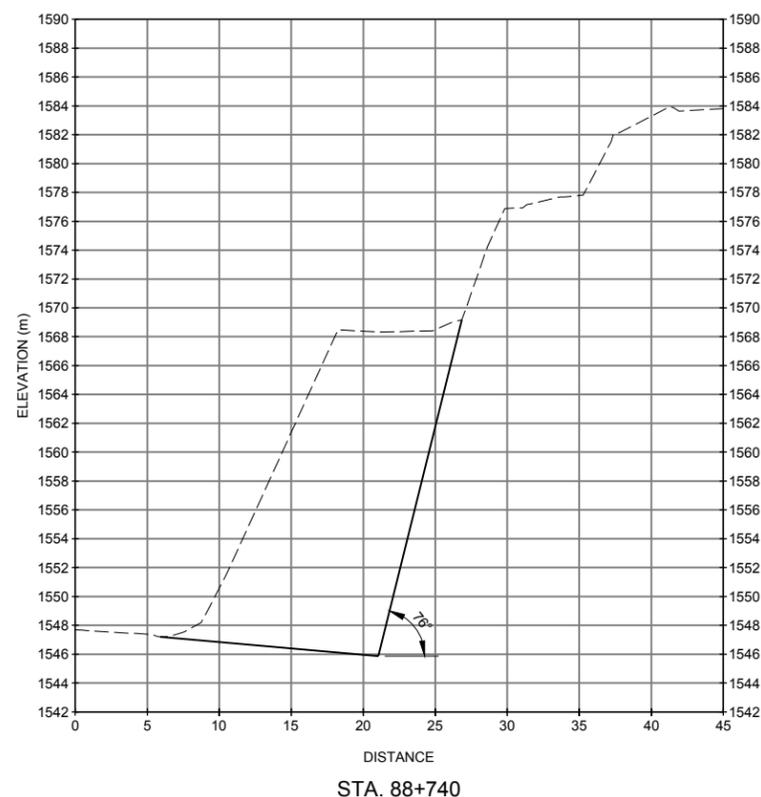
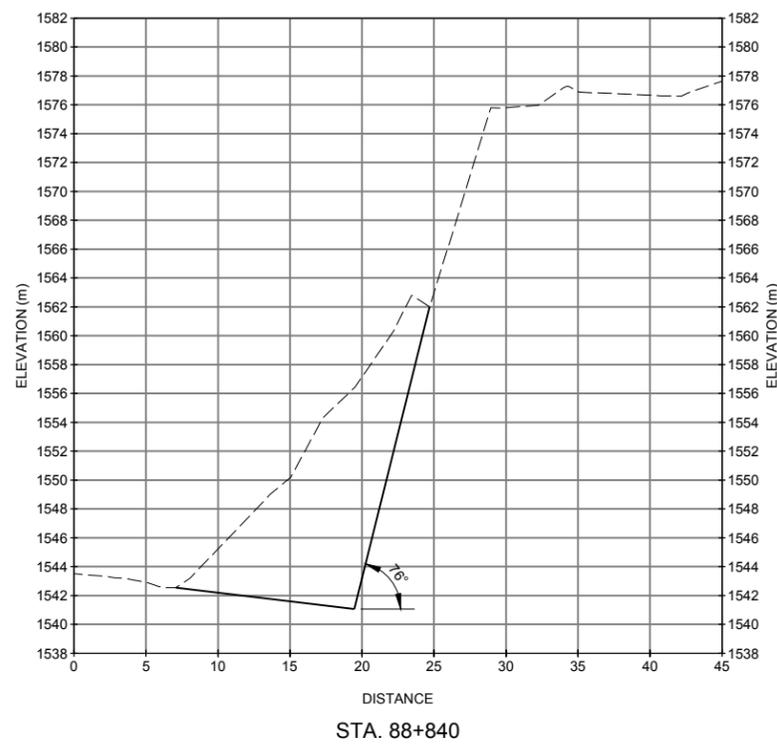
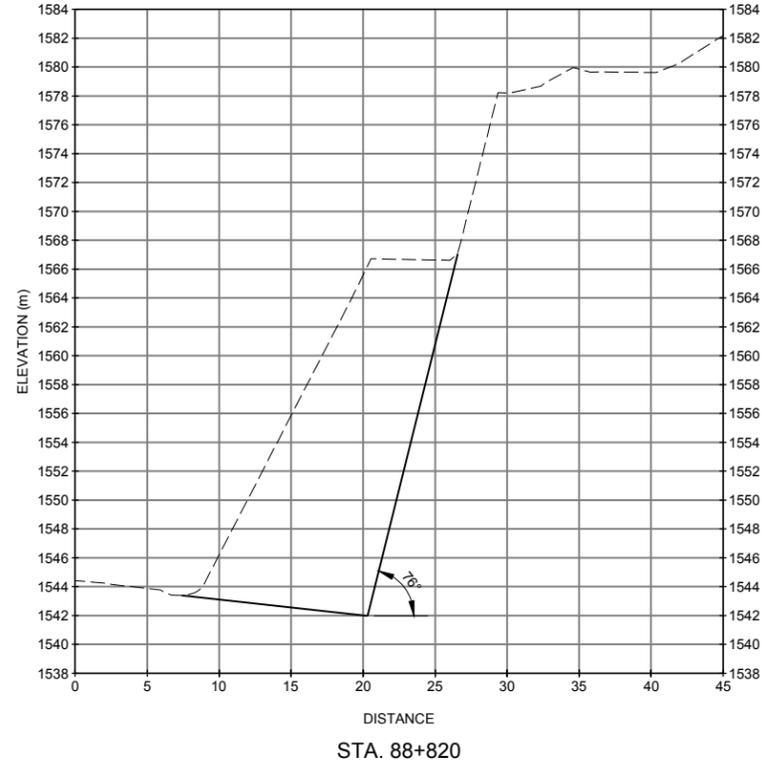
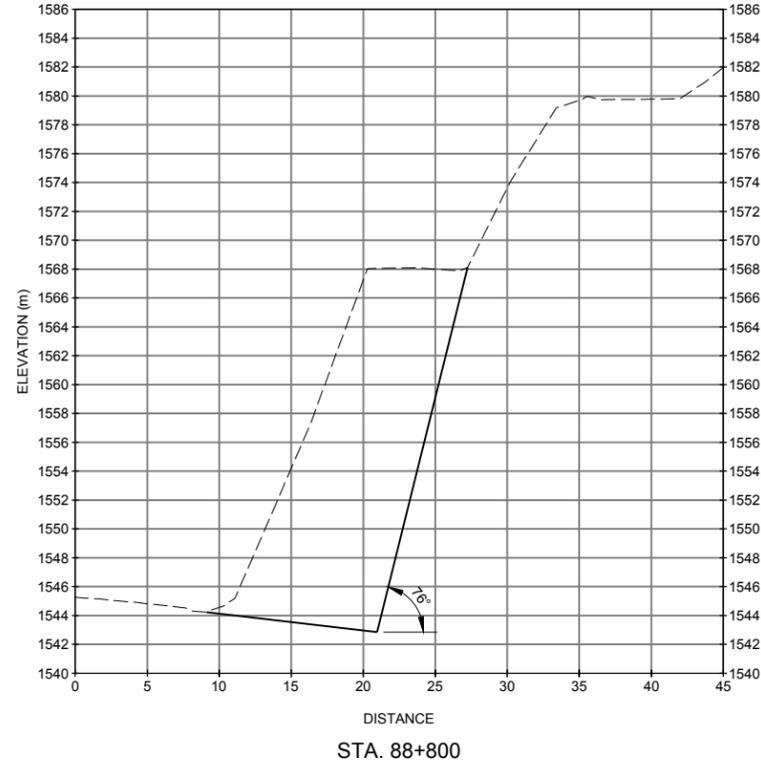
Client/client  
**PARKS CANADA AGENCY**

Drawing Title/Titre du dessin  
**SHERBROOKE CREEK  
 ROCK SLOPE CROSS SECTIONS  
 STA. 88+670 TO STA. 88+720**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
569.01	010	0



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Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR

Project Title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
  
**KM 88.5 TO KM 89.2  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**J. RICHMOND**

Drawn by/Dessine par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

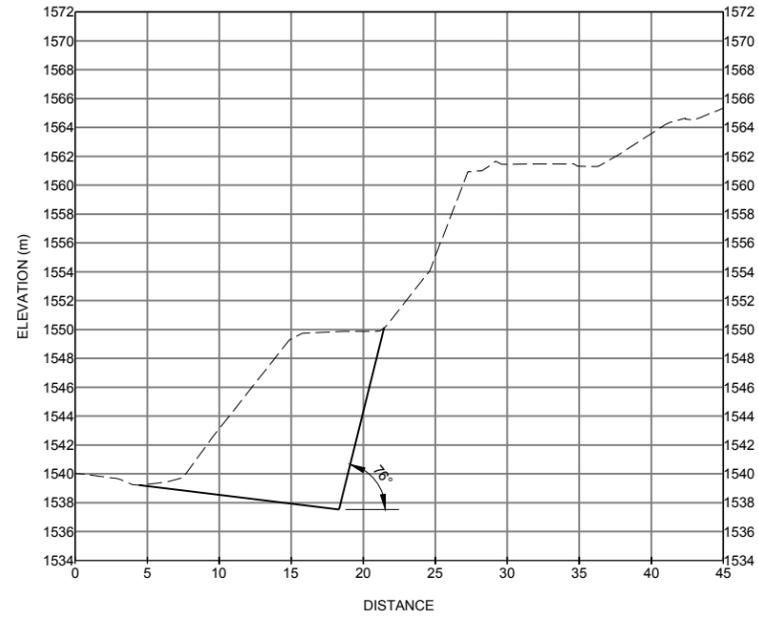
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**SHERBROOKE CREEK  
 ROCK SLOPE CROSS SECTIONS  
 STA. 88+740 TO STA. 88+840**

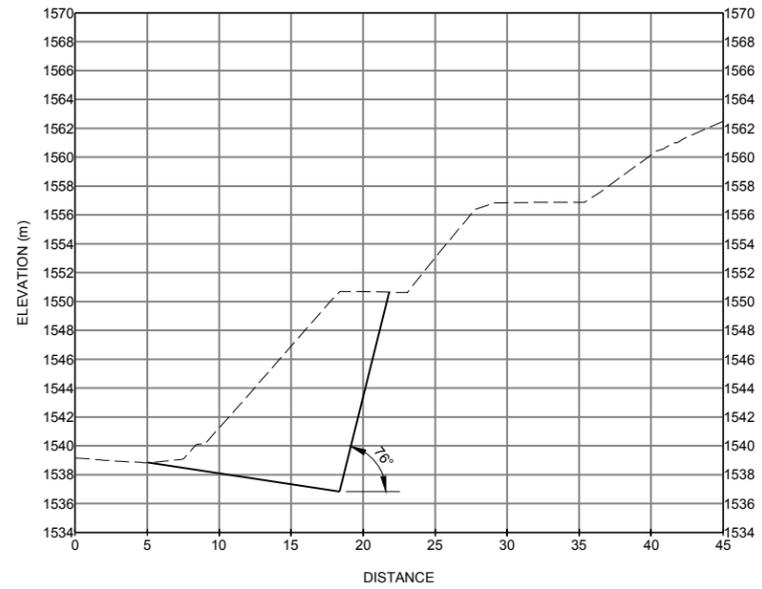
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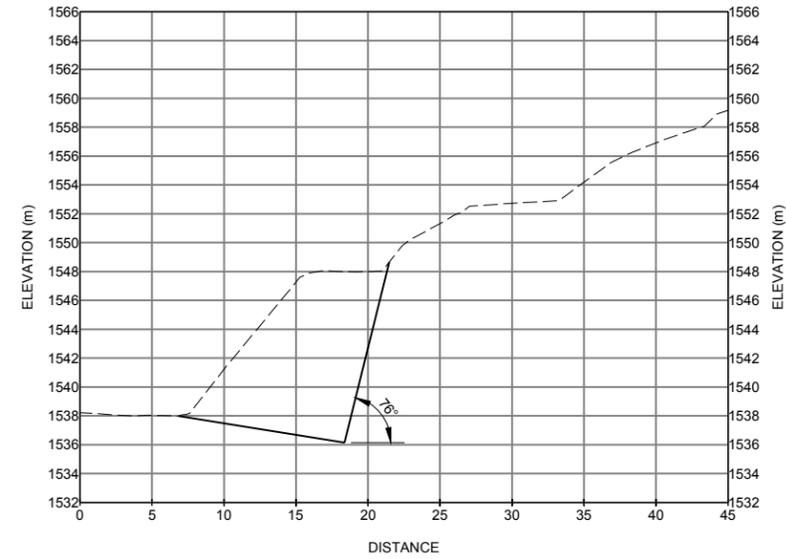
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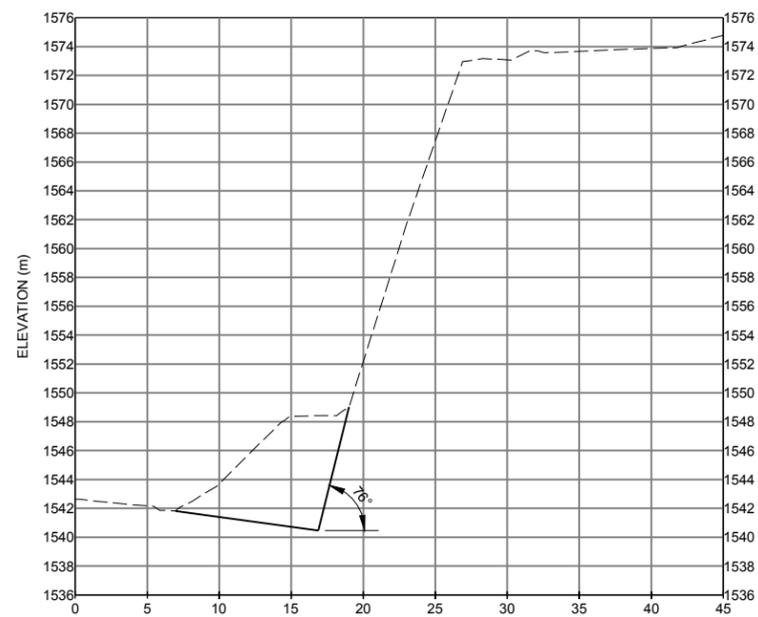
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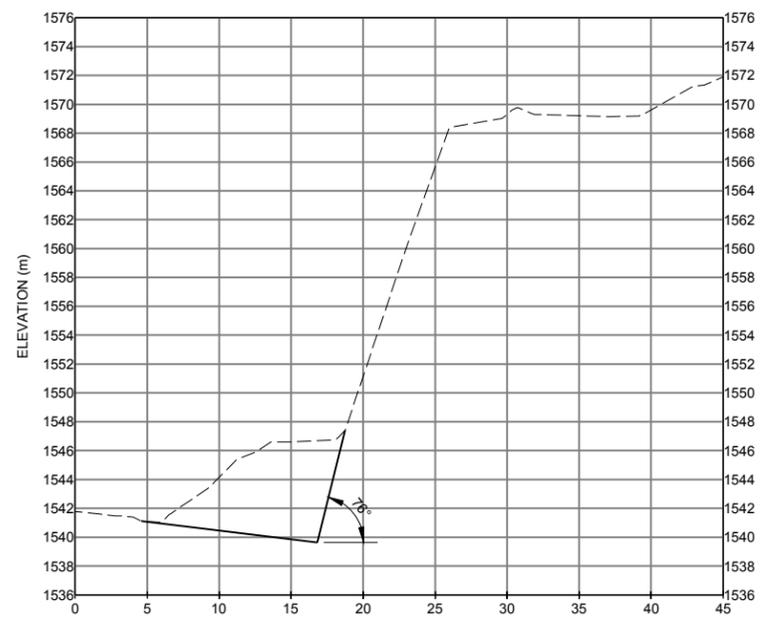
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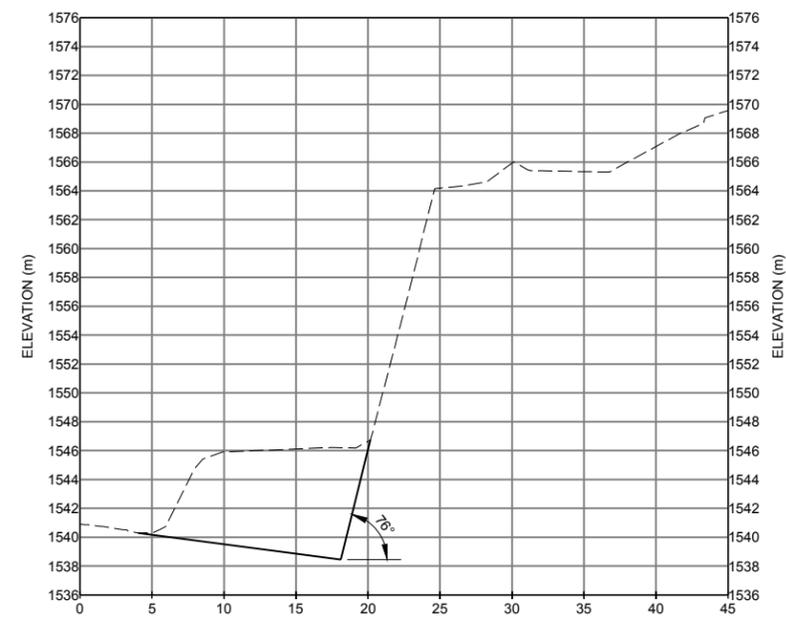
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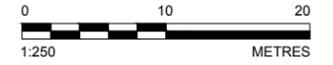
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STA. 88+880



STA. 88+900




Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR

Project Title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
  
**KM 88.5 TO KM 89.2  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**J. RICHMOND**

Drawn by/Dessiné par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

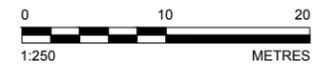
Drawing Title/Titre du dessin

**SHERBROOKE CREEK  
 ROCK SLOPE CROSS SECTIONS  
 STA. 88+860 TO STA. 88+960**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
569.01	012	0



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0	2018-02-01	ISSUED FOR TENDER	JR	GB	JR
Revision/	Date/Date	Description/Description	DES	DWN	CHK

Project Title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
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 TRANS-CANADA HIGHWAY  
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Designed by/Concept par  
**J. RICHMOND**

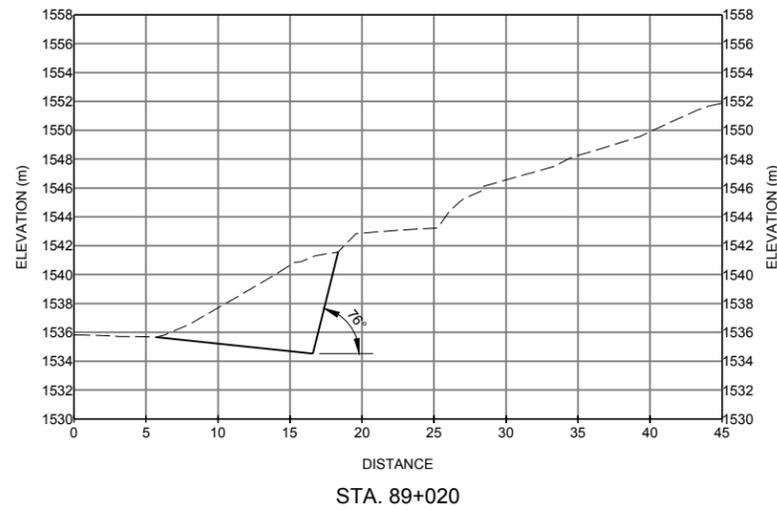
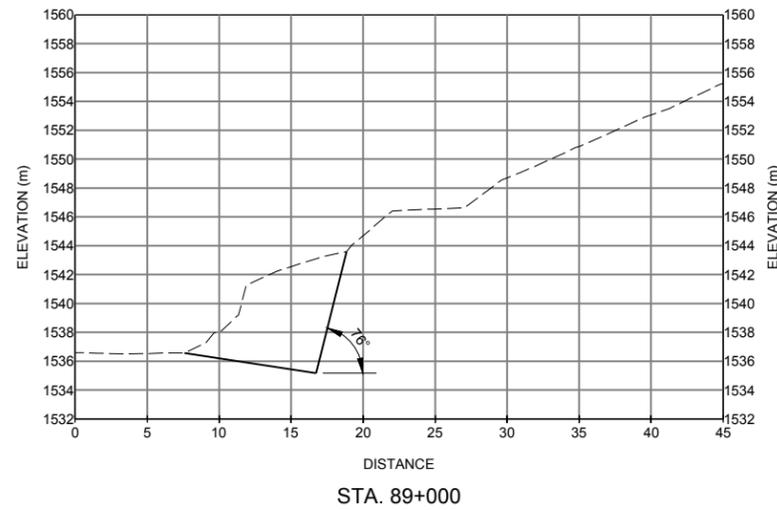
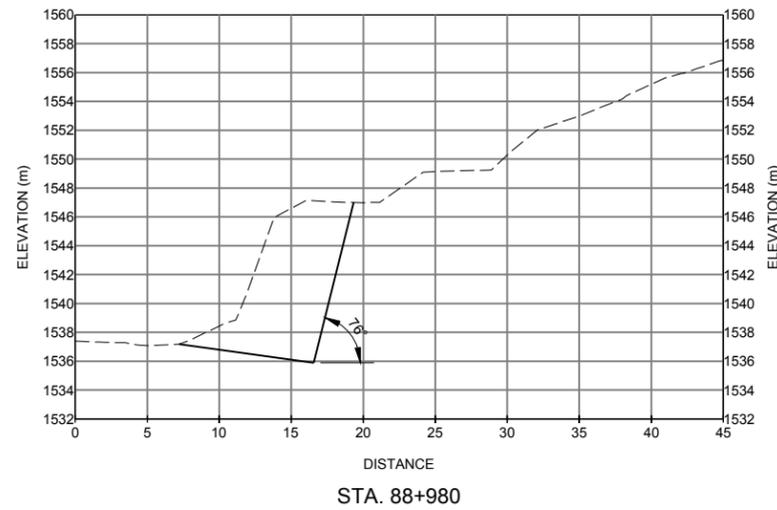
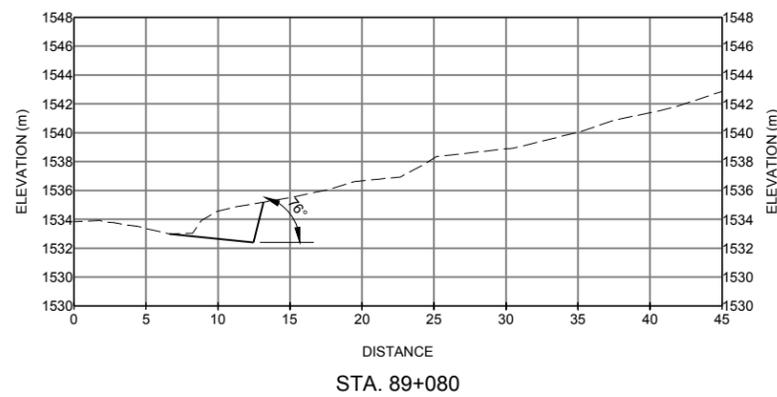
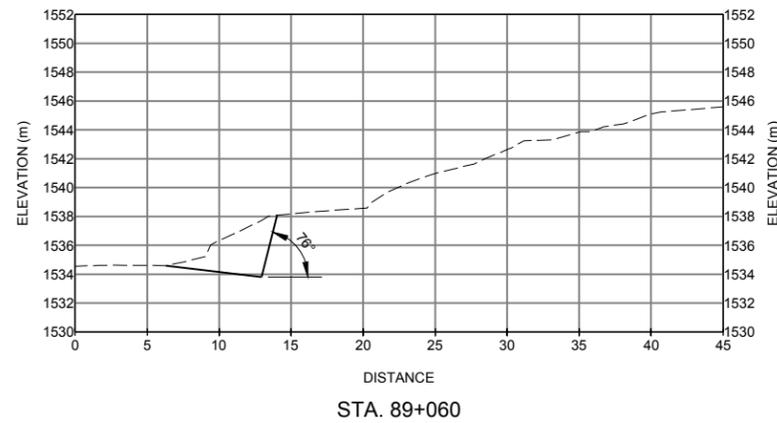
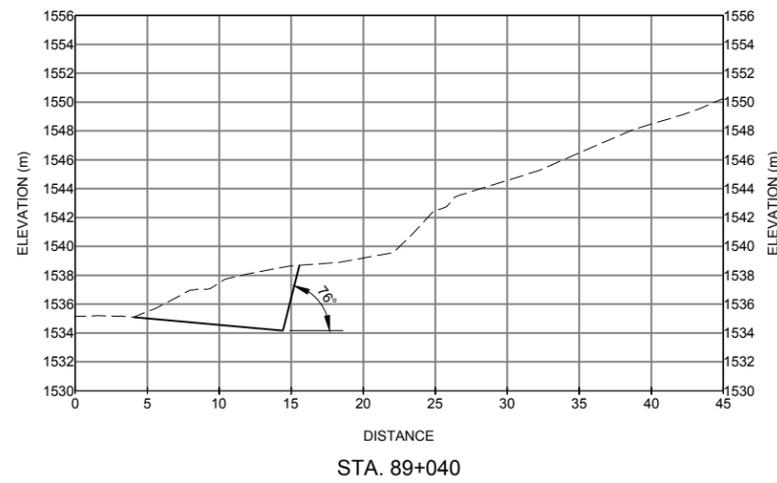
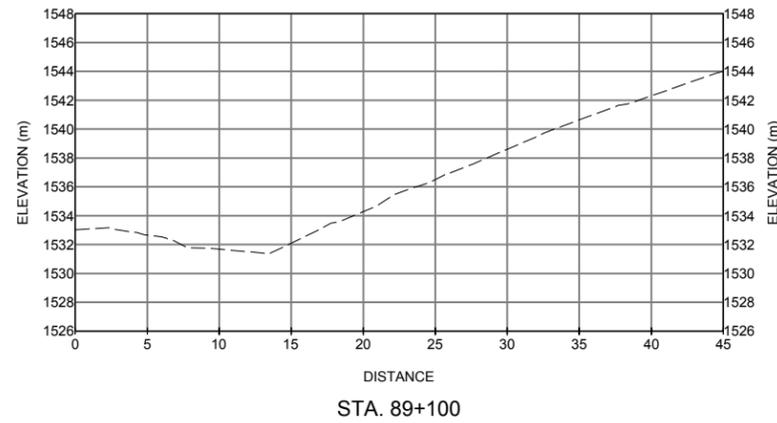
Drawn by/Dessine par  
**J. DHALIWAL**

Seal/Joint

Client/client  
**PARKS CANADA AGENCY**

Drawing Title/Titre du dessin  
**SHERBROOKE CREEK  
 ROCK SLOPE CROSS SECTIONS  
 STA. 88+980 TO STA. 89+100**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
569.01	013	0



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**LEGEND**

-  PROPOSED FINAL BERM
-  REMOVAL OF EXISTING BERM

HALF SIZE

NOT FOR CONSTRUCTION

No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé
2	2018.03.01	ISSUED FOR TENDER	N.G.	S.A.
1	2018.02.06	ISSUED FOR REVIEW	N.G.	S.A.

Revision / Revision

Consultant's Stamp Sceau de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
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Client/Client  
 Parks Canada Agency  
 L'Agence Parcs Canada

Consultant's Name  
Nom de l'expert-conseil  


Project title/Titre du projet  
**KM 88.5 TO 89.2  
 TRANS-CANADA HIGHWAY No.1  
 SLOPE REPROFILING**  
 YOHO NATIONAL PARK

Drawing title/Titre du dessin  
**MT. STEPHEN AVALANCHE BERM  
 REGRADING PLAN**  
 PLAN VIEW

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
	N.G.	2018.03.01
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
N.G.	S.A.	1:1000

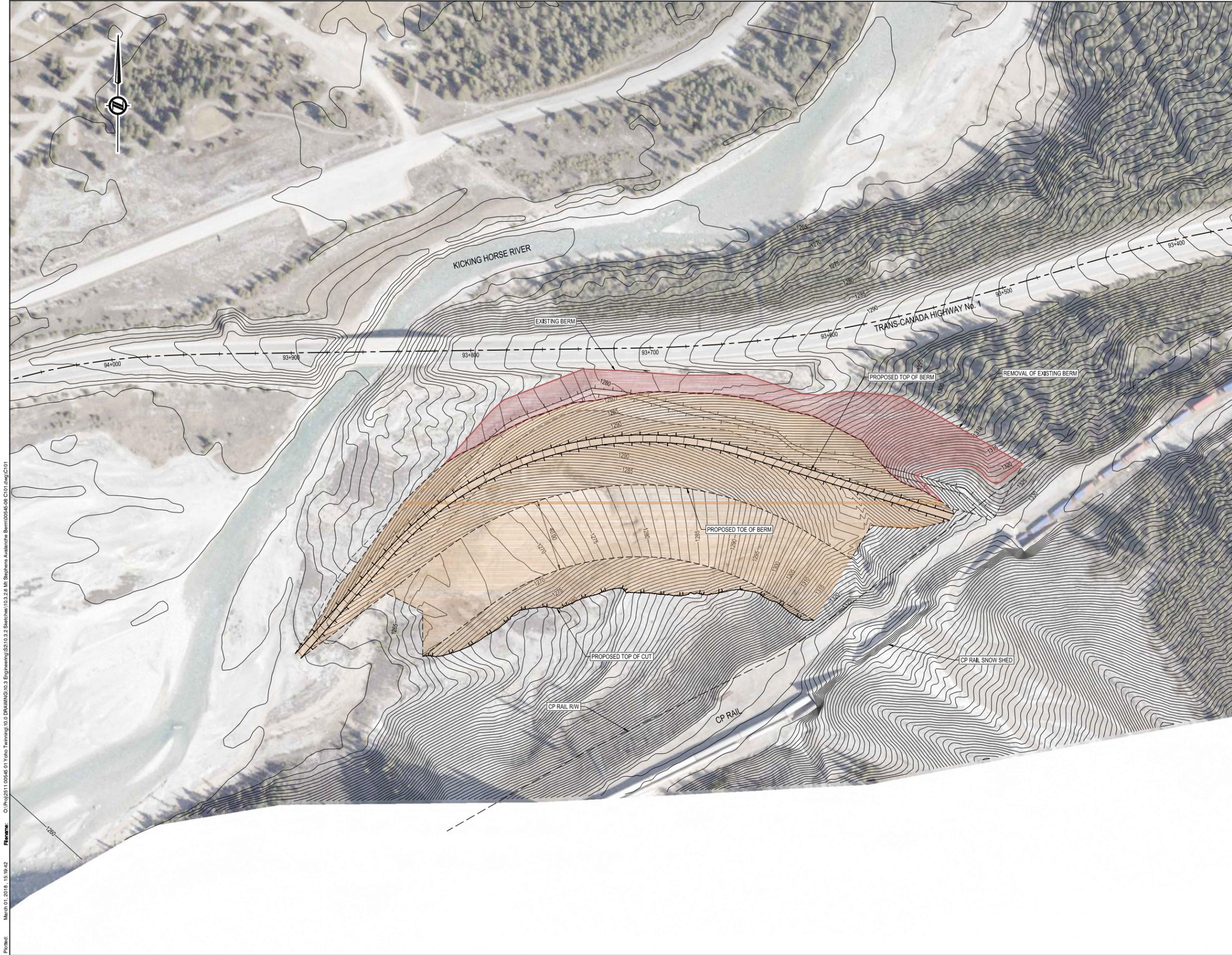
Parks Canada Project Manager/Administrateur de Projets Parcs Canada

Client Acceptance/Acceptation du client	Approved by/Approuvé par

Project No./No. du projet	Asset No./No. du bien	Sheet No./ No. de la feuille
569-01		C101

Drawing Reference No./No. de référence du dessin  
**2121-00545-06**

McElhanney ANSI D (34 x 22 inches)



File name: C:\Proj\211 00545 01 Yoho Twinning\10.0 DRAWING\10.3 Sketches\10.3.2.6 M. Stephens Avalanche BERM\00545-06 C101.dwg C101  
 Picked: March 01, 2018, 15:19:42

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HALF SIZE

NOT FOR CONSTRUCTION

1	2018.03.01	ISSUED FOR TENDER	N.G. S.A.

No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé

Revision / Revision

Consultant's Stamp Sceau de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
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Client/Client  
 Parks Canada Agency  
 L'Agence Parcs Canada

Consultant's Name  
Nom de l'expert-conseil  


Project title/Titre du projet  
 KM 88.5 TO 89.2  
 TRANS-CANADA HIGHWAY No.1  
 SLOPE REPROFILING  
 YOHO NATIONAL PARK

Drawing title/Titre du dessin  
 MT. STEPHEN AVALANCHE BERM  
 REGRADING PLAN  
 TYPICAL SECTION

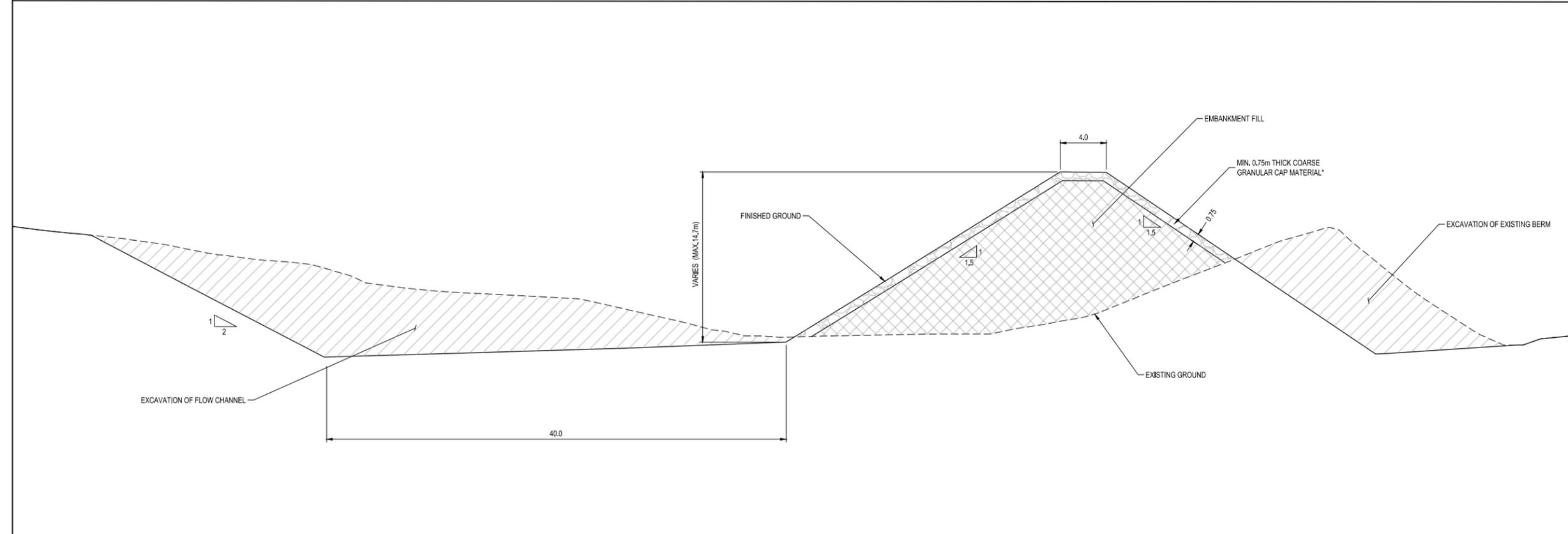
Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
	N.G.	2018.03.01
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
N.G.	S.A.	1:200

Parks Canada Project Manager/Administrateur de Projets Parcs Canada

Client Acceptance/Acceptation du client	Approved by/Approuvé par

Parks Canada Responsible Officer/Agent Responsable Parcs Canada	Parks Canada Project Manager/Administrateur de Projets Parcs Canada	Sheet No./ No. de la feuille
		569-01 C301
Drawing Reference No./No. de référence du dessin		
2121-00545-06		

McElhanney ANSI D (34 x 22 inches)



TYPICAL SECTION

* COARSE GRANULAR CAP MATERIAL	
SIEVE SIZE	PERCENT PASSING
750mm	100
75mm	20-85
12.5mm	10-35
0.075mm	0-15

MATERIAL TO BE RECOVERED ON-SITE, AND RE-USED FROM EXISTING DEBRIS MATERIAL AND EXISTING BERM CAP.

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