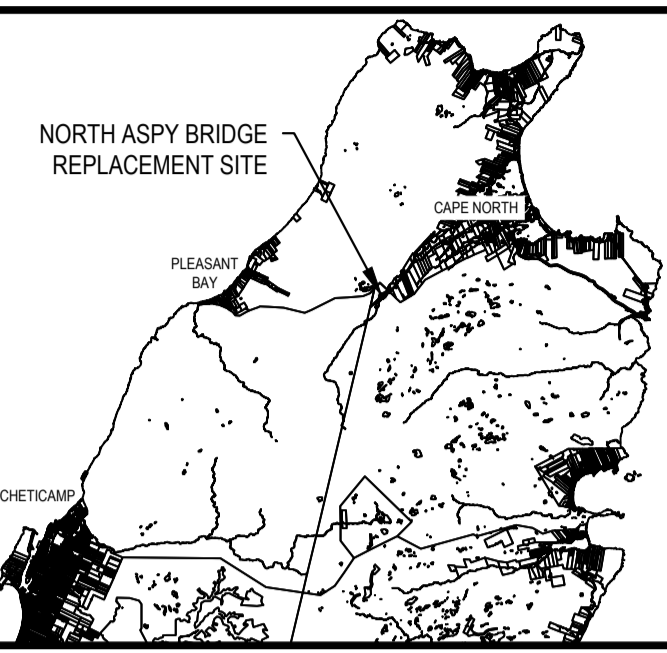
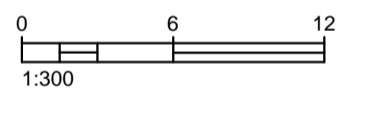


PID 85055028  
INGONISH BEACH  
ENVIRONMENT CANADA

PID 85055028  
INGONISH BEACH  
ENVIRONMENT CANADA



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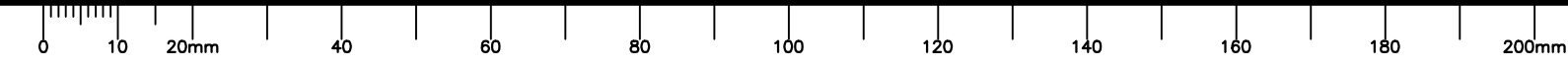


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revisions		date
project		project

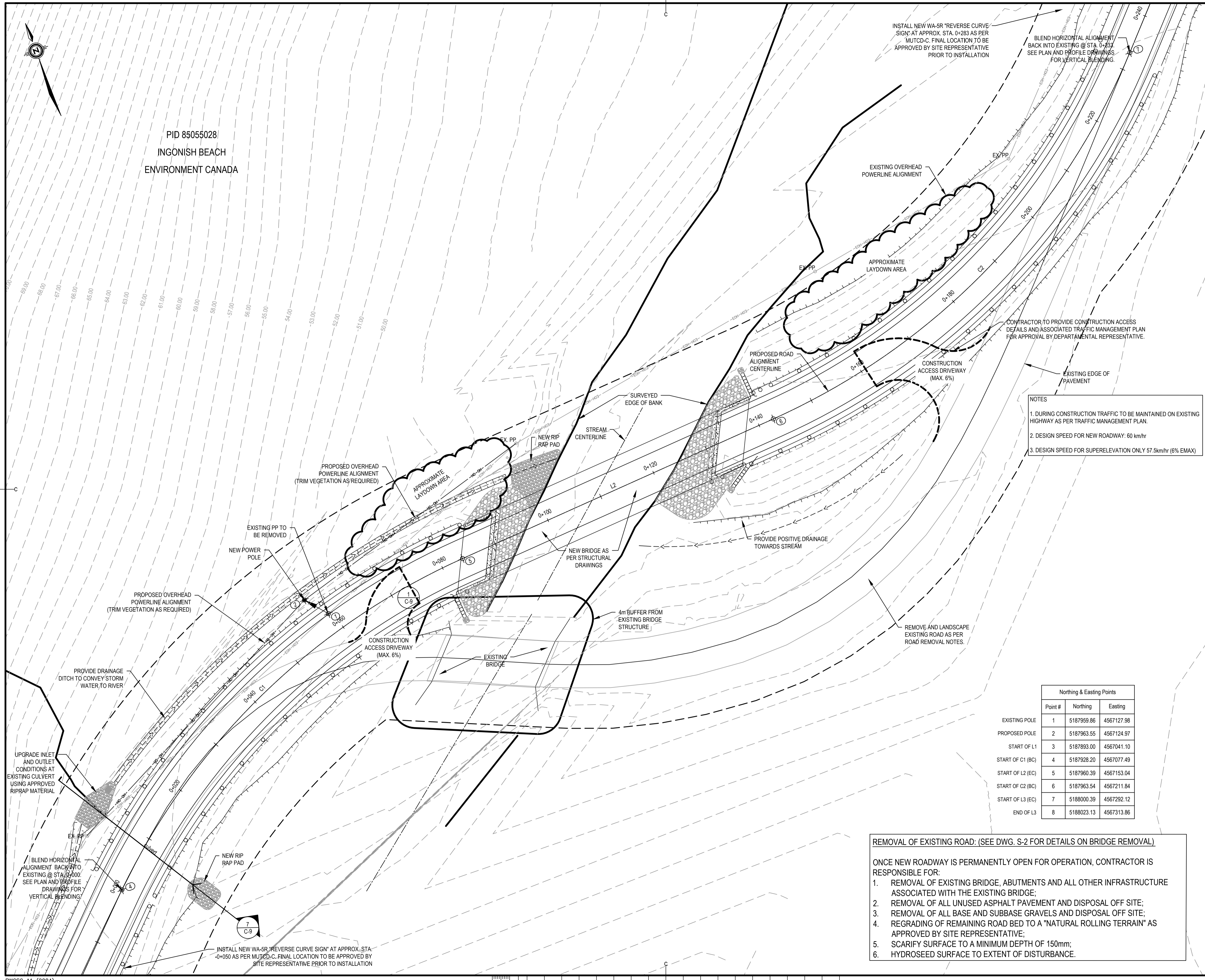
**NORTH ASPY RIVER (NORTH) BRIDGE REPLACEMENT**  
**CAPE BRETON HIGHLANDS NATIONAL PARK, NOVA SCOTIA**

drawing: **EXISTING CONDITIONS** dessin

designed	R. N. BOYCHUK	conçu
date		
drawn	D. J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		
Tender		Soumission
Project number	324	no. du projet
drawing no.	C-1	no. du dessin







PID 85055028  
INGONISH BEACH  
ENVIRONMENT CANADA

INSTALL NEW WA-SR "REVERSE CURVE SIGN" AT APPROX. STA. 0+283 AS PER MUTCD-C. FINAL LOCATION TO BE APPROVED BY SITE REPRESENTATIVE PRIOR TO INSTALLATION

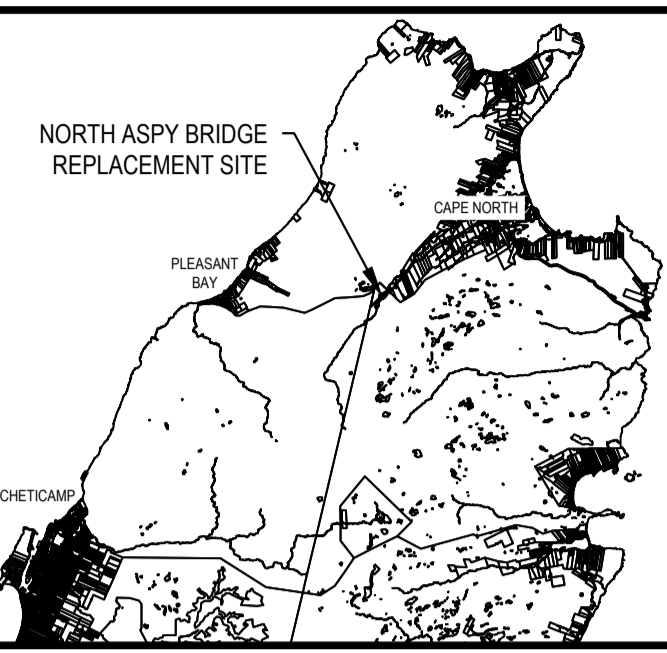
BLEND HORIZONTAL ALIGNMENT BACK INTO EXISTING @ STA. 0+252 SEE PLAN AND PROFILE DRAWINGS FOR VERTICAL BLENDING.

CONTRACTOR TO PROVIDE CONSTRUCTION ACCESS DETAILS AND ASSOCIATED TRAFFIC MANAGEMENT PLAN FOR APPROVAL BY DEPARTMENTAL REPRESENTATIVE.

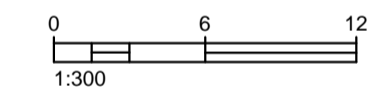
- NOTES
1. DURING CONSTRUCTION TRAFFIC TO BE MAINTAINED ON EXISTING HIGHWAY AS PER TRAFFIC MANAGEMENT PLAN.
  2. DESIGN SPEED FOR NEW ROADWAY: 60 km/hr
  3. DESIGN SPEED FOR SUPERELEVATION ONLY 57.5km/hr (6% EMAX)

Northing & Easting Points			
Point #	Northing	Easting	
EXISTING POLE 1	5187959.86	4567127.98	
PROPOSED POLE 2	5187963.55	4567124.97	
START OF L1 3	5187893.00	4567041.10	
START OF C1 (BC) 4	5187928.20	4567077.49	
START OF L2 (EC) 5	5187960.39	4567153.04	
START OF C2 (BC) 6	5187963.54	4567211.84	
START OF L3 (EC) 7	5188000.39	4567292.12	
END OF L3 8	5188023.13	4567313.86	

- REMOVAL OF EXISTING ROAD: (SEE DWG. S-2 FOR DETAILS ON BRIDGE REMOVAL)**
- ONCE NEW ROADWAY IS PERMANENTLY OPEN FOR OPERATION, CONTRACTOR IS RESPONSIBLE FOR:
1. REMOVAL OF EXISTING BRIDGE, ABUTMENTS AND ALL OTHER INFRASTRUCTURE ASSOCIATED WITH THE EXISTING BRIDGE;
  2. REMOVAL OF ALL UNUSED ASPHALT PAVEMENT AND DISPOSAL OFF SITE;
  3. REMOVAL OF ALL BASE AND SUBBASE GRAVELS AND DISPOSAL OFF SITE;
  4. REGRADING OF REMAINING ROAD BED TO A "NATURAL ROLLING TERRAIN" AS APPROVED BY SITE REPRESENTATIVE;
  5. SCARIFY SURFACE TO A MINIMUM DEPTH OF 150mm;
  6. HYDROSEED SURFACE TO EXTENT OF DISTURBANCE.



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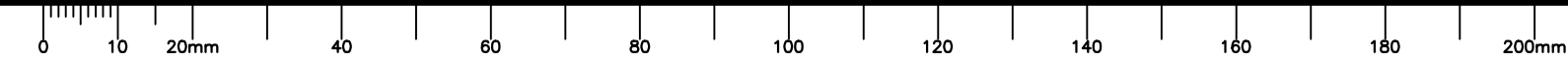


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revisions		date
project		project

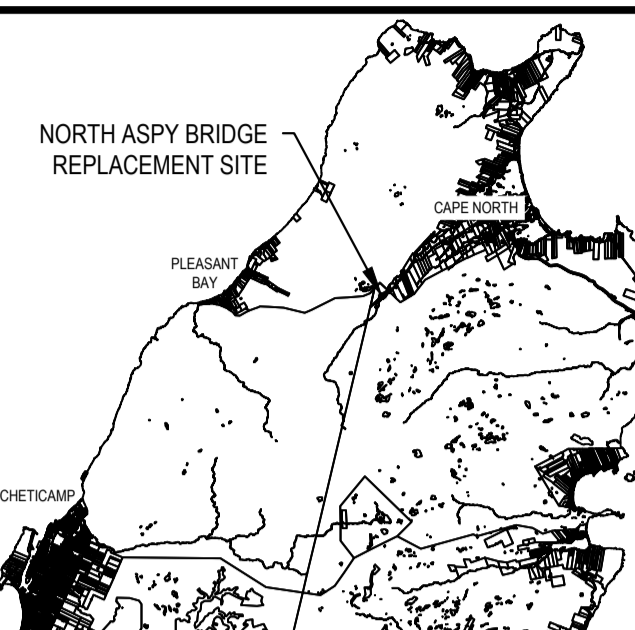
**NORTH ASPY RIVER (NORTH) BRIDGE REPLACEMENT**  
CAPE BRETON HIGHLANDS NATIONAL PARK, NOVA SCOTIA

drawing: OVERALL SITE PLAN  
dessin

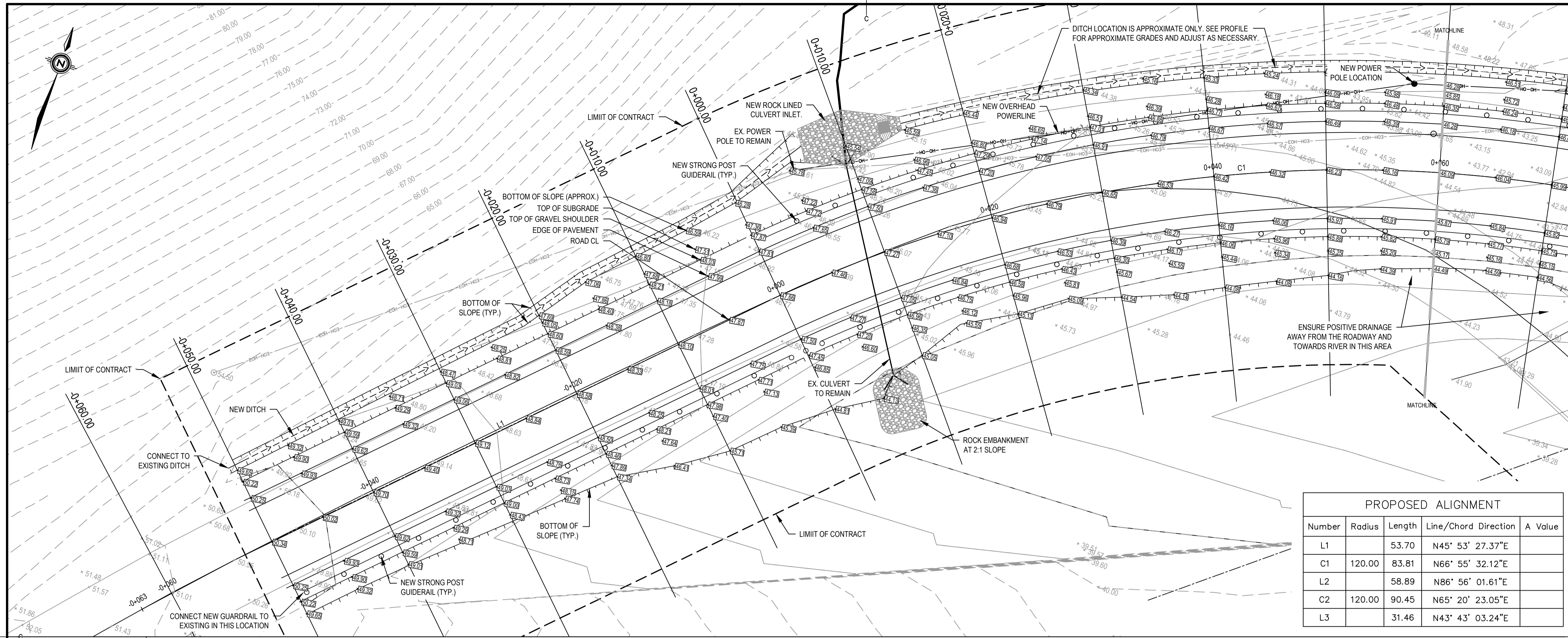
designed	R. N. BOYCHUK	conçu
date		
drawn	D. J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		
Tender		Soumission
Project number	324	no. du projet
drawing no.	C-2	no. du dessin



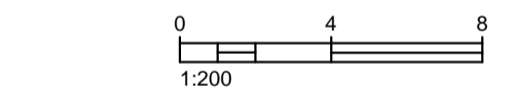
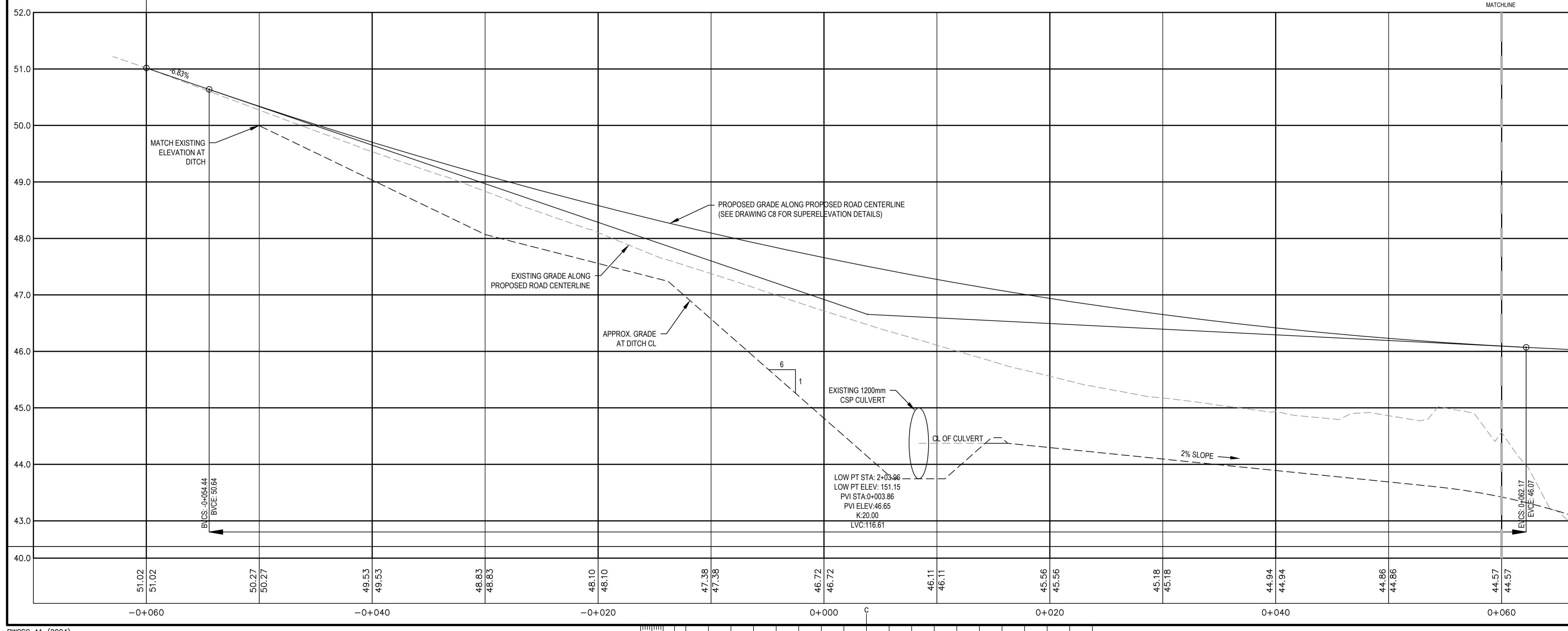




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PROPOSED ALIGNMENT				
Number	Radius	Length	Line/Chord Direction	A Value
L1		53.70	N45° 53' 27.37"E	
C1	120.00	83.81	N66° 55' 32.12"E	
L2		58.89	N86° 56' 01.61"E	
C2	120.00	90.45	N65° 20' 23.05"E	
L3		31.46	N43° 43' 03.24"E	



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revisions		date
project		project

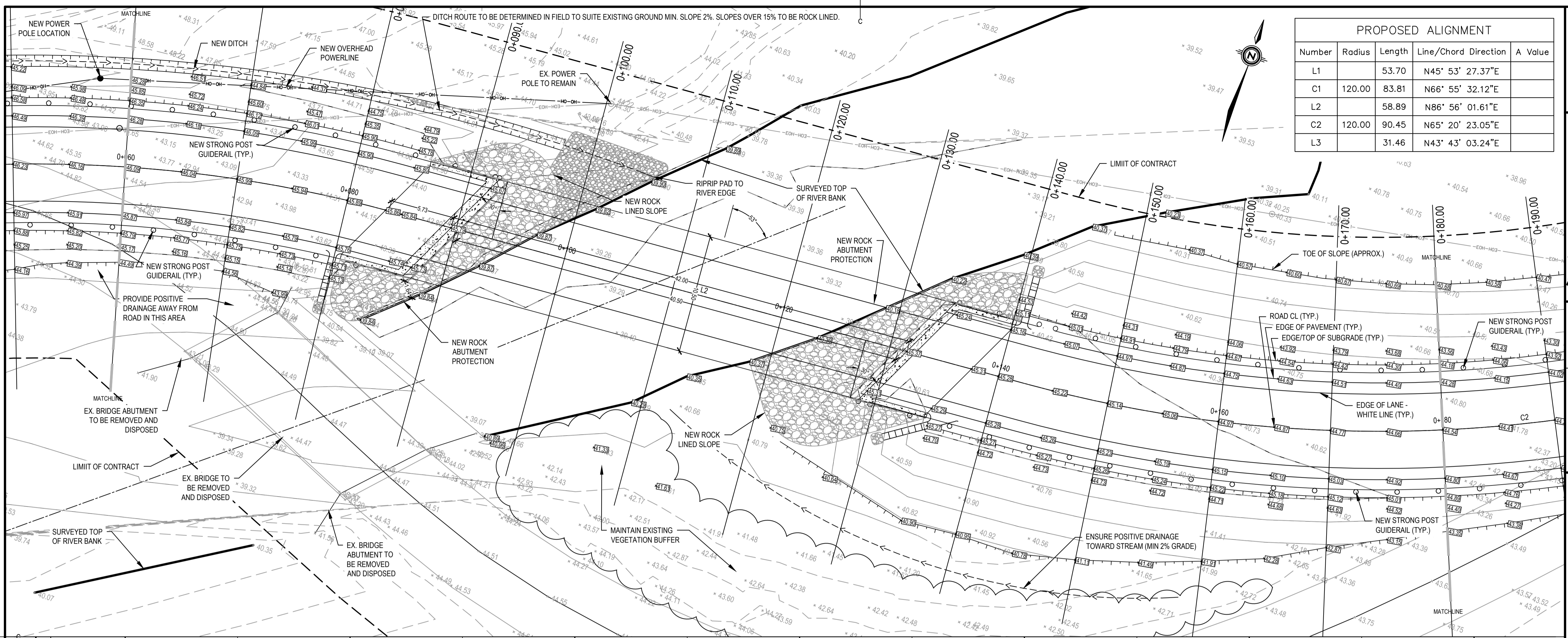
**NORTH ASPY RIVER (NORTH) BRIDGE REPLACEMENT**  
 CAPE BRETON HIGHLANDS NATIONAL PARK, NOVA SCOTIA

drawing AND PROFILE - STA -0+060 TO 0+060

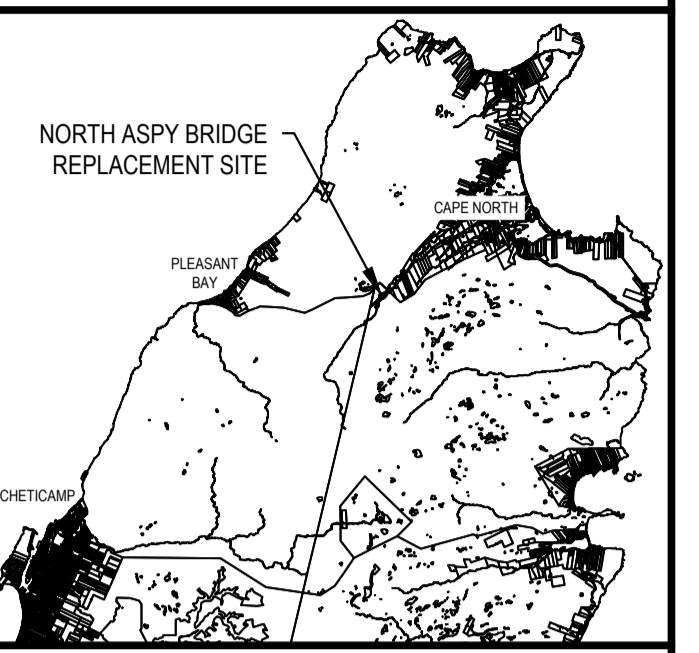
designed	R. N. BOYCHUK	conçu
date		
drawn	D. J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		
Tender		Soumission

Parcs Canada P.M.	Administrateur de projets TPSCG
project number	no. du projet
<b>324</b>	
drawing no.	no. du dessin
<b>C-3</b>	

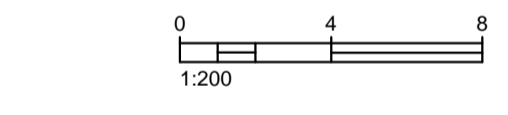
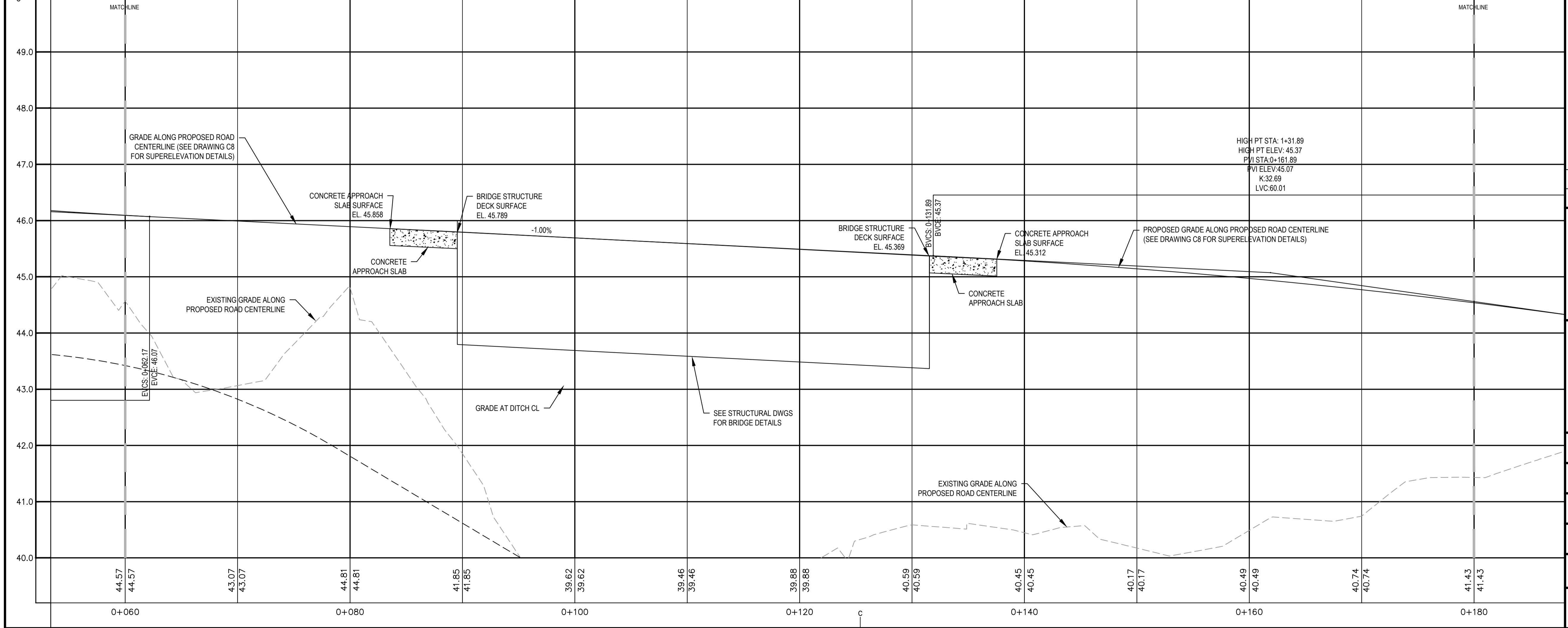




PROPOSED ALIGNMENT				
Number	Radius	Length	Line/Chord Direction	A Value
L1		53.70	N45° 53' 27.37"E	
C1	120.00	83.81	N66° 55' 32.12"E	
L2		58.89	N86° 56' 01.61"E	
C2	120.00	90.45	N65° 20' 23.05"E	
L3		31.46	N43° 43' 03.24"E	



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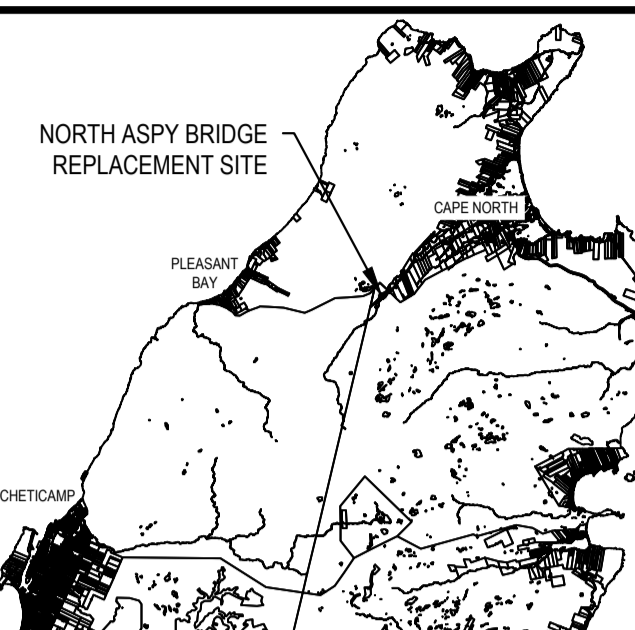
0	ISSUED FOR TENDER	09/30 2015
revisions		date
project		project

**NORTH ASPY RIVER (NORTH) BRIDGE REPLACEMENT**  
**CAPE BRETON HIGHLANDS NATIONAL PARK, NOVA SCOTIA**

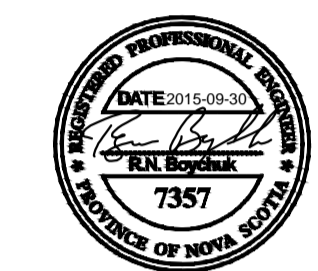
drawing **PLAN AND PROFILE - STA 0+060 TO 0+180** dessin

designed	R. N. BOYCHUK	conçu
date		
drawn	D. J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		
Tender		Soumission
Project number	324	no. du projet
drawing no.	C-4	no. du dessin

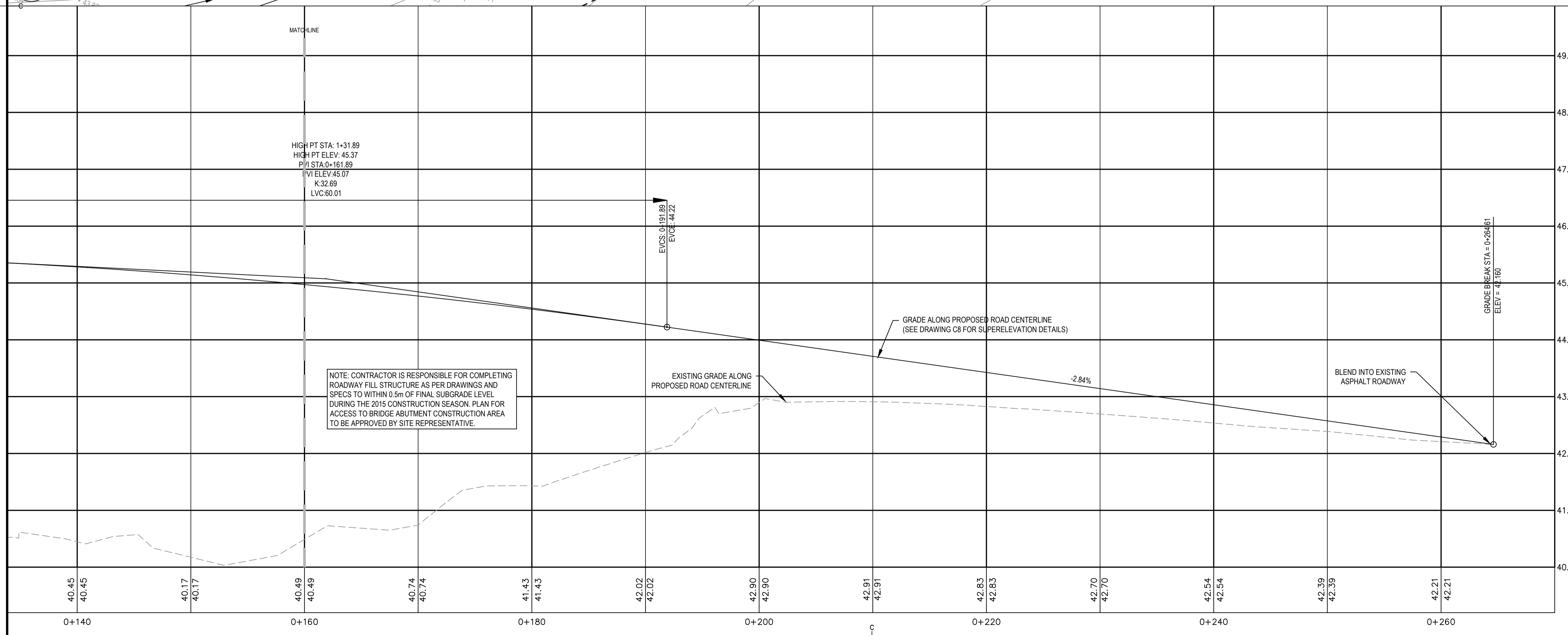




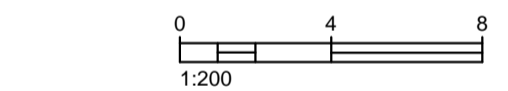
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PROPOSED ALIGNMENT				
Number	Radius	Length	Line/Chord Direction	A Value
L1		53.70	N45° 53' 27.37"E	
C1	120.00	83.81	N66° 55' 32.12"E	
L2		58.89	N86° 56' 01.61"E	
C2	120.00	90.45	N65° 20' 23.05"E	
L3		31.46	N43° 43' 03.24"E	



NOTE: CONTRACTOR IS RESPONSIBLE FOR COMPLETING ROADWAY FILL STRUCTURE AS PER DRAWINGS AND SPECS TO WITHIN 0.5m OF FINAL SUBGRADE LEVEL DURING THE 2015 CONSTRUCTION SEASON. PLAN FOR ACCESS TO BRIDGE ABUTMENT CONSTRUCTION AREA TO BE APPROVED BY SITE REPRESENTATIVE.



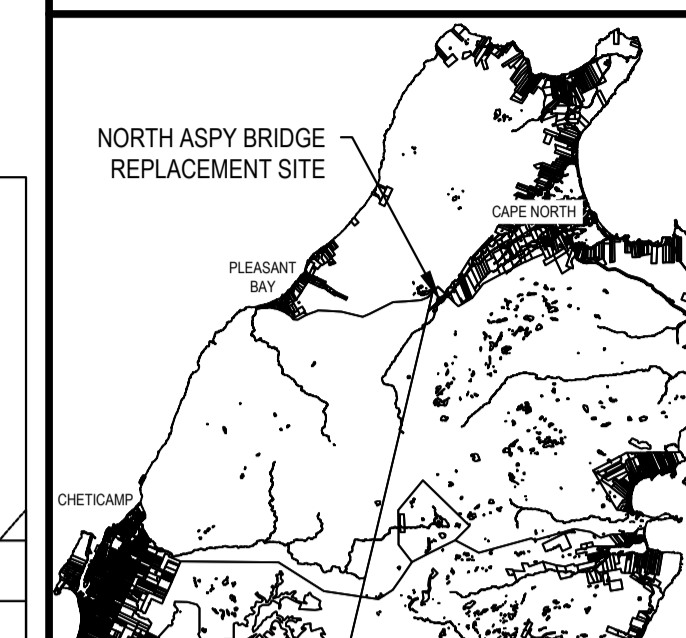
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revisions		date
project		projet

**NORTH ASPY RIVER (NORTH) BRIDGE REPLACEMENT**  
**CAPE BRETON HIGHLANDS NATIONAL PARK, NOVA SCOTIA**

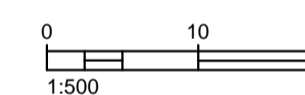
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designed	R. N. BOYCHUK	conçu
date		
drawn	D. J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		
Tender		Soumission
Project number	324	no. du projet
drawing no.	C-5	no. du dessin





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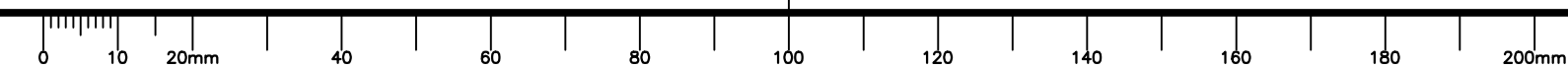
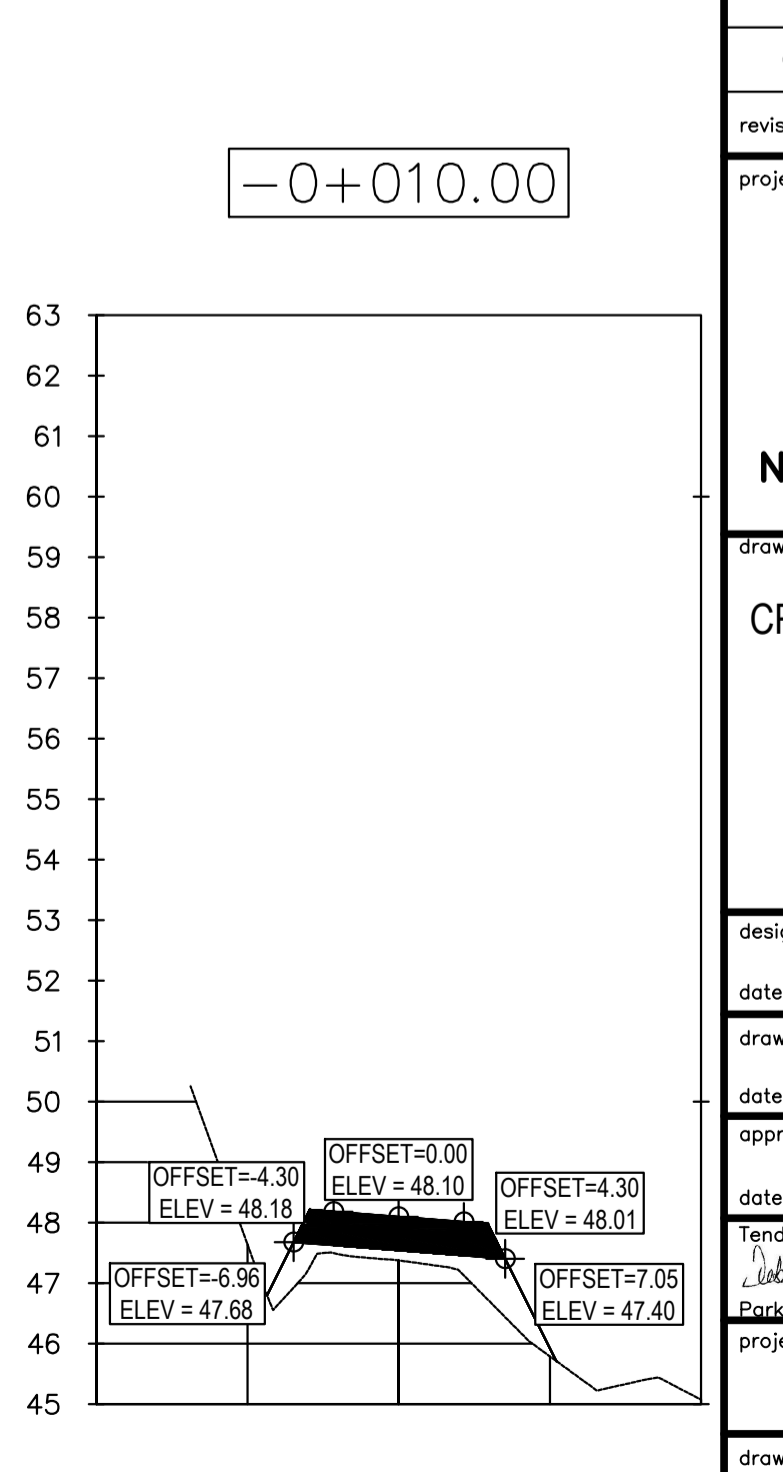
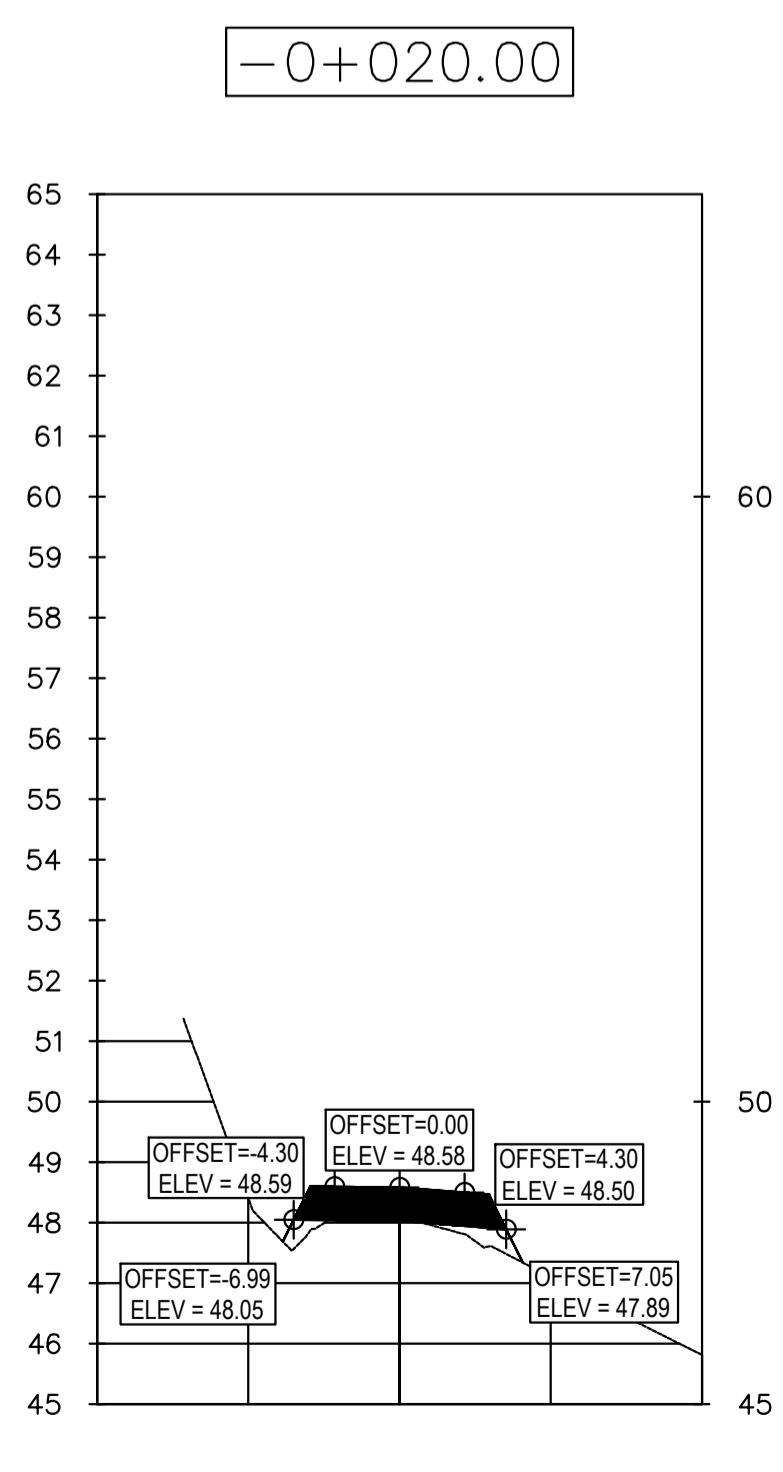
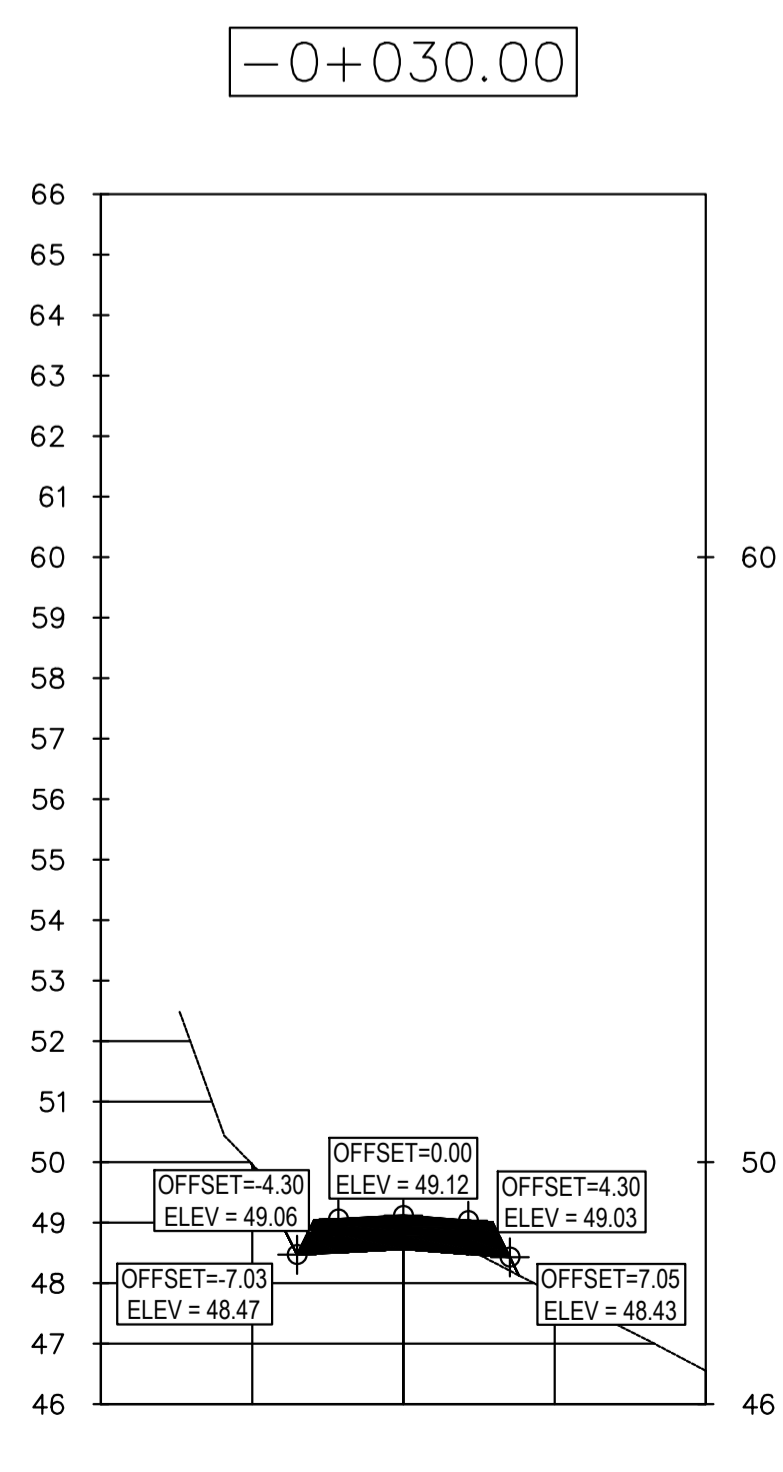
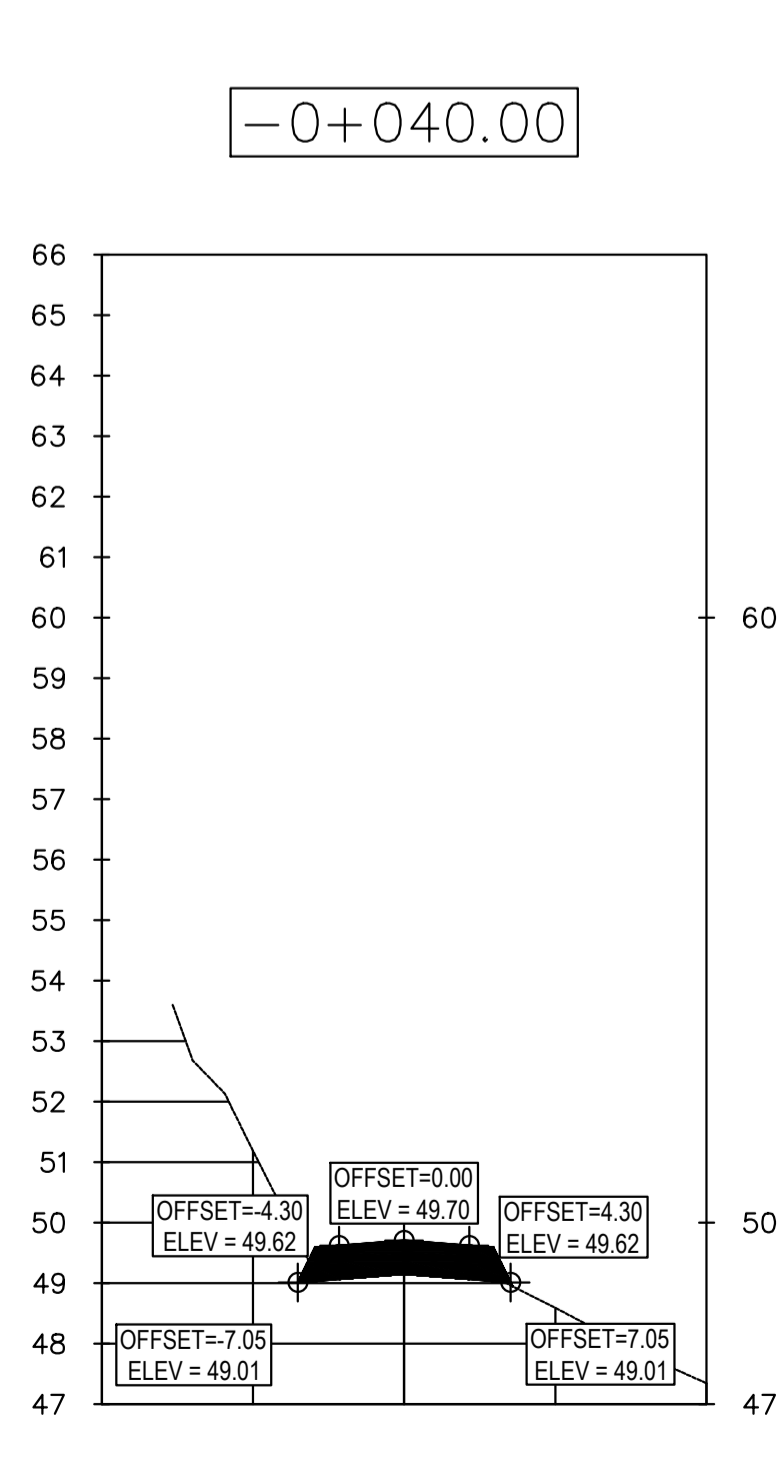
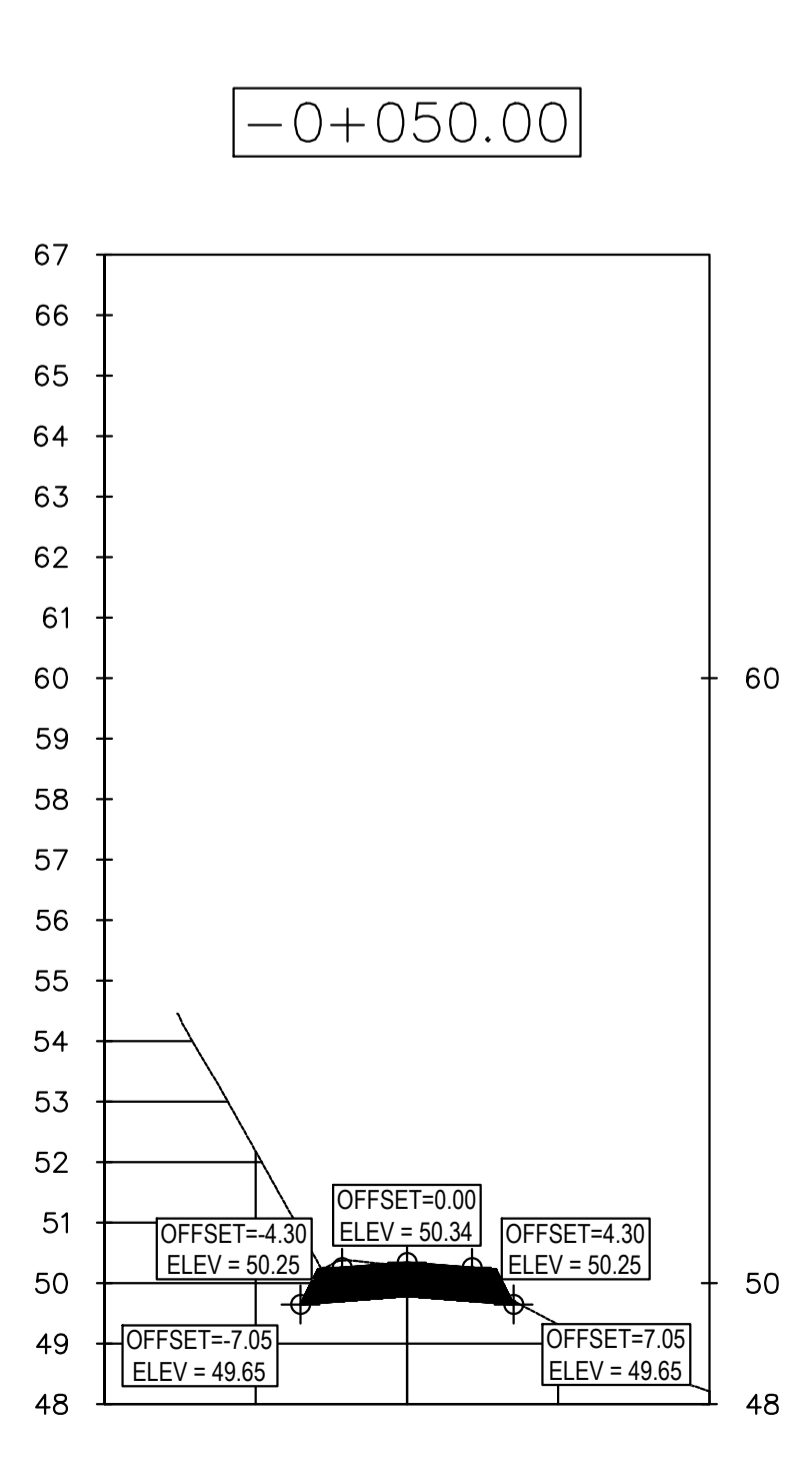
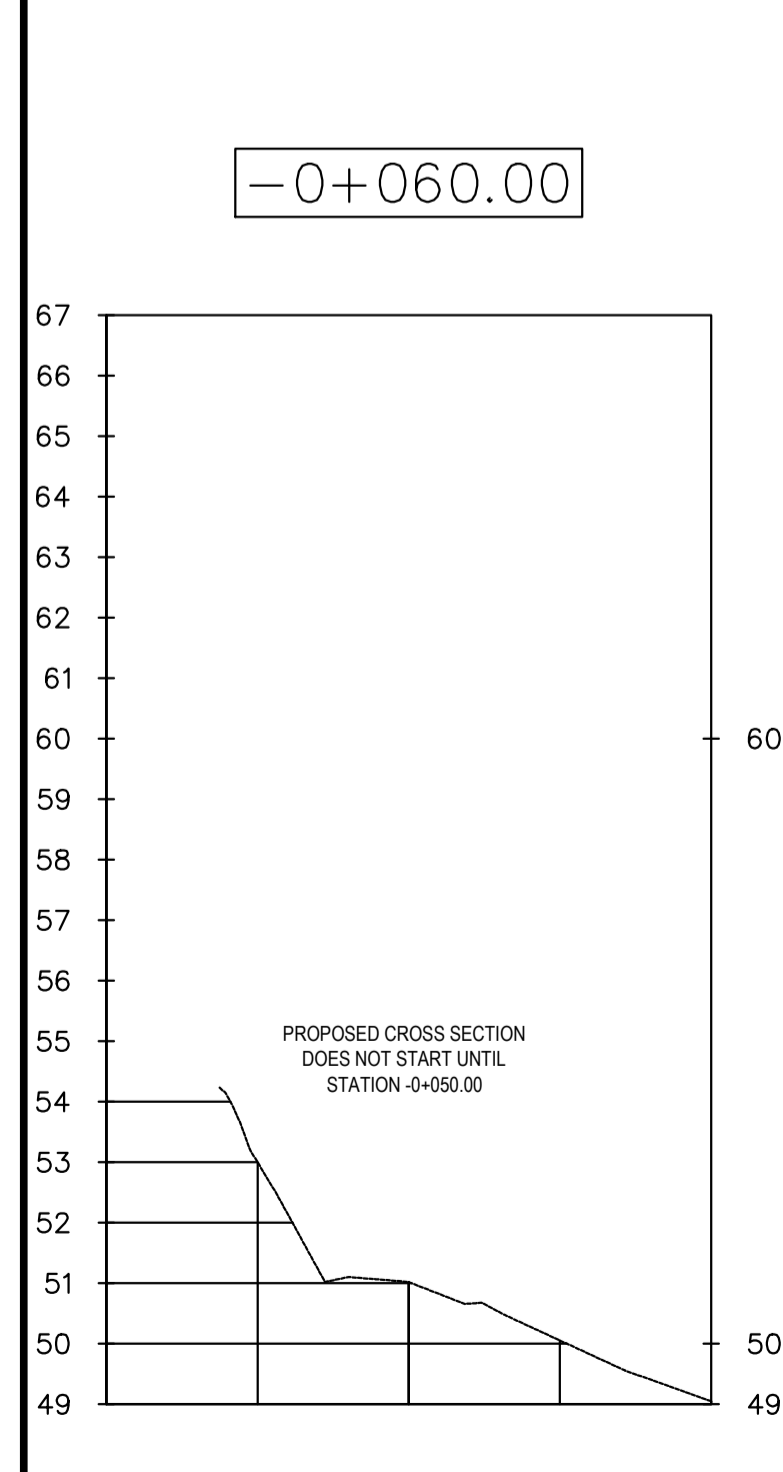
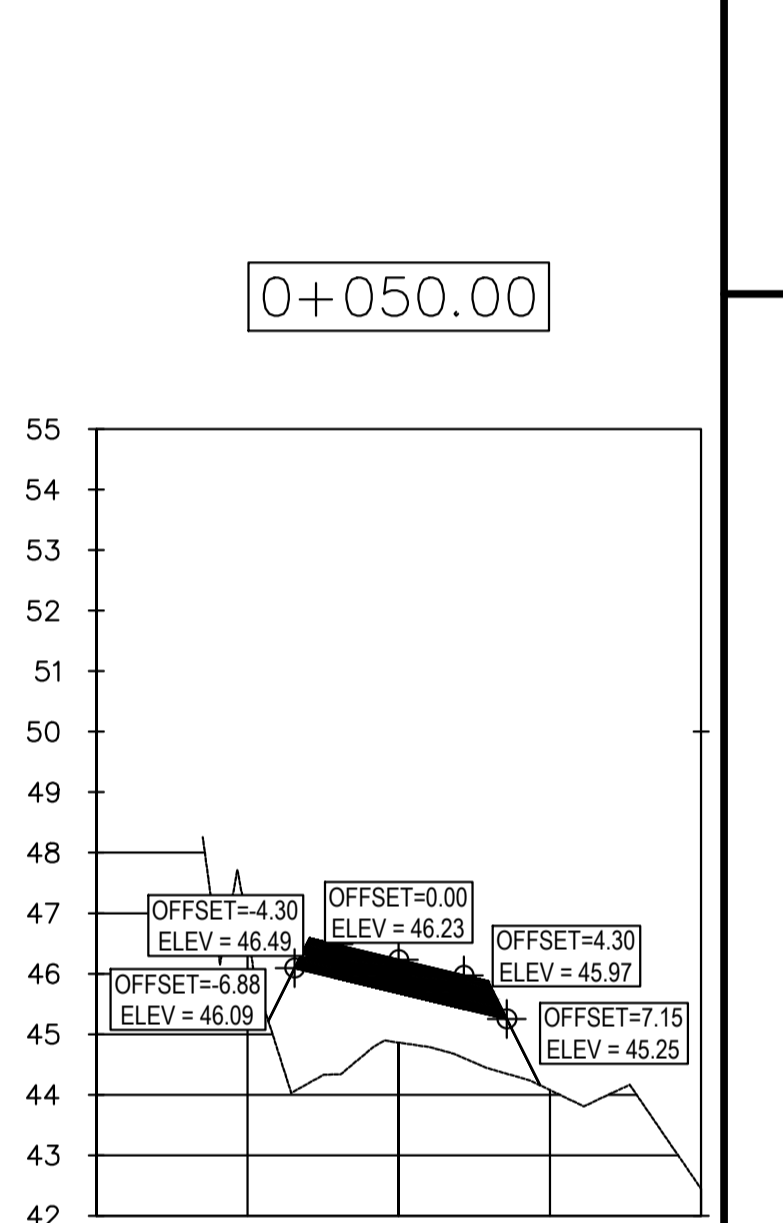
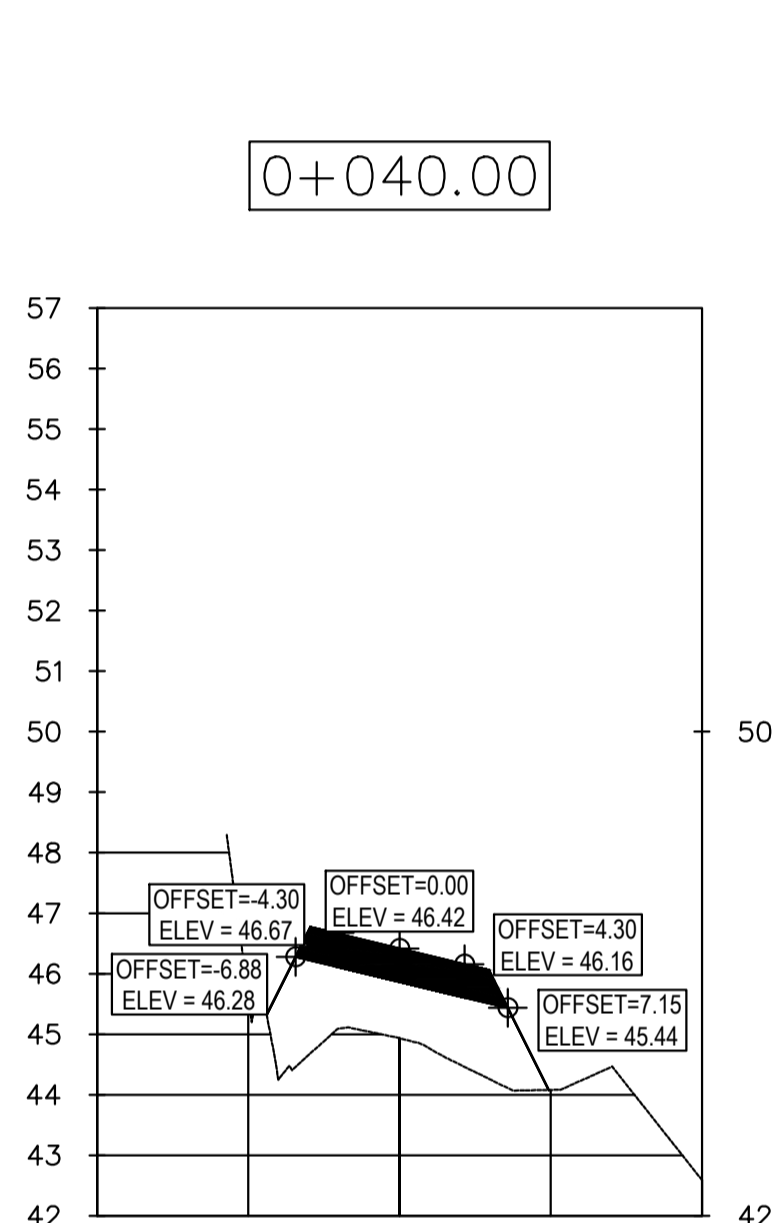
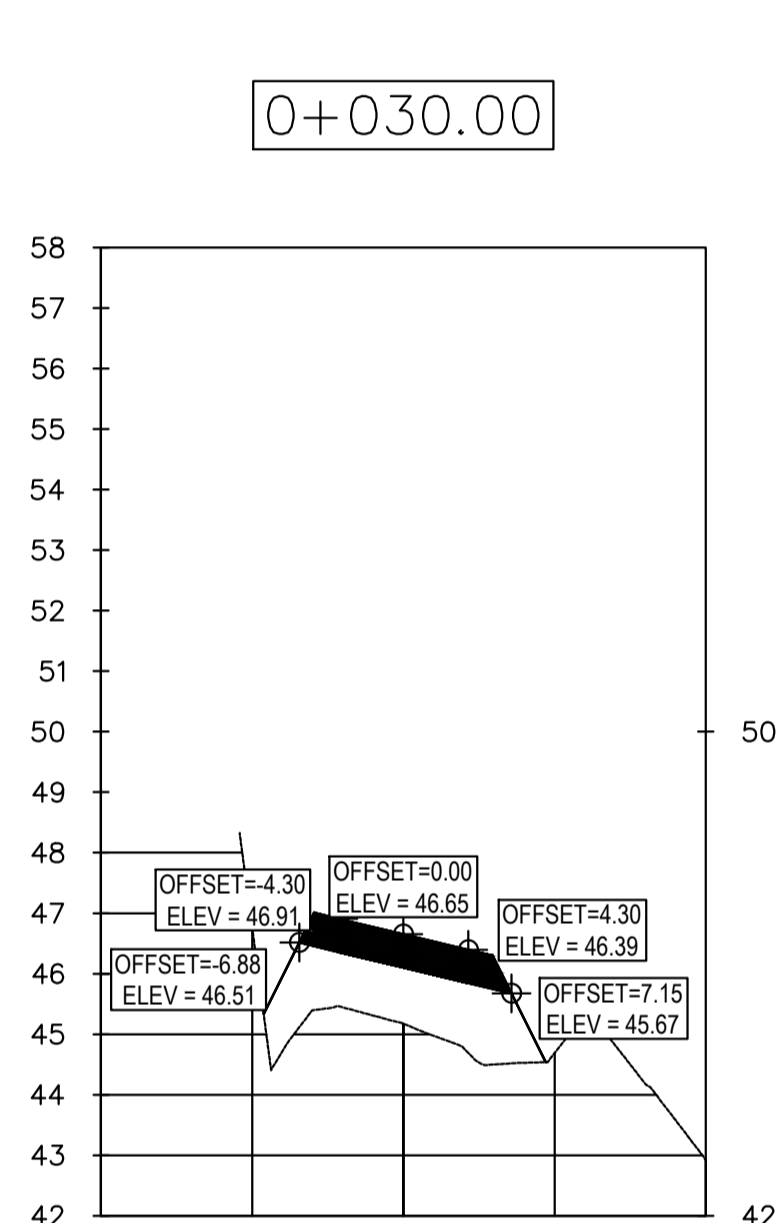
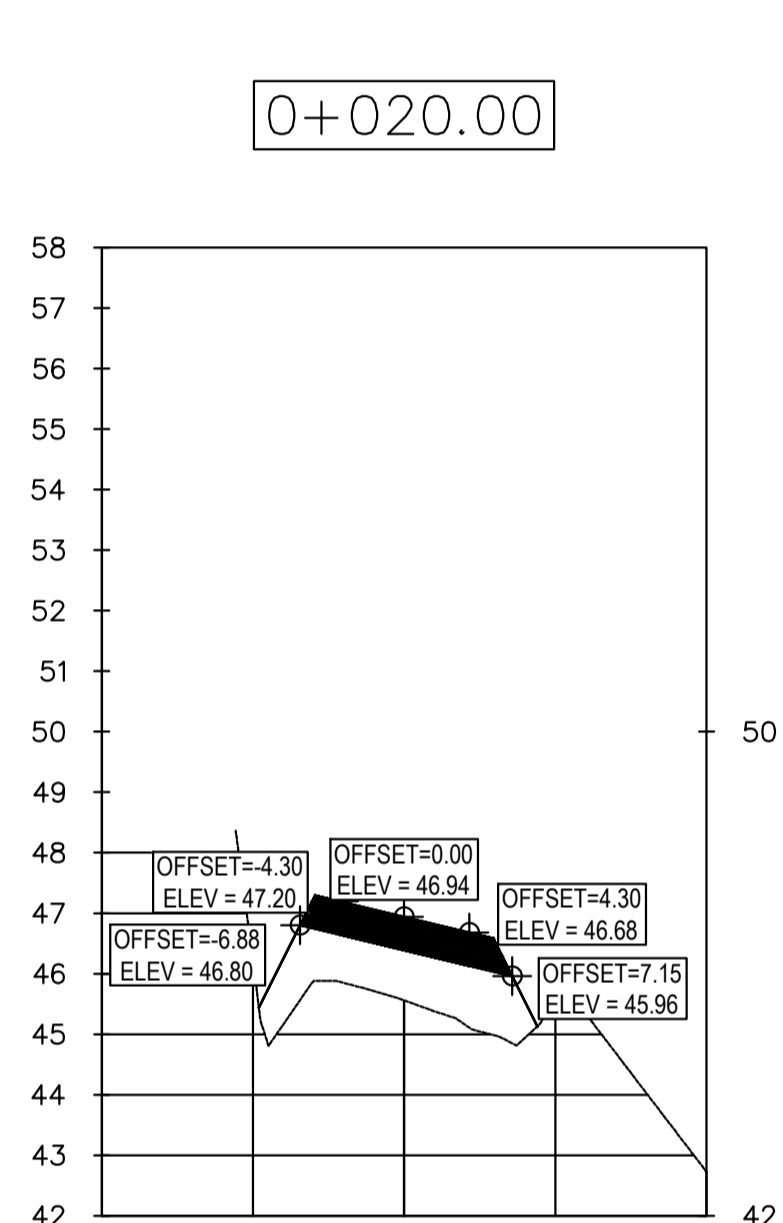
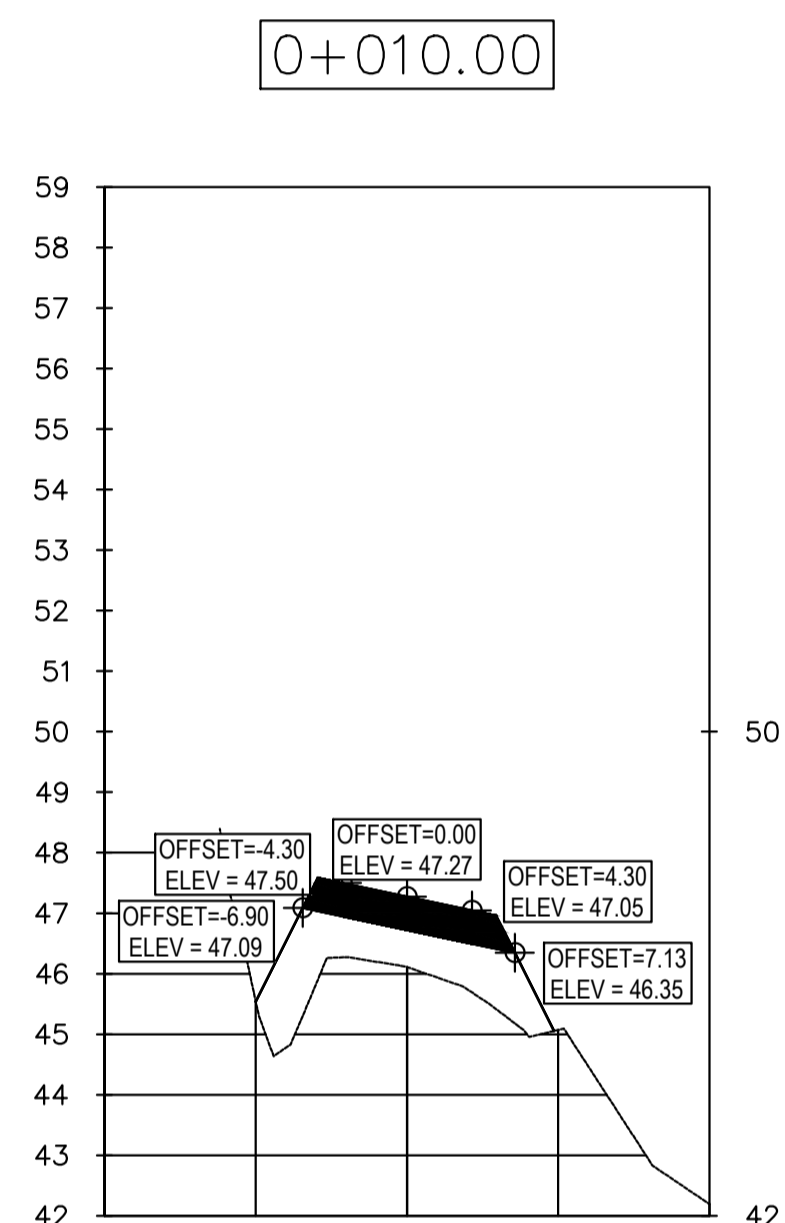
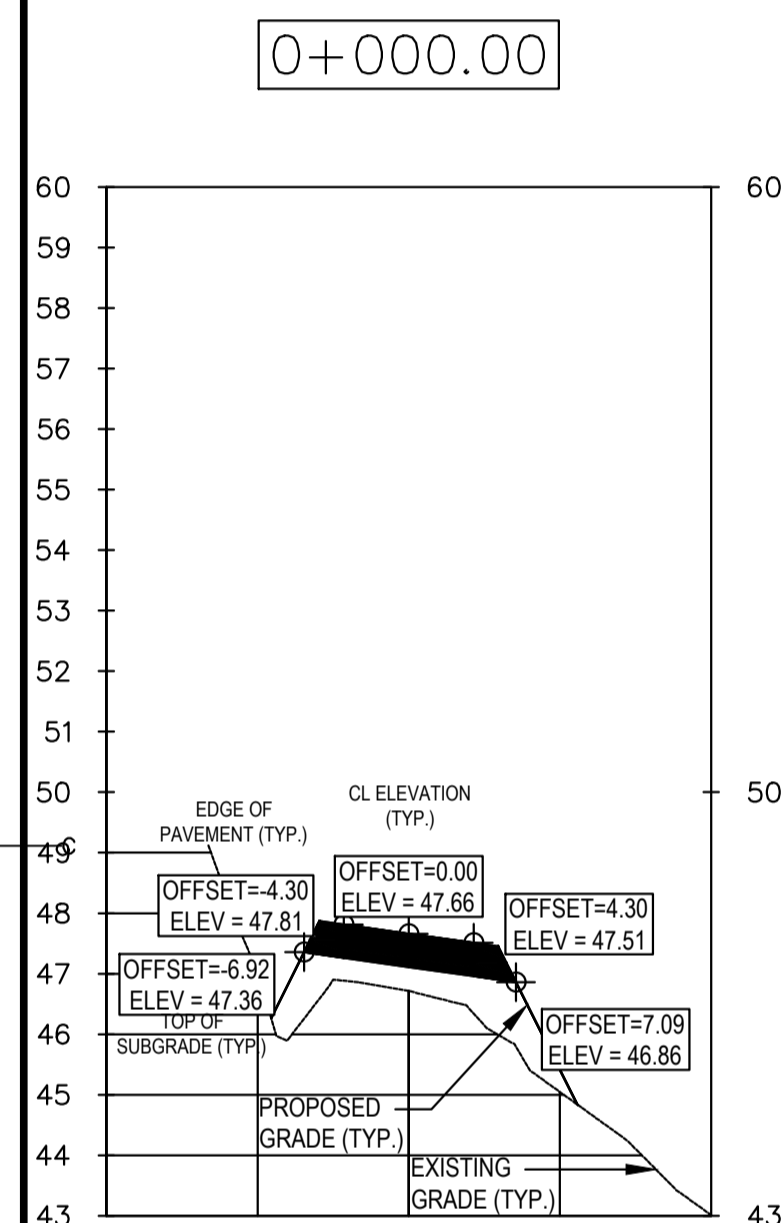
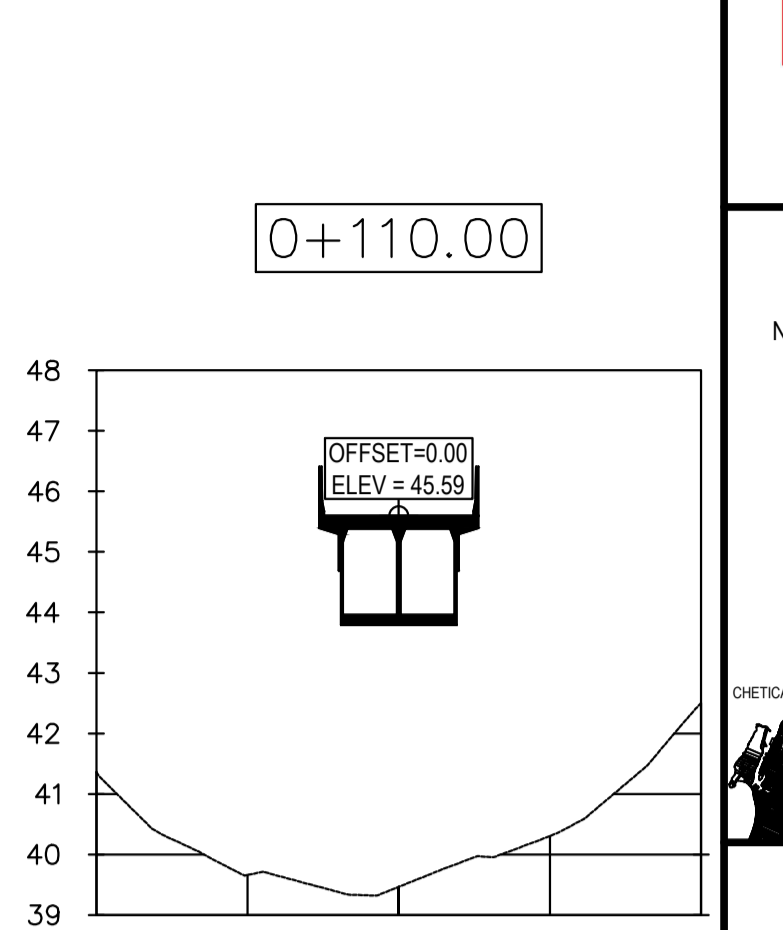
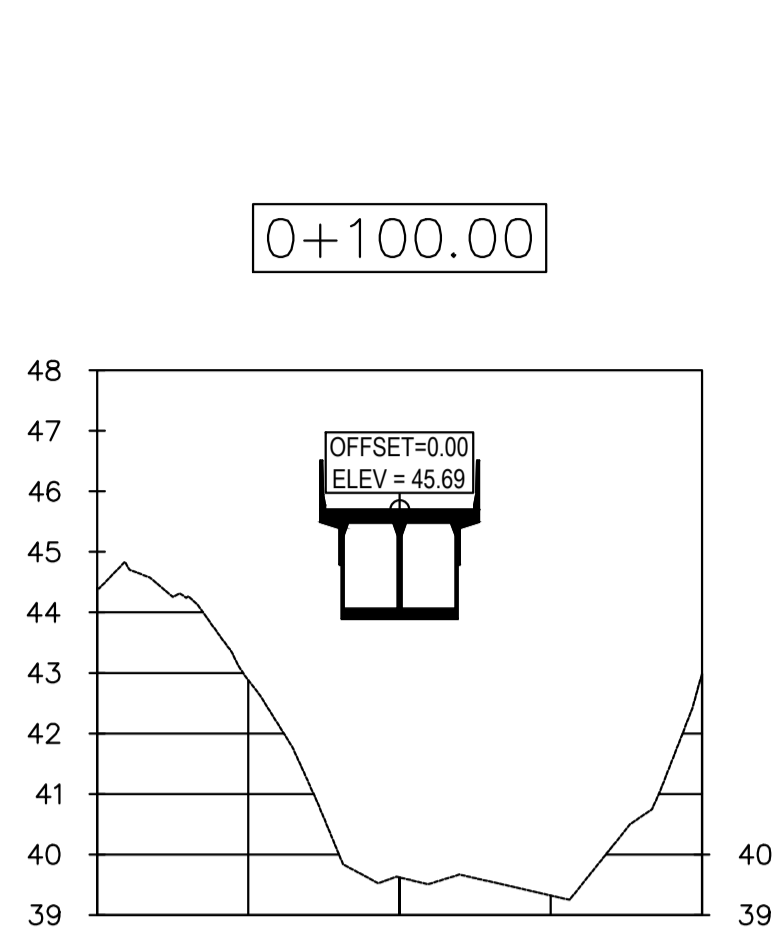
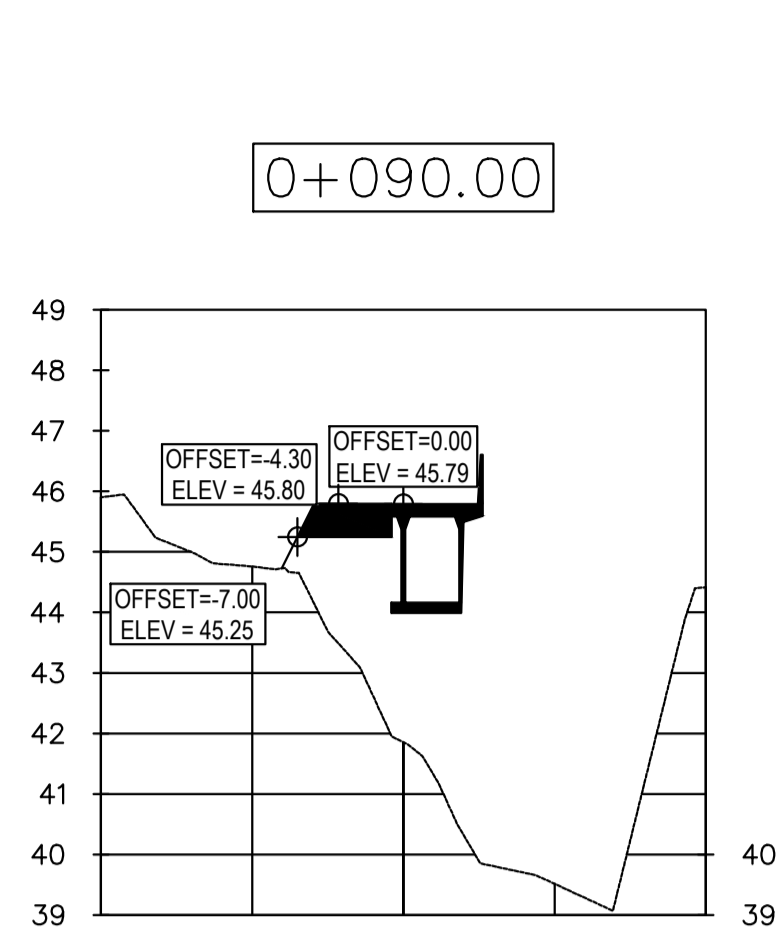
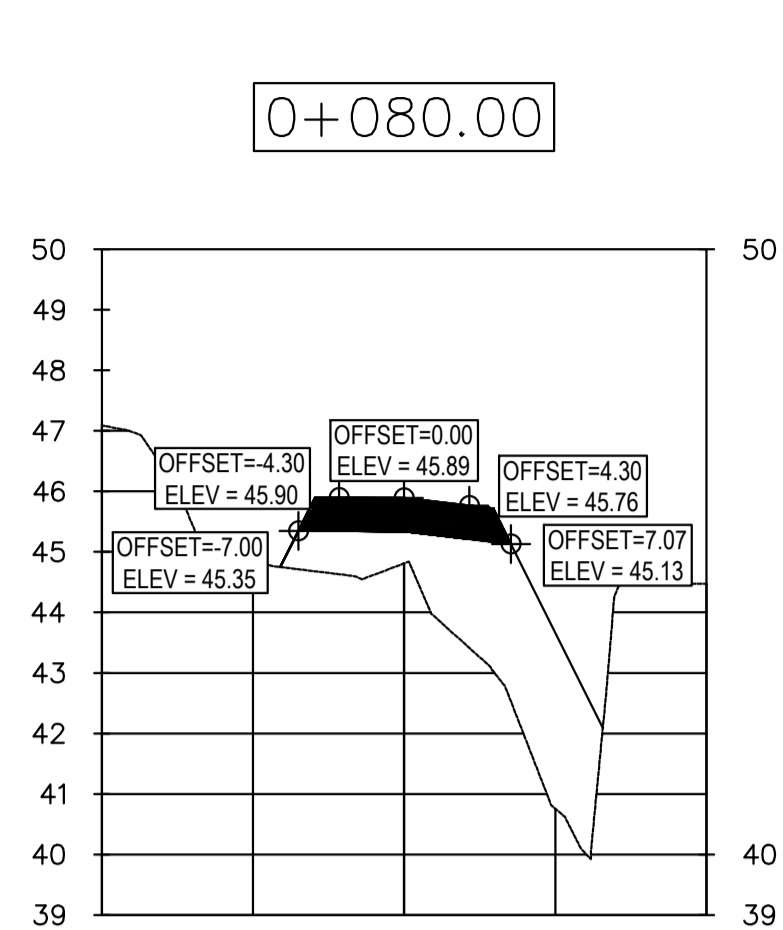
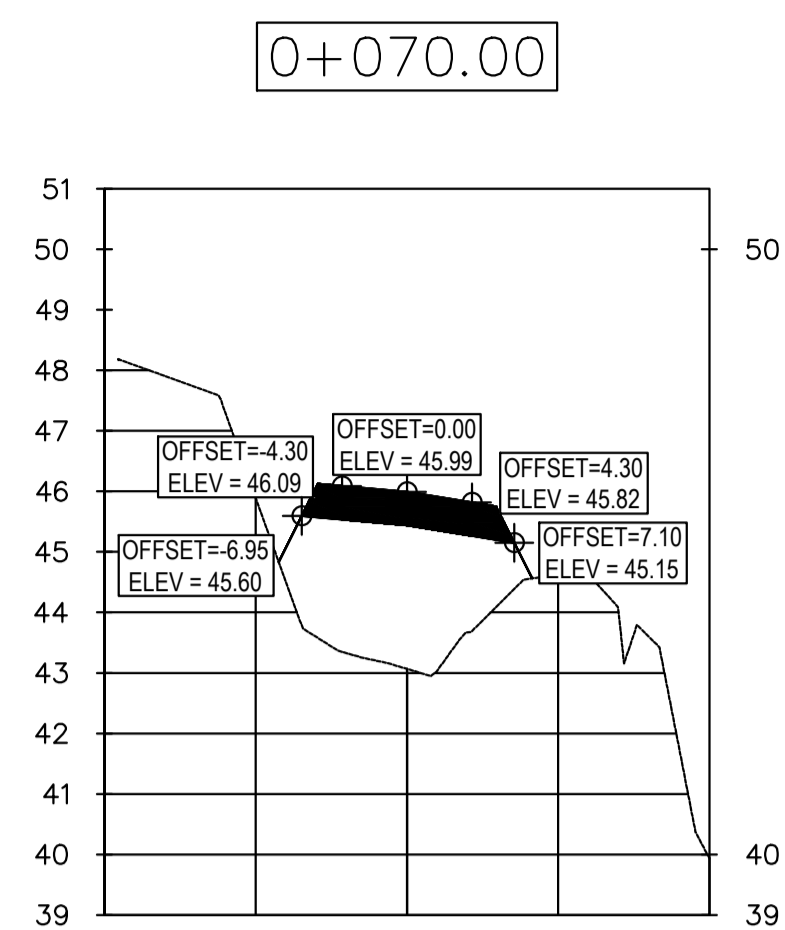
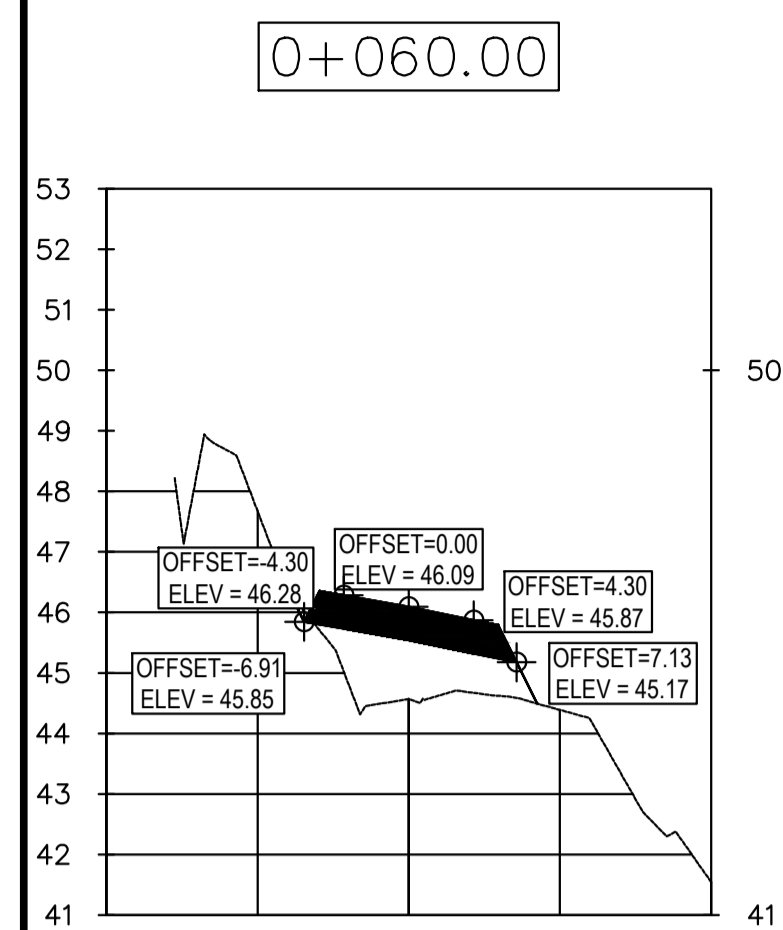


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project		project

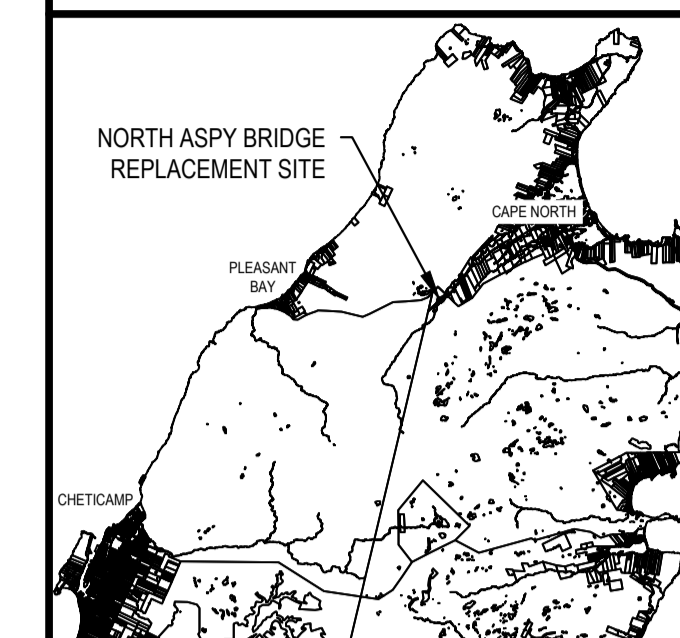
**NORTH ASPY RIVER (NORTH) BRIDGE REPLACEMENT**  
 CAPE BRETON HIGHLANDS NATIONAL PARK, NOVA SCOTIA

drawing **CROSS SECTIONS 1** dessin

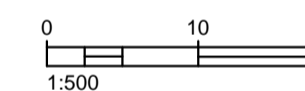
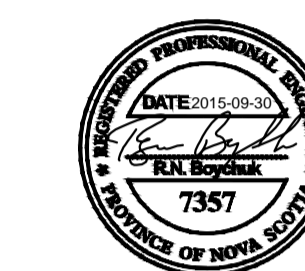
designed	R. N. BOYCHUK	conçu
date		
drawn	D.J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		
Tender	<i>[Signature]</i>	Soumission
Project number	324	no. du projet
drawing no.	C-6	no. du dessin







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revisions		date
project		projet

**NORTH ASPY RIVER (NORTH) BRIDGE REPLACEMENT**  
 CAPE BRETON HIGHLANDS NATIONAL PARK, NOVA SCOTIA

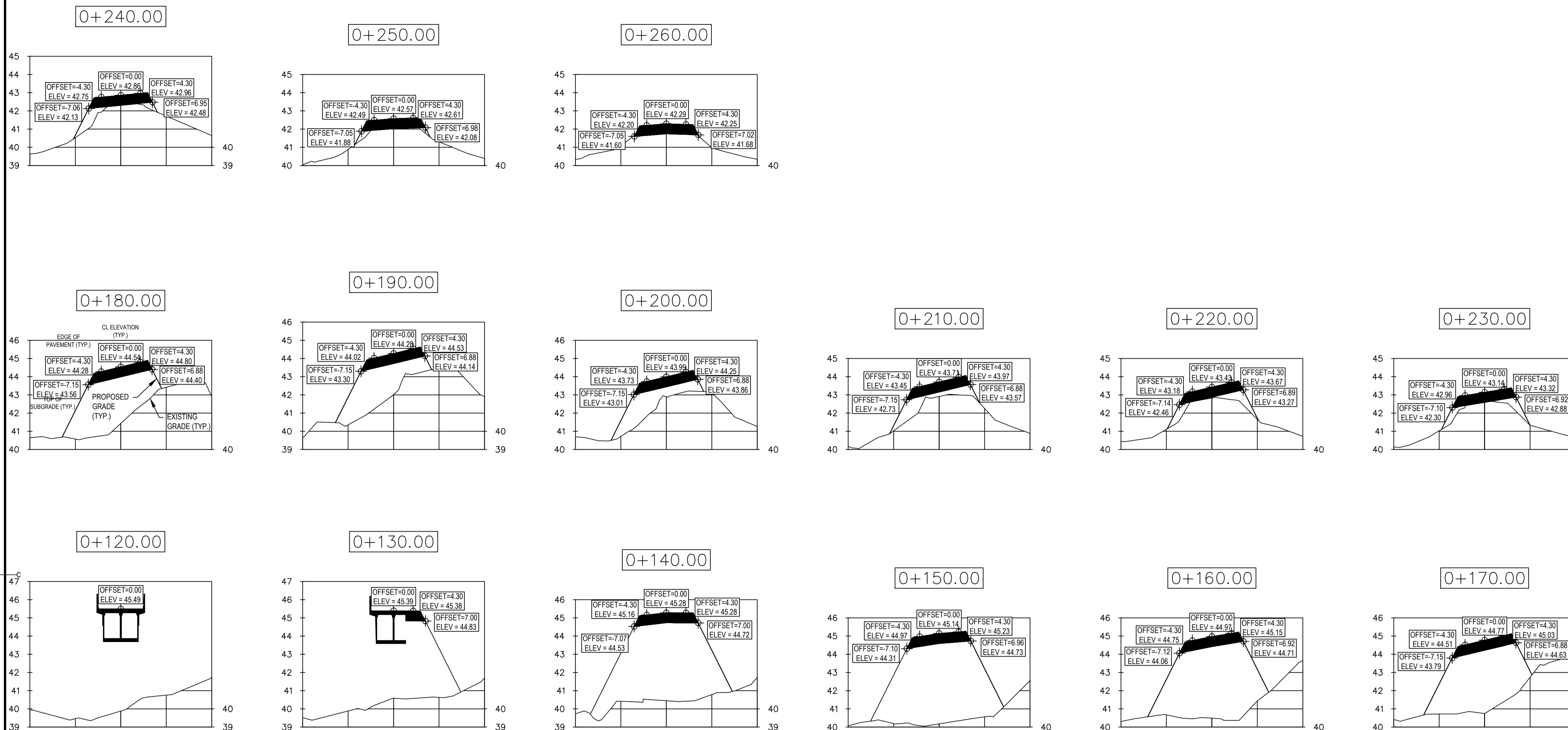
drawing / dessin  
**CROSS SECTIONS 2**

designed	R. N. BOYCHUK	conçu
date		
drawn	D. J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		

Tender / Soumission  
 Parks Canada / P.M. / Administrateur de projets TPSCG  
 project number / no. du projet

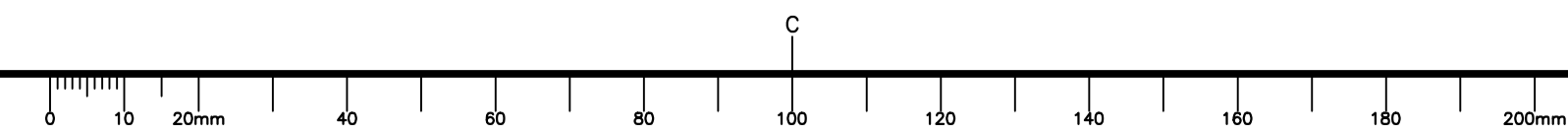
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drawing no. / no. du dessin  
**C-7**

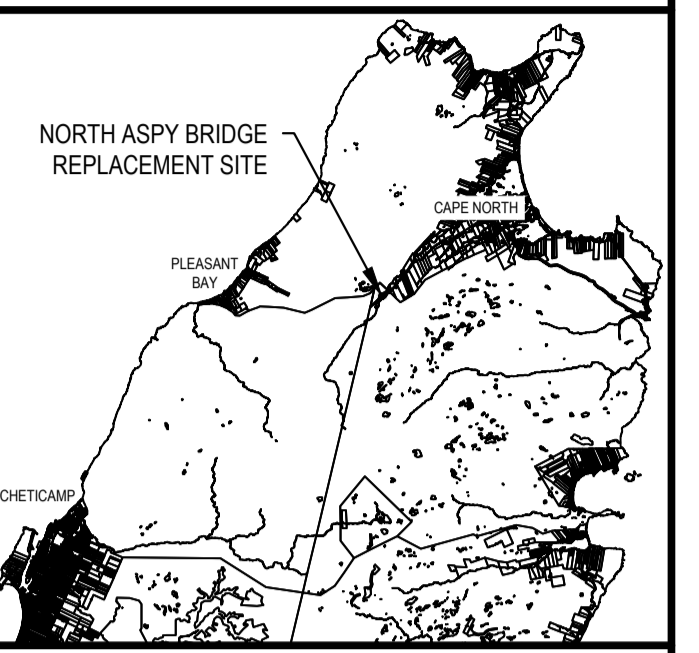
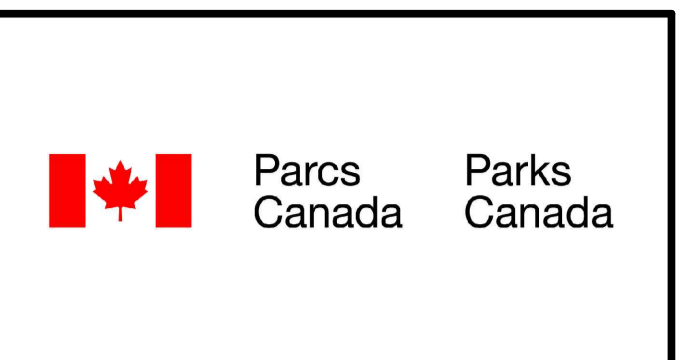
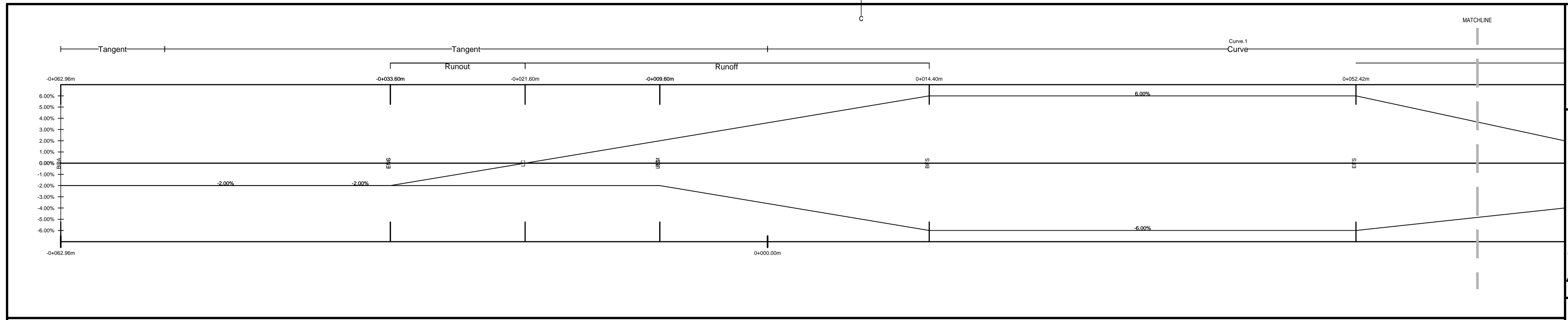


STA.	TOP SUB (NW)	EDGE PAVE (NW)	ROAD CL	EDGE PAVE (SE)	TOP SUB (SE)
-0+060.00	NA	NA	NA	NA	NA
-0+050.00	49.65	50.25	50.34	50.25	49.65
-0+040.00	49.01	49.62	49.70	49.62	49.01
-0+030.00	48.47	49.06	49.12	49.03	48.43
-0+020.00	48.05	48.59	48.58	48.50	47.89
-0+010.00	47.68	48.18	48.10	48.01	47.40
0+000.00	47.36	47.81	47.66	47.51	46.86
0+010.00	47.09	47.50	47.27	47.05	46.35
0+020.00	46.80	47.20	46.94	46.68	45.96
0+030.00	46.51	46.91	46.65	46.39	45.67
0+040.00	46.28	46.67	46.42	46.16	45.44
0+050.00	46.09	46.49	46.23	45.97	45.25
0+060.00	45.85	46.28	46.09	45.87	45.17
0+070.00	45.60	46.09	45.99	45.82	45.15
0+080.00	45.35	45.90	45.89	45.76	45.13
0+090.00	BRIDGE	BRIDGE	BRIDGE	BRIDGE	BRIDGE
0+100.00	BRIDGE	BRIDGE	BRIDGE	BRIDGE	BRIDGE

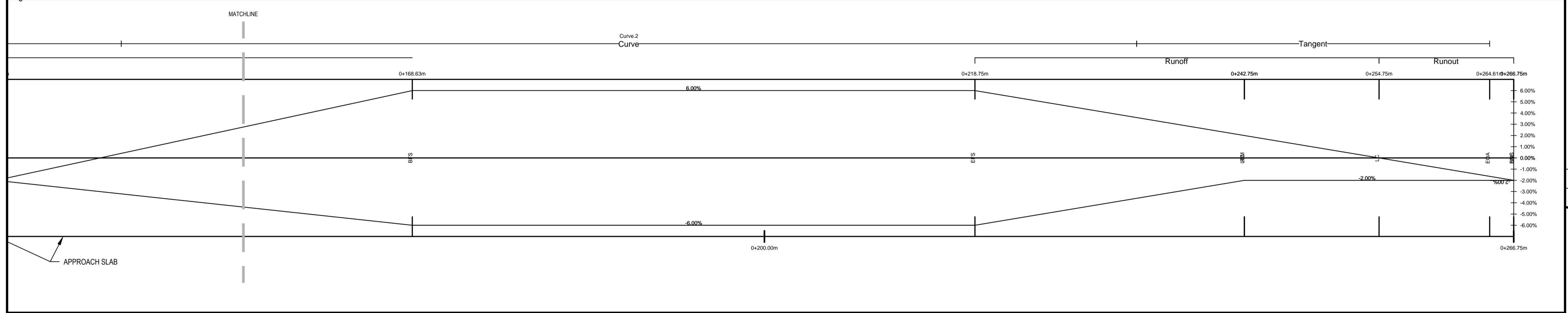
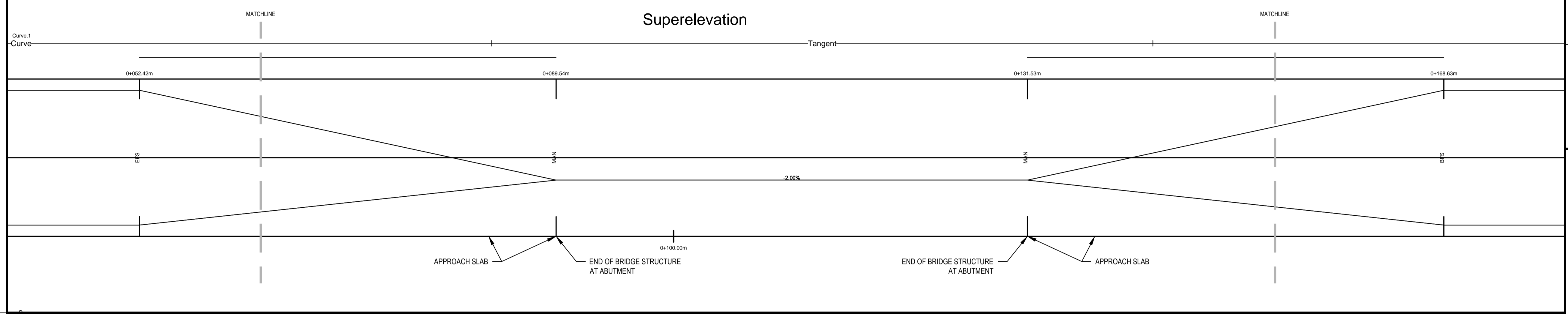
STA.	TOP SUB (NW)	EDGE PAVE (NW)	ROAD CL	EDGE PAVE (SE)	TOP SUB (SE)
0+110.00	BRIDGE	BRIDGE	BRIDGE	BRIDGE	BRIDGE
0+120.00	BRIDGE	BRIDGE	BRIDGE	BRIDGE	BRIDGE
0+130.00	BRIDGE	BRIDGE	BRIDGE	BRIDGE	BRIDGE
0+140.00	44.53	45.16	45.28	45.28	44.72
0+150.00	44.31	44.97	45.14	45.23	44.73
0+160.00	44.06	44.75	44.97	45.15	44.71
0+170.00	43.79	44.51	44.77	45.03	44.63
0+180.00	43.56	44.28	44.54	44.80	44.40
0+190.00	43.30	44.02	44.28	44.53	44.14
0+200.00	43.01	43.73	43.99	44.25	43.86
0+210.00	42.73	43.45	43.71	43.97	43.57
0+220.00	42.46	43.18	43.43	43.67	43.27
0+230.00	42.30	42.96	43.14	43.32	42.88
0+240.00	42.13	42.75	42.86	42.96	42.48
0+250.00	41.88	42.49	42.57	42.61	42.08
0+260.00	41.60	42.20	42.29	42.25	41.68







**EKISTICS PLANNING & DESIGN**  
 1 Sher Lane, Dartmouth, NS B2Y 4V7  
 902.461.2525 www.ekistics.net  
 Landscape Architecture | Engineering

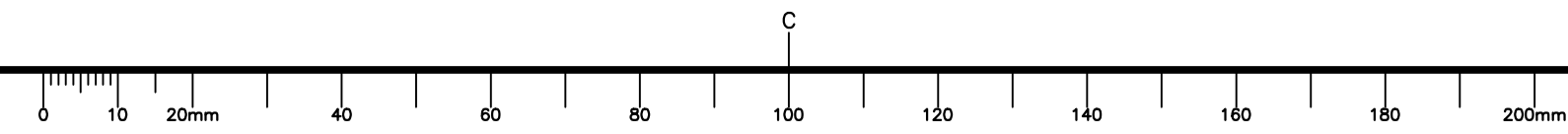


0	ISSUED FOR TENDER	09/30 2015
revisions		date
project		projet

**NORTH ASPY RIVER  
 (NORTH) BRIDGE  
 REPLACEMENT  
 CAPE BRETON HIGHLANDS  
 NATIONAL PARK, NOVA SCOTIA**

**GENERAL NOTES:**  
 1. EMAX = 0.06 (DUE TO PROXIMITY OF BRIDGE TO TANGENTS)  
 2. DESIGN SPEED SUPERELEVATION = 57.5 km/hr.

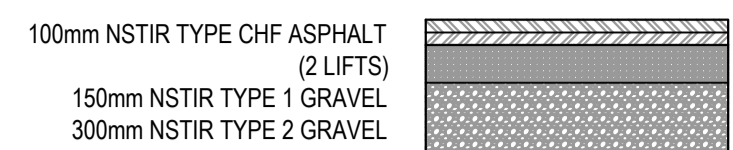
drawing		dessin
<b>SUPERELEVATION DEVELOPMENT</b>		
designed	R. N. BOYCHUK	conçu
date		
drawn	D. J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		
Tender		Soumission
Project number	324	no. du projet
drawing no.	C-8	no. du dessin





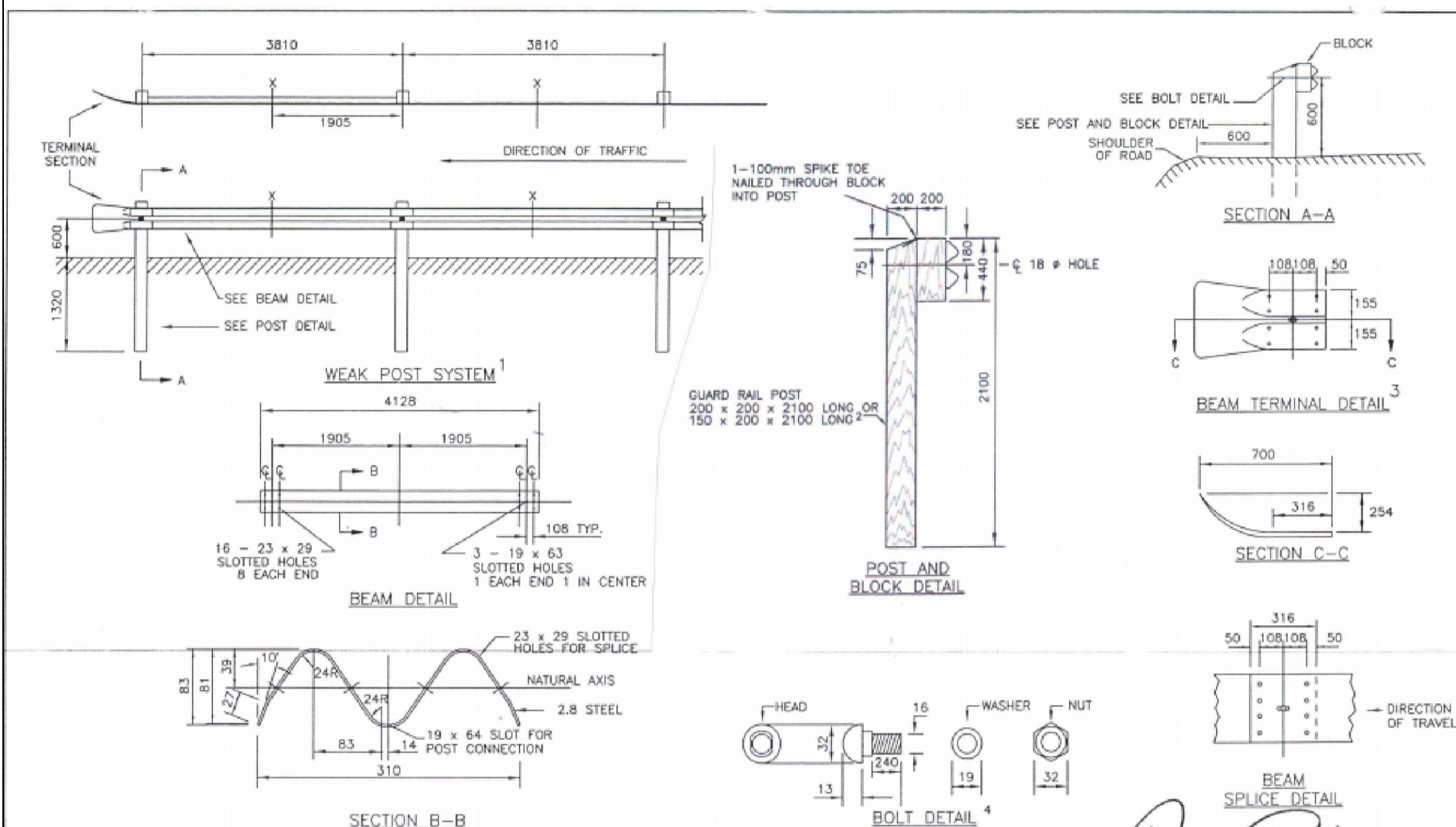
**CONSTRUCTION NOTES:**

- ALL WORK TO BE IN ACCORDANCE WITH CONTRACT DOCUMENTS FOR THIS PROJECT INCLUDING DRAWINGS, SPECIFICATIONS AND TENDER DOCUMENTS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SITE REPRESENTATIVE IMMEDIATELY.
- LOCATIONS OF SITE FEATURES SHOWN ARE APPROXIMATE ONLY. CONTRACTOR TO CONFIRM ALL LOCATIONS AND ELEVATIONS IN FIELD AND NOTIFY SITE REPRESENTATIVE IMMEDIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATES. CONTRACTOR TO VERIFY LOCATION OF ALL SERVICES PRIOR TO ANY EXCAVATION.
- CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS. REQUIRED TO PERFORM WORKS IN COORDINATION WITH PWSC, PARKS CANADA AND SITE REPRESENTATIVE. COMPLY WITH ALL PERMIT REQUIREMENTS AND CONDITIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT ACTIVITIES. ALL ELEVATIONS ARE METRIC AND GEODETIC.
- SURVEY PERFORMED BY TINGLEY SURVEYS INC. (BOULARDERIE CENTRE, NS) AT 902-295-7555. THE FOLLOWING EQUIPMENT WAS USED: TRIMBLE S6 ROBOTIC TOTAL STATION, TRIMBLE R8s, TSC2 & TSC3 DATA COLLECTORS. SURVEY CONTROL MONUMENT USED WAS NS COORDINATE MONUMENT 213872. CONTRACTOR TO ACQUIRE SURVEY CONTROL FROM PARKS CANADA.
- ALL WORK RELATED TO THE POWER POLE RELOCATION TO BE COORDINATED BY CONTRACTOR AND APPROVED BY NOVA SCOTIA POWER.



NOTES: PAVEMENT STRUCTURE TO BE VERIFIED WITH GEOTECHNICAL REPORT. SHOULD ANY DISCREPANCIES OCCUR, THE GEOTECHNICAL REPORT SHALL BE TAKEN AS CORRECT.

**1 ASPHALT PAVEMENT STRUCTURE**  
SCALE:N.T.S.



- NOTES:
- FOR STRONG POST SYSTEM, ADD POST AT POINT X.
  - IF 150 x 200 x 2100 LONG POSTS ARE USED, THE MATERIAL IS TO BE HARDWOOD.
  - TERMINAL SECTION ONLY APPROPRIATE FOR 4-LANE DIVIDED HIGHWAYS.
  - ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED BY THE HOT DIP PROCESS. BOLTS SHALL BE CAPABLE OF WITHSTANDING 106 kN IN SINGLE SHEAR. 16mm SQUARE NUT AND 19mm ROUND WASHERS ARE TO BE USED. ONE WASHER FOR EACH 240mm x 16mm BOLT. BOLTS ARE TO HAVE 75mm THREADS.
  - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

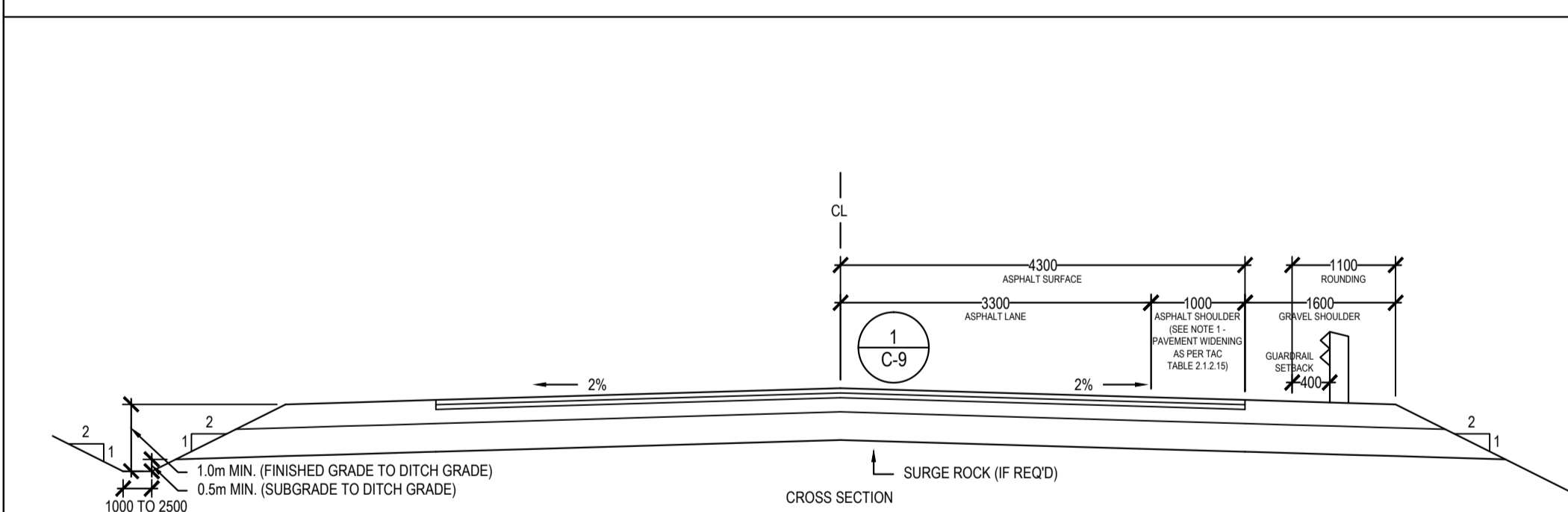


Scale:	N.T.S.
Drawn by:	M.LABRECHE
Checked by:	J.RAE
Date of Plan:	AUG2009
File No.:	S-2009-071

**GUARD RAIL AND POST DETAILS HS518**

Manager Highway Planning and Design  
Director Highway Engineering Services  
Executive Director Highway Engineering and Construction

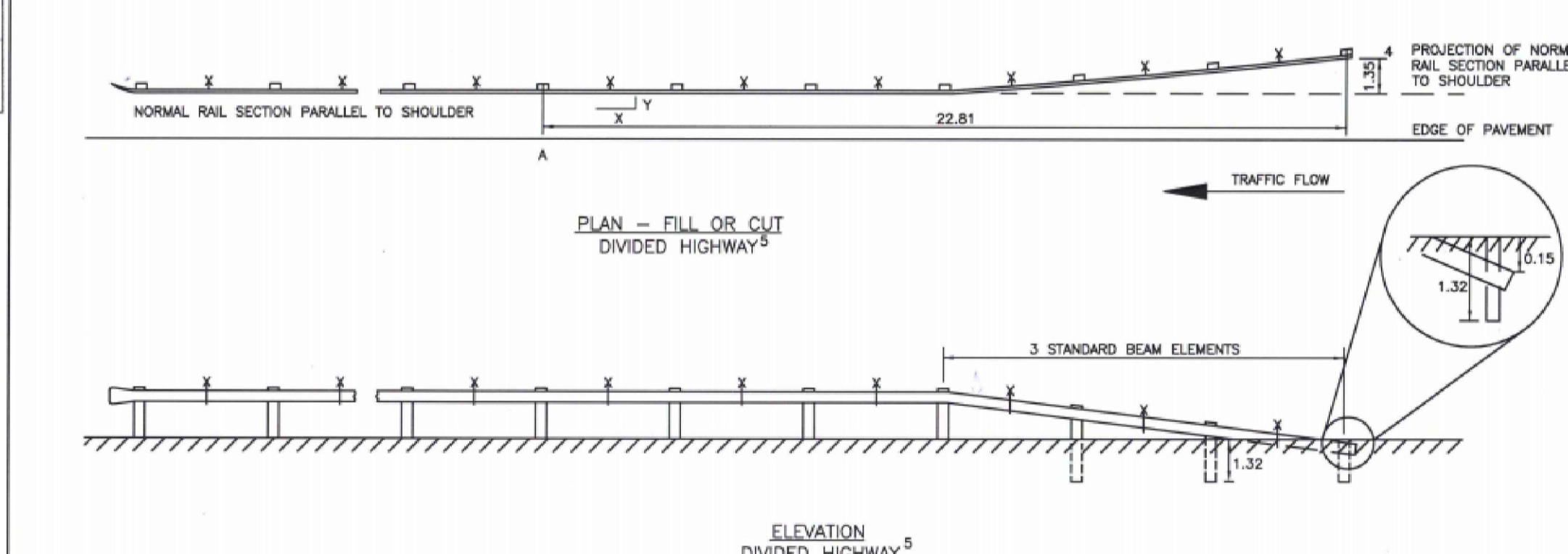
**2 GUARD RAIL AND POST DETAILS HS518 (STRONG POST)**  
SCALE:N.T.S.



**4 STANDARD CROSS SECTION NSTIR TYPE F**  
SCALE:N.T.S.

**3 TRANSVERSE ASPHALT CONCRETE KEY JOINT HS404**  
SCALE:N.T.S.

POST OFFSET TABLE	
FILL OR CUT	
X	Y/3
3.81	0.04
7.62	0.15
11.42	0.34
15.22	0.60
19.02	0.94
22.81	1.35



- NOTES:
- FOR STRONG POST SYSTEM, ADD POST AT POINT "X".
  - THIS STANDARD DRAWING IS NOT APPLICABLE TO NEW 100 SERIES HIGHWAY CONSTRUCTION WHERE ENERGY ABSORBING GUARD RAIL TERMINALS (EAGRT) SYSTEMS ARE SPECIFIED.
  - MEASURED FROM FACE OF RAIL BASED ON NORMAL RAIL SECTION PARALLEL TO SHOULDER AT A.
  - GUARD RAIL MAY BE PLACED AS PRACTICABLE FROM EDGE OF SHOULDER. IN NO CASE MAY GUARD RAIL BE PLACED DOWN THE SLOPE.
  - FOR 2-LANE/ 2-WAY ROADWAYS, BURY BOTH ENDS OF GUARD RAIL.
  - ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

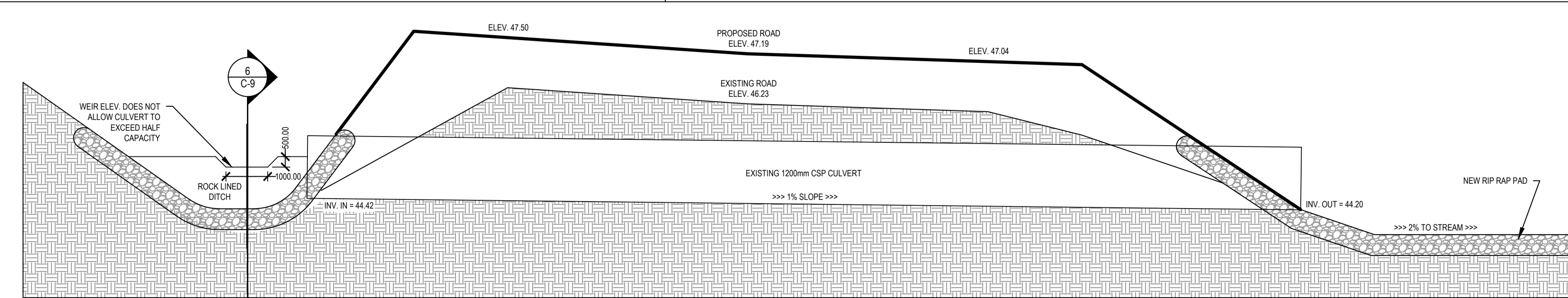


Scale:	N.T.S.
Drawn by:	M.LABRECHE
Checked by:	J.RAE
Date of Plan:	AUG2009
File No.:	S-2009-072

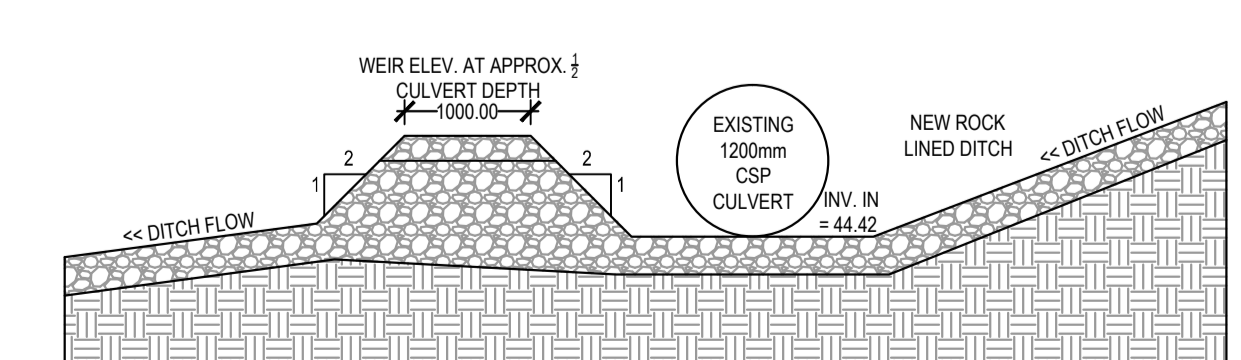
**STEEL BEAM GUARD RAIL END TREATMENT HS520**

Manager Highway Planning and Design  
Director Highway Engineering Services  
Executive Director Highway Engineering and Construction

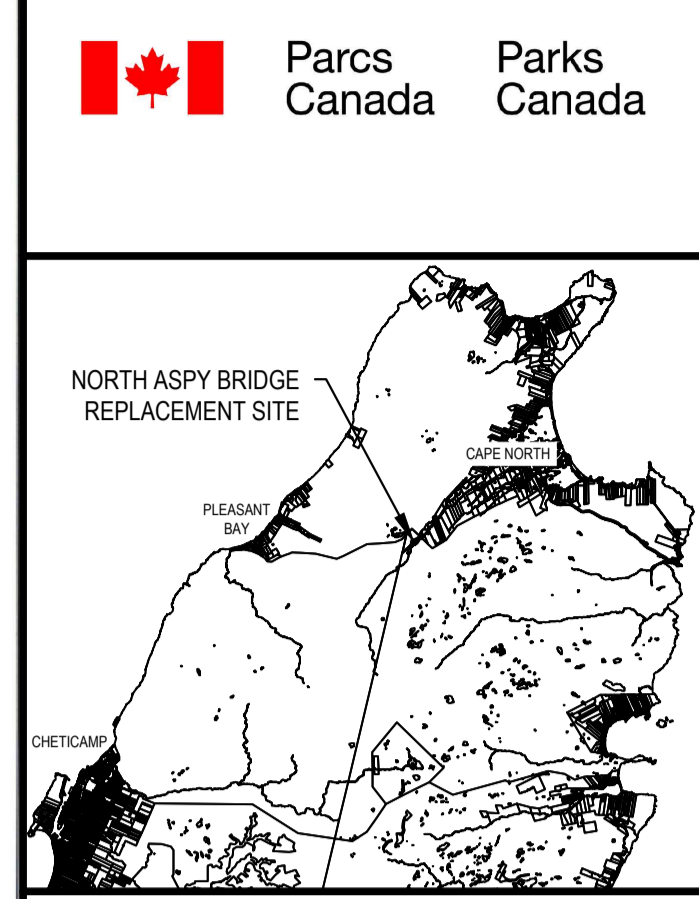
**5 STEEL BEAM GUARD RAIL END TREATMENT HS520**  
SCALE:N.T.S.



**7 EXISTING CULVERT**  
SCALE:N.T.S.



**6 SECTION A - CULVERT CROSS SECTION**  
SCALE:N.T.S.



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revisions		date
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**NORTH ASPY RIVER (NORTH) BRIDGE REPLACEMENT**  
**CAPE BRETON HIGHLANDS NATIONAL PARK, NOVA SCOTIA**

drawing		dessin
NOTES AND DETAILS		
designed	R. N. BOYCHUK	conçu
date		
drawn	D. J. HART	dessiné
date		
approved	R. N. BOYCHUK	approuvé
date		
Tender		Soumission
Project Manager	Administrateur de projets TPSCG	
project number		no. du projet
	<b>324</b>	
drawing no.		no. du dessin
	<b>C-9</b>	