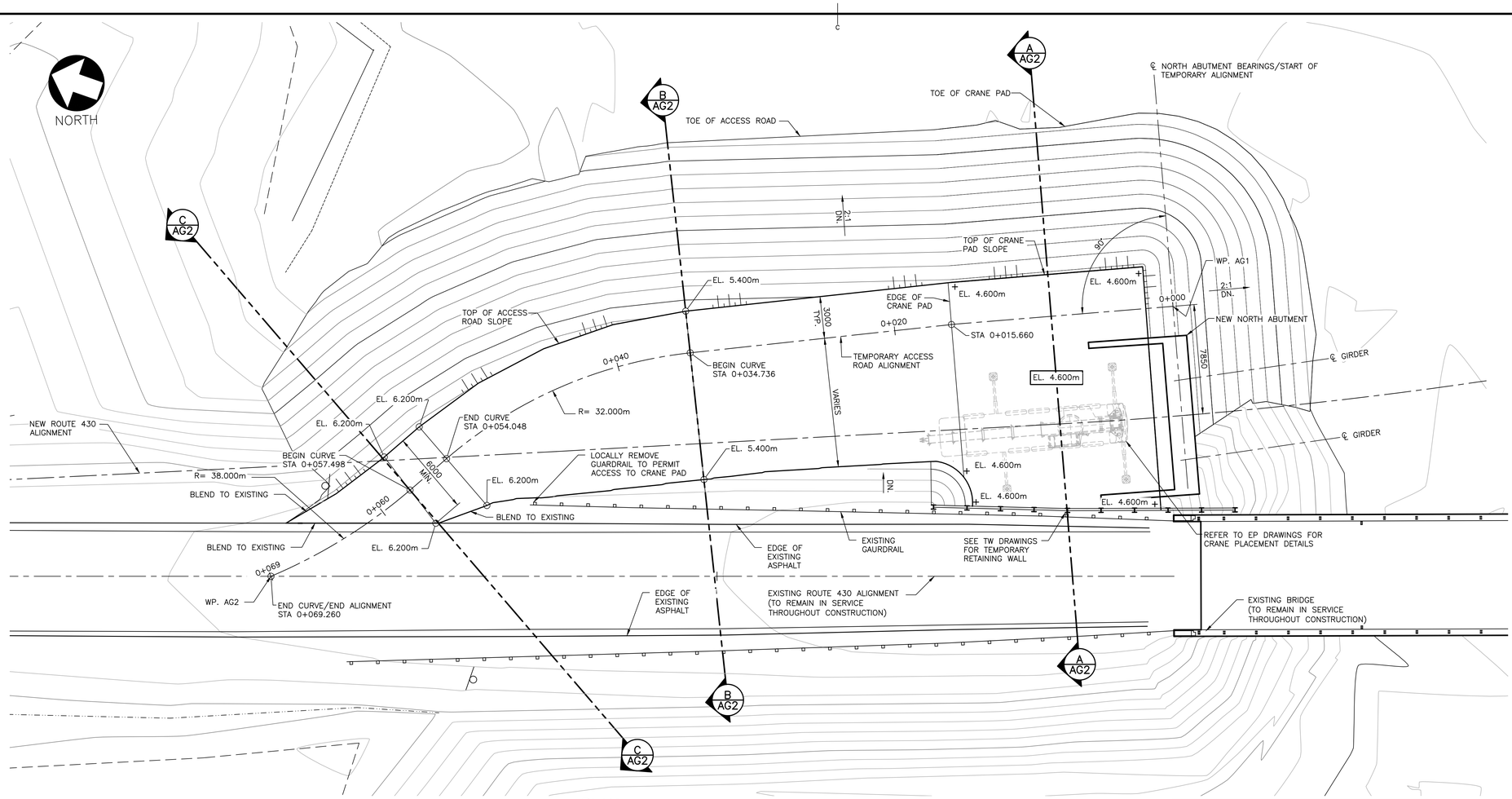


PLAN – NORTH ABUTMENT TEMPORARY GRADING

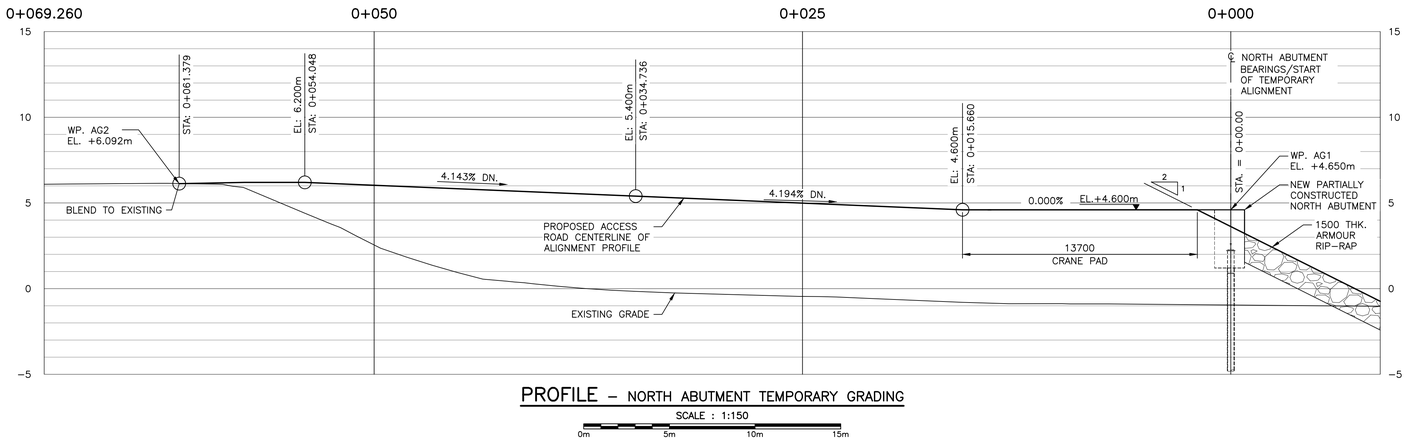
SCALE : 1:150

0m 5m 10m 15m

TEMPORARY NORTH ACCESS ROAD ALIGNMENT			
	STATION	NORTHING	EASTING
WP. AG1	0+000	5480980.825	446832.506
WP. AG2	0+069.259	5481035.492	446793.048

TEMPORARY APPROACH GRADING GENERAL NOTES:

1. DRAWINGS AG1–AG4 HAVE BEEN PROVIDED FOR THE NORTH AND SOUTH APPROACH GRADING REQUIREMENTS TO FACILITATE THE ERECTION OF THE GIRDERS FOR THE ROCKY BARACHOIS BRIDGE REPLACEMENT.
2. NEW GRADE LINES INDICATED HAVE BEEN PROVIDED TO ACCOMMODATE THE CRANE PLACEMENT FOR THE GIRDER ERECTION AFTER GIRDER TRANSPORT ACROSS EXISTING BRIDGE AND FOR THE ASSEMBLY OF THE BOX GIRDERS ON THE SOUTH APPROACH. ADDITIONAL GRADING REQUIREMENTS FOR ANY CRANE ACCESS TO FACILITATE GIRDER ASSEMBLY (INCLUDING GEOTECHNICAL REQUIREMENTS) IS THE RESPONSIBILITY OF THE CONTRACTOR.
3. EXISTING GRADES BASED ON TOPOGRAPHIC SURVEY COMPLETED BY DESIGN POINT ENGINEERING AND SURVEYING ON SEPT. 13–17, 2016.
4. THE STABILITY OF SIDE SLOPES UNDER CRANE OR EQUIPMENT SURCHARGE LOADS, OTHER THAN THOSE SHOWN ON AG AND EP DRAWINGS, SHALL BE VERIFIED IN WRITING BY A GEOTECHNICAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF NEWFOUNDLAND AND LABRADOR. THE NEW ABUTMENTS HAVE NOT BEEN REVIEWED FOR SURCHARGE EFFECTS FROM LARGE MACHINERY OR SECONDARY CRANES/BOOM TRUCKS BEYOND WHAT IS INDICATED IN THE EP SERIES DRAWINGS. CONTRACTOR TO ENSURE HEAVY MACHINERY AND SECONDARY CRANES/BOOM TRUCKS ARE KEPT OUT OF THE INFLUENCE ZONE OF THE ABUTMENT AT ALL TIMES.
5. APPROACH FILL MATERIAL AND COMPACTION SHALL MEET THE REQUIREMENTS OF THE ROCKY BARACHOIS BRIDGE REPLACEMENT CONTRACT DRAWINGS AND SPECIFICATIONS.
6. TRAFFIC CONTROL PLAN FOR GIRDER ERECTION ACTIVITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH NEWFOUNDLAND AND LABRADOR HEALTH AND SAFETY REGULATIONS.
8. ALL DIMENSIONS ARE IN MILLIMETERS. ALL ELEVATIONS ARE IN METERS.
9. CONTRACTOR TO REPORT ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE DRAWINGS TO DEPARTMENTAL REPRESENTATIVE IN A TIMELY FASHION.
10. TEMPORARY ACCESS VERTICAL ALIGNMENT SHOWN ALONG NORTH AND SOUTH APPROACHES TO FACILITATE GIRDER ERECTION. REFERENCE DRAWINGS TW4 FOR SUGGESTED PHASING TO INSTALL PILES.
11. AT VERTICAL SLOPE TRANSITIONS CONTRACTOR TO LOCALLY GRADE AS NECESSARY TO FACILITATE ACCESS OF ALL REQUIRED CONSTRUCTION EQUIPMENT.



PROFILE – NORTH ABUTMENT TEMPORARY GRADING

SCALE : 1:150

0m 5m 10m 15m

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEGNL Newfoundland and Labrador Association of Professional Engineers
ROBBIE FRASER
SIGNATURE
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL Newfoundland and Labrador
PERMIT HOLDER
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revisions		date
0	ISSUED FOR TENDER	11/27/2018

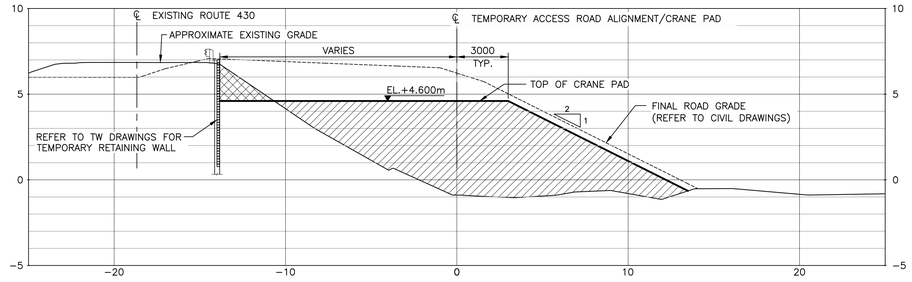
project / projet
ROCKY BARACHOIS BRIDGE ROUTE 430
GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION
NORTH APPROACH GRADING REQUIREMENTS GENERAL ARRANGEMENT

designed SARAH HARDY / conçu
date MARCH 2018
drawn NICK YOUNG / dessiné
date MARCH 2018
approved ROBBIE FRASER / approuvé
date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet
1845
drawing no. / no. du dessin
AG1

PWGSC B1 (2004)

E–DRM/GDD–E:



SECTION 0+08.750 — A / AG1

SCALE : 1:150

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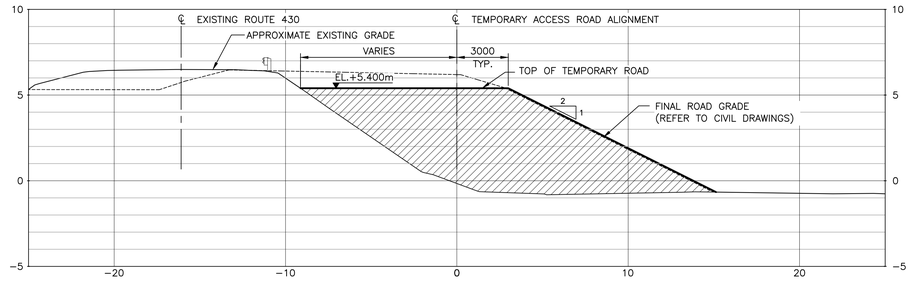

SECTION 0+034.736 — B / AG1

SCALE : 1:150

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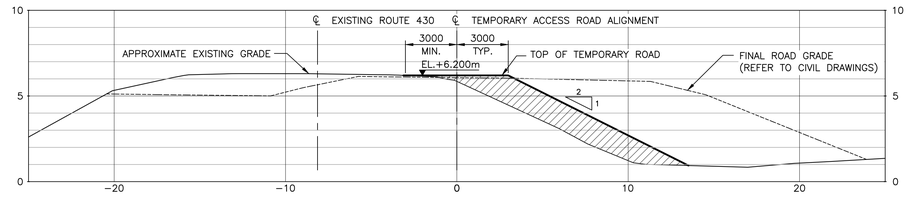

SECTION 0+057.498 — C / AG1

SCALE : 1:150

0m 5m 10m 15m

LEGEND:

CUT –

FILL –

NOTES:

1. REFER TO AG1 FOR TEMPORARY APPROACH GRADING GENERAL NOTES.

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER — PEGNL — ROBBIE FRASER — SIGNATURE — DATE — NEWFOUNDLAND & LABRADOR

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revisions		date
0	ISSUED FOR TENDER	11/27 2018

project / projet
ROCKY BARACHOIS BRIDGE
ROUTE 430

GROS MORNE NATIONAL PARK

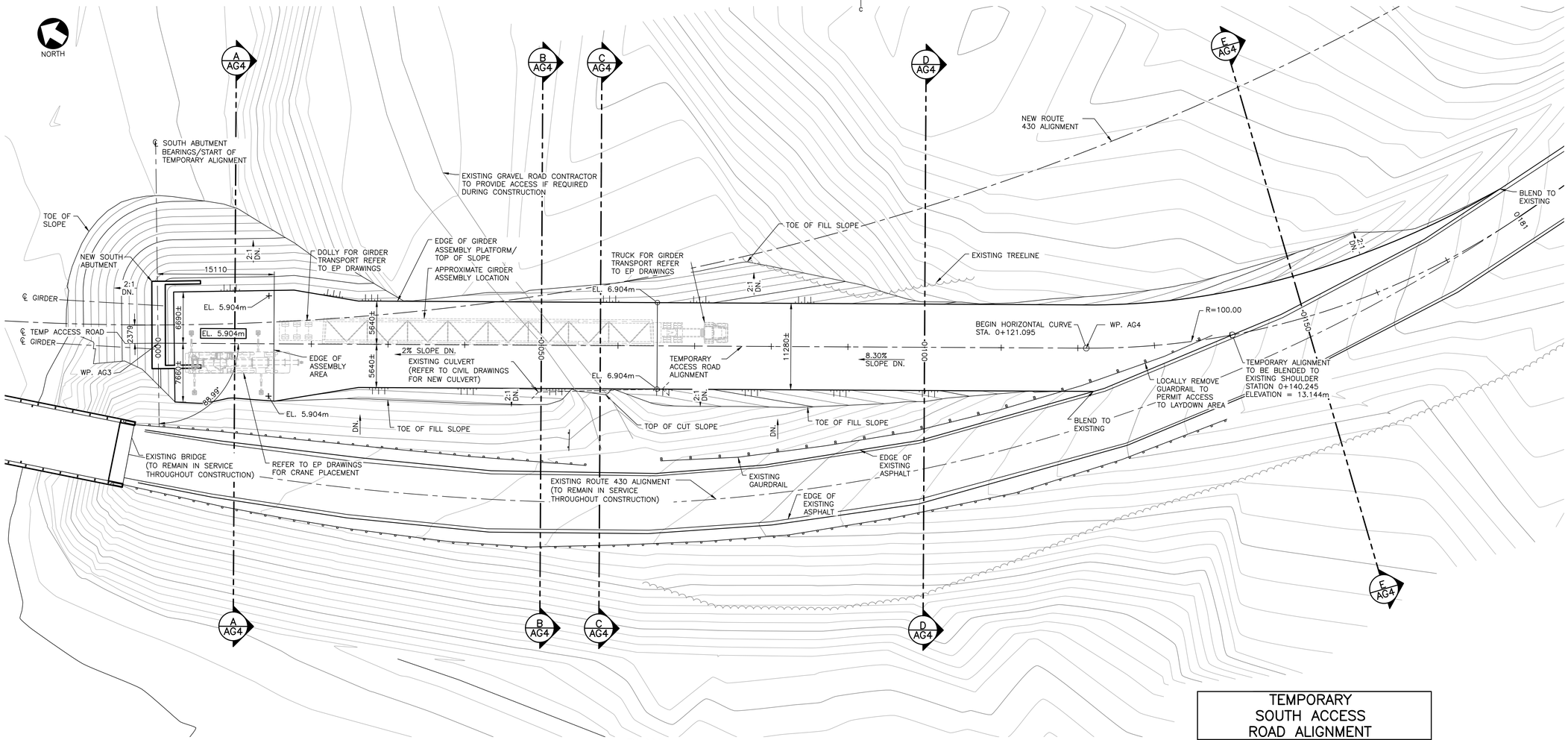
drawing / dessin
GIRDER ERECTION

NORTH APPROACH GRADING REQUIREMENTS SECTIONS

designed	SARAH HARDY	conçu
date	MARCH 2018	
drawn	NICK YOUNG	dessiné
date	MARCH 2018	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	1845	
drawing no.		no. du dessin
	AG2	

PWGSC B1 (2004)

E-DRM/GDD-E:

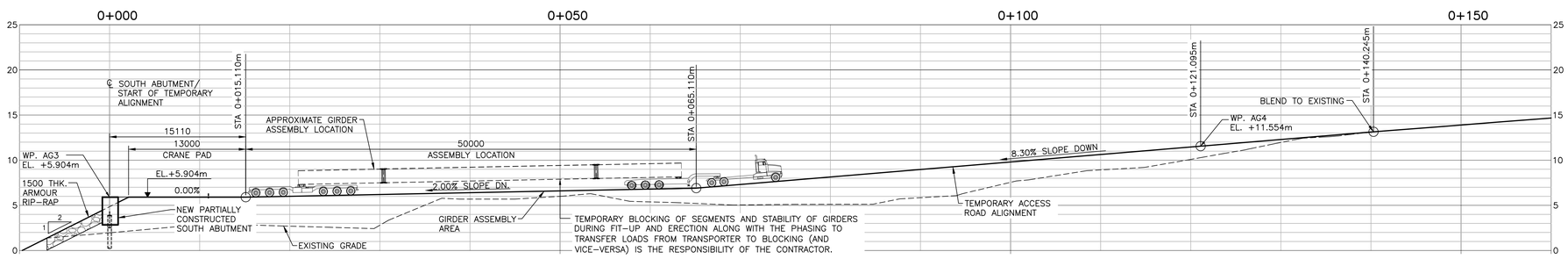


PLAN – SOUTH ABUTMENT TEMPORARY GRADING

SCALE : 1:250

0m 5m 10m 15m 20m 25m

TEMPORARY SOUTH ACCESS ROAD ALIGNMENT			
	STATION	NORTHING	EASTING
WP. AG3	0+000	5480939.158	446842.586
WP. AG4	0+121.095	5480834.759	446903.943



PROFILE – SOUTH ABUTMENT TEMPORARY GRADING

SCALE : 1:250

0m 5m 10m 15m 20m 25m

NOTES:

1. REFER TO AG1 FOR TEMPORARY APPROACH GRADING GENERAL NOTES.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEGNL Professional Engineers and Geoscientists Newfoundland & Labrador
ROBBIE FRASER
SIGNATURE
Nov 27 '18
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL Newfoundland and Labrador
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revisions		date
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project / projet
ROCKY BARACHOIS BRIDGE ROUTE 430

GROS MORNE NATIONAL PARK

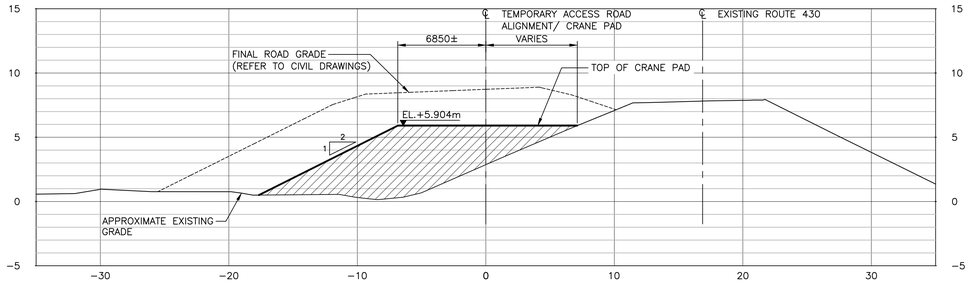
drawing / dessin
GIRDER ERECTION

SOUTH APPROACH GRADING REQUIREMENTS GENERAL ARRANGEMENT

designed / conçu	SARAH HARDY	
date	MARCH 2018	
drawn / dessiné	NICK YOUNG	
date	MARCH 2018	
approved / approuvé	ROBBIE FRASER	
date		
Tender / Soumission		
PWGSC Project Manager / Administrateur de projets TPSGC		
project number / no. du projet	1845	
drawing no. / no. du dessin	AG3	

PWGSC B1 (2004)

E-DRM/GDD-E:



SECTION 0+010.00 — A AG3

SCALE : 1:200

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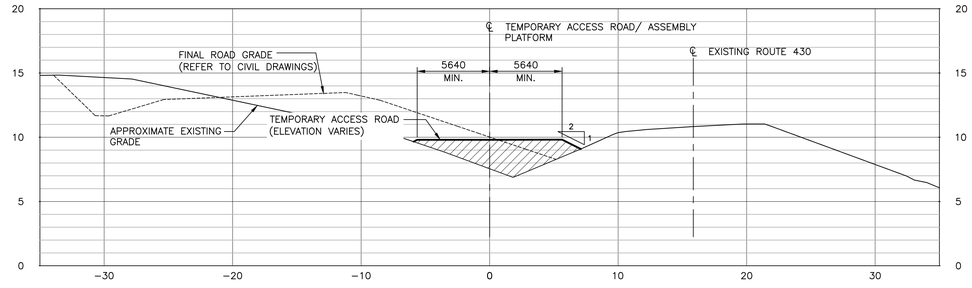

SECTION 0+100.00 — D AG3

SCALE : 1:200

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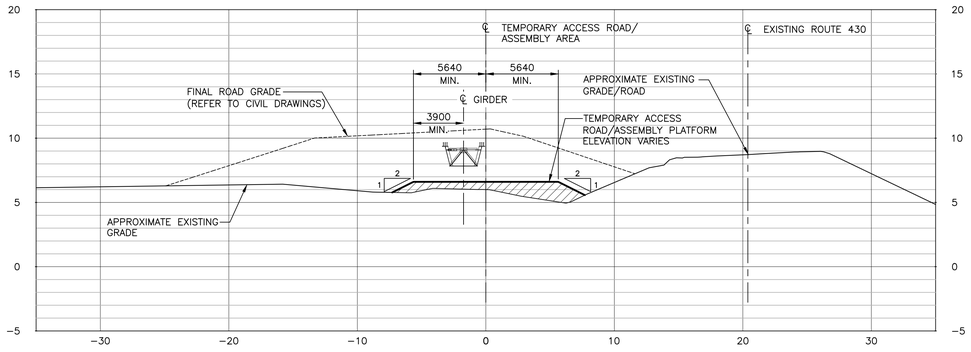

SECTION 0+050.00 — B AG3

SCALE : 1:200

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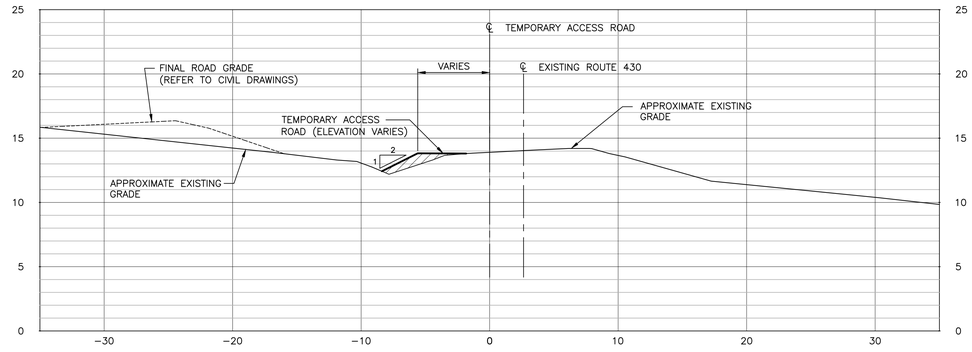

SECTION 0+150.00 — E AG3

SCALE : 1:200

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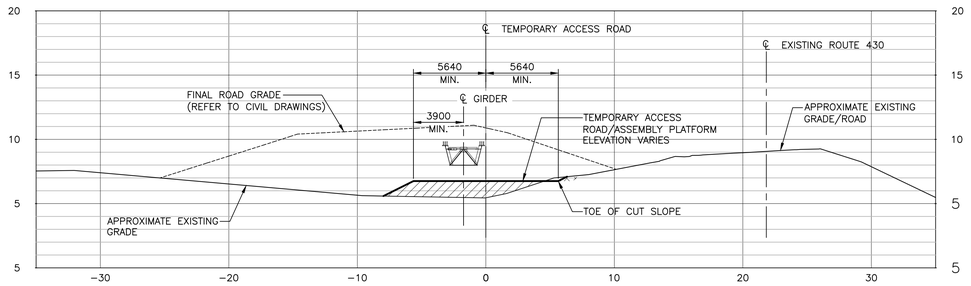

SECTION 0+057.700 — C AG3

SCALE : 1:200

0m 5m 10m 15m 20m 25m

LEGEND:

CUT –

FILL –

NOTES:

1. REFER TO AG1 FOR TEMPORARY APPROACH GRADING GENERAL NOTES.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER — PEGNL — ROBBIE FRASER — SIGNATURE — DATE: NOV 27 '18 — NEWFOUNDLAND & LABRADOR

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revisions		date
0	ISSUED FOR TENDER	11/27 2018

project / projet

ROCKY BARACHOIS BRIDGE ROUTE 430

GROS MORNE NATIONAL PARK

drawing / dessin

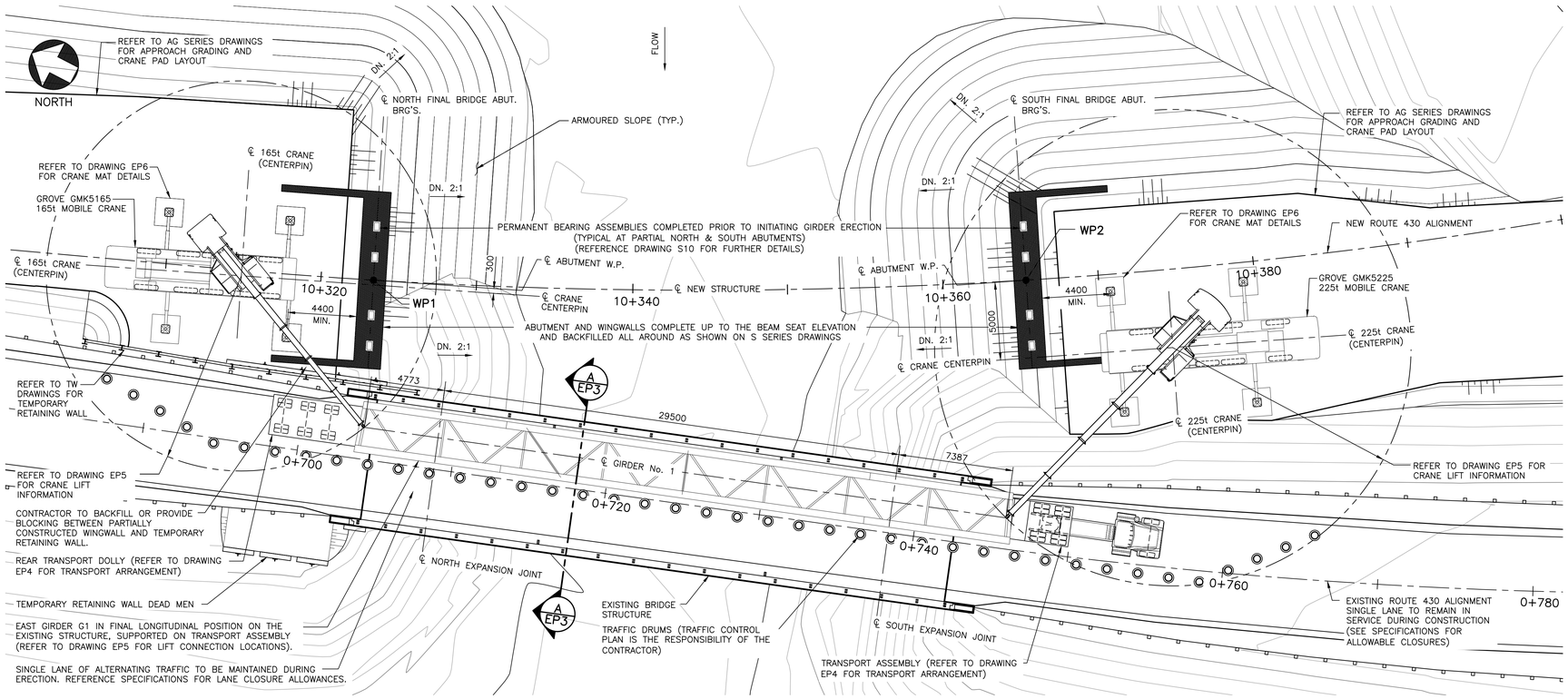
GIRDER ERECTION

SOUTH APPROACH GRADING REQUIREMENTS SECTIONS

designed / conçu	SARAH HARDY	
date	MARCH 2018	
drawn / dessiné	NICK YOUNG	
date	MARCH 2018	
approved / approuvé	ROBBIE FRASER	
date		
Tender / Soumission		
PWGSC Project Manager / Administrateur de projets TPSGC		
project number / no. du projet	1845	
drawing no. / no. du dessin	AG4	

PWGSC B1 (2004)

E-DRM/GDD-E:



PLAN – PHASE 1 (END)

SCALE : 1:150

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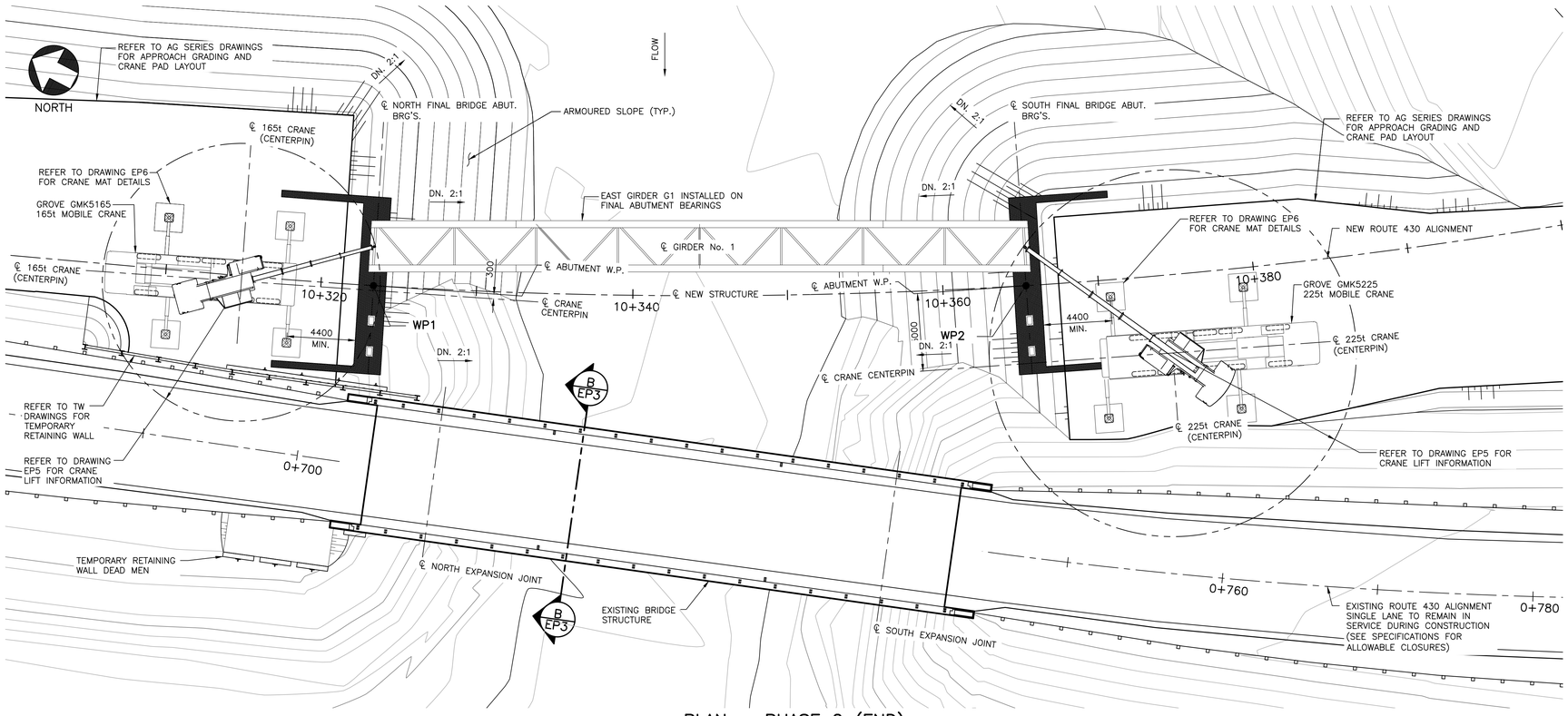

PLAN – PHASE 2 (END)

SCALE : 1:150

0m 5m 10m 15m

PHASE 1 PROCEDURE:

1. WITH NEW BRIDGE ABUTMENTS, BACKFILLING AND FINAL SLOPE TREATMENTS COMPLETED UP TO THE BEAM SEAT ELEVATIONS, COMPLETE CRANE PADS AND GIRDER ASSEMBLY AREA IN ACCORDANCE WITH AG SERIES DRAWINGS.
2. MOBILIZE GROVE GMK 5225 225 USt MOBILE CRANE ON THE SOUTH SIDE OF THE NEW STRUCTURE AND THE GROVE GMK 5165 165 USt MOBILE CRANE ON THE NORTH SIDE OF THE NEW STRUCTURE AND POSITION AS INDICATED ON THE DRAWINGS. ALL CRANE OUTRIGGERS SHALL BE FULLY EXTENDED AND SUPPORTED ON CRANE MATS AS DETAILED ON DRAWING EP6. TRAFFIC CONTROL MEASURES FOR THE MOBILIZATION AND INSTALLATION OF BOTH CRANE PADS AND THE CRANES ARE THE RESPONSIBILITY OF THE CONTRACTOR. REFERENCE NOTES ON EP4/EP5 AND PROJECT SPECIFICATIONS FOR CRANE/MATERIAL ERECTION PHASING SUBSTITUTION.
3. ASSEMBLE FULL LENGTH OF EAST GIRDER G1 AND POSITION ON THE TRANSPORTER ASSEMBLY (TRUCK, JEEP AND REAR SUPPORT DOLLY) IN ACCORDANCE WITH DRAWING EP4. GIRDER ASSEMBLY TO BE COMPLETED IN LAY DOWN AREA SOUTH OF THE NEW STRUCTURE (REFER TO AG SERIES DRAWINGS). GIRDER ASSEMBLY IN LAY DOWN AREA IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. WITH TRAFFIC CONTROL MEASURES IN PLACE (BY CONTRACTOR), TEMPORARILY CLOSE THE EXISTING LANES TO TRAFFIC FROM THE NORTH END OF THE EXISTING BRIDGE STRUCTURE TO THE SOUTH END OF THE GIRDER ASSEMBLY AREA TO ALLOW TRANSPORTER TRUCK TO DEPART THE GIRDER ASSEMBLY AREA. TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR (SEE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES).
5. WITH BOTH LANES CLOSED TO TRAFFIC AS INDICATED IN NOTE 4, TRANSPORT FULLY ASSEMBLED GIRDER G1 ACROSS THE EXISTING STRUCTURE INTO ITS FINAL LONGITUDINAL POSITION AS INDICATED. ENSURE PROPER TRANSVERSE GIRDER ALIGNMENT (EAST–WEST) ON THE EXISTING BRIDGE STRUCTURE AS INDICATED ON SECTION A/EP3. TRANSPORT SPEED ACROSS THE EXISTING BRIDGE STRUCTURE SHALL NOT EXCEED 5 km/hr.
6. RE–CONFIGURE TRAFFIC CONTROL MEASURES LOCALLY AT THE EXISTING STRUCTURE TO ESTABLISH A SINGLE LANE OF ALTERNATING TRAFFIC INDICATED ON SECTION A/EP3 (THIS INCLUDES INSTALLATION OF TEMPORARY TRAFFIC DRUMS AS REQUIRED). TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. WITH GIRDER IN A STATIC CONDITION IN ITS FINAL LONGITUDINAL AND TRANSVERSE POSITIONS ON THE EXISTING BRIDGE STRUCTURE AND TRAFFIC CONTROL MEASURES IN PLACE, A SINGLE LANE OF TRAFFIC MAY BE RE–OPENED ACROSS THE EXISTING STRUCTURE AS INDICATED ON SECTION A/EP3. MAXIMUM ALLOWABLE TIME TO COMPLETE STEPS 4–7 SHALL BE AS PER THE PROJECT SPECIFICATIONS.
8. CONNECT CRANES TO GIRDER AT LOCATIONS INDICATED ON DRAWING EP5.
9. END OF PHASE 1.

PHASE 2 PROCEDURE:

1. WITH CONNECTIONS COMPLETED BETWEEN THE GIRDER AND THE NORTH/SOUTH CRANES, SIMULTANEOUSLY ENGAGE CRANES AND REMOVE SLACK FROM RIGGING (STRAIN COMPATIBLE CONDITION).
2. FULLY CLOSE THE EXISTING BRIDGE TO TRAFFIC (SEE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES).
3. DISCONNECT GIRDER FROM THE TRANSPORTER ASSEMBLY AT THE JEEP AND DOLLY SUPPORTS.
4. SIMULTANEOUSLY RAISE BOTH ENDS OF THE GIRDER AND TRANSFER LOAD FROM THE TRANSPORTER ASSEMBLY TO THE CRANES.
5. IN A SLOW AND CONTROLLED MANNER, PLACE GIRDER G1 INTO FINAL POSITION ON THE COMPLETED EAST GIRDER BEARINGS ON THE NEW BRIDGE ABUTMENTS AS INDICATED. CRANE OPERATORS SHALL ENSURE THE CRANE LINES ARE PLUMB AND MAXIMUM LIFT RADII ARE NOT EXCEEDED AT ANY TIME DURING THE LIFT.
6. RE–OPEN SINGLE LANE OF ALTERNATING TRAFFIC ON THE EXISTING BRIDGE.
7. SIMULTANEOUSLY TRANSFER THE GIRDER LOAD FROM THE 225 USt AND 165 USt MOBILE CRANES TO THE NORTH AND SOUTH ABUTMENT BEARING ASSEMBLIES. DISCONNECT THE GIRDER FROM THE CRANES.
8. REMOVE TRANSPORTER ASSEMBLY FROM THE EXISTING BRIDGE STRUCTURE.
9. REMOVE TRAFFIC CONTROL MEASURES FROM THE EXISTING BRIDGE STRUCTURE AND RE–OPEN TO TWO LANES OF TRAFFIC IN NORTHBOUND AND SOUTHBOUND LANES ACROSS THE EXISTING BRIDGE AS INDICATED ON SECTION B/EP4.
10. END OF PHASE 2.

GENERAL NOTES:

1. REFER TO DRAWING EP3 FOR GENERAL GIRDER ERECTION NOTES.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEG Newfoundland and Labrador
ROBBIE FRASER
SIGNATURE
Robbie Fraser
NOV 27 '18
DATE
NEWFOUNDLAND & LABRADOR

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PEG Newfoundland and Labrador
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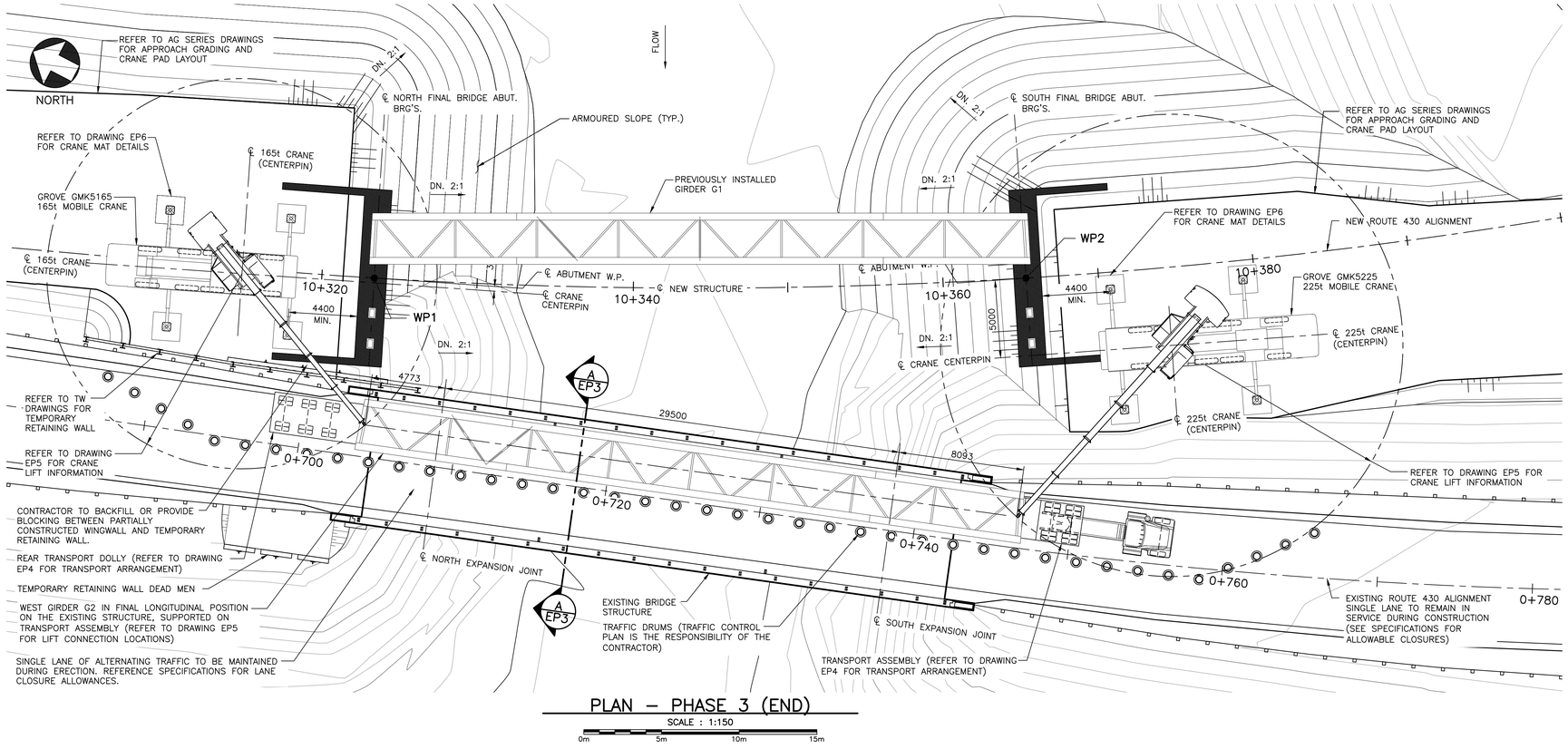
revisions		date
0	ISSUED FOR TENDER	11/27 2018

project / projet
ROCKY BARACHOIS BRIDGE ROUTE 430
GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION
PHASE 1 AND PHASE 2

designed	SARAH HARDY
date	JULY 2017
drawn	NICK YOUNG
date	JULY 2017
approved	ROBBIE FRASER
date	
Tender	
PCA Project Manager	
project number	1845
drawing no.	EP1

PCA B1 (2004)



PLAN – PHASE 3 (END)

SCALE : 1:150

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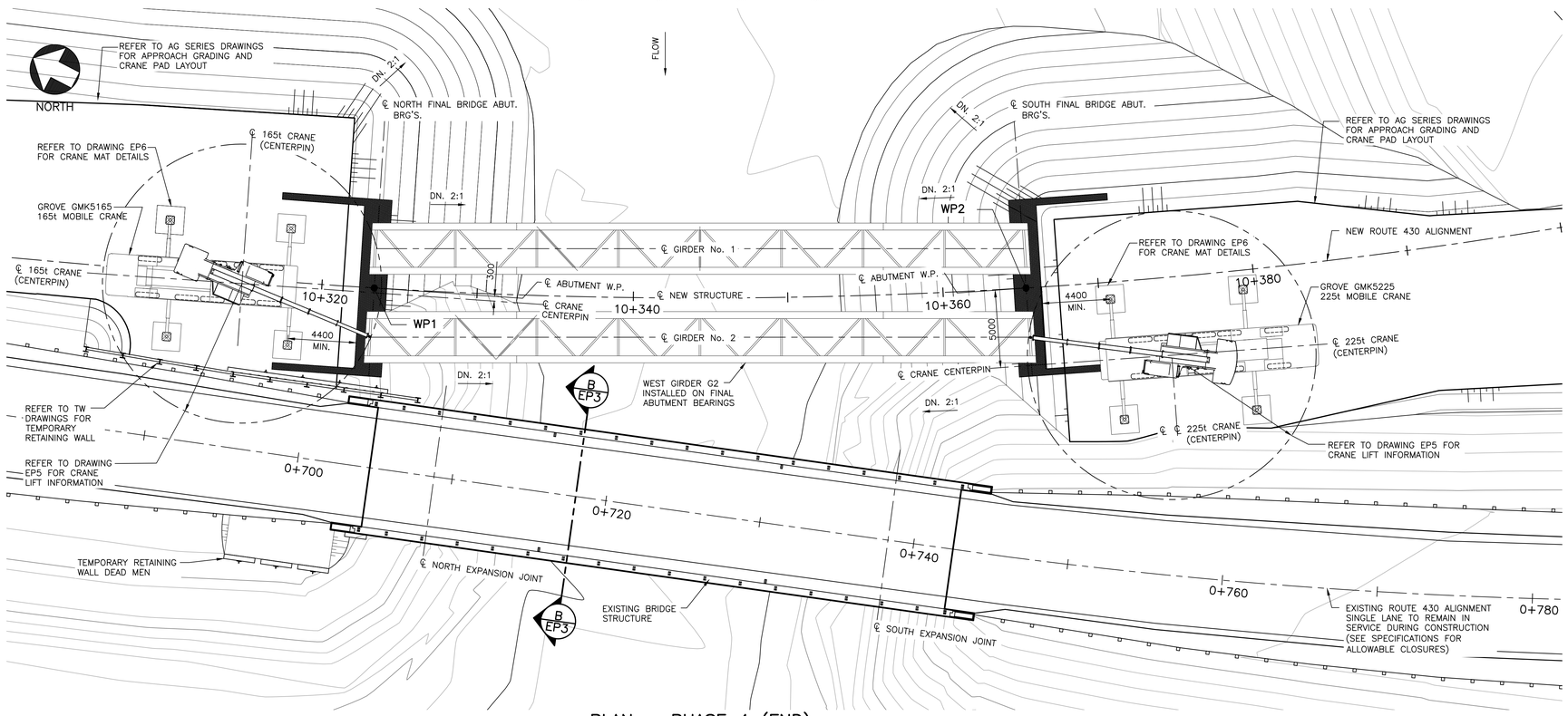


PLAN – PHASE 4 (END)

SCALE : 1:150

0m 5m 10m 15m

PHASE 3 PROCEDURE:

1. ASSEMBLE FULL LENGTH OF WEST GIRDER G2 AND POSITION ON THE TRANSPORTER ASSEMBLY (TRUCK, JEEP AND REAR SUPPORT DOLLY) IN ACCORDANCE WITH DRAWING EP4. GIRDER ASSEMBLY TO BE COMPLETED IN LAY DOWN AREA SOUTH OF THE NEW STRUCTURE (REFER TO AG SERIES DRAWINGS). GIRDER ASSEMBLY IN LAY DOWN AREA IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. WITH TRAFFIC CONTROL MEASURES IN PLACE (BY CONTRACTOR), TEMPORARILY CLOSE THE EXISTING LANES TO TRAFFIC FROM THE NORTH END OF THE EXISTING BRIDGE STRUCTURE TO THE SOUTH END OF THE GIRDER ASSEMBLY AREA TO ALLOW TRANSPORTER TRUCK TO DEPART THE GIRDER ASSEMBLY AREA. TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR (SEE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES).
6. WITH BOTH LANES CLOSED TO TRAFFIC AS INDICATED IN NOTE 2, TRANSPORT FULLY ASSEMBLED GIRDER G2 ACROSS THE EXISTING STRUCTURE INTO ITS FINAL LONGITUDINAL POSITION AS INDICATED. ENSURE PROPER TRANSVERSE GIRDER ALIGNMENT (EAST–WEST) ON THE EXISTING BRIDGE STRUCTURE AS INDICATED ON SECTION A/EP3. TRANSPORT SPEED ACROSS THE EXISTING BRIDGE STRUCTURE SHALL NOT EXCEED 5 km/hr.
7. RE–CONFIGURE TRAFFIC CONTROL MEASURES LOCALLY AT THE EXISTING STRUCTURE TO ESTABLISH A SECONDARY TRAFFIC LANE AS INDICATED ON SECTION A/EP3 (THIS INCLUDES INSTALLATION OF TEMPORARY TRAFFIC DRUMS AS REQUIRED). TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR.
8. WITH GIRDER IN A STATIC CONDITION IN ITS FINAL LONGITUDINAL AND TRANSVERSE POSITIONS ON THE EXISTING BRIDGE STRUCTURE AND TRAFFIC CONTROL MEASURES IN PLACE, A SINGLE LANE OF TRAFFIC MAY BE RE–OPENED ACROSS THE EXISTING STRUCTURE AS INDICATED ON SECTION A/EP3. MAXIMUM ALLOWABLE TIME TO COMPLETE STEPS 2–5 SHALL BE AS PER THE PROJECT SPECIFICATIONS.
9. CONNECT CRANES TO GIRDER AT LOCATIONS INDICATED ON DRAWING EP5.
10. END OF PHASE 3.

PHASE 4 PROCEDURE:

1. WITH CONNECTIONS COMPLETED BETWEEN THE GIRDER AND THE NORTH/SOUTH CRANES, SIMULTANEOUSLY ENGAGE CRANES AND REMOVE SLACK FROM RIGGING (STRAIN COMPATIBLE CONDITION).
2. FULLY CLOSE THE EXISTING BRIDGE TO TRAFFIC (SEE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES).
3. DISCONNECT GIRDER FROM THE TRANSPORTER ASSEMBLY AT THE JEEP AND DOLLY SUPPORTS.
4. SIMULTANEOUSLY RAISE BOTH ENDS OF THE GIRDER AND TRANSFER LOAD FROM THE TRANSPORTER ASSEMBLY TO THE CRANES.
5. IN A SLOW AND CONTROLLED MANNER, PLACE GIRDER G2 INTO FINAL POSITION ON THE COMPLETED WEST GIRDER BEARINGS ON THE NEW BRIDGE ABUTMENTS AS INDICATED. CRANE OPERATORS SHALL ENSURE THE CRANE LINES ARE PLUMB AND MAXIMUM LIFT RADII ARE NOT EXCEEDED AT ANY TIME DURING THE LIFT.
6. RE–OPEN SINGLE LANE OF ALTERNATING TRAFFIC ON THE EXISTING BRIDGE.
7. SIMULTANEOUSLY TRANSFER THE GIRDER LOAD FROM THE 225 UST AND 165 UST MOBILE CRANES TO THE NORTH AND SOUTH ABUTMENT BEARING ASSEMBLIES. DISCONNECT THE GIRDER FROM THE CRANES.
8. REMOVE TRANSPORTER ASSEMBLY FROM THE EXISTING BRIDGE STRUCTURE.
9. REMOVE TRAFFIC CONTROL MEASURES FROM THE EXISTING BRIDGE STRUCTURE AND RE–OPEN TO TWO LANES OF TRAFFIC IN NORTHBOUND AND SOUTHBOUND LANES ACROSS THE EXISTING BRIDGE AS INDICATED ON SECTION B/EP4.
10. END OF PHASE 4 / GIRDER ERECTION PHASING.

GENERAL NOTES:

1. REFER TO DRAWING EP3 FOR GENERAL GIRDER ERECTION NOTES.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEG Newfoundland and Labrador
ROBBIE FRASER
SIGNATURE
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEG Newfoundland and Labrador
PERMIT HOLDER
This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEG NO324 which is valid for the year 2018.

revisions		date
0	ISSUED FOR TENDER	11/27 2018

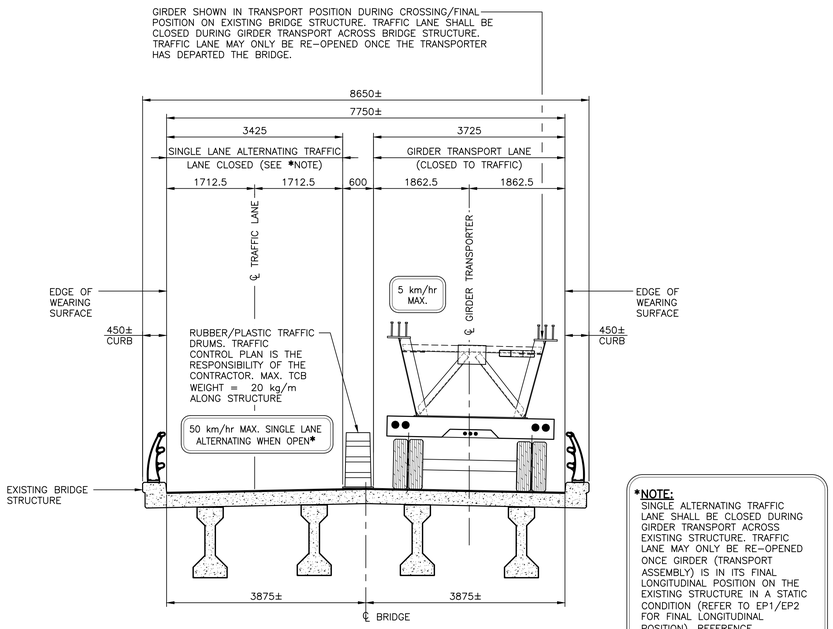
project / projet
ROCKY BARACHOIS BRIDGE
ROUTE 430
GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION
PHASE 3 AND PHASE 4

designed	SARAH HARDY	conçu
date	JULY 2017	
drawn	NICK YOUNG	dessiné
date	JULY 2017	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PCA Project Manager		Administrateur de projets APC
project number		no. du projet
1845		
drawing no.		no. du dessin
EP2		

PCA B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

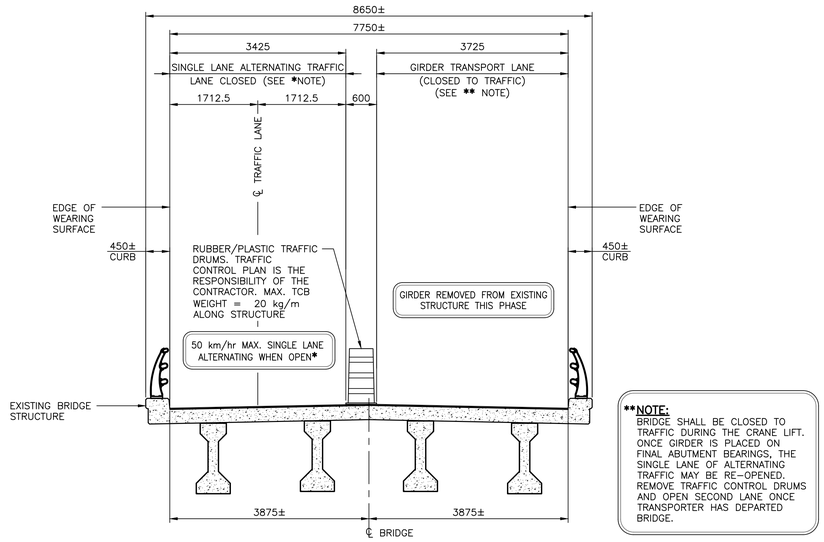


NOTE:
SINGLE ALTERNATING TRAFFIC LANE SHALL BE CLOSED DURING GIRDER TRANSPORT ACROSS EXISTING STRUCTURE. TRAFFIC LANE MAY ONLY BE RE-OPENED ONCE GIRDER (TRANSPORT ASSEMBLY) IS IN ITS FINAL LONGITUDINAL POSITION ON THE EXISTING STRUCTURE IN A STATIC CONDITION (REFER TO EP1/EP2 FOR FINAL LONGITUDINAL POSITION). REFERENCE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES

SECTION PHASE 1 AND PHASE 3 — A EP1

SCALE : 1:50

0m 1m 2m 3m 4m 5m



NOTE:
BRIDGE SHALL BE CLOSED TO TRAFFIC DURING THE CRANE LIFT. ONCE GIRDER IS PLACED ON FINAL ABUTMENT BEARINGS, THE SINGLE LANE OF ALTERNATING TRAFFIC MAY BE RE-OPENED. REMOVE TRAFFIC CONTROL DRUMS AND OPEN SECOND LANE ONCE TRANSPORTER HAS DEPARTED BRIDGE.

SECTION PHASE 2 AND PHASE 4 — B EP1

SCALE : 1:50

0m 1m 2m 3m 4m 5m

GIRDER ERECTION GENERAL NOTES:

1. REFER TO TW SERIES DRAWINGS FOR THE NORTH APPROACH TEMPORARY RETAINING WALL DETAILS.
2. REFER TO AG SERIES DRAWINGS FOR THE NORTH AND SOUTH APPROACH TEMPORARY GRADING AND CRANE PAD REQUIREMENTS.
3. DESIGN, FABRICATION AND CONSTRUCTION AS PER THE REQUIREMENTS OF CAN/CSA S6-14.
4. DIMENSIONS IN mm UNLESS NOTED OTHERWISE. ELEVATIONS IN METERS (m).
5. THE GIRDER ERECTION DESIGN (INCLUDING THE CRANE LIFTS) IS BASED ON A MAXIMUM GUSTING WIND SPEED OF 30 km/hr. CONTRACTOR SHALL MONITOR WEATHER FORECAST AND NOT PROCEED WITH GIRDER ERECTION WHEN WIND GUSTS ARE FORECAST TO EXCEED 30 km/hr (FOR ANY INTERVAL EXCEEDING 3 SECONDS). IF WIND CONDITIONS CHANGE DURING ERECTION AND APPROACH OR EXCEED THE 30 km/hr THRESHOLD, GIRDER SHALL BE REMOVED FROM THE EXISTING BRIDGE STRUCTURE BY MEANS OF THE TRANSPORTER ASSEMBLY OR BE PLACED ON THE FINAL ABUTMENT BEARINGS AT THE NORTH AND SOUTH ABUTMENTS OF THE NEW STRUCTURE (RELEASED FROM THE CRANES).
6. CARE SHALL BE TAKEN DURING ERECTION TO MINIMIZE IMPACT (DYNAMIC) EFFECTS.
7. PERMANENT BEARING INSTALLATION PROCEDURE IS THE RESPONSIBILITY OF THE CONTRACTOR.
8. STABILITY OF THE CRANES DURING ERECTION IS THE RESPONSIBILITY OF THE CONTRACTOR. RIGGING AND CONNECTIONS TO THE GIRDER ARE THE RESPONSIBILITY OF THE CONTRACTOR. REFER TO DRAWING EP5 FOR THE GIRDER LIFT LOCATIONS AND CRANE LIFT INFORMATION. REFER TO EP DRAWINGS FOR CRANE PLACEMENT AND CRANE MAT / OUTRIGGER BEARING PAD REQUIREMENTS. REFER TO AG DRAWINGS FOR CRANE PAD LAYOUT AND GIRDER ASSEMBLY LAYDOWN AREA.
9. SECONDARY CRANE REQUIREMENTS TO FACILITATE INSTALLATION OF MISCELLANEOUS ITEMS NOT COVERED SPECIFICALLY IN THE ERECTION PHASING DRAWINGS, INCLUDING THE GIRDER ASSEMBLY, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
10. THE NEW ABUTMENTS HAVE NOT BEEN REVIEWED FOR SURCHARGE EFFECTS FROM LARGE MACHINERY OR SECONDARY CRANES / BOOM TRUCKS BEYOND WHAT IS INDICATED WITHIN THE GIRDER ERECTION PACKAGE (I.E. THE 225 USt AND 165 USt MOBILE CRANES WITH THEIR RESPECTIVE POSITIONING AS INDICATED). ENSURE ALL LARGE MACHINERY OR SECONDARY CRANES / BOOM TRUCKS ARE KEPT OUT OF THE INFLUENCE ZONE OF THE ABUTMENT AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.
11. STABILITY OF THE GIRDER SEGMENTS DURING TRANSPORT IS THE RESPONSIBILITY OF THE CONTRACTOR. REFER TO DRAWING EP4 FOR FULL GIRDER TRANSPORT ARRANGEMENT AND RESULTING AXLE LOADS. CONTRACTOR TO SUBMIT TRANSPORTER DETAILS TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH GIRDER ERECTION (REFER TO PROJECT SPECIFICATIONS FOR SUBMITTAL SCHEDULE).
12. TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR.
13. THE EXISTING BRIDGE STRUCTURE HAS BEEN REVIEWED BY HEC TO RESIST AND TRANSFER LOADS RESULTING FROM THE GIRDER ERECTION SEQUENCE AS DETAILED IN THE EP SERIES DRAWINGS. ANY CHANGES TO THE PROPOSED CRANE / GIRDER TRANSPORTER CONFIGURATIONS SHALL REQUIRE REVIEW AND APPROVAL BY THE DEPARTMENTAL REPRESENTATIVE. REFER TO PROJECT SPECIFICATIONS FOR MORE INFORMATION.
14. TRANSPORT SPEED OF THE FULLY ASSEMBLED GIRDER ACROSS THE EXISTING BRIDGE STRUCTURE SHALL NOT EXCEED 5 km/hr.
15. A DEPARTMENTAL REPRESENTATIVE SHALL COMPLETE A SITE VISIT TO VERIFY THE CRANE PADS AND CRANE SET-UPS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CONTRACT DRAWINGS PRIOR TO INITIATING GIRDER ERECTION PHASING.
16. A DEPARTMENTAL REPRESENTATIVE SHALL BE PRESENT ON SITE DURING PHASE 1/EP1 AND PHASE 3/EP2 TO CONFIRM THE POSITIONING OF THE GIRDER TRANSPORT ACROSS THE EXISTING STRUCTURE.
17. DO NOT SCALE FROM DRAWINGS.
18. REFER TO S SERIES DRAWINGS FOR NEW BRIDGE STRUCTURE.
19. THE EXISTING BRIDGE STRUCTURE SHALL BE FULLY CLOSED TO TRAFFIC WHILE LIFTING GIRDERS OFF THE GIRDER TRANSPORTER. REFER TO DRAWINGS EP1 AND EP2 FOR DETAILS.

Parcs Canada Parks Canada

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project / projet
ROCKY BARACHOIS BRIDGE ROUTE 430

GROS MORNE NATIONAL PARK

drawing / dessin
EXISTING STRUCTURE SECTIONS AND GENERAL NOTES

designed / conçu	SARAH HARDY	
date	MARCH 2018	
drawn / dessiné	NICK YOUNG	
date	MARCH 2018	
approved / approuvé	ROBBIE FRASER	
date		
Tender / Soumission		
PCA Project Manager / Administrateur de projets APC		
project number / no. du projet	1845	
drawing no. / no. du dessin	EP3	

PCA B1 (2004)

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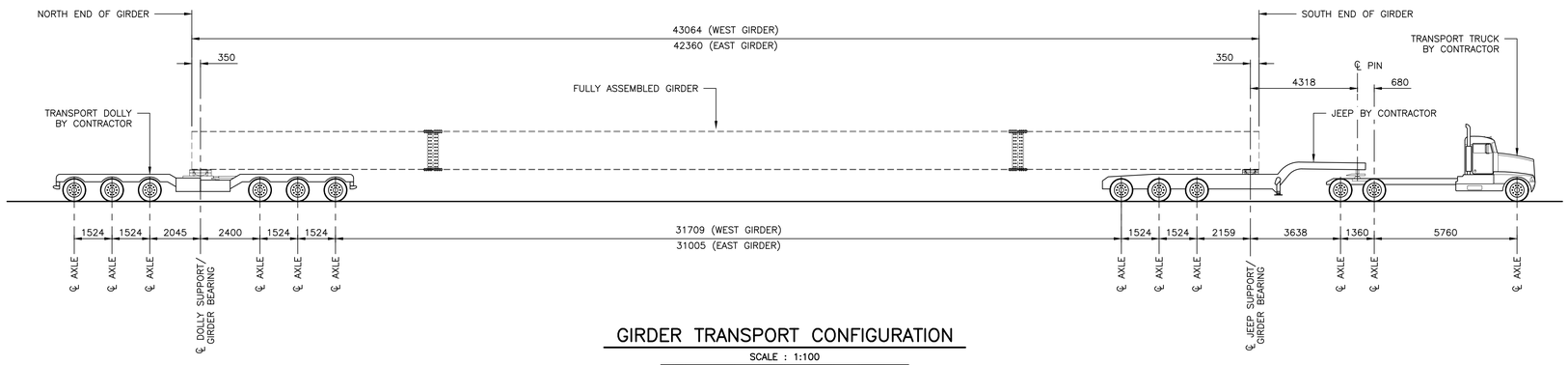
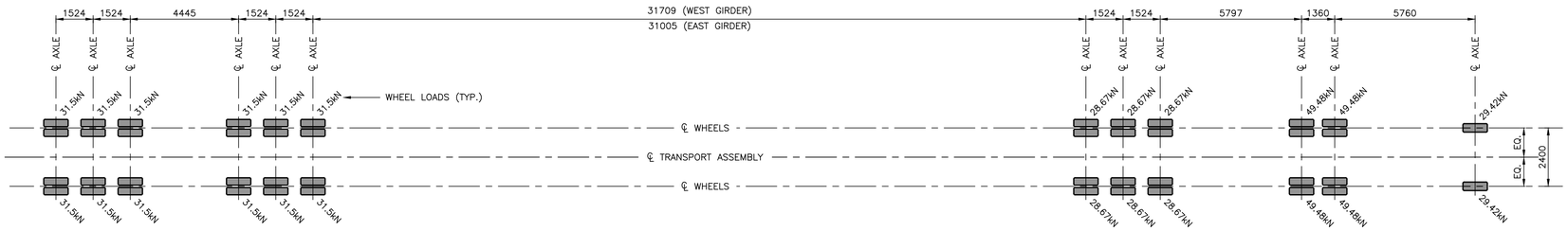


GIRDER TRANSPORT CONFIGURATION

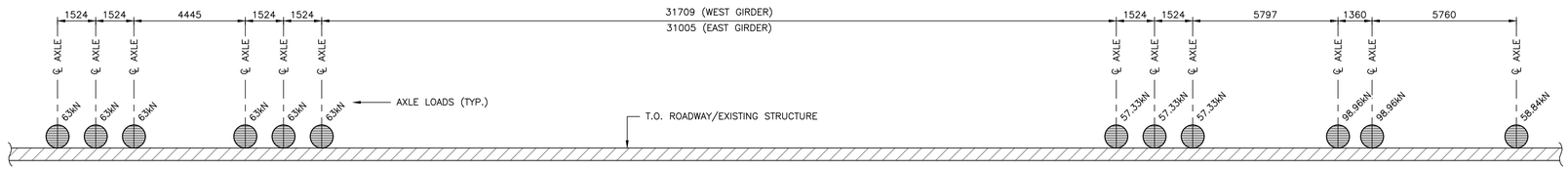
SCALE : 1:100

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

DESIGN GIRDER TRANSPORTER LOADING PLAN



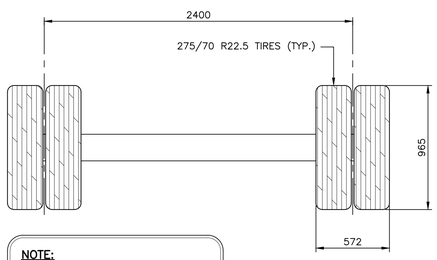
DESIGN GIRDER TRANSPORTER LOADING ELEVATION



GIRDER TRANSPORT AXLE LOADS

SCALE : 1:100

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



NOTE:
ONLY SINGLE WHEEL ASSEMBLY AT LEADING AXLE OF TRANSPORT TRUCK.

AXLE/TIRE DIMENSIONS (TYP.)

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

NOTES:

1. REFER TO DRAWING EP3 FOR GIRDER ERECTION GENERAL NOTES.
2. GIRDER TRANSPORT AXLE LOADS INCLUDE THE GIRDER SELF-WEIGHT AND THE SELF-WEIGHT OF THE DOLLY / JEEP / TRUCK CONFIGURED AS SHOWN ON THE DRAWINGS. THE CONTRACTOR MAY OPT FOR AN ALTERNATE TRANSPORTER CONFIGURATION, HOWEVER, THE LOAD CONFIGURATION SHALL NOT INDUCE LOAD EFFECTS (BOTH LOCALLY AND GLOBALLY) ON THE EXISTING STRUCTURE THAT ARE MORE SEVERE THAN THOSE INDUCED BY THE LOAD CONFIGURATION ILLUSTRATED ON THE DRAWINGS. REFER TO PROJECT SPECIFICATIONS FOR TRANSPORTER ALTERNATE SUBMITTAL REQUIREMENTS.
3. THE CONTRACTOR SHALL SUBMIT THE FOLLOWING INFORMATION RELATING TO THE TRANSPORTER TO THE DEPARTMENTAL REPRESENTATIVE FOR APPROVAL:
   a. THE AXLE SPACING OF THE DOLLY, JEEP, AND TRUCK AND GEOMETRY OF THE GIRDER SUPPORT LOCATIONS ON THE TRANSPORTER.
   b. THE ACTUAL SELF WEIGHT AXLE LOADS FOR THE DOLLY, JEEP, AND TRUCK. THE SELF WEIGHT AXLE LOADS SHALL BE DETERMINED BY A WEIGH SCALE.
   c. THEORETICAL AXLE LOADS WITH THE GIRDER LOADED ON THE TRANSPORTER.
4. THE DEPARTMENTAL REPRESENTATIVE SHALL INSPECT THE PLACEMENT OF THE GIRDER ON THE TRANSPORTER FOR CONFORMANCE WITH THE CONTRACT DRAWINGS.
5. THE STABILITY OF THE FULLY ASSEMBLED GIRDER TRANSPORT IS THE RESPONSIBILITY OF THE CONTRACTOR.

Parcs Canada / Parks Canada

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project / projet
ROCKY BARACHOIS BRIDGE
ROUTE 430

GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION

GIRDER TRANSPORT AXLE LOADS AND CONFIGURATION

designed / conçu: SARAH HARDY — date: MARCH 2018
drawn / dessiné: NICK YOUNG — date: MARCH 2018
approved / approuvé: ROBBIE FRASER — date:
Tender / Soumission
PCA Project Manager / Administrateur de projets APC
project number / no. du projet: 1845
drawing no. / no. du dessin: EP4

PCA B1 (2004)

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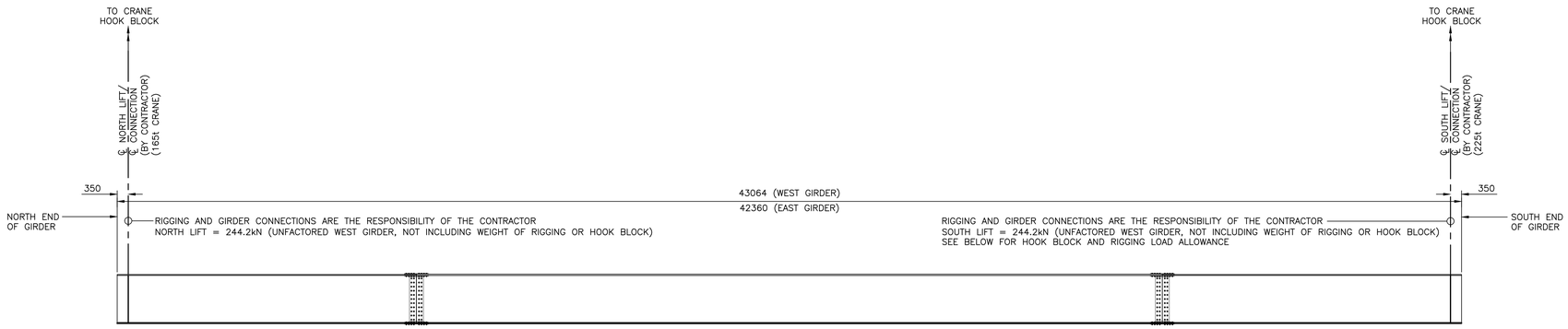

GIRDER LIFT CONNECTION LAYOUT

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

NOTES:

1. REFER TO DRAWING EP3 FOR GENERAL GIRDER ERECTION NOTES.
2. RIGGING AND GIRDER CONNECTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING ALL STRENGTH AND STABILITY CHECKS OF THE GIRDER AS A RESULT OF THE ANTICIPATED LOADING AND CONNECTION DETAILS, AND ALL GEOMETRIC CHECKS TO ENSURE NON CONFLICTS WITH INTERNAL GIRDER STIFFENING OR BRACING.
3. CRANE OPERATOR IS RESPONSIBLE FOR CONFIRMING THE CRANE CAPACITIES PRIOR TO ERECTION BASED ON THE LIFT LOADS AND RADII IDENTIFIED ON DRAWING EP5.
4. CRANE OPERATOR SHALL ENSURE CRANE CAPACITIES ARE NOT EXCEEDED AT ANY TIME DURING GIRDER ERECTION.
5. CRANE OPERATOR SHALL ENSURE MAXIMUM OUTRIGGER LOADS ARE NOT EXCEEDED AT ANY POINT DURING THE GIRDER ERECTION.
6. ALTERNATE CRANE SIZE PROPOSALS SHALL BE SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE FOR APPROVAL PRIOR TO GIRDER ERECTION. REFER TO PROJECT SPECIFICATIONS FOR PROPOSED ALTERNATES AND SCHEDULE FOR SUBMITTALS. THIS SUBMITTAL SHALL PROVE STABILITY OF SLOPES, AVOIDANCE OF SURCHARGING OF ABUTMENTS AND WINGWALLS, CRANE CAPACITY REQUIREMENTS AND CONFORMATION THAT ALTERNATE CRANES SATISFY ALL SITE GEOMETRIC CONSTRAINTS.

GROVE GMK-5165 165USt MOBILE CRANE

OUTRIGGERS FULLY EXTENDED, FULL COUNTERWEIGHT	88,400 LBS
MAXIMUM RADIUS	45' (13716mm)
MAXIMUM LIFT	57,945 LBS (257.7 kN) w/ 3038 LBS (13.5 kN) ALLOWANCE FOR HOOK BLOCK AND RIGGING
BOOM LENGTH	89.1' (27165mm)
BOOM CONFIGURATION	50-50-50-0-0
CRANE CHART CAPACITY	62,000 LBS (276 kN) WITH 30 KM/HR WINDS
% UTILIZATION	93% OF CRANE CHART VALUES WITH 30 KM/HR WINDS
MAX. OUTRIGGER LOAD	137,956 LBS (614 kN)

GROVE GMK-5225 225USt MOBILE CRANE

OUTRIGGERS FULLY EXTENDED, FULL COUNTERWEIGHT	117,000 LBS
MAXIMUM RADIUS	50' (15244mm)
MAXIMUM LIFT	57,945 LBS (257.7 kN) w/ 3,038 LBS (13.5 kN) ALLOWANCE FOR HOOK BLOCK AND RIGGING
BOOM LENGTH	94.8' (28895mm)
BOOM CONFIGURATION	50-50-50-0-0
CRANE CHART CAPACITY	78,000 LBS (347 kN) WITH 30 KM/HR WINDS
% UTILIZATION	74% OF CRANE CHART VALUES WITH 30 KM/HR WINDS
MAX. OUTRIGGER LOAD	145,078 LBS (645 kN)

NOTE: REFER TO ERECTION PHASES 1 THRU 4 ON DRAWINGS EP1 TO EP2 FOR APPLICABLE CRANE LIFT INFORMATION LISTED ABOVE.

ERECTION PHASING CRANE LIFT INFORMATION

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project / projet
ROCKY BARACHOIS BRIDGE ROUTE 430

GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION

GIRDER LIFT CONNECTION LOCATIONS AND CRANE LIFT INFORMATION

designed SARAH HARDY / conçu
date MARCH 2018
drawn NICK YOUNG / dessiné
date MARCH 2018
approved ROBBIE FRASER / approuvé
date
Tender / Soumission
PCA Project Manager / Administrateur de projets APC
project number / no. du projet
1845
drawing no. / no. du dessin
EP5

PCA B1 (2004)

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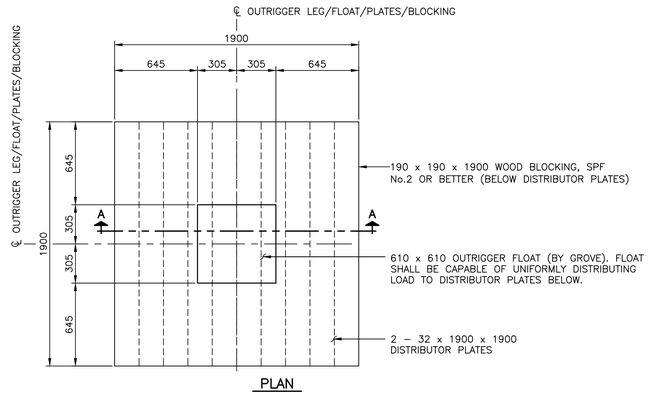
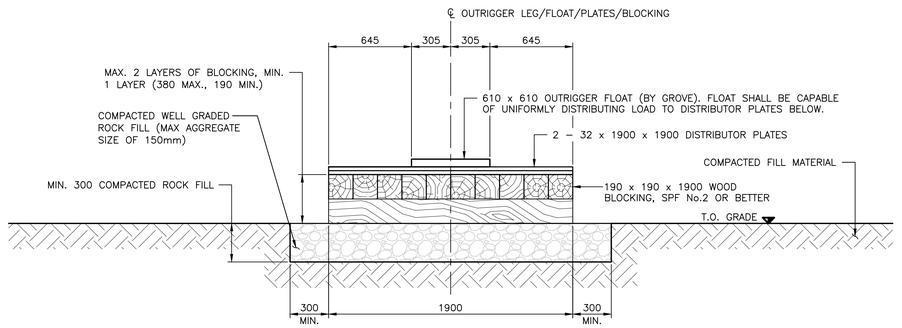


PLAN



SECTION 'A–A'

DETAIL – MOBILE CRANE OUTRIGGER PADS/BLOCKING

1 / CP1

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

CRANE MAT NOTES:

1. REFER TO DRAWING EP3 FOR GENERAL NOTES.
2. STABLE SLOPES, OUTRIGGER PADS, GRANULAR MATERIAL THICKNESS REQUIREMENTS, GRANULAR MATERIAL SELECTION AND COMPACTION REQUIREMENTS HAVE BEEN DEVELOPED BASED ON THE MAXIMUM ANTICIPATED OUTRIGGER LOADS RESULTING FROM THE GIRDER LIFTS AS INDICATED ON DRAWING EP5.
3. THE GEOTECHNICAL REQUIREMENTS IDENTIFIED WITHIN THE EP SERIES DRAWINGS ARE AS SPECIFIED BY HARBOURSIDE GEOTECHNICAL CONSULTANTS IN THE LETTER DATED APRIL 16, 2018.
4. CRANE SUPPLIER IS RESPONSIBLE FOR ENSURING THE MAXIMUM OUTRIGGER LOADS SPECIFIED ON DRAWINGS EP5 ARE NOT EXCEEDED DURING CONSTRUCTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF THE 610X610 OUTRIGGER "FLOATS" AS INDICATED FOR THE 225USt AND 165USt MOBILE CRANES. THE CONTRACTOR SHALL ENSURE THE "FLOATS" HAVE BEEN DESIGNED TO RESIST AND TRANSFER OUTRIGGER LOADS TO THE BEARING PLATE BELOW.
6. 32 mm THICK STEEL BEARING PLATES TO BE GRADE 300W OR BETTER.
7. TIMBER MATS TO BE SPF GRADE No. 2 OR BETTER.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER PEGNL Newfoundland and Labrador www.pegnl.ca ROBBIE FRASER SIGNATURE Nov 27 '18 DATE NEWFOUNDLAND & LABRADOR

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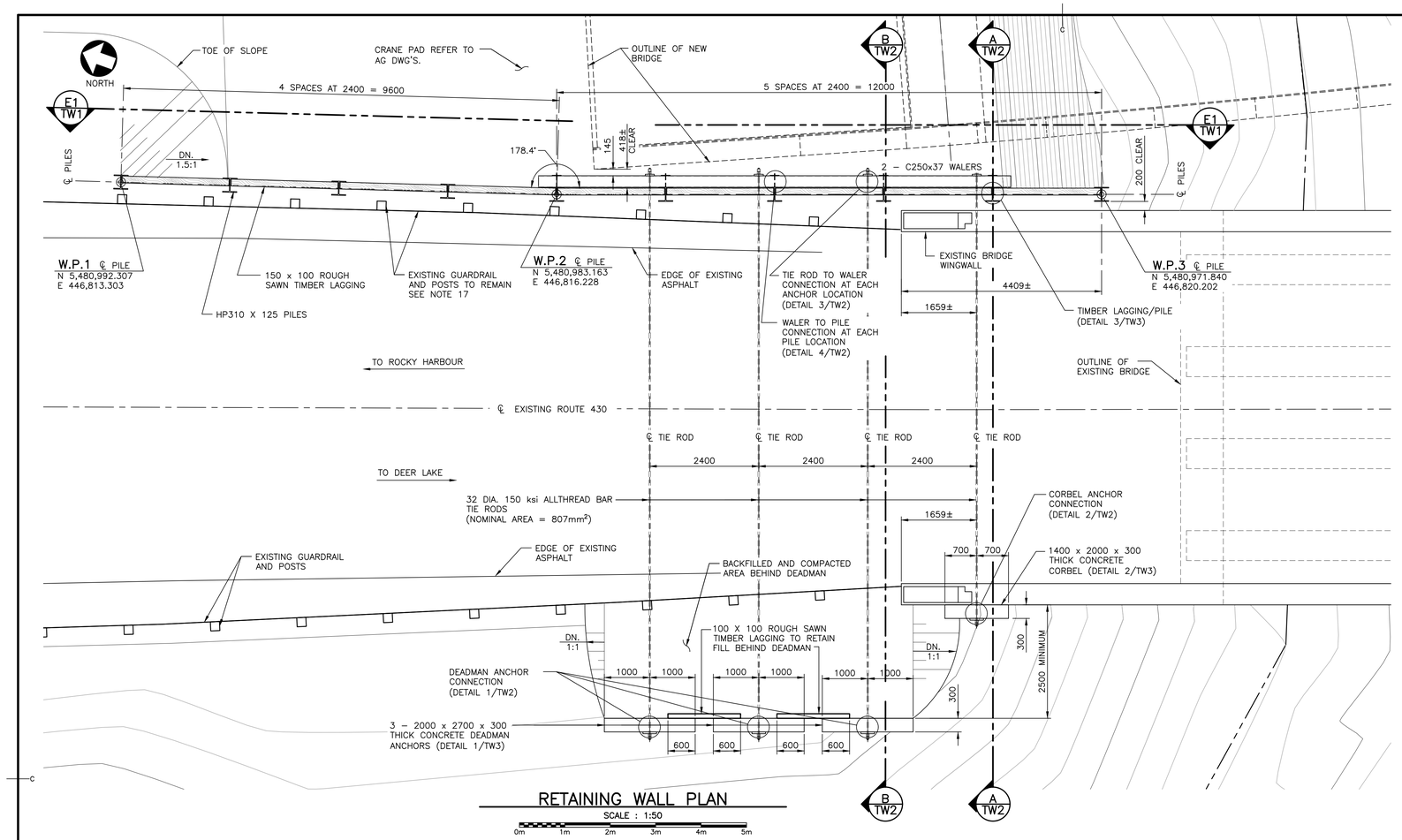
GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION

CRANE MATS

designed / conçu: SARAH HARDY
date: MARCH 2018
drawn / dessiné: NICK YOUNG
date: MARCH 2018
approved / approuvé: ROBBIE FRASER
date:
Tender / Soumission
PCA Project Manager / Administrateur de projets APC
project number / no. du projet: 1845
drawing no. / no. du dessin: EP6

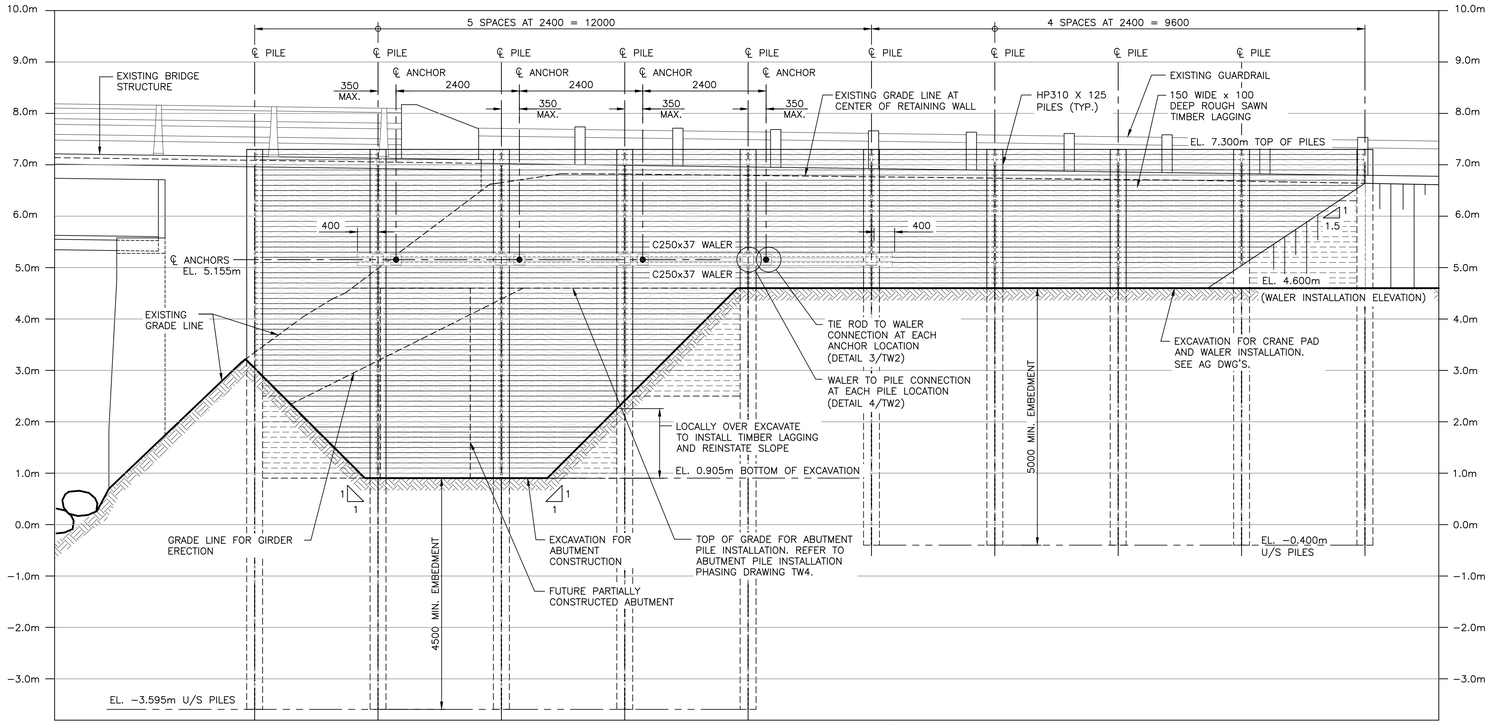
PCA B1 (2004)



RETAINING WALL PLAN

SCALE : 1:50

0m 1m 2m 3m 4m 5m



RETAINING WALL ELEVATION

SCALE : 1:50

0m 1m 2m 3m 4m 5m

E1 TW1

0 10 20mm 40 60 80 100 120 140 160 180 200mm

TEMPORARY RETAINING WALL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION AS PER THE REQUIREMENTS OF CAN/CSA S6–14 LATEST EDITION AND REVISION.
2. ALL DIMENSIONS ARE IN MILLIMETERS AND ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
3. ALL STRUCTURAL STEEL SHALL BE NEW STOCK AND CONFORM TO THE FOLLOWING GRADES AND STANDARDS:
   - ROLLED SECTIONS: CAN/CSA–G40.21 TYPE 350W
   - STEEL PLATE: CAN/CSA–G40.21 TYPE 350W
4. NO HOLES SHALL BE CUT IN STRUCTURAL STEEL WITHOUT THE PRIOR APPROVAL OF THE DEPARTMENTAL REPRESENTATIVE.
5. SPLICES IN STRUCTURAL STEEL SHALL NOT BE PERMITTED UNLESS APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.
6. WALL ANCHORS SHALL CONSIST OF 32mm DIAMETER 150 ksi ALL THREADBAR WITH A NOMINAL CROSS SECTIONAL AREA OF 807mm² AND FY = 827 MPa. ANCHOR CONNECTIONS TO CONSIST OF TWO FULL STRENGTH COMPATIBLE HEX NUTS AS NOTED ON THE DRAWINGS.
7. HOLE DIAMETERS IN WALL ANCHOR BEARING PLATES TO BE 2mm LARGER (MAX) THAN THE ANCHOR ROD DIAMETER.
8. CONCRETE MATERIALS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 35 MPa AT 28 DAYS.
9. CONCRETE REINFORCING STEEL TO BE GRADE 400W (WELDABLE) DEFORMED BARS IN ACCORDANCE WITH CAN/CSA G30.18.
10. TIMBER LAGGING SHALL BE 100 x 150 ROUGH SAWN LUMBER WITH A MINIMUM FB = 11 MPa AND FV = 1.2 MPa. LUMBER SHALL BE UNINCISED.
11. ALL WELDING SHALL BE COMPLETED IN ACCORDANCE WITH CAN/CSA W59 LATEST EDITION.
12. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE FIELD CONDITION SHALL BE BROUGHT TO THE ATTENTION OF THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION AND IMMEDIATELY UPON DISCOVERY.
13. STEEL SOLDIER PILES SHALL BE INSTALLED PLUMB AND IN LINE AT THE SPACING NOTED ON THE DRAWINGS. PILES SHALL BE ADVANCED TO THE MINIMUM PILE EMBEDMENT SPECIFIED ON THE DRAWINGS. THE POTENTIAL PRESENCE OF COBBLES AND BOULDERS AT THIS SITE MAY RESULT IN THE RELOCATION OF SOLDIER PILES. THIS SHALL BE COORDINATED WITH THE DEPARTMENTAL REPRESENTATIVE. INSTALLATION METHOD OF THE SOLDIER PILES IS THE RESPONSIBILITY OF THE CONTRACTOR.
14. CONTRACTOR TO COORDINATE WALER GEOMETRY WITH THE AS–BUILT SOLDIER PILE GEOMETRY.
15. DESIGN OF TEMPORARY RETAINING WALL IS BASED ON A UNIFORM LIVE LOAD SURCHARGE LOAD OF 16 KPa.
16. EXCAVATION SHALL BE KEPT DRY AT ALL TIMES.
17. EXISTING GUARD RAIL AND POSTS ADJACENT TO TEMPORARY RETAINING WALL SHALL REMAIN WHILE TRAFFIC IS ON THE EXISTING APPROACHES.
18. DEADMAN BACKFILL TO BE APPROACH FILL (SEE SPECIFICATIONS) AND SHALL BE COMPACTED TO 98% STD. PROCTOR DENSITY.

TEMPORARY RETAINING WALL INSTALLATION PROCEDURE:

1. INSTALL ALL SOLDIER PILES FOR THE TEMPORARY RETAINING WALL AS PER THE DRAWINGS.
2. BEGIN EXCAVATION IN FRONT OF THE TEMPORARY RETAINING WALL PILES AND INSTALL TIMBER LAGGING AS EXCAVATION PROGRESSES. LAGGING TO BE WEDGED IN HORIZONTALLY AND NOT INSTALLED FROM THE TOP DOWN. EXCAVATION SHALL NEVER PROGRESS FURTHER THAN THE DEPTH OF TWO ROWS OF TIMBER LAGGING AT ANY TIME. EXCAVATE TO THE INITIAL EXCAVATION ELEVATION NOTED ON THE DRAWINGS (WALER INSTALLATION ELEVATION).
3. INSTALL WALL ANCHORS BY DRILLING FROM THE RETAINING WALL SIDE (I.E. DRILL IN THE DIRECTION OF PROJECT WEST). ONE ANCHOR REQUIRES DRILLING THROUGH THE EXISTING CONCRETE WINGWALLS. ALL HOLES CORED IN THE EXISTING STRUCTURE SHALL BE THE MINIMUM SIZE REQUIRED TO INSTALL THE ANCHOR AND SHALL NOT EXCEED 75mm IN DIAMETER.
4. INSTALL WALER SUPPORT BRACKETS ON SOLDIER PILES. POSITION THE LOWER OF THE TWO C250 WALER MEMBERS AND CONNECT TO THE SOLDIER PILES.
5. POSITION THE UPPER OF THE TWO C250 WALER MEMBERS AND COMPLETE ALL WALER–TO–WALER AND WALER–TO–PILE CONNECTIONS.
6. INSTALL THE CONCRETE DEADMAN AS PER THE DRAWINGS. ONCE DEADMAN IS INSTALLED WITH ANCHOR ROD CONNECTED, BACKFILL AND COMPACT IN FRONT OF EACH DEADMAN AS INDICATED ON THE DRAWINGS. EACH DEADMAN SHOULD BE INSTALLED ONE AT A TIME IN A LOCAL EXCAVATION TO KEEP SOIL STABLE UNDER TRAFFIC SURCHARGE. LEAVE THE ROD CONNECTION ACCESSIBLE.
7. COMPLETE ALL WALER–TO–ANCHOR ROD CONNECTIONS AND DEADMAN/EXISTING WINGWALL–TO–ANCHOR ROD CONNECTIONS.
8. TENSION ANCHORS AT THE DEADMAN END TO ENSURE STRAIN COMPATIBILITY BETWEEN TIMBER LAGGING WALL/WALER AND DEADMAN (BRING TO SNUG TIGHT CONDITION).
9. ONCE ALL ANCHORS ARE MADE STRAIN COMPATIBLE WITH RETAINING WALL/DEADMAN, CONTINUE EXCAVATION TO THE LEVEL REQUIRED TO INSTALL THE NEW NORTH ABUTMENT. DO NOT EXCAVATE BEYOND THE GRADE EXTENTS DEFINED ON THE DRAWINGS, EXCEPT AS NOTED IN NOTE 10, BELOW.
10. TEMPORARILY OVER–EXCAVATE SLOPED SIDES AT THE EXTENTS OF EXCAVATION TO INSTALL THE TIMBER LAGGING. BACKFILL THE SLOPES AS INDICATED ON THE DRAWINGS AFTER TIMBER LAGGING IS COMPLETELY INSTALLED.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEGNL Newfoundland and Labrador
ROBBIE FRASER
SIGNATURE
NOV 27 '18
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL Newfoundland and Labrador
PERMIT HOLDER
This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEG N0324 which is valid for the year 2018.

revisions		date
0	ISSUED FOR TENDER	11/23 2018

project / projet
ROCKY BARACHOIS BRIDGE ROUTE 430

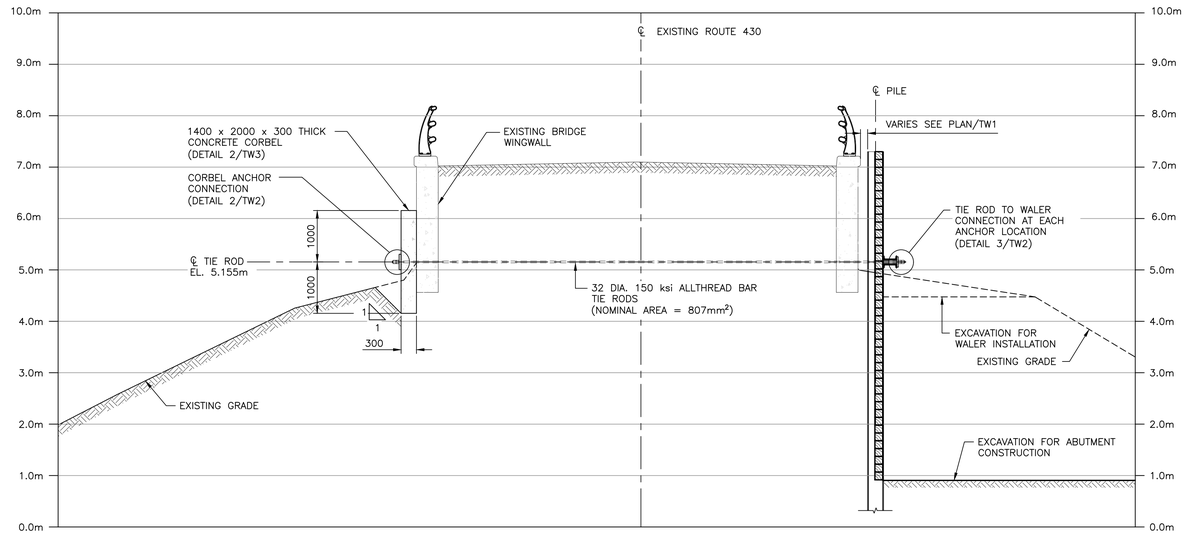
GROS MORNE NATIONAL PARK

drawing / dessin
TEMPORARY RETAINING WALL PLAN AND ELEVATION

designed SARAH HARDY — conçu
date MAY 2017
drawn WAYNE MORROW — dessiné
date MAY 2017
approved ROBBIE FRASER — approuvé
date
Tender — Soumission
PWGSC Project Manager — Administrateur de projets TPSGC
project number / no. du projet: 1845
drawing no. / no. du dessin: TW1

PWGSC B1 (2004)

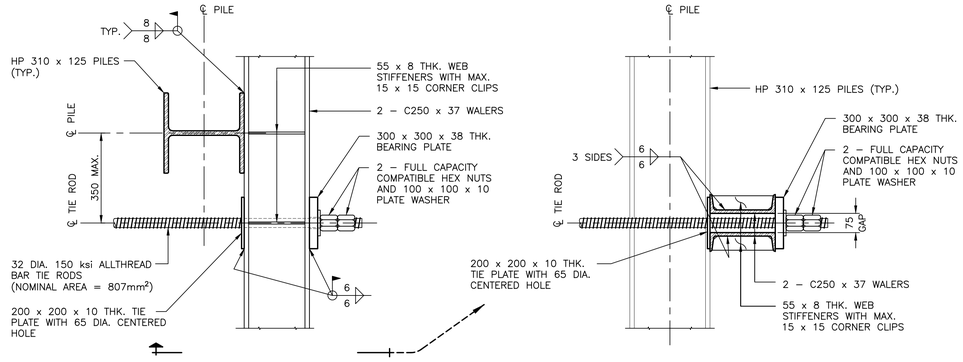
E–DRM/GDD–E:



SECTION — A / TW1

SCALE : 1:50

0m 1m 2m 3m 4m 5m

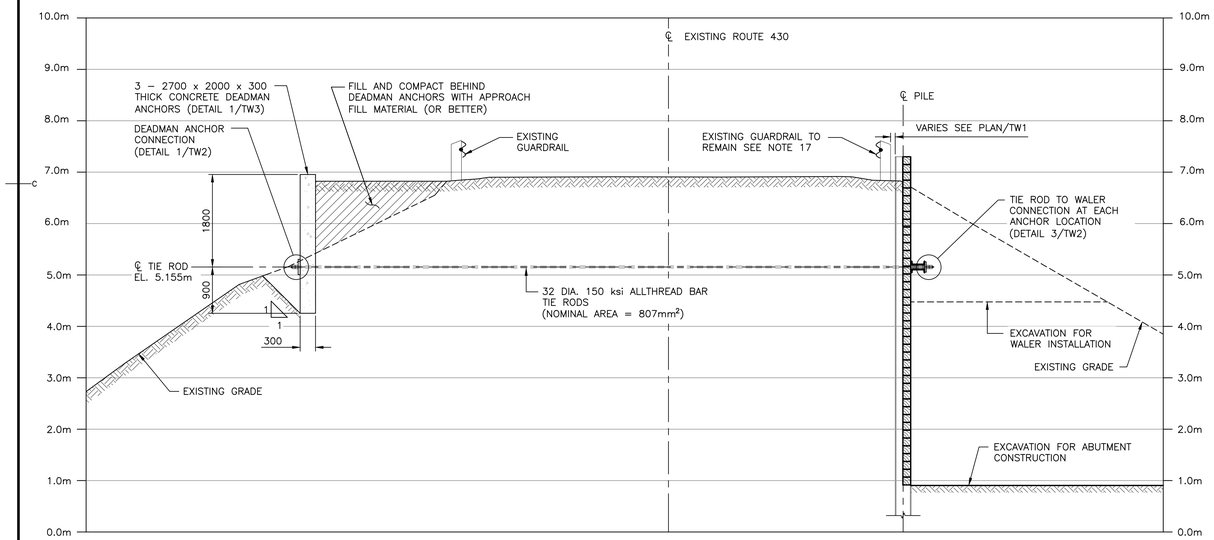


PLAN ELEVATION

TIE ROD/WALER CONNECTION — 3 / TW1

SCALE : 1:10

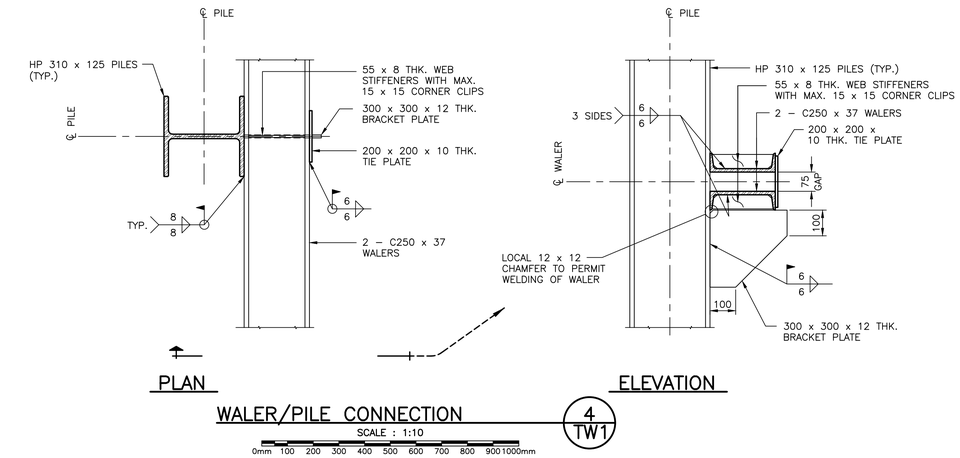
0mm 100 200 300 400 500 600 700 800 900 1000mm



SECTION — B / TW1

SCALE : 1:50

0m 1m 2m 3m 4m 5m

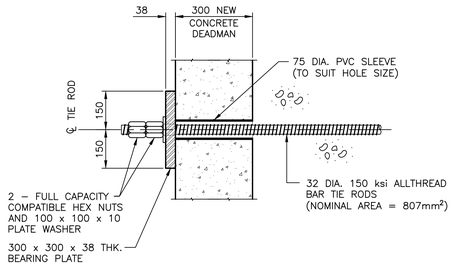


PLAN ELEVATION

WALER/PILE CONNECTION — 4 / TW1

SCALE : 1:10

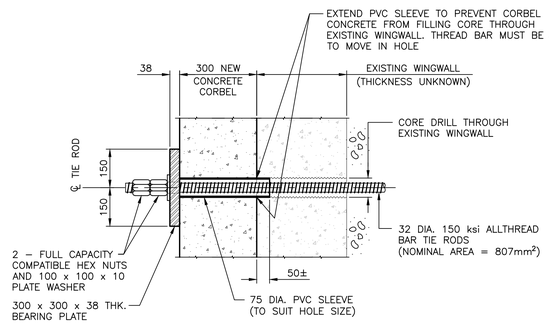
0mm 100 200 300 400 500 600 700 800 900 1000mm



TIE ROD/DEADMAN CONNECTION — 1 / TW1

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



TIE ROD/CORBEL CONNECTION — 2 / TW1

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PWGSC B1 (2004)

E-DRM/GDD-E:

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER — PEGNL — Newfoundland and Labrador Engineers and Geoscientists — ROBBIE FRASER — SIGNATURE — DATE Nov 27 '18 — NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL Newfoundland and Labrador — PERMIT HOLDER This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
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revisions		date
0	ISSUED FOR TENDER	11/23 2018

project / projet

ROCKY BARACHOIS BRIDGE ROUTE 430

GROS MORNE NATIONAL PARK

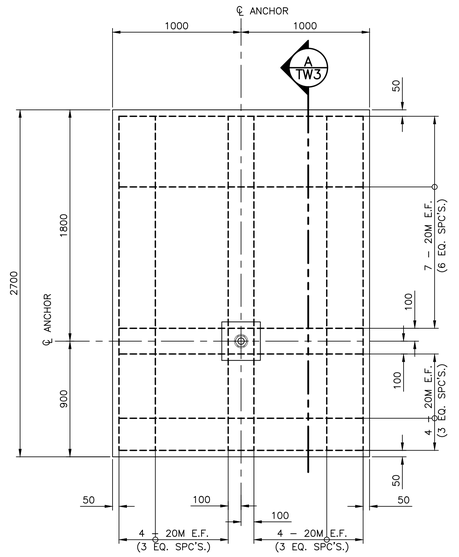
drawing / dessin

TEMPORARY RETAINING WALL ELEVATION, SECTIONS AND DETAILS

designed	SARAH HARDY	conçu
date	MAY 2017	
drawn	WAYNE MORROW	dessiné
date	MAY 2017	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC

project number / no. du projet: 1845

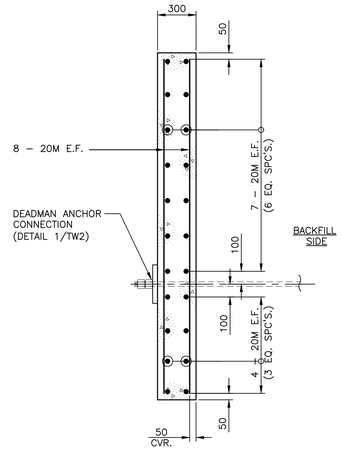
drawing no. / no. du dessin: TW2



CONCRETE DEADMAN ANCHOR — 1 / TW1

SCALE : 1:20

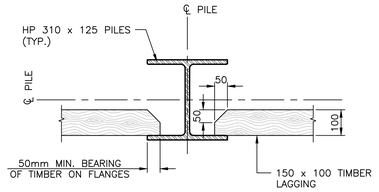
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION — A / TW3

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



TIMBER LAGGING DETAIL — 3 / TW1

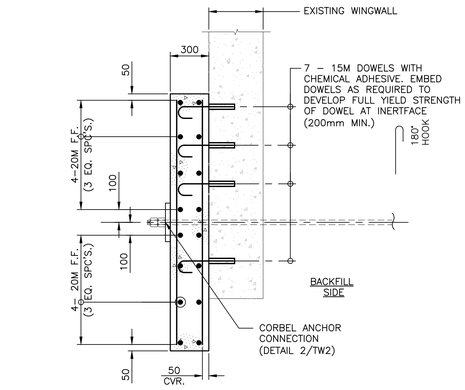
SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

CONCRETE CORBEL ANCHOR — 2 / TW1

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION — B / TW3

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEG Newfoundland and Labrador
NEWFOUNDLAND & LABRADOR
ROBBIE FRASER
SIGNATURE
DATE Nov 27 18

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revisions		date
0	ISSUED FOR TENDER	11/23 2018

project / projet

ROCKY BARACHOIS BRIDGE
ROUTE 430

GROS MORNE NATIONAL PARK

drawing / dessin

TEMPORARY RETAINING WALL DETAILS

designed	SARAH HARDY	conçu
date	MAY 2017	
drawn	WAYNE MORROW	dessiné
date	MAY 2017	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC

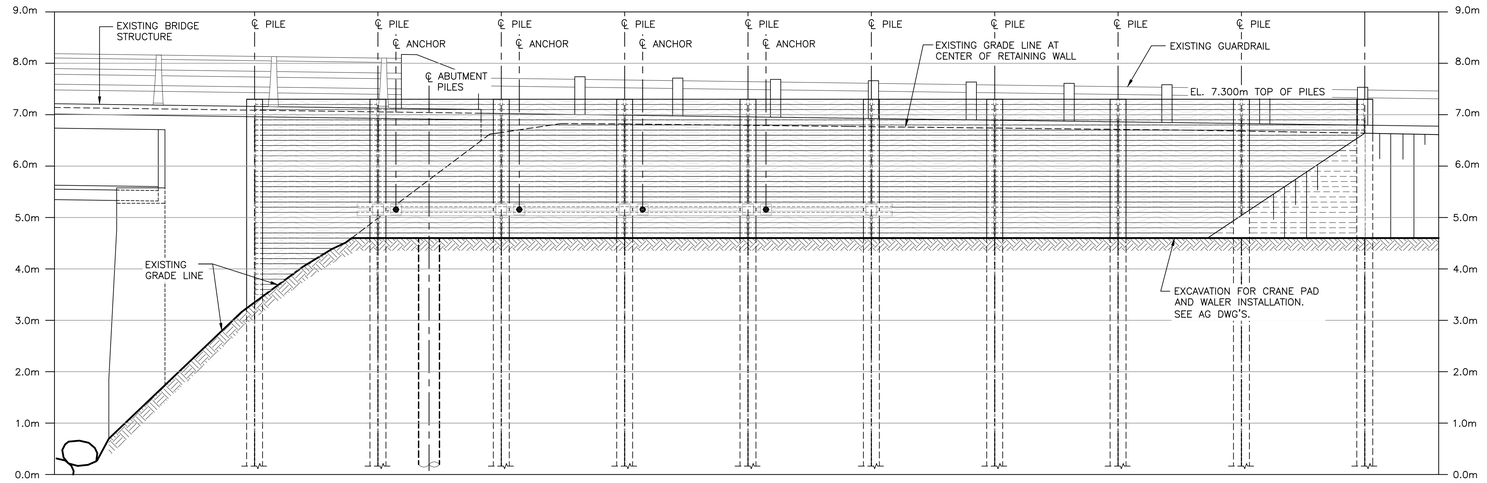
project number / no. du projet: 1845

drawing no. / no. du dessin: TW3

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

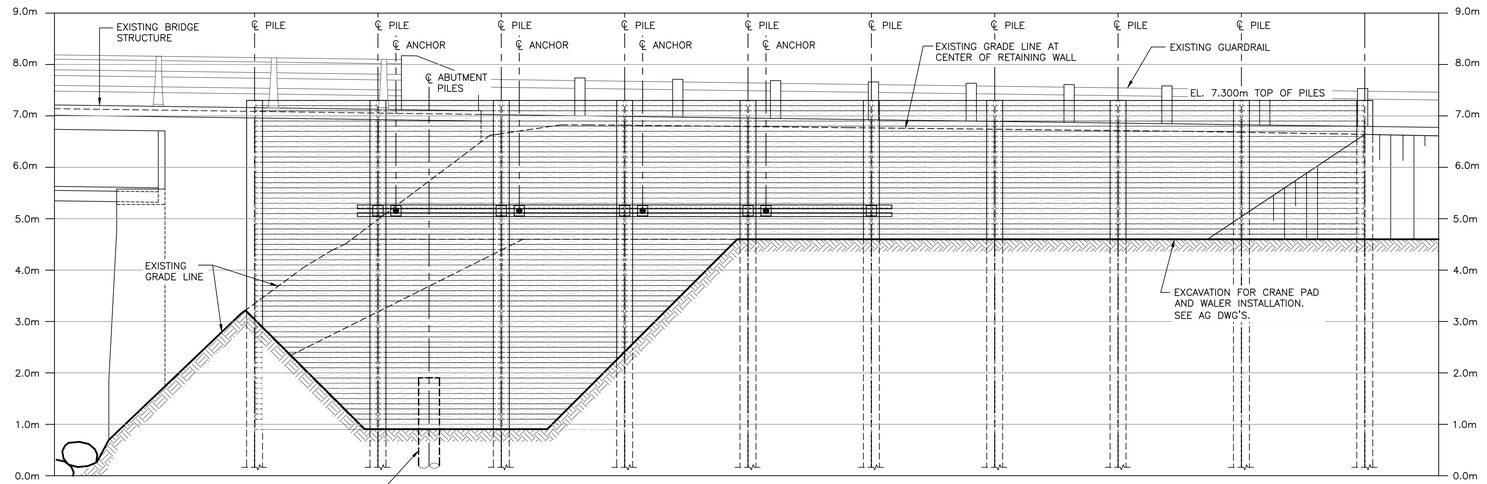
E-DRM/GDD-E:



RETAINING WALL PHASE 1 ELEVATION

SCALE : 1:50

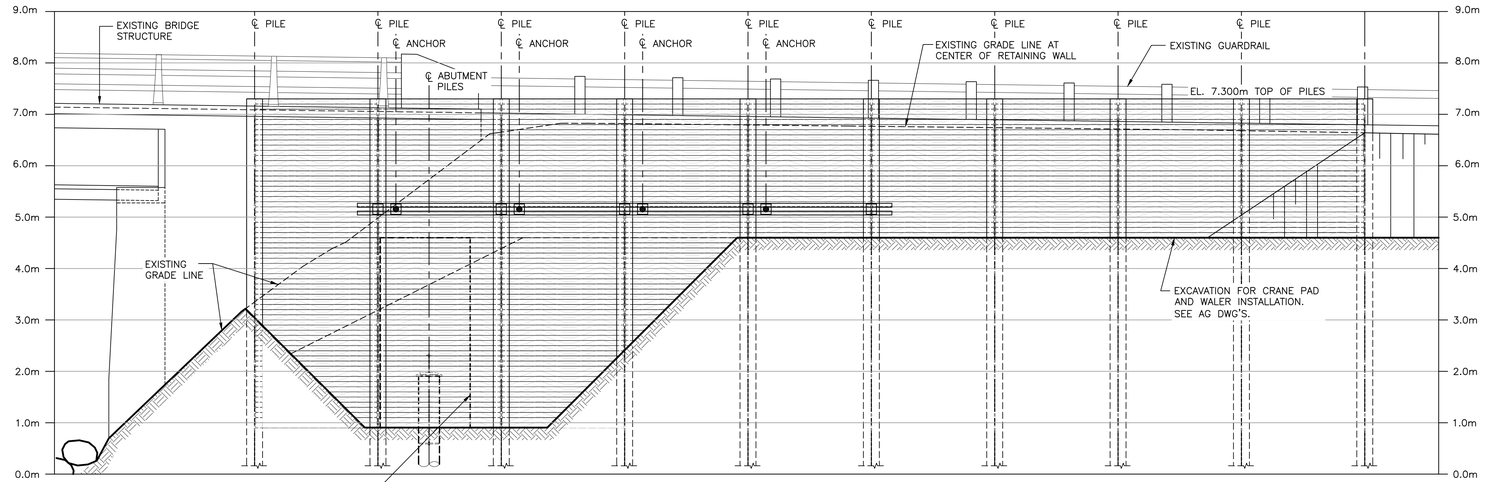
0m 1m 2m 3m 4m 5m



RETAINING WALL PHASE 2 ELEVATION

SCALE : 1:50

0m 1m 2m 3m 4m 5m



RETAINING WALL PHASE 3 ELEVATION

SCALE : 1:50

0m 1m 2m 3m 4m 5m

PHASE 1 PILE INSTALLATION:

1. EXCAVATE/FILL TO THE WALER INSTALLATION ELEVATION AS SHOWN AND COMPLETE WALER/TIE ROD/DEADMAN INSTALLATION IN ACCORDANCE WITH DRAWING TW1.
2. INSTALL NEW ABUTMENT PILES.

PHASE 2 ABUTMENT EXCAVATION:

1. COMPLETE EXCAVATION FOR ABUTMENT CONSTRUCTION AND INSTALL REMAINING TIMBER LAGGING IN ACCORDANCE WITH DRAWING TW1.
2. CUT OFF ABUTMENT PILES TO REQUIRED ELEVATIONS AS DEFINED ON STRUCTURAL DRAWINGS.

PHASE 3 BEAM SEAT AND CRANE PAD CONSTRUCTION:

1. CONSTRUCT NEW ABUTMENT BEAM SEAT IN ACCORDANCE WITH STRUCTURAL DRAWINGS.
2. ONCE NEW ABUTMENT CONCRETE HAS ACHIEVED A CONCRETE COMPRESSIVE STRENGTH OF f'c=35 MPa, BACKFILL AS INDICATED FOR CRANE PAD CONSTRUCTION.

NOTES:

1. THE PILE INSTALLATION PROCEDURE REMAINS THE RESPONSIBILITY OF THE CONTRACTOR. THE SUGGESTED PHASING AS PROVIDED IN ORDER TO LIMIT THE SIZE AND EXTENTS OF THE TEMPORARY RETAINING WALL AND TO PERMIT SMALLER DRILLING EQUIPMENT TO BE USED BY THE CONTRACTOR AS APPROPRIATE.
2. THE EXTRA PILE LENGTHS BEYOND THE CUT-OFF ELEVATIONS TO FACILITATE PILE INSTALLATION ARE NOT INCLUDED IN THE PILE QUANTITIES IN THE SPECIFICATIONS.
3. CONTRACTOR TO TAKE CARE WHEN EXCAVATING FOR THE ABUTMENT INSTALLATION SO AS NOT TO DAMAGE THE PILES.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEG Newfoundland and Labrador
ROBBIE FRASER
SIGNATURE
2018 11 27
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
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revisions		date
0	ISSUED FOR TENDER	11/23/2018

project / projet

ROCKY BARACHOIS BRIDGE ROUTE 430

GROS MORNE NATIONAL PARK

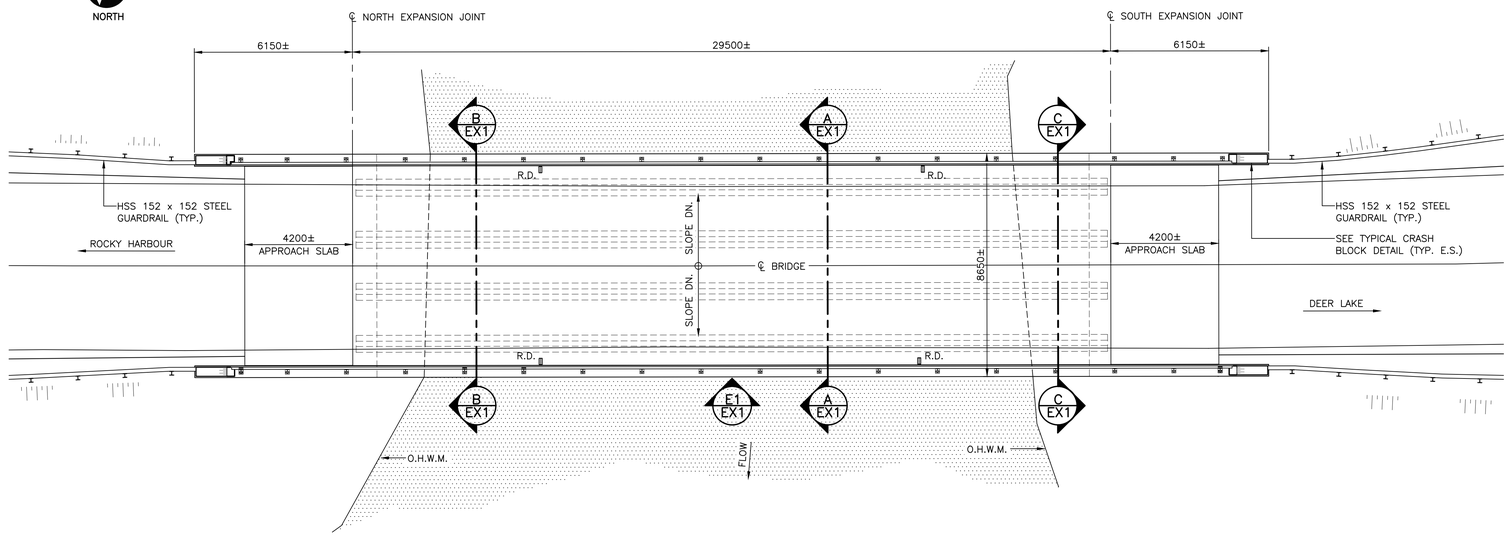
drawing / dessin

TEMPORARY RETAINING PHASING

designed	SARAH HARDY	conçu
date	MAY 2017	
drawn	WAYNE MORROW	dessiné
date	MAY 2017	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	1845	
drawing no.		no. du dessin
	TW4	

PWGSC B1 (2004)

E-DRM/GDD-E:

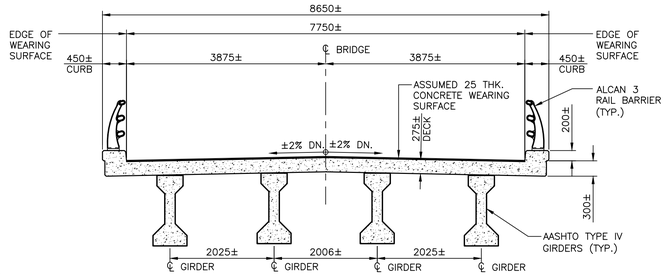


BRIDGE PLAN

SCALE : 1:100

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

LEGEND:
R.D. = ROAD DRAIN



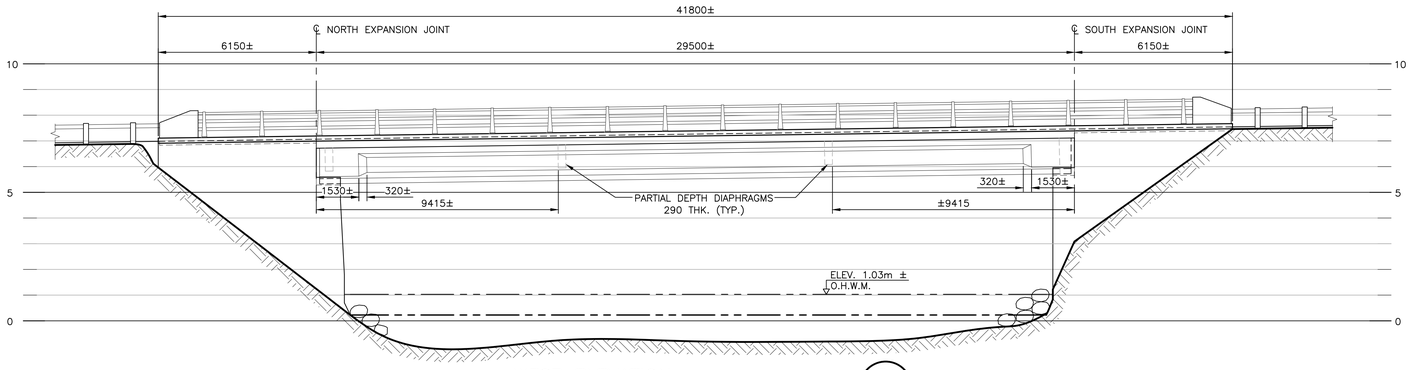
SECTION (TYPICAL ROAD CROSS SECTION) A EX1

SCALE : 1:50

0m 1m 2m 3m 4m 5m

STRUCTURE DIMENSIONS ARE BASED ON MEASUREMENTS TAKEN DURING INITIAL SITE INSPECTION PERFORMED BY HEC ON SEPT. 20 AND 21, 2016. TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY DESIGN POINT.

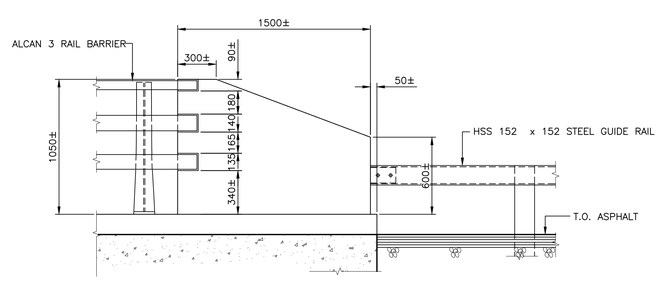
NOTE: INFORMATION ON THIS DRAWING IS FOR REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE AS-BUILT CONDITIONS AND REQUIREMENTS AS IT PERTAINS TO THE EXISTING BRIDGE AND SURROUNDINGS.



WEST ELEVATION E1 EX1

SCALE : 1:100

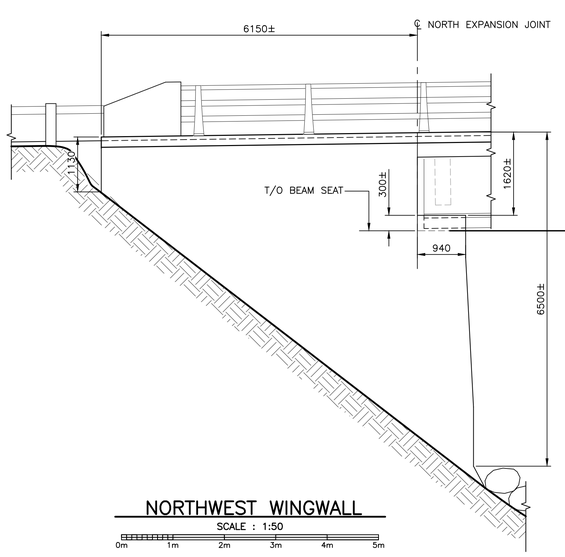
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



TYPICAL CRASH BLOCK

SCALE : 1:20

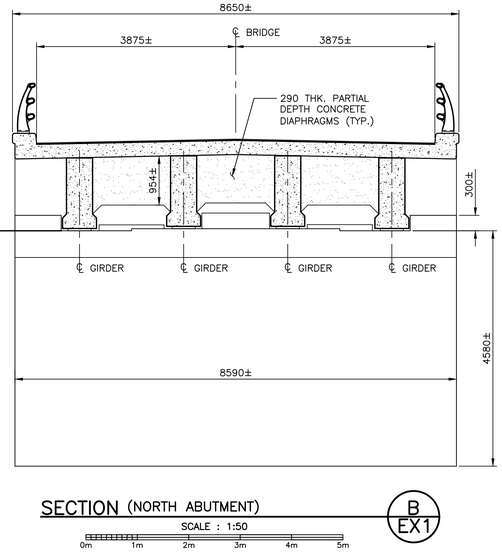
0mm 500mm 1000mm 1500mm 2000mm 2500mm



NORTHWEST WINGWALL

SCALE : 1:50

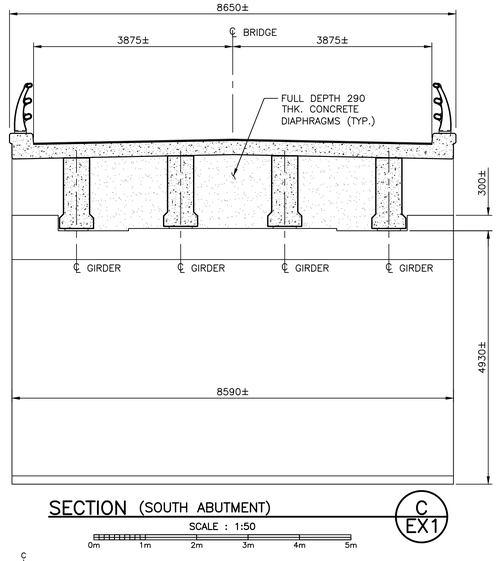
0m 1m 2m 3m 4m 5m



SECTION (NORTH ABUTMENT) B EX1

SCALE : 1:50

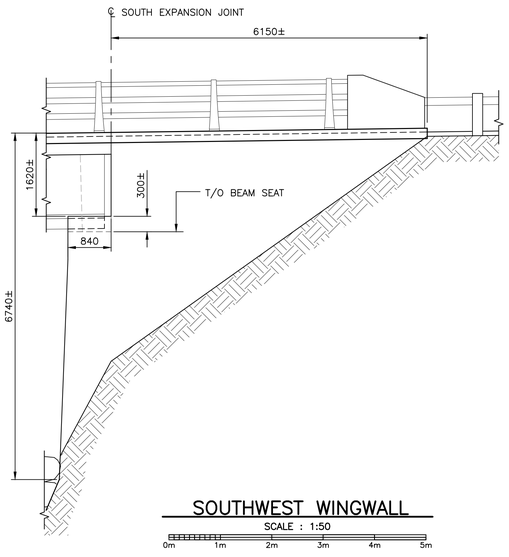
0m 1m 2m 3m 4m 5m



SECTION (SOUTH ABUTMENT) C EX1

SCALE : 1:50

0m 1m 2m 3m 4m 5m



SOUTHWEST WINGWALL

SCALE : 1:50

0m 1m 2m 3m 4m 5m

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

revisions		date
0	ISSUED FOR TENDER	11/27 2018

project / projet

ROCKY BARACHOIS BRIDGE
ROUTE 430

GROS MORNE NATIONAL PARK

drawing / dessin

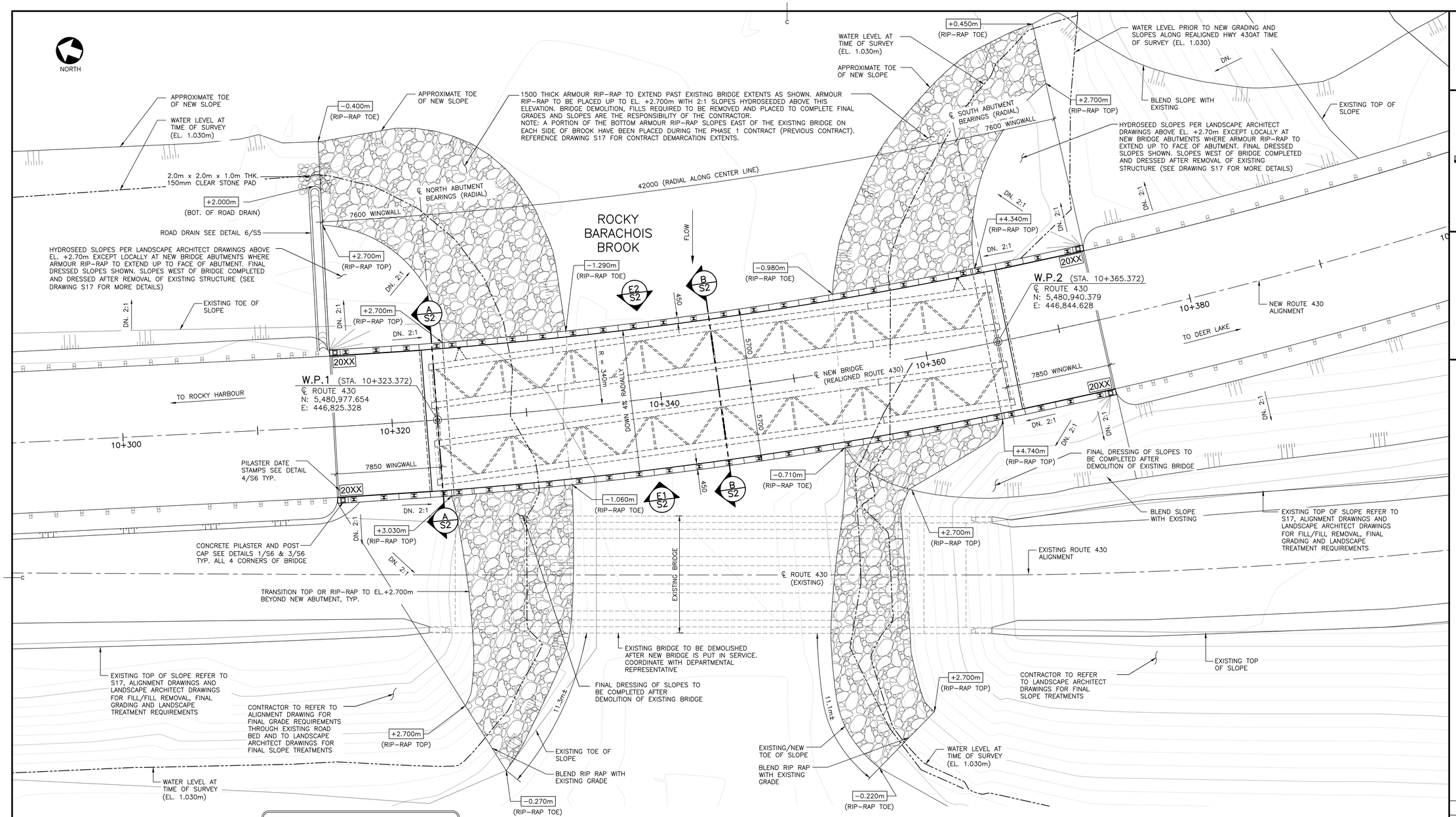
EXISTING BRIDGE
GENERAL ARRANGEMENT

designed / conçu
date
drawn / dessiné: NRY
date: OCTOBER 2016
approved / approuvé
date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet: 1845
drawing no. / no. du dessin: EX1

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

E-DRM/GDD-E:



NOTE:

1. DEMOLITION OF EXISTING BRIDGE AND PREPARATION OF SLOPES FOR ARMOUR STONE RIP-RAP BY CONTRACTOR (SEE NOTE 16).

PLAN – GENERAL ARRANGEMENT

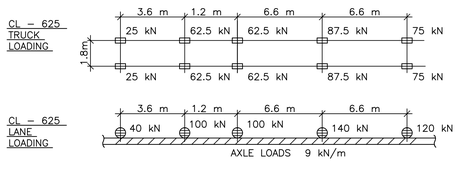
SCALE : 1:125

0m 1 2 3 4 5 6 7 8 9 10m

GENERAL NOTES:

1. GENERAL REQUIREMENTS GOVERNING DESIGN, MATERIALS, AND CONSTRUCTION ARE AS FOLLOWS:

   A) LOADING AND GENERAL DESIGN TO CAN/CSA – S6 – 14, WITH LATEST REVISIONS, LIVE LOAD CL–625.



   B) CONCRETE MATERIALS AND METHODS OF CONSTRUCTION TO CAN/CSA–A23.1 AND METHODS OF TEST FOR CONCRETE TO CAN/CSA–A23.2.

   C) REFERENCE DRAWING S3 FOR CONCRETE AND REINFORCING NOTES.

   D) REFERENCE DRAWING S3 FOR PILE NOTES.

   E) REFERENCE DRAWING S7 FOR STRUCTURAL STEEL NOTES.

   F) REFERENCE DRAWING S15 FOR MISCELLANEOUS METALS NOTES.

   G) REFERENCE SPECIFICATIONS FOR FURTHER DETAILS/REQUIREMENTS SURROUNDING EXISTING BRIDGE REMOVAL AT END OF CONSTRUCTION.

   H) REFERENCE EP DRAWINGS FOR CONSTRUCTION PHASING. REFERENCE AG DRAWINGS FOR TEMPORARY FILL/EXCAVATION REQUIREMENTS AT EACH ABUTMENT FOR CONSTRUCTION. REFERENCE TW DRAWINGS FOR TEMPORARY RETAINING WALL AT NORTH ABUTMENT.

   I) REFERENCE DRAWING S17, ALIGNMENT DRAWINGS C1 TO C15 AND LANDSCAPE ARCHITECT DRAWINGS FOR FINAL FILL/FILL REMOVAL, FINAL GRADING AND LANDSCAPE TREATMENTS.

2. ALL DIMENSIONS SHOWN IN MILLIMETRES (mm) ALL ELEVATIONS IN METERS (m).
3. ALL STANDARDS AND SPECIFICATION NOTES TO REFLECT THE "LATEST EDITION" AT TIME OF TENDER.
4. FOUNDATION DESIGN BASED ON INFORMATION PROVIDED IN HARBOURSIDE GEOTECNICAL REPORT No.163545, DATED AUG. 31, 2017.
5. ALIGNMENT INFORMATION AS PER HARBOURSIDE TRANSPORTATION CONSULTANTS CIVIL DRAWINGS. SURVEY INFORMATION PROVIDED BY DESIGN POINT ENGINEERING AND SURVEYING. SURVEY REFERENCED HORIZONTALLY TO UTM ZONE 21 NORTH NAD83 (CSRS) AND VERTICALLY TO CGVD28 (HTV2.0 GEOID MODEL) CONTROL IS DERIVED FROM MULTIPLE STATIC GPS OBSERVATIONS ON NAIL 1000 HAVING CO–ORDINATES OF:
   N=5481239.613M
   E=446748.809M
   EL=9.53M.
6. ANY DISCREPANCIES BETWEEN DRAWINGS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
7. REFERENCE CIVIL DRAWINGS FOR ROAD ALIGNMENT OVER BRIDGE STRUCTURE AND CONSTRUCTION PHASING TO TRANSITION TRAFFIC TO NEW STRUCTURE, FOLLOWED BY DEMOLITION OF EXISTING STRUCTURE.
8. CONSTRUCTION SHALL BE CARRIED OUT AS PER CAN/CSA–S6–14.
9. BRIDGE CLASSIFIED AS AN "EMERGENCY–ROUTE BRIDGE" FOR THE PURPOSE OF SEISMIC ANALYSIS AS PER CAN/CSA–S6–14.
10. BRIDGE BARRIERS AND ANCHORAGES CONFORM TO TL–4 CRASH TEST REQUIREMENTS AS PER CAN/CSA–S6–14.
11. BRIDGE QUANTITIES IN SPECIFICATIONS ARE BASED ON THE FOLLOWING EXTENTS:

    LONGITUDINALLY : MEASURED FROM END OF WINGWALL TO END OF WINGWALL
    TRANSVERSELY : MEASURED FROM TOE OF FINISHED SIDE SLOPE TO TOE OF FINISHED SIDE SLOPE

12. FULL WIDTH OF EXISTING STRUCTURE AND APPROACHES TO REMAIN IN–SERVICE (EXCEPT AS NOTED ON CONSTRUCTION PHASING DRAWINGS) UNTIL THE END OF CONSTRUCTION WHEN TRAFFIC DIVERTED ONTO THE NEW STRUCTURE (REFERENCE PROJECT SPECIFICATIONS).
13. CONTRACTOR TO PROVIDE EROSION AND SEDIMENTATION CONTROL PLAN TO THE DEPARTMENT REPRESENTATIVE AT THE START OF THE PROJECT FOR ALL PHASES OF WORK AND MAINTAIN CONTROLS THROUGHOUT CONSTRUCTION.
14. EACH PHASE OF WORK TO BE INSPECTED AND APPROVED BY DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING TO NEXT PHASE OF WORK.
15. WATER ELEVATIONS INDICATED BASED ON DESIGN POINT FINAL HYDROLOGY REPORT No. 16–084 DATED MAY 9, 2018.
16. DEMOLITION OF EXISTING BRIDGE TO BE UNDERTAKEN AFTER TRAFFIC IS DIVERTED TO NEW STRUCTURE AND WRITTEN APPROVAL TO PROCEED IS PROVIDED BY DEPARTMENTAL REPRESENTATIVE. CONTRACTOR IS RESPONSIBLE FOR BRIDGE DEMOLITION DESIGN (REFER TO PROJECT SPECIFICATIONS FOR REQUIREMENTS). ALL EXISTING FOUNDATIONS TO BE REMOVED TO A MINIMUM 1000mm BELOW FINISHED GRADE. CONTRACTOR TO COORDINATE AND OBTAIN APPROVAL OF DEMOLITION PLAN FROM DEPARTMENTAL REPRESENTATIVE AND DFO PRIOR TO INITIATING DEMOLITION ACTIVITIES. CONTRACTOR ALSO RESPONSIBLE FOR EXCAVATION, BACKFILLING, AND SLOPE PREPARATION FOR ARMOUR RIP–RAP, FILLS AND HYDROSEEDING IN DEMOLITION AREA AS INDICATED ON DRAWING S1, S2 AND S17. REFERENCE PROJECT SPECIFICATIONS.

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEG Newfoundland and Labrador
ROBBIE FRASER
SIGNATURE
NOV 27 '18
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEG Newfoundland and Labrador
PERMIT HOLDER
This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEG N0324 which is valid for the year 2018.

revisions		date
0	ISSUED FOR TENDER	11/27 2018

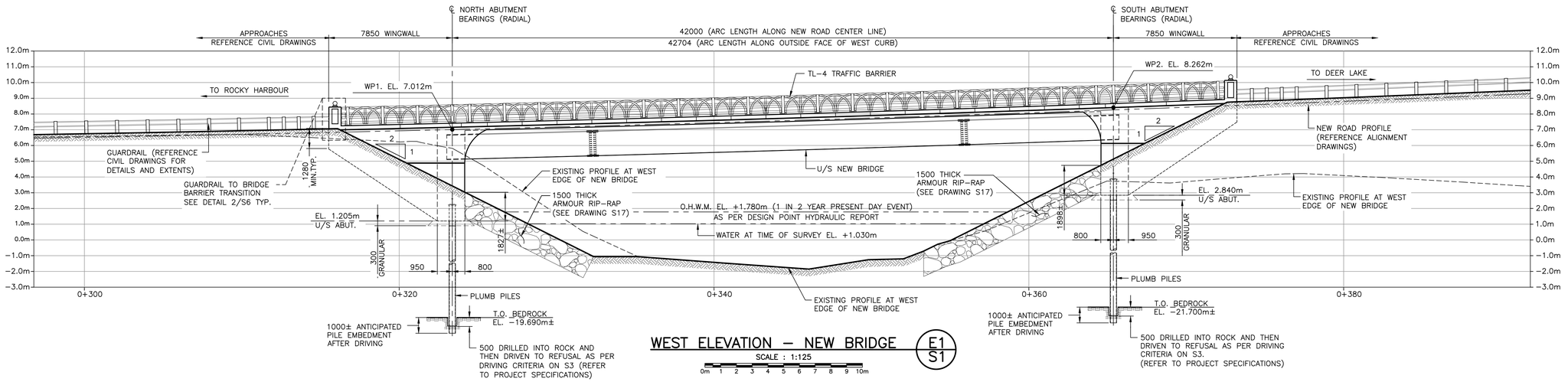
project / projet
ROCKY BARACHOIS BRIDGE
ROUTE 430
GROS MORNE NATIONAL PARK

drawing / dessin
GENERAL ARRANGEMENT
SHEET 1 of 2

designed SARAH HARDY — conçu
date JULY 2017
drawn WAYNE MORROW — dessiné
date JULY 2017
approved ROBBIE FRASER — approuvé
date
Tender — Soumission
PWGSC Project Manager — Administrateur de projets TPSGC
project number — no. du projet
1845
drawing no. — no. du dessin
S1

PWGSC B1 (2004)

E–DRM/GDD–E:

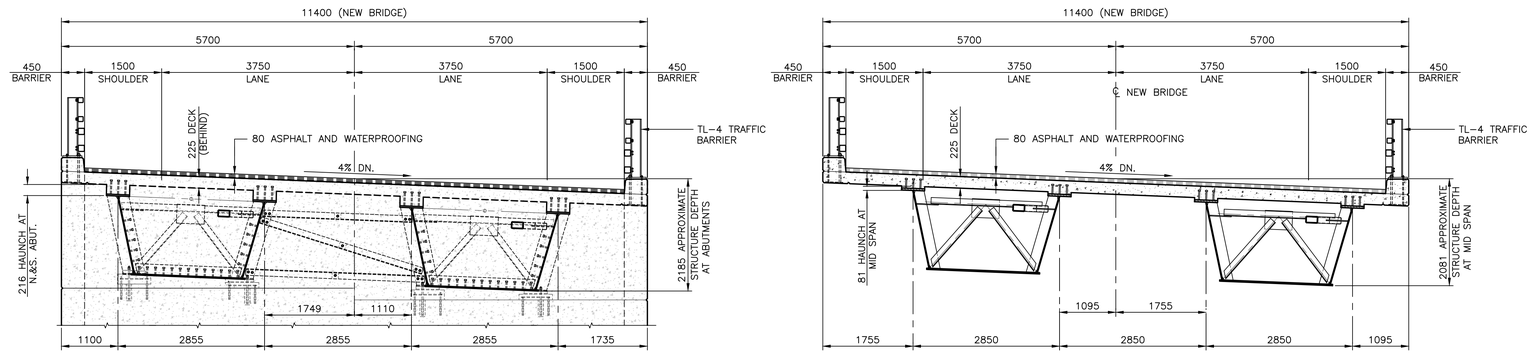


WEST ELEVATION — NEW BRIDGE — E1/S1

SCALE : 1:125

EAST ELEVATION — NEW BRIDGE — E2/S1

SCALE : 1:125



SECTION — AT C.L. ABUTMENT BEARINGS — A/S1

SCALE : 1:50

NOTE:
NORTH ABUTMENT SHOWN.
SOUTH ABUTMENT MIRRORED.

SECTION — AT MID SPAN — B/S1

SCALE : 1:50

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER — PEGNL Newfoundland and Labrador — ROBBIE FRASER — SIGNATURE — DATE NOV 27 '18 — NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL Newfoundland and Labrador — PERMIT HOLDER — This Permit Allows
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revisions		date
0	ISSUED FOR TENDER	11/27 2018

project / projet
ROCKY BARACHOIS BRIDGE ROUTE 430

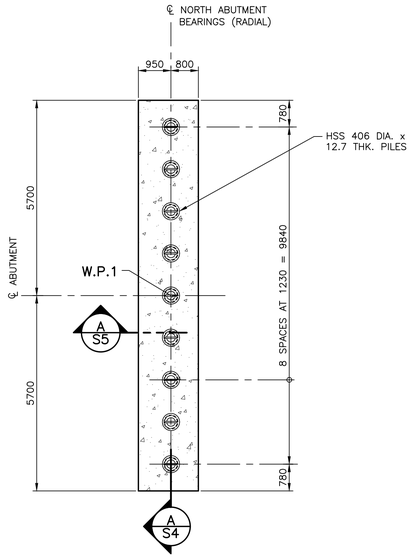
GROS MORNE NATIONAL PARK

drawing / dessin
GENERAL ARRANGEMENT SHEET 2 of 2

designed / conçu	SARAH HARDY
date	MAY 2017
drawn / dessiné	WAYNE MORROW
date	MAY 2017
approved / approuvé	ROBBIE FRASER
date	
Tender / Soumission	
PWGSC Project Manager / Administrateur de projets TPSGC	
project number / no. du projet	1845
drawing no. / no. du dessin	S2

PWGSC B1 (2004)

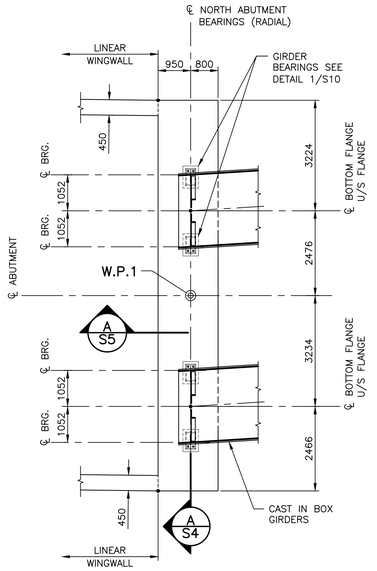
E-DRM/GDD-E:



NORTH ABUTMENT – PILE LAYOUT PLAN

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



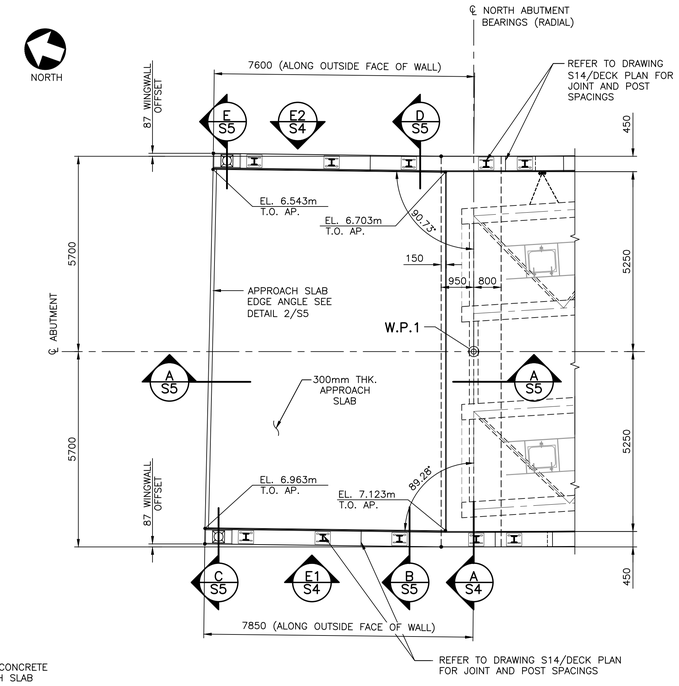
NORTH ABUTMENT – BEAM SEAT PLAN

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

ELEVATION LEGEND:

T.O. AP. = TOP OF CONCRETE APPROACH SLAB



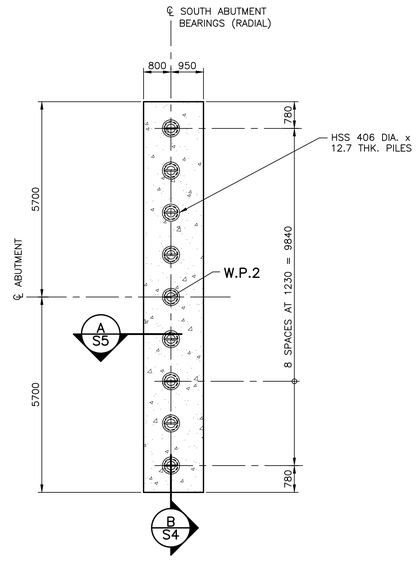
NORTH ABUTMENT – TOP PLAN

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

C.I.P. CONCRETE NOTES

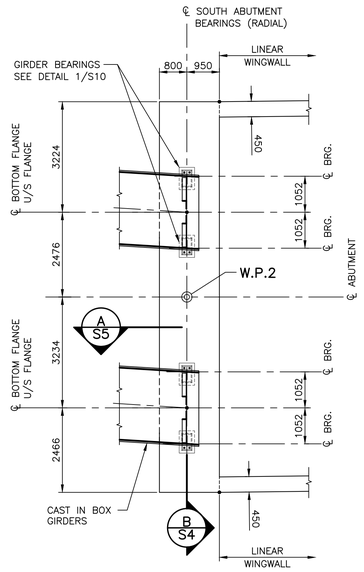
1. ALL EXPOSED CORNERS OF CONCRETE TO HAVE 25mm CHAMFERS.
2. LOCATION OF CONSTRUCTION JOINTS AND SEQUENCE OF CONCRETE PLACEMENT TO BE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.
3. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:
   - A) ABUTMENTS, WINGWALLS, APPROACH SLABS, CONCRETE DECK AND CURBS 45 MPa WITH 20mm MAX. AGGREGATE SIZE AND 6% ±1% AIR ENTRAINMENT (AIR VOID SPACING REQUIREMENTS AS PER PROJECT SPECIFICATIONS), MAX. WATER–CEMENT RATIO 0.35.
   - B) BEARING PLINTHS 35 MPa WITH 20mm MAX. AGGREGATE SIZE AND 6% ±1% AIR ENTRAINMENT (AIR VOID SPACING REQUIREMENTS AS PER PROJECT SPECIFICATIONS), MAX. WATER–CEMENT RATIO 0.35.
   - C) SLOPE DRAINS; 32 MPa, NON–REINFORCED, AS PER PROJECT SPECIFICATIONS.
4. CONCRETE COVER TO REINFORCING STEEL AS NOTED ON DRAWINGS.
5. REINFORCING STEEL TO BE GRADE 400W DEFORMED BARS AS PER PROJECT SPECIFICATIONS WITH YIELD STRENGTH OF 400 MPa (WELDABLE). ALL REINFORCING TO BE GALVANIZED IN ACCORDANCE WITH PROJECT SPECIFICATIONS. BEND DIAMETERS PRIOR TO GALVANIZING AS PER PROJECT SPECIFICATIONS, FIELD BENDING OF GALVANIZED BARS IS NOT PERMITTED.
6. ALL REINFORCEMENT TO BE INSPECTED BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO CLOSING FORMWORK OR PLACING CONCRETE.
7. COMPACTING IMMEDIATELY ADJACENT TO ABUTMENT BACK WALL SHALL BE ACCOMPLISHED WITH LIGHT COMPACTING EQUIPMENT. MODERATE COMPACTING WITH A TRENCH ROLLER IN 300mm LIFTS ELSEWHERE (ALL COMPACTION SHALL BE TO 98% STD. PROCTOR DENSITY). BACKFILLING SHALL NOT BE UNDERTAKEN UNTIL GIRDERS ARE ERECTED (EXCEPT AS NOTED ON AG SERIES DRAWINGS) AND SLAB AND ABUTMENT CAPS ARE COMPLETED ($f'ci \geq 35$ MPa) AND SHALL BE ACCOMPLISHED IN EQUAL/BALANCED LIFTS BEHIND EACH ABUTMENT. WHEEL LOADS SHALL BE KEPT 5.0m MINIMUM CLEAR OF ABUTMENTS UNTIL CONCRETE REACHES DESIGN STRENGTH AND BACKFILLING IS COMPLETED BEHIND BOTH ABUTMENTS. SURCHARGING FROM CONSTRUCTION EQUIPMENT TO BE AVOIDED UNLESS OTHERWISE APPROVED BY DEPARTMENTAL REPRESENTATIVE IN WRITING.
8. FOR BENT REINFORCING BAR TYPES REFER TO R.S.I.C. REINFORCING MANUAL OF STANDARD PRACTICE TYPICAL BAR BENDS EXCEPT BAR BEND DIAMETERS AS PER PROJECT SPECIFICATIONS (U.N.O.).
9. EACH PHASE OF WORK TO BE INSPECTED BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING TO THE NEXT PHASE OF WORK.
10. BACKFILL IMMEDIATELY BEHIND ABUTMENTS TO BE "FILL AGAINST STRUCTURE" MATERIAL AS PER PROJECT SPECIFICATIONS. LIMITS AS INDICATED ON DRAWING S17.



SOUTH ABUTMENT – PILE LAYOUT PLAN

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



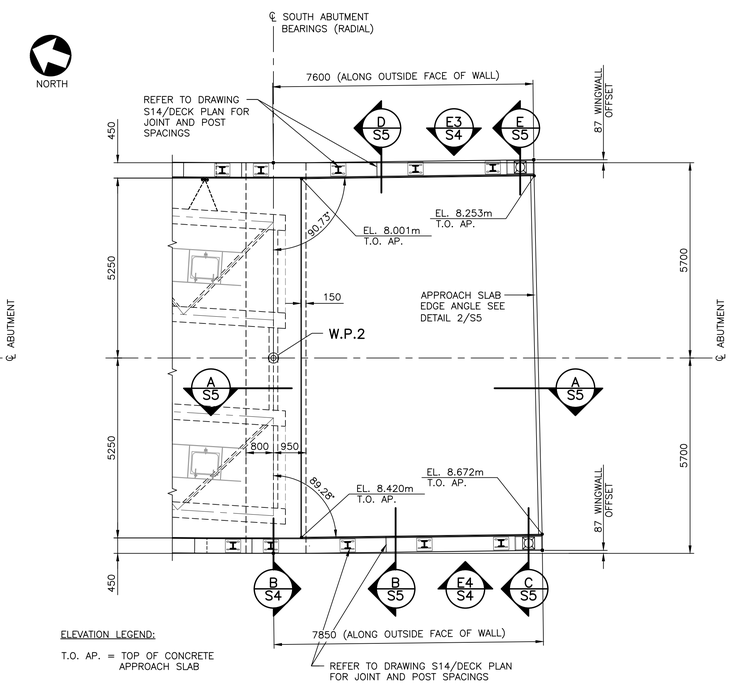
SOUTH ABUTMENT – BEAM SEAT PLAN

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

ELEVATION LEGEND:

T.O. AP. = TOP OF CONCRETE APPROACH SLAB



SOUTH ABUTMENT – TOP PLAN

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

PILE NOTES

1. PILE MATERIAL
   - A) STEEL PIPE PILES IN ABUTMENTS, 406mm OUTER DIA. x 12.7 THICK, Fy=350MPa (MIN.). DIMENSIONAL TOLERANCES TO ASTM A252, CHEMISTRY TO CAN/CSA G40.21–350W. ROLLED OR SEAM WELDED PIPE PREFERRED, SPIRALLY WELDED PIPE ACCEPTABLE PROVIDED IT MEETS API 5L WITH RESPECT TO LOCAL ECCENTRICITY OF SPIRALS.
   - B) ALL PILE SPLICES SHALL BE FULL STRENGTH WELDED CONNECTIONS. PILE SPLICE LOCATIONS SHALL BE APPROVED BY DEPARTMENTAL REPRESENTATIVE. REFER TO PROJECT SPECIFICATIONS FOR PILE SPLICE REQUIREMENTS.
   - C) CAP PLATE, Fy = 350 MPa MINIMUM.
   - D) WELDING MATERIAL TO CSA G40.1 – LATEST EDITION.
   - E) WELDING TO BE IN ACCORDANCE TO CSA W59 – LATEST EDITION.
2. PILES ARE TO BE OPEN ENDED AND DRILLED IN PLACE TO REMOVE ANY OBSTACLES. PILES SHALL BE SEATED (DRIVEN) ON BEDROCK TO THE PILE SET CRITERIA DEFINED IN NOTE 3 BELOW.
3. PILE SET CRITERIA AS PER HARBOURSIDE GEOTECHNICAL CONSULTANTS (HGC) REPORT DATED AUGUST 31, 2017.
   - A) RATED HAMMER ENERGY OF 450 J/cm² OF STEEL CROSS SECTION–SECTIONAL AREA.
   - B) PRACTICAL REFUSAL TAKEN AS PILE PENETRATION OF LESS THAN 25mm FOR 15 BLOWS AT THE RATED ENERGY FOR FOUR CONSECUTIVE 25mm INCREMENTS.
   - C) ALL PILES SHALL BE ADVANCED WITH AN OUTSIDE CUTTING SHOE TO ACCOMMODATE THE PILE DRILLING. PILE TIP DETAILS SHALL BE FORWARDED TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND ACCEPTANCE PRIOR TO INSTALLING PILES.
   - D) RE–TAPPING OF PILES SHALL BE UNDERTAKEN NO SOONER THAN 24 HOURS AFTER ACHIEVING THE REFUSAL CRITERIA AND THE PILES SHALL BE SUFFICIENTLY DRIVEN TO RE–ESTABLISH THE REFUSAL CRITERIA AS PER GEOTECHNICAL ENGINEER RECOMMENDATIONS (REFER TO HGC REPORT).
   - E) DESIGN PILE CAPACITIES AT ULS:
     – 406 DIA. x 12.7 PIPE PILES..... 1255 kN(C).
   - F) FULL TIME INSPECTION SHALL BE UNDERTAKEN DURING PILE INSTALLATION AND COMPLETE RECORDS SHALL BE KEPT.
   - G) PILE CAPACITIES TO BE CONFIRMED BY PDA TESTING. REFERENCE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PDA TESTING REQUIREMENTS.
4. THOUGH NOT ANTICIPATED, IF HARD DRILLING CONDITIONS ARE ENCOUNTERED AT ANY PILE ABOVE ELEVATION 0.000m, THE CONTRACTOR SHALL REMOVE ANY OBSTRUCTION WHILE MAINTAINING STABILITY OF ROAD, SLOPES AND TEMPORARY RETAINING WALL (EXTRACTION METHOD IS RESPONSIBILITY OF CONTRACTOR). ONCE OBSTRUCTION REMOVED, RE–DRILL PILE.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEGNL Newfoundland and Labrador
ROBBIE FRASER
SIGNATURE
Nov 27 '18
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
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revisions		date
0	ISSUED FOR TENDER	11/27 2018

project / projet

ROCKY BARACHOIS BRIDGE ROUTE 430

GROS MORNE NATIONAL PARK

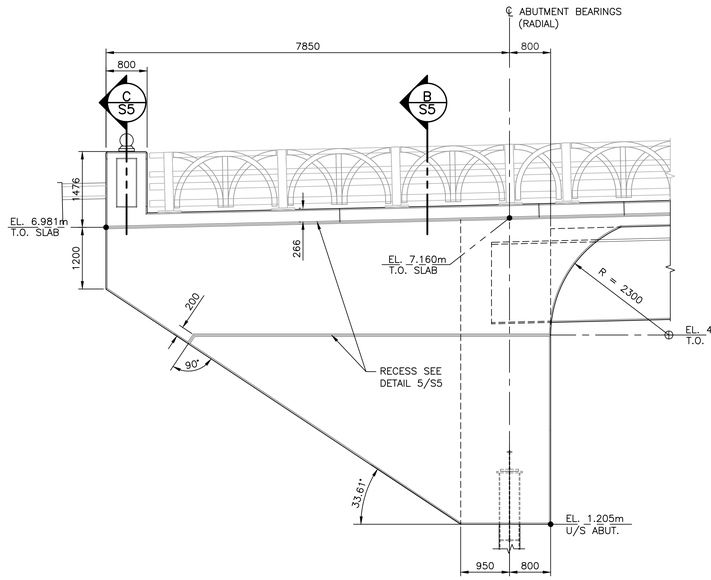
drawing / dessin

ABUTMENT PLANS

designed	SARAH HARDY	conçu
date	MAY 2017	
drawn	WAYNE MORROW	dessiné
date	MAY 2017	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
1845		
drawing no.		no. du dessin
S3		

PWGSC B1 (2004)

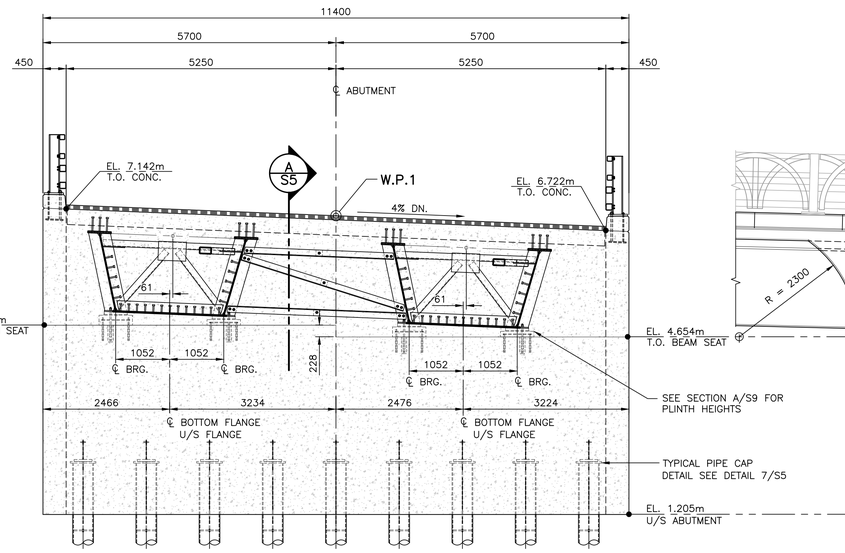
E–DRM/GDD–E:



ELEVATION – NORTH WEST WINGWALL E1 / S3

SCALE : 1:50

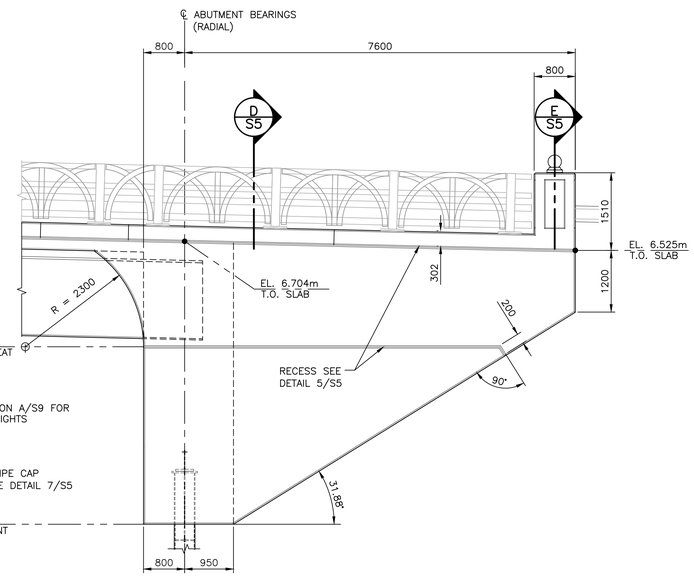
0m 1m 2m 3m 4m 5m



SECTION – NORTH ABUTMENT A / S3

SCALE : 1:50

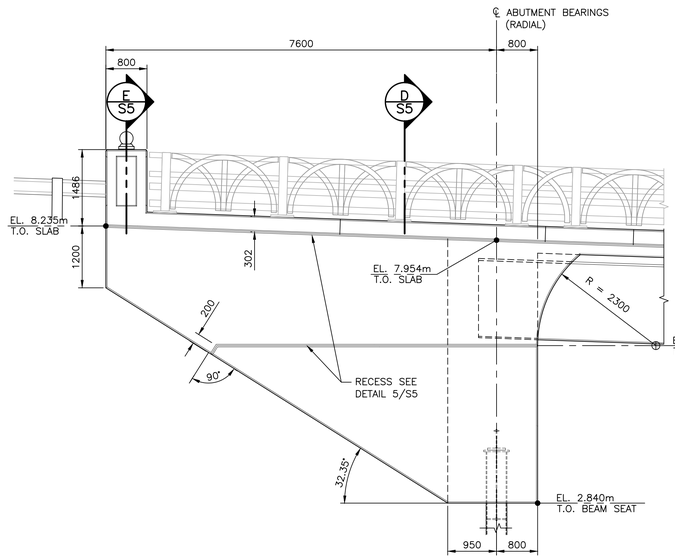
0m 1m 2m 3m 4m 5m



ELEVATION – NORTH EAST WINGWALL E2 / S3

SCALE : 1:50

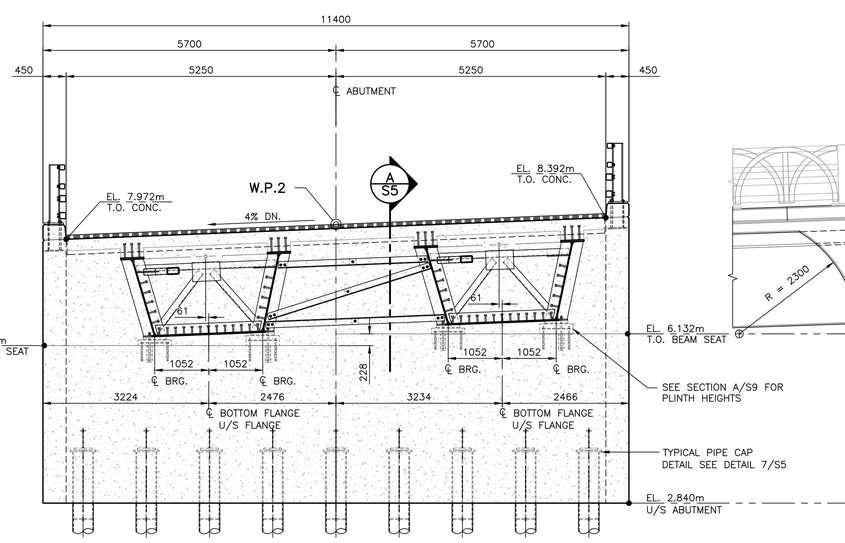
0m 1m 2m 3m 4m 5m



ELEVATION – SOUTH EAST WINGWALL E3 / S3

SCALE : 1:50

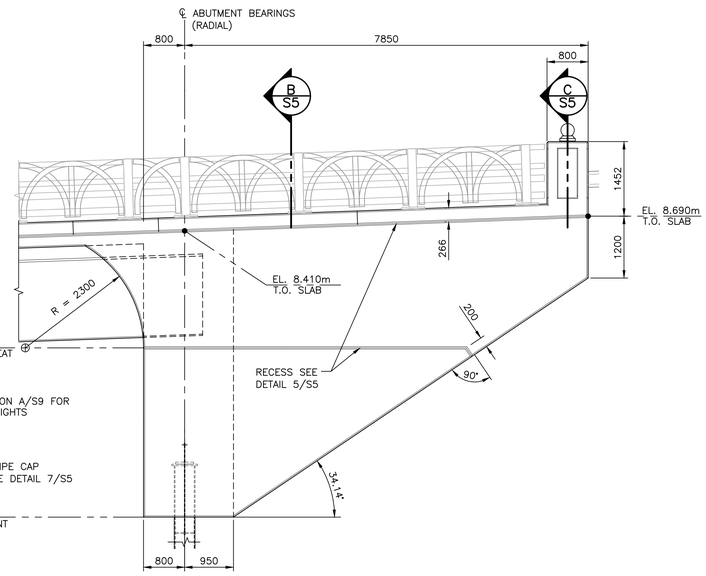
0m 1m 2m 3m 4m 5m



SECTION – SOUTH ABUTMENT B / S3

SCALE : 1:50

0m 1m 2m 3m 4m 5m



ELEVATION – SOUTH WEST WINGWALL E4 / S3

SCALE : 1:50

0m 1m 2m 3m 4m 5m

Parcs Canada Parks Canada

HARBOURSIDE
Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEGNL Newfoundland and Labrador
ROBBIE FRASER
SIGNATURE
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DATE
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revisions		date
0	ISSUED FOR TENDER	11/27/2018

project / projet

ROCKY BARACHOIS BRIDGE
ROUTE 430

GROS MORNE NATIONAL PARK

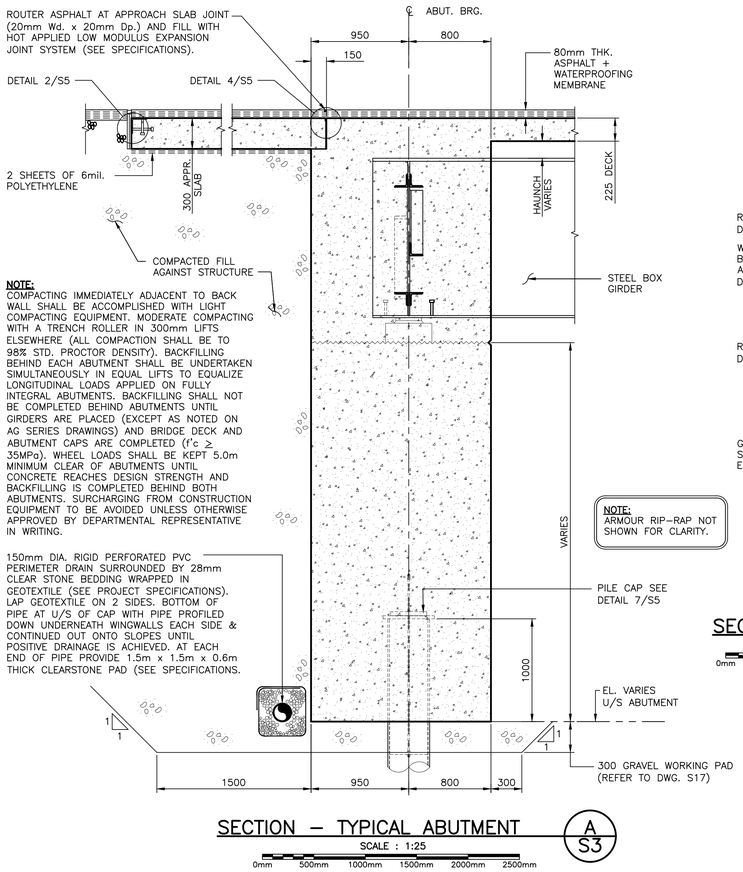
drawing / dessin

ABUTMENT SECTIONS AND WINGWALL ELEVATIONS

designed	SARAH HARDY	conçu
date	MAY 2017	
drawn	WAYNE MORROW	dessiné
date	MAY 2017	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
1845		
drawing no.		no. du dessin
S4		

PWGSC B1 (2004)

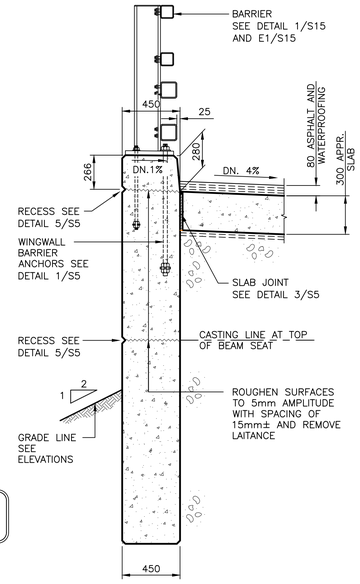
E-DRM/GDD-E:



SECTION – TYPICAL ABUTMENT — A / S3

SCALE : 1:25

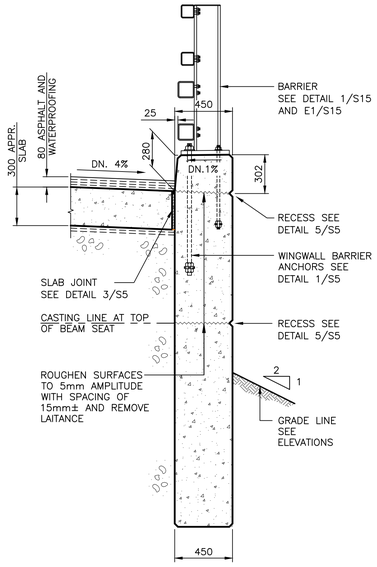
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION — B / S3

SCALE : 1:20

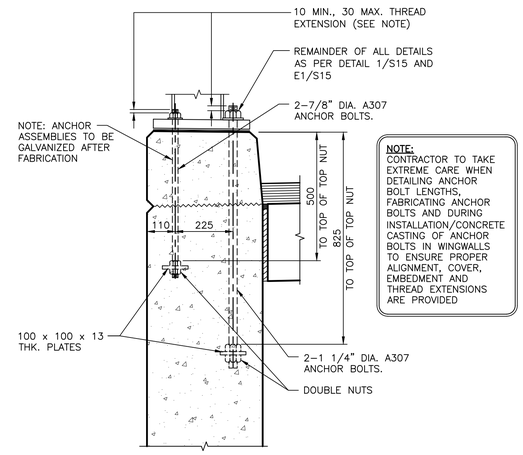
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION — D / S3

SCALE : 1:20

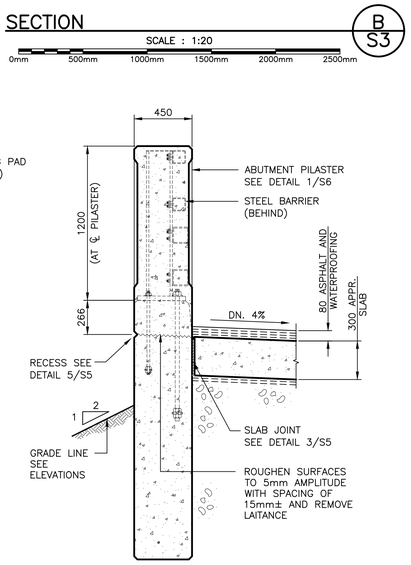
0mm 500mm 1000mm 1500mm 2000mm 2500mm



DETAIL – WINGWALL BARRIER POST ANCHORS — 1 / S5

SCALE : 1:10

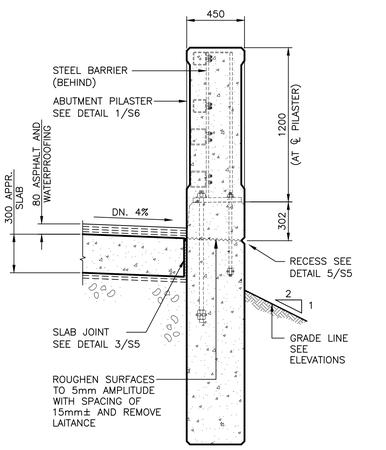
0mm 100 200 300 400 500 600 700 800 900 1000mm



SECTION — C / S3

SCALE : 1:20

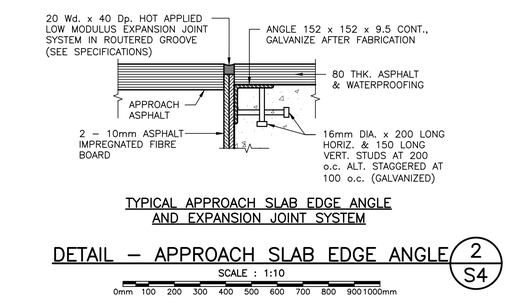
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION — E / S3

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



TYPICAL APPROACH SLAB EDGE ANGLE AND EXPANSION JOINT SYSTEM

DETAIL – APPROACH SLAB EDGE ANGLE — 2 / S4

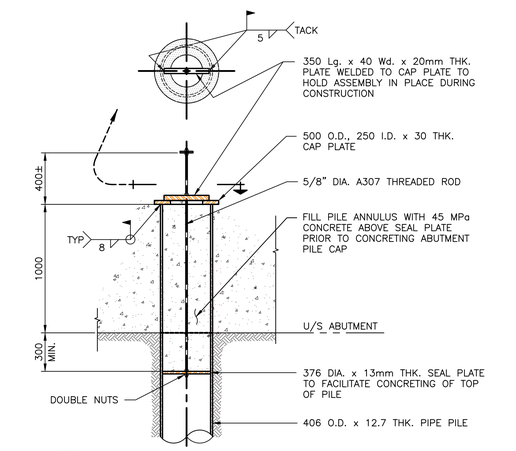
SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

DETAIL – EXPANSION JOINT TYPE B — 3 / S5

SCALE : 1:1

0mm 10 20 30 40 50 60 70 80 90 100mm

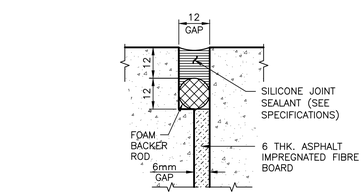


NOTE:
ENSURE 30mm CLEAR SEPARATION BETWEEN BLACK PILE STEEL AND ABUTMENT GALVANIZED REINFORCING. OTHERWISE LOCALLY PROVIDE THICK DENSO TAPE ON GALVANIZED REINFORCING AT CONTACT POINTS.

DETAIL – TYPICAL PILE CAP — 7 / S4

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



DETAIL – EXPANSION JOINT TYPE A — 4 / S5

SCALE : 1:1

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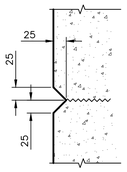
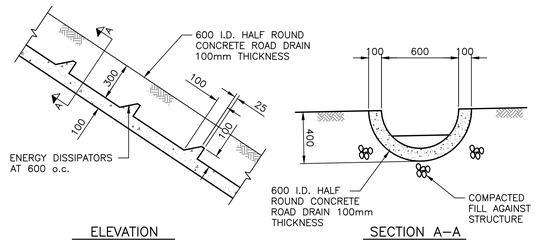


DETAIL – RECESS — 5 / S4

SCALE: 1:5

0mm 100mm 200mm 300mm 400mm 500mm



ELEVATION

SECTION A–A

DETAIL – PRECAST ROAD DRAIN — 6 / S1

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

℄

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PWGSC B1 (2004)

E–DRM/GDD–E:

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER — PEG Newfoundland and Labrador — ROBBIE FRASER — SIGNATURE — NOV 27 18 DATE — NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEG Newfoundland and Labrador — PERMIT HOLDER — This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEG NO324 which is valid for the year 2018.

revisions		date
0	ISSUED FOR TENDER	11/27 2018

project / projet

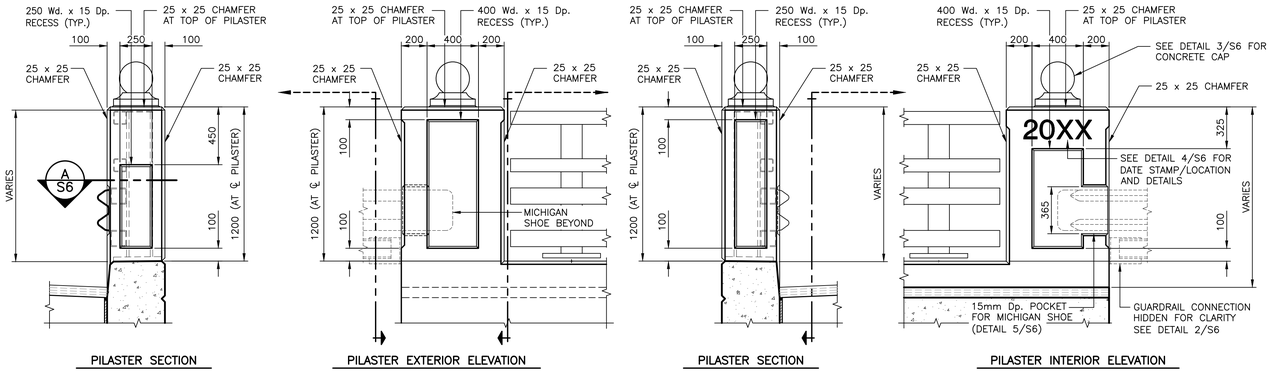
ROCKY BARACHOIS BRIDGE
ROUTE 430

GROS MORNE NATIONAL PARK

drawing / dessin

ABUTMENT SECTIONS AND DETAILS

designed	SARAH HARDY
date	MAY 2017
drawn	WAYNE MORROW
date	MAY 2017
approved	ROBBIE FRASER
date	
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	1845
drawing no.	S5

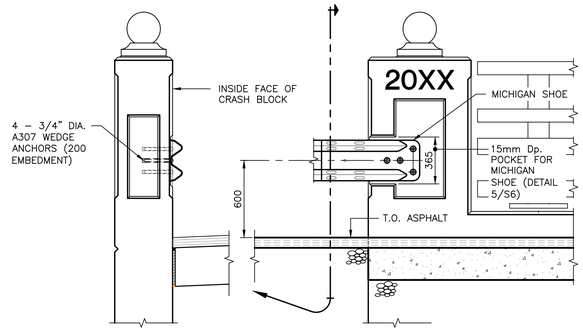


DETAIL – TYPICAL PILASTER — 1 / S1

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

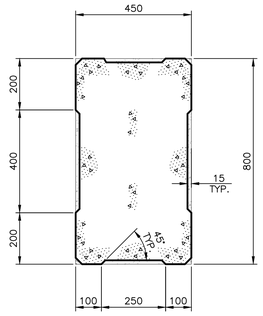
NOTE:
1. ALL PILASTERS TO BE VERTICAL (PLUMB) IN BOTH DIRECTIONS.
2. RECESS SECTION SIMILAR AS PER SECTION A/S6.
3. REFER TO DETAIL 6/S3 FOR DECORATIVE END PLAQUE DETAILS AND LOCATION ON PILASTER.



DETAIL – TYPICAL GUARDRAIL CONNECTION — 2 / S2

SCALE : 1:20

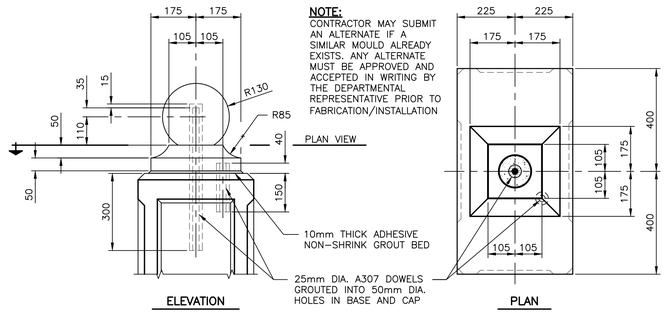
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION – TYPICAL PILASTER PLAN — A / S6

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

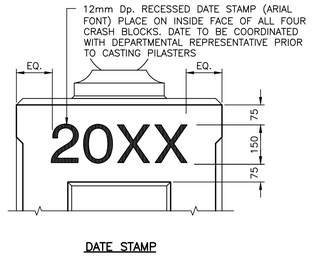


NOTE:
CONTRACTOR MAY SUBMIT AN ALTERNATE IF A SIMILAR MOULD ALREADY EXISTS. ANY ALTERNATE MUST BE APPROVED AND ACCEPTED IN WRITING BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO FABRICATION/INSTALLATION

DETAIL – TYPICAL CONCRETE POST CAP — 3 / S1

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

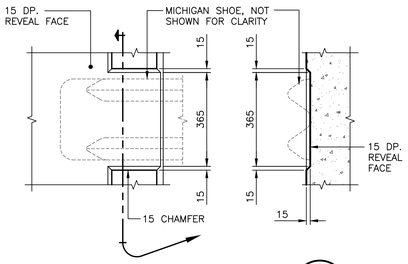


DATE STAMP

DETAIL – TYPICAL PILASTER REVEAL — 4 / S1

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – MICHIGAN SHOE POCKET — 5 / S6

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

REGISTERED PROFESSIONAL ENGINEER
PEG Newfoundland and Labrador
ROBBIE FRASER
SIGNATURE
Nov 27 '18
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
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PERMIT HOLDER
This Permit Allows
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To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEG N0324
which is valid for the year 2018.

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0	ISSUED FOR TENDER	11/27/2018

project / projet
ROCKY BARACHOIS BRIDGE
ROUTE 430

GROS MORNE NATIONAL PARK

drawing / dessin
WINGWALL PILASTER DETAILS

designed / conçu: SARAH HARDY — date: MAY 2017
drawn / dessiné: WAYNE MORROW — date: MAY 2017
approved / approuvé: ROBBIE FRASER — date:
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet: 1845
drawing no. / no. du dessin: S6

PWGSC B1 (2004)

E–DRM/GDD–E: