

CNWA Application for Approval
Removal of the OLTC 16 Peace River side channel crossing north abutments/causeway

Registry #: 2021

Description of Works

NPA Approval 2018-500451-001 authorizes the construction of a temporary bridge, abutments, and causeway across a side channel of the Peace River to allow access to a reservoir clearing area for the Site C Clean Energy Project. This approval requires that the bridge be removed after construction activities have been completed, but allows the causeway and abutments to remain in place subject to conditions, such as navigation warning signs and lights. TC File # 2018-500451-001 is attached for reference.

Since issuance of 2018-500451-001, clearing activities at the reservoir clearing site have been completed, and the bridge deck across the Peace River side channel crossing removed. The purpose of this CNWA Application is to now seek approval to remove the remaining causeway on the north bank of the approved crossing (Figures 1 and 2), as the material can be used again in future crossings that may be required for western reservoir clearing. The remaining south bank bridge abutments and causeway will be left in place (Figure 3) and submerged during reservoir inundation.

The removal of the north bank abutments/causeway would not affect navigation of the Peace River, and would significantly open the side channel to boater use. The material will be removed by an excavator and hauled away by dump truck via the existing access road, as seen in Figure 2. The removal of the material is expected to commence in early September, pending receipt of CNWA Approval.

Submission date: July 31, 2020



Location Figure: Layout of OLTC #16 causeway bridge (NPA File 2018-500451-001) along the Peace River Side Channel.



Figure 1. OLTC 16 crossing north bank causeway - to be removed

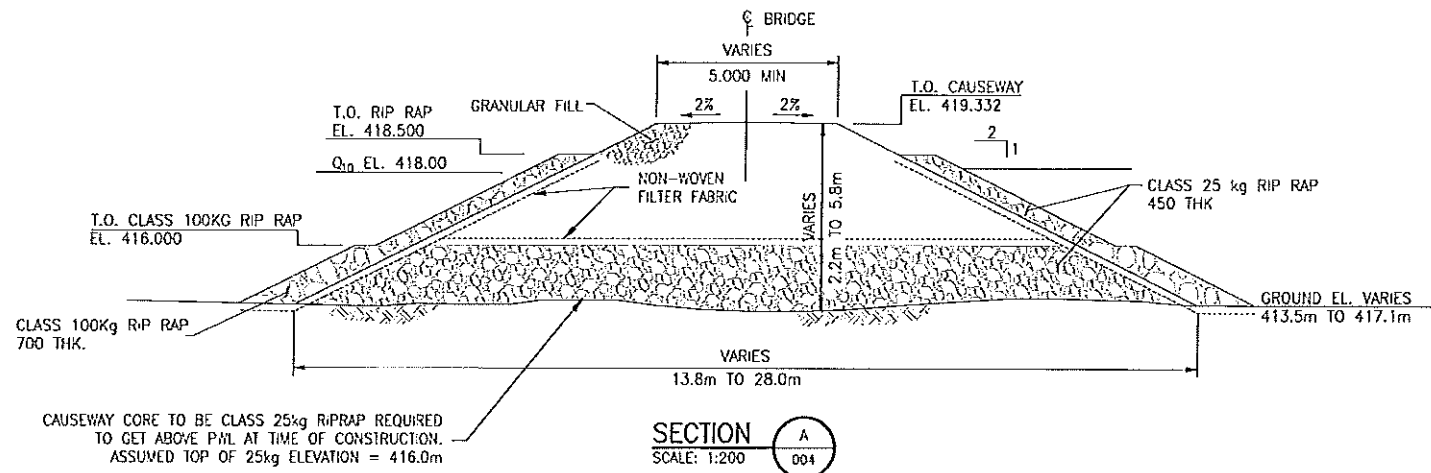


Figure 2. Aerial view of OLTC 16 crossing north bank causeway - to be removed



Figure 3. OLTC 16 crossing south bank abutments and causeway – to remain in place

Date: 2019/08/08 12:28 PM | User: Gufid Star | File: C:\Project Drive (P)\P\2017\10\17\1702123 BC Hydro Site - Cemetery Consulting\1000-Design\1011-Civil\11-Production\1011-CAUSEWAY\1011-CAUSEWAY-DRAWINGS | Layer: 006 | Paper Size: 594mm x 413mm



SECTION A
SCALE: 1:200

ROAD WAY MATERIALS				
	CLASS 100kg RIP RAP	CLASS 25kg RIP RAP	NON-WOVEN FILTER FABRIC	GRANULAR FILL
0+230 TO 0+303	340 m ³	2512 m ³	2215 m ²	2056m ³
0+353 TO 0+380	28 m ³	110 m ³	608 m ²	611 m ³
TOTAL:	368 m³	2622 m³	2823 m²	2667 m³

BRIDGE MATERIALS	
DESCRIPTION:	# REQ'D:
300x300x3.0m D.FIR #1	28
300x300x1.2m D.FIR #1	8
150x300x6.6m D.FIR #2	2
150x300x7.8m D.FIR #2	2
150x300x9.0m D.FIR #2	2
19Ø SPIKES x 450 Lg	AS REQ'D
BRIDGE SUPERSTRUCTURE	BY OTHERS

REFERENCE DRAWINGS		
DRAWING NO.	DRAWING DESCRIPTION/TITLE	REF.
		1

191101
CAS



By using this drawing, the user acknowledges and agrees to the terms and conditions of the license of use of this drawing. The user shall be responsible for obtaining all necessary permits and approvals for the use of this drawing. The user shall not be held liable for any damages or losses resulting from the use of this drawing.

REV	Y/M/D	DESCRIPTION	DRAWN	APVD
0	19/08/20	ISSUED FOR TENDER	GSS	DOW

CLIENT:



CLIENT NO.	DRAWN	DMM	DATE	19/02/27	
PROJECT NO.	17FG0123	DSGN.	DOW	DATE	19/02/27
DRAWING SIZE:	A4S1 "8"	CHKD:	DOW	DATE	19/02/27
SCALE:	AS NOTED	APVD:	DOW	DATE	19/02/27

PROJECT:
OLTC 16 CAUSEWAY SURVEY AND DESIGN

TITLE:
SECTIONS, NOTES AND TABLES

DWG NO.	REV.
17PG0123-100-1960-006	0



Navigation Protection Program
Suite 610, 800 Burrard Street
Vancouver B.C. V6Z 2J8

Your file

Our file
2018-500451-001

March 1, 2019

BC Hydro
Ste 600, Four Bentall Centre, 1055 Dunsmuir St. PO Box 49260
Vanouver, BC V7X 1V5

Attention: Karen von Muehldorfer

RE: Notice to the Minister\permission to proceed under the *Navigation Protection Act* for the Bridge, located at 56° 14' 10.94" N x 121° 23' 24.19" W, Peace River, located on unsurveyed foreshore or land covered by water being part of the bed of Peace River, Peace River Causeway Bridge, fronting Section. 34 Twp 83, Range 22, West of the 6th Meridian, Peace River District, City of Fort St. John, in the Province of British Columbia

The Minister of Transport has determined that your work is not likely to substantially interfere with navigation.

Therefore, your work is permitted under the NPA s.9(1) Construction, and you may proceed pursuant to the attached plan(s) in accordance with the following terms and conditions:

1. The NPA Approval and its Terms and Conditions shall be posted at an easily accessible place at the worksite and provide to the contractor conducting the work.
2. Any construction equipment anchored or left in or on the waterway shall be marked with a yellow flashing light placed on the outermost extremity if left overnight.
3. During the open water season. The bridge span shall be marked using a flashing yellow light visible upstream and downstream and operating during times of darkness and limited visibility.
4. The owner shall provide information about the bridge location and clearance using the Boater Communications Protocol, and post the information on the owner website, on a page related to the project
5. In the event that the operation of the above works is terminated, it will be the proponent's responsibility to remove the works and associated equipment in its entirety including any anchors and pilings.
6. Install and maintain warning signs at locations approx. 100m upstream and downstream of the construction site advising of the work in progress. Signs shall be a minimum of

72"x 48", a white background with black lettering, with text as outlined below. Sign to be emplaced prior to and for the duration of construction.

WARNING CONSTRUCTION
HAZARDS AHEAD

7. During construction the outermost extent of the work above the surface shall be marked with orange Hi-visibility markers on the upstream and downstream corners.
8. During construction the outermost extent of the work above the surface shall be marked with a flashing yellow light on the upstream and downstream corners. The lights are to be in operation in darkness or limited visibility.
9. Construction machinery left in the water during darkness or limited visibility shall be marked with a flashing yellow light, visible to upstream and downstream traffic.

Pursuant to Sec. 34 of the Navigable Protection Act, the owner shall provide unimpeded access to the Minister or their representatives for inspection purposes.

Pursuant to Sec. 5 of the Navigable Waters Works Regulations, all temporary piles, false works, silt curtains, construction material or debris, etc. are to be completely removed from the waterway.

Proponent can use the Canadian Dam Association signage standards in regards to shape, colour and size. Locations and wording are to be as per the Term and Conditions of the permit or approval

This permission relates only to the effect of your work on navigation under the NPA and does not grant any rights related to the ownership of the bed of the waterway.

It is the owner's responsibility to comply with any other applicable laws and regulations.

Please note that the NPA, amongst other obligations, requires the owner to immediately notify the Minister if his work causes or is likely to cause serious or imminent danger to navigation and take reasonable measures to remediate the danger to navigation (section 12 of the NPA).

Should you have any questions, please do not hesitate to contact our office in Vancouver by phone at (604) 775-8867 or by e-mail at NPPAC-PPNPAC@tc.gc.ca.

Respectfully,



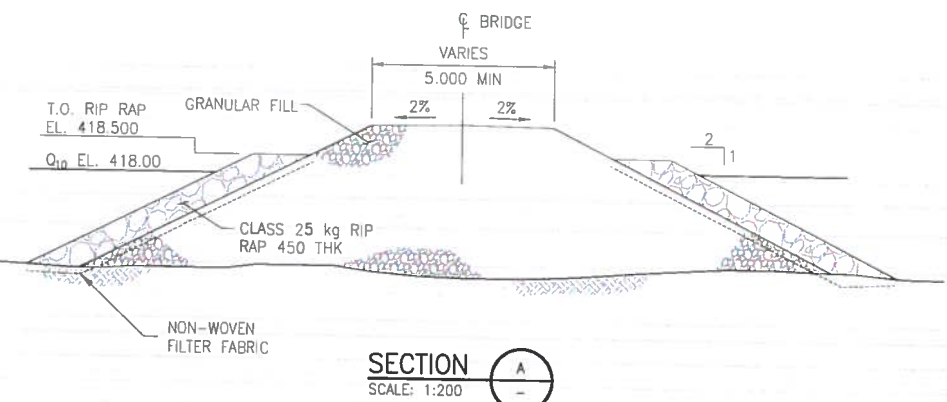
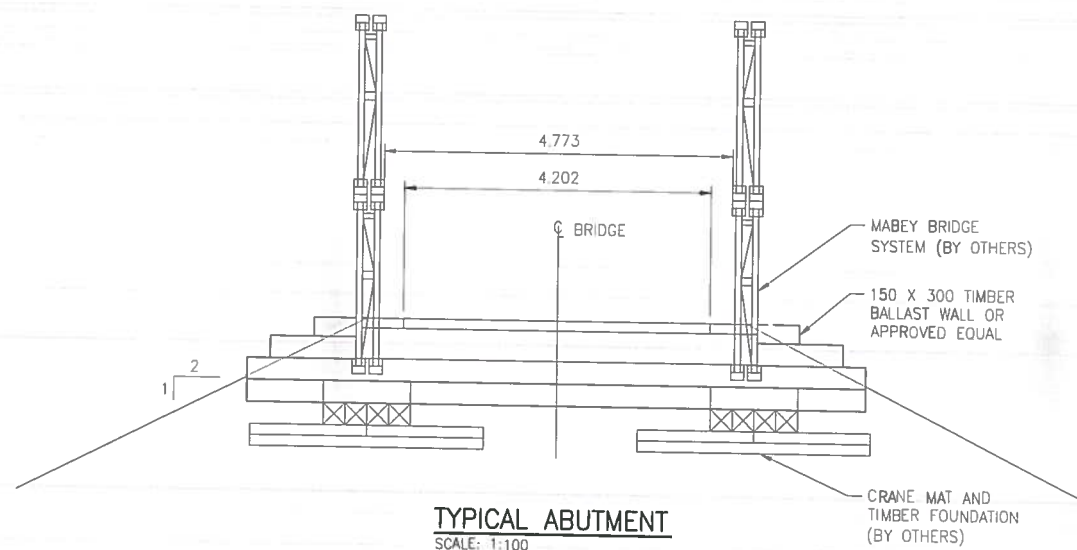
Colin Parkinson
Navigation Protection Program Officer
Programs Group
Transport Canada
Pacific Region

CP/sp

Attachment(s) – Reviewed Drawings

cc: DFO – James.Chircoski@dfo-mpo.gc.ca
CEAA – Compliance / Conformité (CEAA/ACEE), Compliance.Conformite@ceaa-acee.gc.ca>
Water Comptroller – Fisher, Gypsy, Gypsy.Fisher@gov.bc.ca

Date: 2019/01/25 9:34 AM | User: Andrew Winter | File: P:\PQ02017\100\17PG0123-100-1960-005-Details\17PG0123-100-1960-005-Details.dwg | Paper Size: 598.8mm x 431.8mm

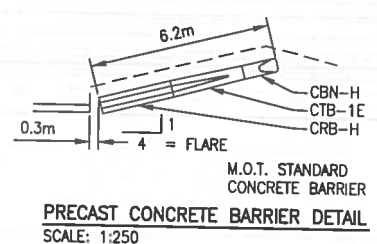
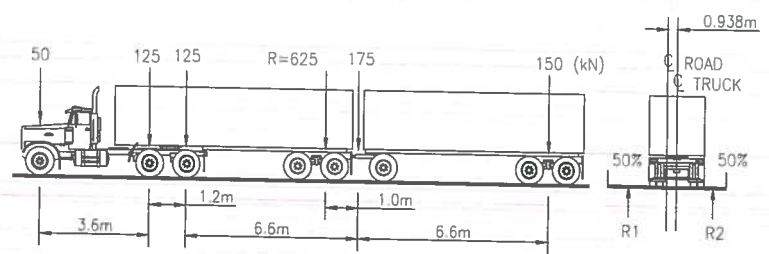


NOTES:

1. BACK FILL OF APPROACHES SHALL GENERALLY CONFORM TO THE LINES SHOWN ON THE DRAWINGS AND SHALL BE PLACED IN LIFTS NOT EXCEEDING 305mm THICK, COMPACTED TO 95% STANDARD PROCTOR DENSITY USING A MINIMUM 1000lbs VIBRATORY PLATE COMPACTOR. MATERIAL SHALL BE CLEAN, FREE DRAINING, WELL GRADED GRANULAR FILL OF 75mm MAXIMUM SIZE. LIFTS SHALL ALTERNATE BOTH WAYS AT EACH END OF THE BRIDGE TO ENSURE MINIMAL MOVEMENT.
2. NON-WOVEN FILTER FABRIC TO BE PLACED OVER EXCAVATION TO HAVE A MINIMUM MULLEN BURST STRENGTH OF 2500kPa. FILTER FABRIC TO BE USED UNDER FOUNDATIONS.
3. ALL EXPOSED MINERAL SOILS TO BE SEEDED USING AN APPROVED RECLAMATION GRASS SEED MIXTURE AND COVERED WITH AN APPROVED EROSION CONTROL BLANKET.
4. THE CONTRACTOR IS TO CONTACT THE ENGINEER PRIOR TO PLACING FOUNDATIONS. FOUNDATIONS PLACEMENT SHALL BE SUPERVISED BY THE ENGINEER TO CONFIRM BEARING REQUIREMENTS.
5. ALL PERMITS AND REGULATORY APPROVALS TO BE IN PLACE PRIOR TO COMMENCING WORK.
6. ENVIRONMENTAL MANAGEMENT PLAN TO BE PREPARED FOR PROJECT BY OTHERS. COMPLETION OF WORKS TO COMPLY WITH MITIGATION RECOMMENDATIONS OUTLINED IN ENVIRONMENTAL MANAGEMENT PLAN.
7. NO SITE SPECIFIC GEOTECHNICAL INVESTIGATION HAS BEEN COMPLETED AS PART OF ALLNORTH CONSULTANTS LIMITED SCOPE OF WORK. THEREFORE, THIS DESIGN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A SITE SPECIFIC GEOTECHNICAL FIELD INVESTIGATION OR GEOTECHNICAL ADVICE. GROUND CONDITIONS MAY VARY AND THE FOUNDATION REQUIREMENTS AND BRIDGE CONCEPT MAY NEED TO BE MODIFIED TO ACCOMMODATE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION. ALLNORTH CONSULTANTS LIMITED ACCEPTS NO RESPONSIBILITY FOR ADDITIONAL COSTS OR DELAYS THAT MAY RESULT IF THE GROUND CONDITIONS VARY FROM THOSE ASSUMED IN THE DESIGN. THE DESIGN ENGINEER SHALL BE CONTACTED IF FIELD CONDITIONS VARY FROM THE DESIGN ASSUMPTIONS SHOWN ON THE DRAWINGS OR IN THE CONSTRUCTION SPECIFICATIONS. INSTALLATIONS OF FOUNDATIONS SHALL BE SUPERVISED BY THE DESIGN ENGINEER OR THEIR REPRESENTATIVE.
8. WHERE EXCAVATION SPECIFICATIONS ON THESE DRAWINGS CONFLICT WITH WORKSAFE BC (WSBC) REGULATIONS, WSBC REGULATIONS ARE TO GOVERN.
9. GENERAL ARRANGEMENT DRAWING. SOME STRUCTURE DETAIL NOT SHOWN. REFER TO FABRICATION DRAWINGS FOR FURTHER DETAIL PRIOR TO EXCAVATION AND INSTALLATION.
10. RIPRAP SPECIFICATIONS:

CLASS OF RIPRAP (kg.)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION PERCENTAGE SMALLER THAN GIVEN ROCK MASS (kg)			APPROXIMATE AVERAGE DIMENSION (mm)		
		15%	50%	85%	15%	50%	85%
10	350	1	10	30	90	195	280
25	450	2.5	25	75	120	260	380
50	550	5	50	150	155	330	475
100	700	10	100	300	195	415	600
250	1000	25	250	750	260	565	815
500	1200	50	500	1500	330	715	1030

LOADING DIAGRAM CL-625 ON HIGHWAY G.V.W. = 63 710kg:
DESIGN IN ACCORDANCE WITH CAN/CSA-S6-06 WITH LOADING AS FOLLOWS:



Reviewed / Examiné

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2019-500451

FEB 28 2019

By/par:

COLIN PARKINSON

Navigation Protection Program /
Programme de protection de la navigation

REFERENCE DRAWINGS		
DRAWING NO	DRAWING DESCRIPTION/TITLE	REF
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REV	YY/MM/DD	DESCRIPTION	DRWN	APVD
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A	19/01/18	ISSUED FOR REVIEW	ADW	DDW

CLIENT

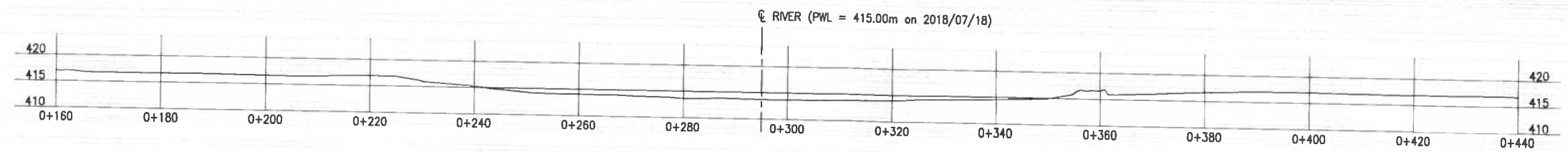
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SCALE:	AS NOTED	APVD:	DDW	DATE:	19/01/25

OLTC 16 CAUSEWAY
SURVEY AND DESIGN

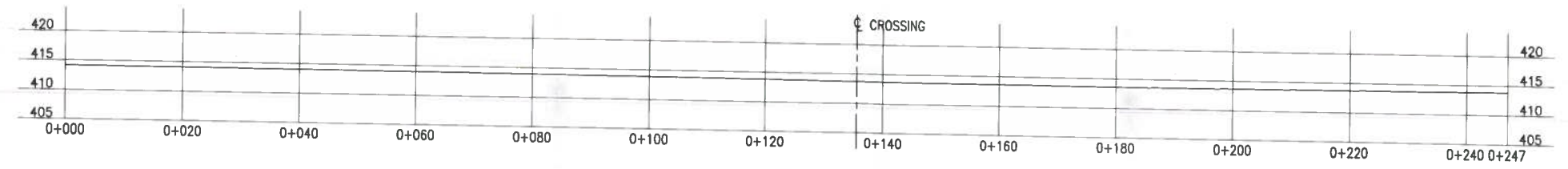
TITLE
ABUTMENT, SECTIONS
AND NOTES

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ALIGNMENT PROFILE
SCALE: 1:1000



MAIN CHANNEL PROFILE
SCALE: 1:1000

REFERENCE DRAWINGS		
DRAWING NO	DRAWING DESCRIPTION/TITLE	REF
17PG0123-100-1960-001	SITE PLAN	1

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 Page 3 of/de 5
2018-500451
FEB 28 2019
 By/par:
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REV	YY/MM/DD	DESCRIPTION	DRWN	APVD
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A	18/07/31	ISSUED FOR REVIEW	ADW	DDW

CLIENT:
BC Hydro

Allnorth

CLIENT NO:	-	DRWN:	ADW	DATE:	18/07/25
PROJECT NO:	17PG0123	DSGN:	DDW	DATE:	18/07/20
DRAWING SIZE:	ANSI 'B'	CHKD:	DDW	DATE:	18/07/31
SCALE:	AS NOTED	APVD:	DDW	DATE:	19/01/18

PROJECT
OLTC 16 CAUSEWAY SURVEY AND DESIGN

TITLE
PROPOSED CROSSING PROFILE

DWG NO	17PG0123-100-1960-002	REV	B
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OLTC 16 CAUSEWAY SURVEY AND DESIGN

DRAWING LIST		
DRAWING NO	DRAWING TITLE	REVISION
17PG0123-100-1960-001	SITE PLAN	B
17PG0123-100-1960-002	PROPOSED CROSSING PROFILE	B
17PG0123-100-1960-004	CAUSEWAY BRIDGE PLAN AND PROFILE	B
17PG0123-100-1960-005	ABUTMENT, SECTIONS AND NOTES	B

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 Page 1 of 5
 2018-500451
 FEB 28 2019
 By/par:
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DESCRIPTION: ISSUED FOR REVIEW
ISSUE DATE: 19/01/25

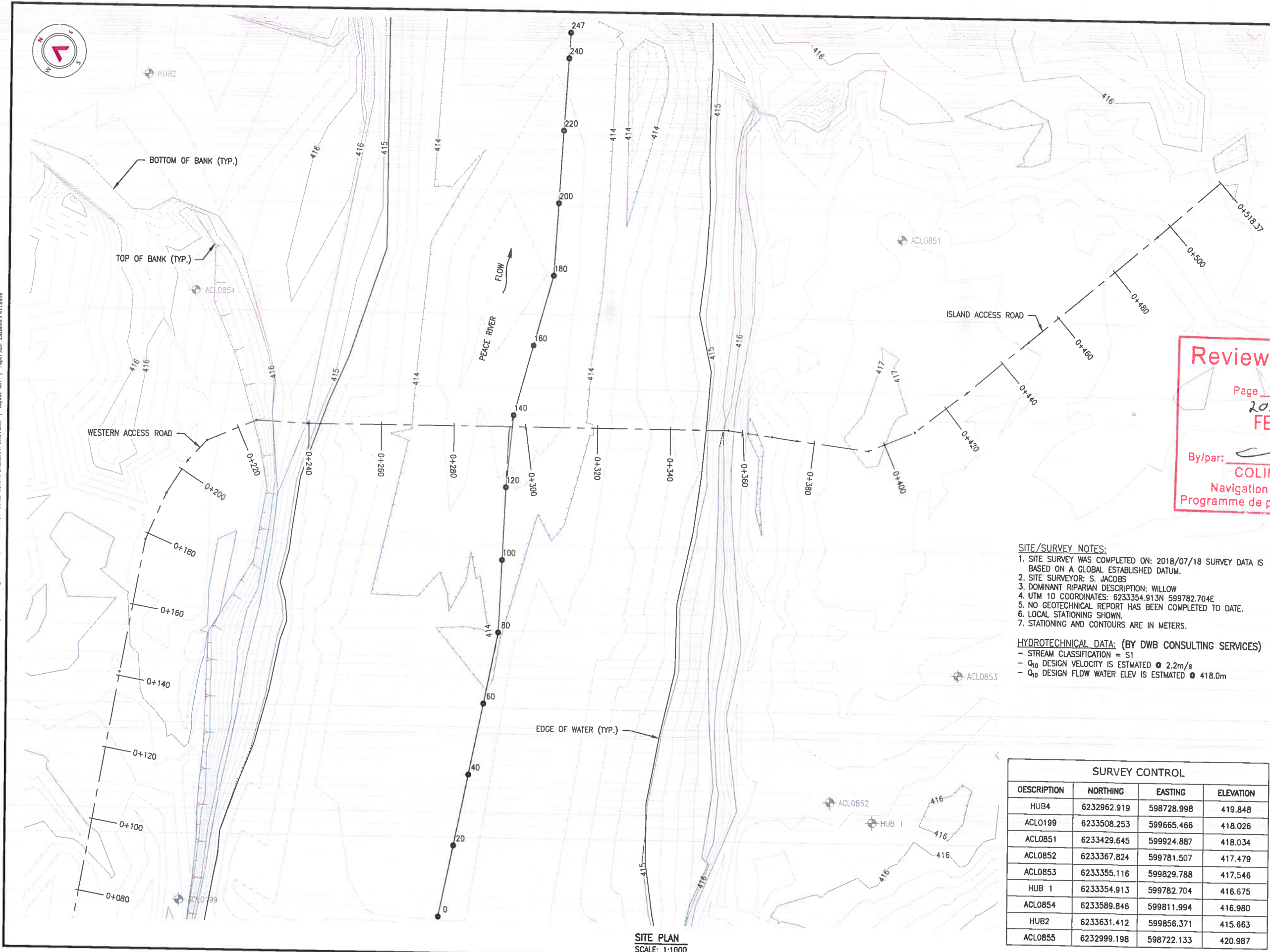


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B	18/10/17	ISSUED FOR REVIEW	SRP	DDW
C	19/01/18	ISSUED FOR REVIEW	ADW	DDW
D	19/01/25	GENERAL REVISIONS	ADW	DDW

CLIENT NO	-	DRWN	ADW	DATE	18/07/26
PROJECT NO	17PG0123	DSGN	DDW	DATE	18/07/20
DRAWING SIZE	ANSI "B"	CHKD	DDW	DATE	18/07/31
SCALE	AS NOTED	APVD	DDW	DATE	19/01/25
DWG NO	17PG0123-100-1960-00T	REV	D		

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SITE PLAN
SCALE: 1:1000

Reviewed / Examiné
 Page 2 of 2
 2018-500451
 FEB 28 2019
 By/par: *[Signature]*
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 Programme de protection de la navigation

- SITE/SURVEY NOTES:**
1. SITE SURVEY WAS COMPLETED ON: 2018/07/18 SURVEY DATA IS BASED ON A GLOBAL ESTABLISHED DATUM.
 2. SITE SURVEYOR: S. JACOBS
 3. DOMINANT RIPARIAN DESCRIPTION: WILLOW
 4. UTM 10 COORDINATES: 6233354.913N 599782.704E
 5. NO GEOTECHNICAL REPORT HAS BEEN COMPLETED TO DATE.
 6. LOCAL STATIONING SHOWN.
 7. STATIONING AND CONTOURS ARE IN METERS.

HYDROTECHNICAL DATA: (BY DWB CONSULTING SERVICES)

- STREAM CLASSIFICATION = S1
- Q₁₀ DESIGN VELOCITY IS ESTIMATED @ 2.2m/s
- Q₁₀ DESIGN FLDW WATER ELEV IS ESTIMATED @ 418.0m

SURVEY CONTROL			
DESCRIPTION	NORTHING	EASTING	ELEVATION
HUB4	6232962.919	598728.998	419.848
ACL0199	6233508.253	599665.466	418.026
ACL0851	6233429.645	599924.887	418.034
ACL0852	6233367.824	599781.507	417.479
ACL0853	6233355.116	599829.788	417.546
HUB 1	6233354.913	599782.704	416.675
ACL0854	6233589.846	599811.994	416.980
HUB2	6233631.412	599856.371	415.663
ACL0855	6232999.198	598722.133	420.987

REFERENCE DRAWINGS		
DRAWING NO	DRAWING DESCRIPTION/TITLE	REF
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REV	YY/MM/DD	DESCRIPTION	DRWN	APVD
B	19/01/18	ADDED HYDROTECHNICAL DATA	ADW	DDW
A	18/07/31	ISSUED FOR REVIEW	ADW	DDW

CLIENT

CLIENT NO:	-	DRWN:	ADW	DATE:	18/07/25
PROJECT NO:	17PG0123	DSGN:	DDW	DATE:	18/07/20
DRAWING SIZE:	ANSI "B"	CHKD:	DDW	DATE:	18/07/31
SCALE:	AS NOTED	APVD:	DDW	DATE:	19/01/18

**OLTC 16 CAUSEWAY
SURVEY AND DESIGN**

TITLE
SITE PLAN

DWG NO:	17PG0123-100-1960-001	REV:	B
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