Transport Canada Transports Canada

Navigation Protection Program
Programs Group
Transport Canada

Our file:
2019-501301

APPROVAL

APPLICANT:	Michael McArthur 9th Floor - 1111 Georgia St West Vancouver, BC, V6E 4M3
WORK:	Debris Boom Launching Ramp
SITE LOCATION:	**located at -120.93832 - 56.21262, on the Peace River District, in the Province of British Columbia.**

As per the application (detailed above) to the Minister of Transport, submitted pursuant to the *Canadian Navigable Waters Act*, for an approval of the work per the attached four (4) plans, the Minister hereby amends the approval to the work pursuant to subsection 9(3)(d) for the construction, of the above mentioned work, in accordance with the following terms and conditions:

1. The CNWA Approval and its Terms and Conditions shall be posted at an easily accessible place at the worksite, and be provided to the contractor conducting the work.

2. In the event that the construction or 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. The banks and bed of the waterway disturbed by the works are to be contoured to match the local conditions.

3. The owner shall provide information about any temporary closures to vessel traffic using the Boater Communications Protocol, and post the information on the owner website, on a page related to the project.

4. Any construction equipment anchored or left in or on the waterway overnight shall be marked with a yellow flashing light placed on the extremity closest to the middle of the channel, so as to be visible to upstream and downstream traffic.

5. A safe navigation channel shall be maintained during construction. When construction activities require channel closures to ensure public safety they will be communicated 5 days in advance using the Boater Communication Protocol.

6. A buoy shall be placed at the midpoint of the boom. The buoy and both ends of the boom shall have a flashing yellow light, and display a 0.5 second flash every 4 seconds, with a minimum nominal range of 1 nautical mile. The lights shall be in operation during periods of darkness or limited visibility. The proponent shall inspect the lights weekly to ensure that they are functioning.

7. A minimum of 3 yellow cautionary buoys, no less than 1 meter in diameter, with one placed at each end and one at the midpoint of the boom, are to be equally spaced and maintained along the boom. A minimum of two horizontal bands of yellow retro reflective tape not less than 10 cm in width x 15 cm in length shall be placed around the horizontal circumference of the buoys, and be visible from all directions. All buoys shall have a flashing yellow light at the top displaying a 0.5 second flash every 4 seconds, with a minimum nominal range of 1 nautical mile. The proponent shall regularly inspect the buoys to ensure the lights are functioning.

8. The proponent shall commence with the Boater Communication Protocol and required communications 30 days prior to the installation of the boom, advising users of the boom installation date, and information regarding the portage system.

9. As built plans of the works are to be forwarded to Transport Canada upon completion of the project.

10. The proponent shall inspect the boom every two weeks or within 24 hours of a significant weather event.

11. The proponent shall install and implement the Peace River Diversion Public Safety Signage Plan, approved by Transport Canada, and as amended from time to time by BC Hydro, and be in accordance with the Canadian Dam Association Technical Bulletin on Public Safety around Dams, 2011 or as updated.

Portage System for the Temporary Debris Boom

12. The Portage Terms and Conditions #12 to #16 of this permit shall supersede Terms and Conditions #9 to #12, and Appendix A of the approval for the Main Civil Works (NPA File #2008-500822) until the river is:

    - Physically closed by the work approved under the Navigation Protection Act (NPA), File #2008-500822; or

    - The temporary boom for which this portage condition applies is removed; or

    - In the opinion of Transport Canada, it is deemed unsafe for transit.

13. The proponent shall keep a record of the number of portages that were conducted during its first operating period (May 15, 2020 to September 15, 2020), as well as the date, time, type of vessel and the number of passengers. The record shall be discussed with Transport Canada by December 31, 2020 to determine if changes to the portage system are required.

14. A non-motorized vessel portage system includes appropriate boat launches and the transportation of non-motorized vessels, and allowable passengers for each such vessel. The owner is only required to portage non-motorized vessels that are already waterborne, that have arrived by water to the boat launch from another location and have met the notification requirements.

15. The owner is required to portage up to the allowable number of passengers based on the certified capacity of the portaged vessel. The owner can request this information as part of its notification requirements.

    The owner shall:

    (a) Between May 15 and September 15, provide a portage system operating in both directions from downstream of the construction zone to upstream of the construction zone to transiting non-motorized vessels between the hours of 7am and 7pm daily. The portage system shall be able to transport the non-motorized watercraft typically transiting the river.

    (b) Post notice of the suspension of service and post the reason for the suspension of service on the BC Hydro website or at the point of reservation, and at the portage locations, if the portage system is not in operation at any time during the operating period of May 15 and September 15, or the reservoir is being filled.

    (c) Operate the portage system if provided notification 7 days in advance, unless multiple vessels and transiting together (a public or groups event) in which case a minimum of 2 weeks notice is required.

(d) Provide adequate information about the portage systems and notification requirements using the Boater Communications Protocol; and

i. For the initial start of the portage systems, publicize in regional newspapers bi-weekly for the first month, weekly for the next 2 months (can be combined with river closure information)
ii. For subsequent years of construction, publicize weekly for the months of April, May and June
iii. Permanently post notice at the Peace Island Park boat launch
iv. Permanently post notice at the Halfway river boat launch
v. Permanently post notice at the Lynx Creek boat launch
vi. Post portage information on the owner website, on a page related to the project

16. Install and maintain a sign on the opposite bank of the portage indicating that the portage is on the opposite side. The sign shall be a minimum of 72” x 48”, a white background with black lettering. The sign is to be emplaced prior to and for the duration of the boom, until the river is closed by other permanent works.

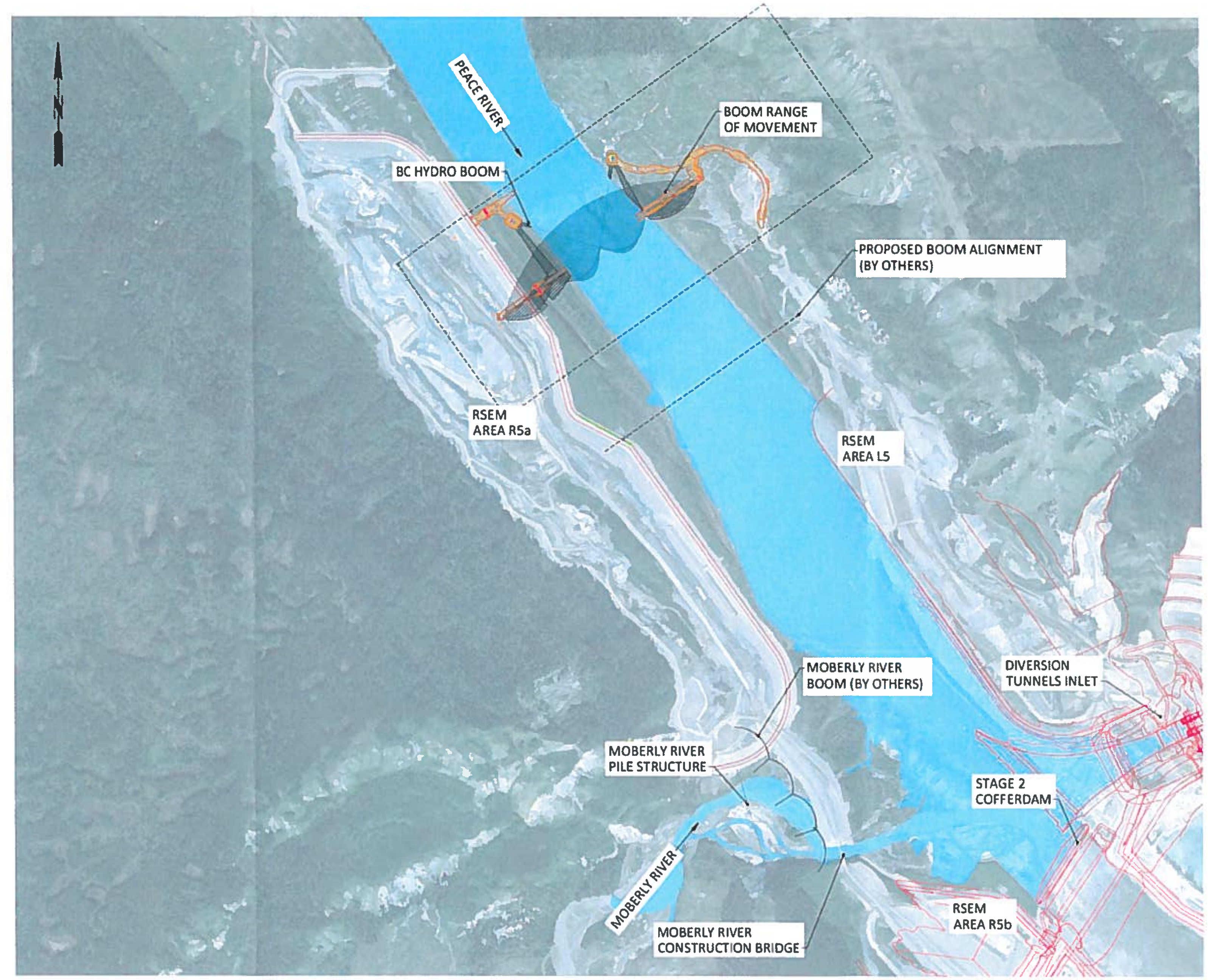
SIGNED on April 3, 2020 in Pacific

Eric Leung
Navigation Protection Program
Programs Group
Transport Canada
Pacific Region
For the Minister of Transport

CLEAN ENERGY PROJECT - SITE C
DEBRIS MANAGEMENT - PEACE RIVER DEBRIS BOOM

DRAWING INDEX

DRAWING NUMBER	TITLE	REVISION
1016-C18-01021	DRAWING INDEX AND GENERAL SITE OVERVIEW	0
1016-C18-01022	GENERAL NOTES	0
1016-C18-01023	STRUCTURAL NOTES	0
1016-C18-01024	EARTHWORKS AND ACCESS - GENERAL ARRANGEMENT	0
1016-C18-01025	EARTHWORKS AND ACCESS - RIGHT BANK - PROFILE AND SECTION	0
1016-C18-01026	EARTHWORKS AND ACCESS - LEFT BANK - PROFILE AND SECTION	0
1016-C18-01027	TYPICAL PEACE RIVER STAGE - OPERATION PLAN AND PROFILE	0
1016-C18-01028	HIGH PEACE RIVER STAGE - OPERATION PLAN AND PROFILE	0
1016-C18-01029	PONTOON - PLAN, SECTIONS, DETAILS, AND SCHEDULE	0
1016-C18-01030	PONTOON - TYPICAL DETAILS	0
1016-C18-01031	PONTOON - STRUCTURAL LAYOUT - SECTIONS AND DETAILS	0
1016-C18-01033	STEEL FLOAT - PLAN AND SECTIONS	0
1016-C18-01034	STEEL FLOAT - DETAILS	0
1016-C18-01035	STEEL FLOAT - JUNCTION PLATES - PLAN AND SECTIONS	0
1016-C18-01037	ANCHORS - UPSTREAM - GENERAL ARRANGEMENT	0
1016-C18-01038	ANCHORS - UPSTREAM - CONCRETE OUTLINE - PLANS AND SECTIONS	0
1016-C18-01039	ANCHORS - UPSTREAM - REINFORCEMENT - PLANS AND SECTIONS	0
1016-C18-01041	ANCHORS - DOWNSTREAM - GENERAL ARRANGEMENT	0
1016-C18-01042	ANCHORS - DOWNSTREAM - CONCRETE OUTLINE - PLANS AND SECTIONS	0
1016-C18-01043	ANCHORS - DOWNSTREAM - REINFORCEMENT - PLANS AND SECTIONS	0
1016-C18-01045	ANCHORS - UPSTREAM - STEEL EMBEDMENTS - TYPE 1 - SECTIONS AND DETAILS	0
1016-C18-01046	ANCHORS - DOWNSTREAM - STEEL EMBEDMENTS - TYPE 2 AND 3 - SECTIONS AND DETAILS	0



SITE LAYOUT
SCALE 1:5000

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SITE C CLEAN ENERGY PROJECT — BC Hydro

DSGN	NRA
INDEP CHK	BMC
DFTG	CZZ
DFTG CHK	
INSP	CIV / STR / MECH / GEO / ELEC
REV	
ACPT	

Professional Engineer seal — 20 September 2019

CLEAN ENERGY PROJECT - SITE C
RESERVOIR - PEACE RIVER
DEBRIS BOOM - TEMPORARY

DRAWING INDEX AND GENERAL SITE OVERVIEW

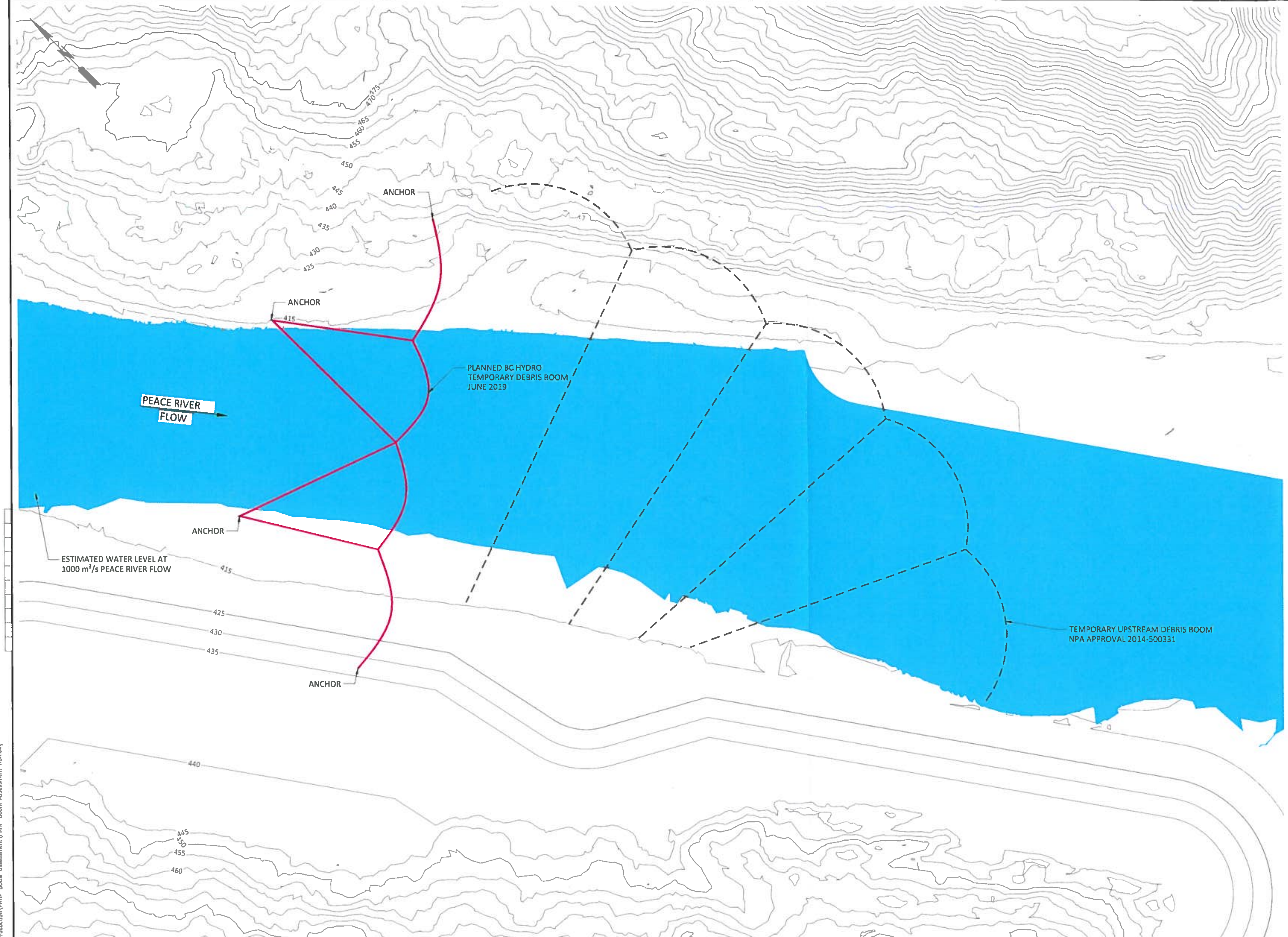
DATE	DIST	DWG NO	SIZE	R
20 SEPT 2019		1016-C18-01021	A0	0

NO	REMARKS	DATE	DESIGNED	INDEP CHK	DFTG	DFTG CHK	INSP CIV	INSP STR	INSP MECH	INSP GEO	INSP ELEC	REV	ACPT
0	ISSUED FOR CONSTRUCTION	20 SEPT 2019	NRA	BMC	CZZ	-	-						

REF# | DRAWING NUMBER | TITLE — REFERENCE DRAWINGS

REF# | DRAWING NUMBER | TITLE — REFERENCE DRAWINGS

REVISIONS



PLAN
1:2000

Reviewed / Examiné
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FEB 26 2020
By/par: ERIC LEUNG
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ISSUED FOR PROPOSAL

NOT FOR CONSTRUCTION

0 100m
1:2000

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE

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SITE C CLEAN ENERGY PROJECT

BC Hydro

DSGN	DWM
INDEP CHK	BMC
DFTG	PRF, BXH
DFTG CHK	
INSP	

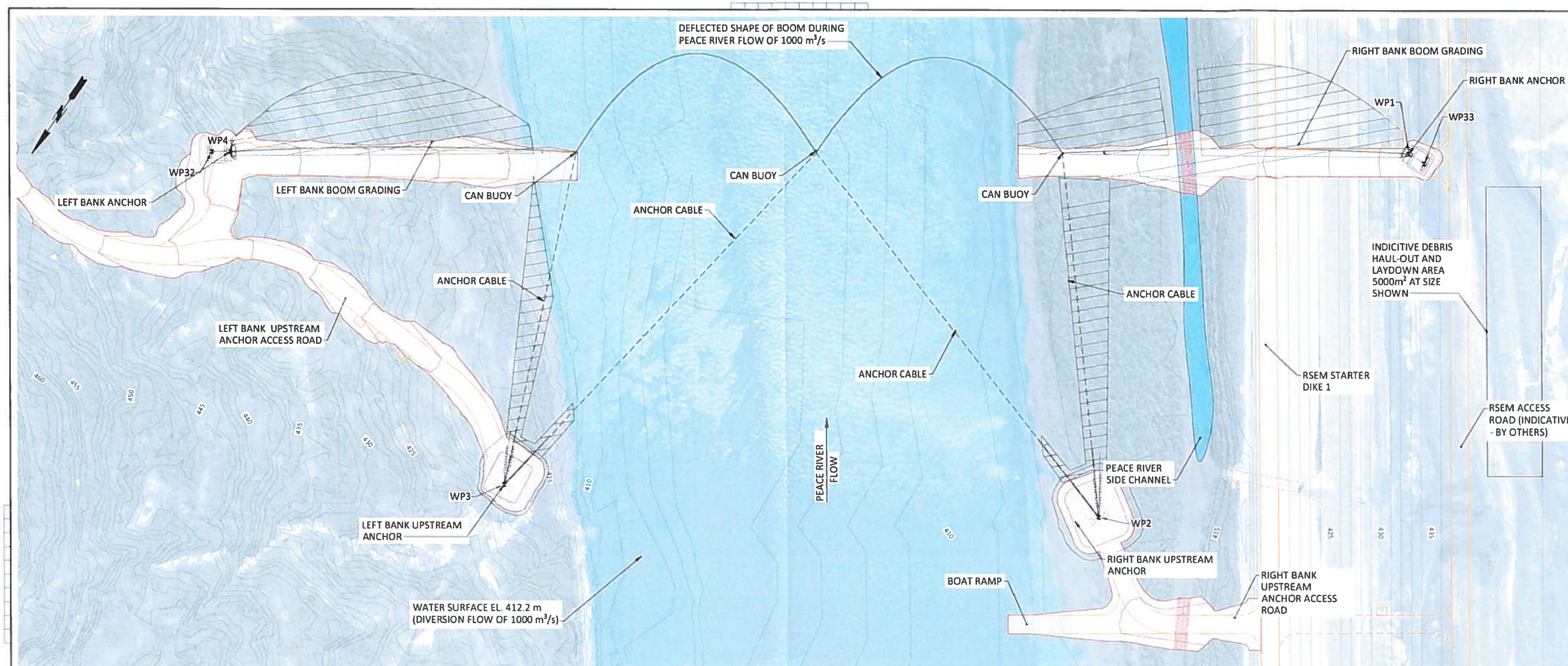
SITE C CLEAN ENERGY PROJECT

MAIN CIVIL WORKS
PEACE RIVER
TEMPORARY UPSTREAM DEBRIS BOOMS
PLAN

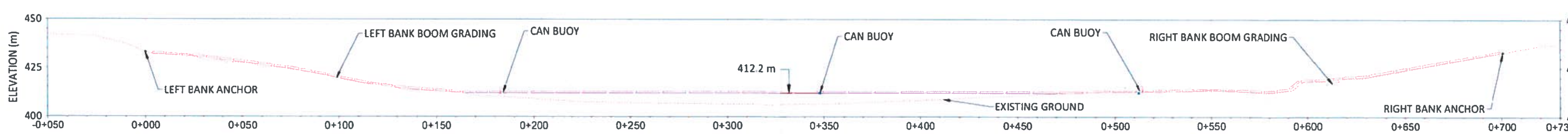
DATE: 19 JUN 2019 | SIZE: A0 | R: A

REF#	DRAWING NUMBER	TITLE	REF#	DRAWING NUMBER	TITLE	NO	REMARKS	DATE	DESIGNED	INDEP CHK	DFTG	DFTG CHK	INSP CIV	INSP STR	INSP MECH	INSP GEO	INSP ELEC	REV	ACPT
						A													

REFERENCE DRAWINGS — REFERENCE DRAWINGS — REVISIONS



PEACE RIVER DEBRIS BOOM PLAN VIEW
SCALE 1:750



PEACE RIVER DEBRIS BOOM PROFILE
DISCHARGE 1000 m³/s, WATER SURFACE EL. 412.2 m
SCALE 1:750

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SEE DRAWING 1016-C18-1022 FOR GENERAL NOTES AND GEOTECNICAL SPECIFICATIONS

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BC Hydro

CLEAN ENERGY PROJECT - SITE C
RESERVOIR - PEACE RIVER
DEBRIS BOOM - TEMPORARY

TYPICAL PEACE RIVER STAGE
OPERATION PLAN AND PROFILE

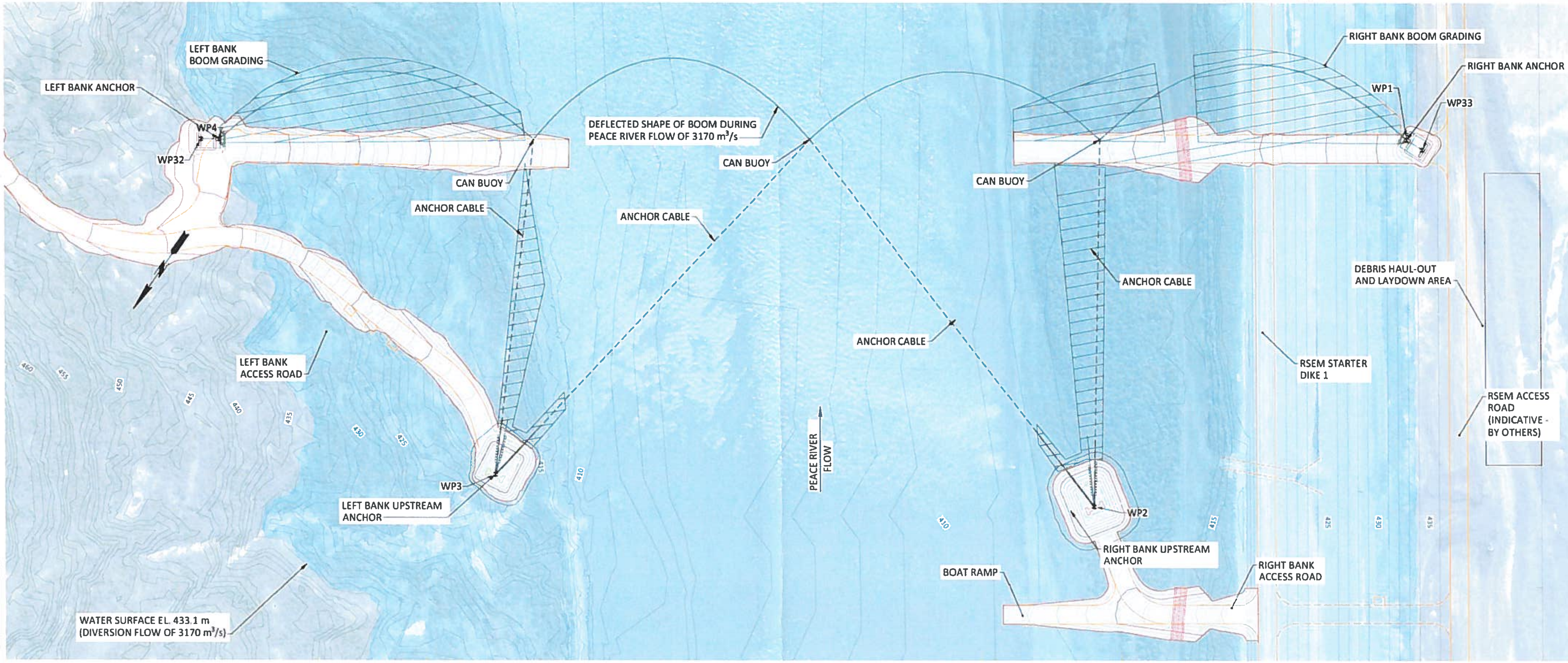
DSGN DWM
INDEP CHK NRA
DFTG CZZ

20 Sep 2019

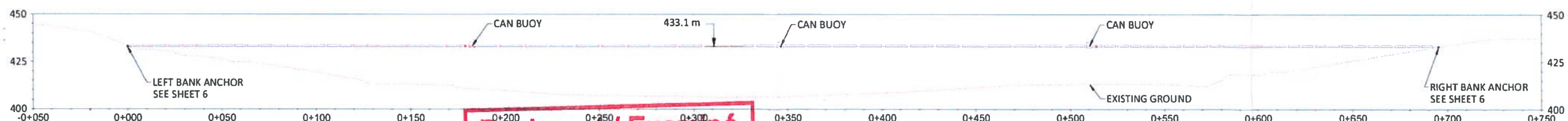
0 ISSUED FOR CONSTRUCTION 20 SEPT 2019 DWM NRA CZZ

REFERENCE DRAWINGS | REVISIONS

DWG NO 1016-C18-01027 | SIZE A0 | REV 0



PEACE RIVER DEBRIS BOOM PLAN VIEW
SCALE 1:750



PEACE RIVER DEBRIS BOOM PROFILE
DISCHARGE 3710 m³/s, WATER SURFACE EL.433.1 m
SCALE 1:750

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BC Hydro
SITE C CLEAN ENERGY PROJECT

DSGN	DWM
INDEP CHK	NRA
DFTG	CZZ

20 September 2019

CLEAN ENERGY PROJECT - SITE C
RESERVOIR - PEACE RIVER
DEBRIS BOOM - TEMPORARY
HIGH PEACE RIVER STAGE
OPERATION PLAN AND PROFILE

DATE 20 SEPT 2019 | DWG NO 1016-C1B-01028 | SIZE A0 | REV 0

NO	REMARKS	DATE	DESIGNED	INDEP CHK	DFTG	DFTG CHK
0	ISSUED FOR CONSTRUCTION	20 SEPT 2019	DWM	NRA	CZZ	-

REFERENCE DRAWINGS | REVISIONS