### SITE C CLEAN ENERGY PROJECT

# Component Application Package – Maurice Creek Temporary Access Bridge Crossing for Western Reservoir Clearing

## **Crossing WR32**

**Notification of Work (Public Resolution)** 

For Canadian Navigable Waters Act

May 11, 2021

#### Submitted to:

Transport Canada Suite 620 - 800 Burrard Street Vancouver BC V6Z 2J8

#### Submitted by:

BC Hydro and Power Authority Site C Clean Energy Project PO Box 49260 Vancouver BC V7X 1V5



#### Site C Clean Energy Project – Peace River Crossing WR32

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	Location and Land Description of WN32 Crossing	

#### **List of Attachments**

Attachment A Overview Map of Western Reservoir Clearing Crossings - Farrell Creek to Peace Canyon Dam Map of WR32 Crossing

Attachment B Design Drawings, Plan and Profile Views of WR32 Crossing

#### Site C Clean Energy Project – Maurice Creek Crossing WR32

#### **1 INTRODUCTION**

The Canadian Navigable Waters Act (CNWA) came into force on August 28, 2019. The CNWA includes a Schedule of navigable waters requiring regulatory approval for works that risk a substantial interference with navigation. Works required for construction and operation of the Site C Clean Energy Project (the Project) that occur in, on, over, under or through or across any navigable water, are subject to the requirements of the CNWA.

Maurice Creek is a tributary of the Peace River tributary near Hudson's Hope, BC and is not named in the CNWA Schedule of navigable waters.

This application is being submitted for the construction of one temporary bridge across Maurice Creek, to facilitate clearing of the western segment of the Site C reservoir. The crossing is identified as WR32.

#### 2 TEMPORARY CROSSINGS – WESTERN RESERVOIR CLEARING

Clearing during the 2021/2022 season within the western reservoir will be conducted along the south bank of the Peace River, under two contracts:

- 1. Halfway River to Farrell Creek Phase 2, and
- 2. Farrell Creek to Peace Canyon Dam

In order to allow machine access for clearing along the south bank of the Peace River as well as Peace River islands, a series of temporary crossings are proposed. New access roads will also be constructed. The crossings will be situated along the south bank of the Peace River and cross various tributaries and side channels. The locations of these crossings and access roads for the Farrell Creek to Peace Canyon Dam segment are shown on the overview map in Attachment A.

This Notification of Work application is specific to the crossing labelled as WR32 which crosses Maurice Creek, a tributary on the south bank of the Peace River. Separate applications will be submitted for each subsequent crossing within the western reservoir clearing area.

#### 2.1 Design of Crossing WR32

A map showing the location of crossing WR32 is included in Attachment A. The general arrangement, dimensions and specifications for the crossing is provided in Attachment B.

The proposed crossing is a single clear span, steel girder/timber deck bridge, approximately 30 m in length. The bridge has been designed to Q10 flows utilizing regional flood frequency analysis.

The bridge approaches would be constructed from local river bed materials and supplemented with imported granular material and riprap rock. Riprap specifications have been developed using the estimated flows level and associated scour potential. The riprap specification for the crossing is provided in the drawings in Attachment B.

#### Site C Clean Energy Project – Maurice Creek Crossing WR32

#### 2.2 Location and Land Description

WR32 crosses Maurice Creek at a location approximately 240 m upstream of the confluence of the Peace River. The crossing is located on Private Land. BC Hydro is in the process of acquiring necessary private land access rights.

The location coordinates and land description for the crossing is listed in Table 1.

Table 1.	Location	and La	nd Desc	ription o	f Crossing	WR32

ID	Longitude	Latitude	Land Description
WR32	56.022826	-121.906973	Parcel A (O19677) of the North West 1/4 of Section 18 Township 81 Range 25 West of the 6th Meridian Peace River District

#### **3 CONSTRUCTION SEQUENCE AND SCHEDULE**

Construction of crossing WR32 over Maurice Creek is scheduled to begin in September 2021. Crossings will be constructed simultaneously in the Halfway River to Farrell Creek Phase 2 and Farrell Creek to Peace Canyon contracts with construction scheduled to commence in mid-August and mid-September respectively. Minor changes to location and bridge sizing may be required to field fit each crossing to site conditions that exist during construction.

Decommissioning of crossing WR32 will involve removal of bridge modules, steel superstructure and abutments. The granular material and riprap used for the bridge approaches will remain in place and be inundated by the future Site C reservoir.

#### **4** CONSULTATION

The western reservoir clearing plans, including access routes and side channel crossings were presented as part of the permit bundle to local indigenous groups at the Site C Permitting Forum #11 held February 14, 2019.

Attachment A – Maps

Overview Map of Western Reservoir Clearing Crossings – Farrell Creek to Peace Canyon Dam

Map of WR32 Crossing











Attachment B

Design Drawing, Plan and Profile View of WR32 Crossing

WESTERN RESERVOIR OLTC 20A - CROSSING WR32 STREAM CLASS = S1



# 30.48m TEMPORARY CROSSINGS (MIN. BCL-625)

DRAWING LIST							
DRAWING NUMBER	DESCRIPTION						
1016-C14-03126	COVER SHEET						
1016-C14-03127	GENERAL NOTES AND DESIGN SPECIFICATIONS						
1016-C14-03128	EXISTING CONDITIONS - PLAN AND PROFILE						
1016-C14-03129	PROPOSED CROSSING - PLAN AND SECTIONS						

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REFERENCE DRAWINGS

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KEYPLAN

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#### DESIGN SPECIFICATIONS:

DESIGN CODE: CAN/CSA-S6-14/19 MODIFIED IN ACCORDANCE WITH THE MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS "ENGINEERING MANUAL", AND OTHER MINISTRY BRIDGE DESIGN GUIDELINES.





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UNIFORMLY DISTRIBUTED LOAD 9 kN/m

MATERIAL SPECIFICATIONS:

STEEL: STRUCTURAL STEEL FOR GIRDERS SHALL BE IN ACCORDANCE WITH CSA G40.21 GRADE 350AT, CATEGORY 3. ALL OTHER STEEL SHALL COMPLY TO GRADE 350A. ALL NON-WEATHER STEEL SECTIONS ARE TO BE PAINTED USING AN EPOXY PRIMER AND POLYURETHANE TOP COAT.

PLATE TO PLATE OR PLATE TO SECTION CONNECTION FAYING SURFACES TO BE CLASS B ACCORDING TO CSA-S16-14.

#### FABRICATION SPECIFICATIONS:

GIRDERS ARE DESIGNED AS FRACTURE CRITICAL MEMBERS

SPICE COMPONENTS AND ASSEMBLY ARE TO BE COMPLETED TO BRIDGE OWNER'S SPECIFICATIONS. NO REAMING OR MODIFICATION OF SPLICE SECTIONS WILL BE PERMITTED WITHOUT ENGINEER APPROVAL.

#### SUPERSTRUCTURE IDENTIFICATION:

THE BRIDGE SUPERSTRUCTURE SHALL HAVE ITS STRUCTURE NUMBER, LOAD RATING, DATE OF MANUFACTURE, AND MANUFACTURER'S NAME CLEARLY STAMPED ON PERMANENTLY MARKED ON AT LEAST ONE SIDE OF THE STRUCTURE.

CERTIFICATIONS AND QUALITY CONTROL (CONTRACTOR TO PROVIDE):

PROVIDE MILL CERTIFICATES FOR ALL STEEL INCORPORATED INTO THE STRUCTURE.

PROVIDE SUPERSTRUCTURE DRAWINGS AND DOCUMENTATION OF LOAD CAPACITY FOR REVIEW PRIOR TO

#### VOLUME NOTES:

INSTALLATION

RIPRAP SHALL BE HARD, DURABLE, ANGULAR ROCK AND IN ACCORDANCE WITH BRITISH COLUMBIA MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE.

AVERAGE SIZE ROCK CLASS 100KG RIPRAP.

#### MINIMUM RIPRAP VOLUME: 250 m<sup>3</sup>

ESTIMATED CUT AND FILL VOLUMES:

COMPACTED BACKFILL:	200 m³
EXCAVATION:	20 m³
NET FILL:	430 m³

BACKFILL AND GRANULAR FILL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300MM IN LOOSE THICKNESS AND EACH LAYER SHALL BE COMPACTED TO THE CLIENTS ROAD SPECIFICATIONS WITH A PLATE TAMPER EVENLY ACROSS THE ENTIRE SURFACE TO THE DESIRED ELEVATION.

#### ENDFILL:

ENDFILL SHALL BE COMPLETED WITH WELL GRADED, SELECT, GRANULAR MATERIAL (<75MM), FREE OF UNSUITABLE MATERIALS, IN LIFTS OF 300 AND COMPACTED TO 95% STANDARD PROCTOR DENSITY OVER THE ENTIRE SURFACE.

#### TEMPORARY SUBSTRUCTURE:

MATS MUST BE 3-PLY BOLTED OAK, OR HYBRID STYLE AND MUST BE OF NEW CONDITION WITH NO BROKEN COMPONENTS

MATS SHALL BE PLACED ON LEVELLED GROUND AND ANY FILL OR NATIVE SOIL MUST BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY OVER THE ENTIRE SURFACE.

HYDRAULIC DATA:

COMPLETED BY OTHERS

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GENERAL NOTES:

- 1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN METERS AND ALL ELEVATIONS AND STATIONS ARE IN METERS.
- 2. FENDER SYSTEMS AND HAZARD MARKERS SHALL BE INSTALLED AT EACH END OF THE BRIDGE.
- 3. ALL PERMITS AND REGULATORY APPROVALS ARE TO BE IN PLACE PRIOR TO COMMENCING WORK.
- 4. ENVIRONMENTAL MANAGEMENT PLAN IS TO BE PREPARED FOR THE PROJECT BY OTHERS.
- 5. LIMIT OF 1 VEHICLE ON BRIDGE CROSSING AT ANY GIVEN TIME.
- 6. FISH HABITAT ASSESSMENT AND STREAM CLASSIFICATION TO BE PREPARED FOR THE PROJECT BY OTHERS.
- 7. LOAD RATING SIGNAGE MUST BE POSTED AT EACH END OF THE BRIDGE AND MUST CLEARLY INDICATE MAX GVW AND VARIOUS AXEL CONFIGURATIONS.
- 8. ROAD DESIGN AND ALIGNMENT TO BE PREPARED FOR THE PROJECT BY OTHERS.
- 9. INSTALLATION CONSTRUCTION PROCEDURE IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR AND BC HYDRO OR SUPERVISING DELEGATE.
- 10. TOPOGRAPHIC SURVEY DEVELOPED BASED OFF JUNE 2015 LIDAR DATA PROVIDED BY MAPLE LEAF FORESTRY.
- 11. COORDINATE SYSTEM NAD83, GEOID CGG2013.
- 12. GEOTECHNICAL INFORMATION FROM "FIRTH COLIN RESOURCE SCIENCE CORP" REPORT DATED JAN 4, 2021.
- 13. SUPERSTRUCTURE AND SUBSTRUCTURE TO BE CERTIFIED AT A MINIMUM OF BCL-625 LOADING.
- 14. BRIDGES DESIGNED FOR A 2100 M /S FLOW + 0.8M OF WATER CLEARANCE.
- 15. BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE TO BE CERTIFIED BY A PROFESSIONAL ENGINEER AND AN AS-BUILT PLAN PRODUCED AFTER CONSTRUCTION.
- 16. WATER DEPTH ESTIMATED AT 1.0M AT CROSSING LOCATION.
- 17. HYDROLOGICAL INFORMATION FROM "SNC LAVALIN" REPORT DATED APRIL 8, 2021.
- 18. BRIDGE CONFIGURATION HAS BEEN CHOSEN BY BC HYDRO.

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