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Columbia River Project Water Use Plan

Kinbasket and Arrow Recreation Management Plan

Physical Works Terms of Reference

- **CLBWORKS 51 Martha Creek Boat Launch Maintenance**

November 6, 2018

1 Background

1.1 Introduction

Under Clause (o) of Conditional Water Licence (CWL) 47215, BC Hydro is required to construct recreational facilities in the vicinity of the Revelstoke reservoir.

BC Hydro constructed the Martha Creek boat launch¹ between 1985 and 1986, with upgrades completed in 1992 and 1998. The construction and later upgrades included a paved boat ramp (and extensions thereof) and boarding float.

In a letter dated February 13, 2013 received from the Comptroller of Water Right's (CWR) office confirmed that, BC Hydro is fulfilling its obligation under clause (o) of CWL 47215 provided the Martha Creek boat ramp is being properly maintained.

On September 18, 2018 the CWR approved the proposal to develop a Terms of Reference (TOR) for ongoing maintenance at Martha Creek Boat Launch.

The purpose of this TOR is to outline BC Hydro's approach and scope of work for maintenance of the Martha Creek boat launch.

Figure 1: Martha Creek boat launch, date May 17, 2018. Reservoir elevation: 572.62 m (1,878 ft). Lat: 50°08'49.23"N Long: 118°12'00.80"W.

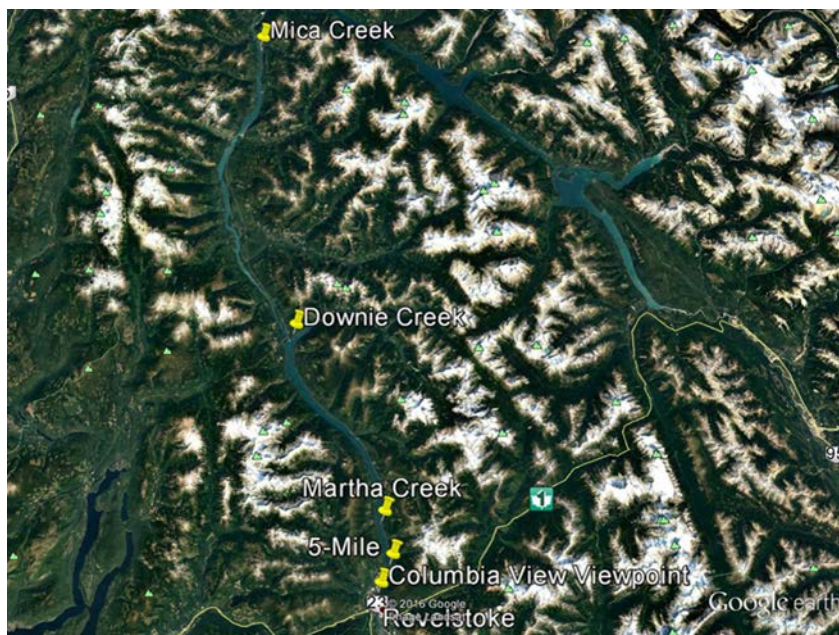


¹ Boat ramp refers to the concrete or gravel ramp used to access the reservoir. Boat launch is used more broadly to refer to all related facilities, including the ramp, walkways, breakwaters, etc. and may include other non-access related facilities such as parking lots, etc.

1.2 Location

The Martha Creek boat launch is located on the east shore of the Revelstoke Lakes Reservoir approximately 20 km north of the town of Revelstoke. The location of the Martha Creek boat launch is shown in relation to other boat launches in Revelstoke Reservoir in Figure 2 below.

Figure 2: Boat Launches on the Revelstoke Lakes Reservoir



1.3 BC Hydro's approach to boat launch maintenance

BC Hydro filed its approach to boat launch maintenance with the CWR on November 22, 2017. As described in that letter, BC Hydro will undertake structural and routine maintenance of access-related facilities at boat launches where BC Hydro has licence or Water Use Plan responsibilities.

These terms are defined below:

- **Access-related facilities** are defined as those structures and facilities that provide safe access to the reservoir (i.e., ramps, low-water turnarounds, breakwaters, and boarding floats).
- **Non-access-related facilities** are defined as those structures and facilities that provide related infrastructure adjacent to the boat launch but are not directly related access (e.g. day use areas, parking lots, access roads, toilets, etc.).
- **Structural maintenance** refers to work that occurs at infrequent intervals to ensure the physical facilities are structurally sound and are functioning as intended (i.e., to ensure safe access to the reservoir). Examples would include, repair of a major crack that has formed in a ramp, replacing breakwaters when they can no longer be effectively repaired, etc.
- **Routine maintenance** refers to the work that must occur on a routine and regular basis such as annual activities in preparation for the recreation season, or throughout the recreation season, as required. For access-related facilities for example, this includes debris, or sediment removal, replacing safety signs, any pre-season repairs to walkways or breakwater

bumpers. For non-access related facilities, this may include garbage removal, toilet pumping, etc.

1.4 Maintenance period

BC Hydro will undertake routine maintenance of the access related facilities at Martha Creek boat launch to ensure that the general public have safe access to the reservoir for the peak recreation season, and during the spring and fall shoulder recreation seasons when the ramp is available for launching. For the Revelstoke Reservoir, these periods are defined as follows:

- Peak season: June 15 to September 15;
- Spring shoulder season: May 15 to June 14; and
- Fall shoulder season: September 16 to September 30.

In the event that a significant safety issue arises at the Martha Creek boat launch outside of the maintenance period, then BC Hydro will use reasonable efforts to ensure the site is secured until the hazard can be removed.

2 Martha Creek Boat Launch Maintenance

2.1 Area of responsibility

BC Hydro is responsible for the structural and routine maintenance of the access-related facilities only under Parks Use Permit (PUP#103216). As confirmed in correspondence (December 8, 2017) with BC Parks, the BC Parks Facility Operator have the responsibility to maintain the non-access related facilities (e.g., toilet, parking lots, etc.) as shown in Table 1.

Table 1: Facilities at Martha Creek boat launch with BC Hydro's maintenance responsibilities

Boat Launch	Access Road	Parking Lot	Toilet	Concrete/Asphalt Ramp	Boarding Floats	Gangway Platform
Non access-related facilities			Access-related facilities			
REVELSTOKE (Conditional Water Licence 47215)						
Martha Creek	X	X	X	BCH	BCH	BCH

BCH = BC Hydro will undertake maintenance (both structural and routine)

X = Asset exists but are not to be maintained by BC Hydro

The yellow highlighted area shown in Figure 3 below represents BC Hydro's area of responsibility for the Martha Creek boat launch. This polygon is provided to give greater clarity and certainty on which parts of the launch are part of BC Hydro's ongoing obligations under Clause (o) of CWL 47215.

Figure 3: Martha Creek boat launch. Yellow highlights represent BC Hydro's area of responsibility for facility maintenance.



2.2 Facilities to be maintained

Table 2 below provides a list of the facilities on which BC Hydro will undertake maintenance at the Martha Creek boat launch and the typical type of work required. The work listed under the heading 'Details' is not exhaustive but is provided for illustration purposes. All items below are to be inspected at least once annually with repairs to be done as needed. Any public safety hazards will require immediate action.

Table 2: Facility details at Martha Creek with a description of maintenance activities

Facilities	Details
Access related facilities	
Concrete boat ramp	<ul style="list-style-type: none"> • Concrete panels. • Structural maintenance: inspect for cracks, depressions and any other significant abnormalities that will impede safe access to the reservoir. • Routine maintenance: remove sediment and/or debris where it obstructs access and/or could harm the facilities. Smaller pieces of debris and sediment that can be moved by hand will be performed by the BC Parks Facility Operator.

Facilities	Details
Boarding Floats	<ul style="list-style-type: none"> • A line of floating wooden wharves secured to gangway. • Structural maintenance: inspect for any reduction in freeboard, missing hardware, etc. • Routine maintenance: removal of any unauthorized equipment.
Gangway Platform	<ul style="list-style-type: none"> • Structural maintenance: inspect for any reduction in freeboard, erosion, adequate anchoring. • Routine maintenance: removal of any unauthorized equipment.

2.3 Known structural maintenance

In the summer of 2018 BC Hydro observed a sizeable depression at the end of the boat ramp which could make launching difficult when the reservoir levels fall below 571.8 m and requires repair. The Revelstoke Reservoir was drawn down below 571.8 m almost weekly during this time to the lower end of the operating range to accommodate spillway concrete repairs at the Revelstoke Dam. The depression will require filling, leveling, and potentially covering it with concrete slabs to facilitate public access to the boat launch when permits are received and conditions allow for work to be completed. The budget for this is included in Table 3 below.

Based on a recent site visit the boarding float will need structural repairs in the next three to five years. A provision has been included in the budget as described in Section 3 below.

2.4 Permit information

As the site is located within a Provincial park, BC Hydro will amend the existing Parks Use Permit (PUP#103216; expiry January 14, 2040) to incorporate the scope of this TOR.

In addition, annual notification will be provided to the MFLNRORD for maintenance works within an existing footprint according to *The Approved Work Practices for Boat Launch Construction and Maintenance in BC Hydro Managed Freshwater Systems (AWP)*.

2.5 Safety

All work must be in compliance with all WorkSafeBC health and safety regulations and must be undertaken following BC Hydro's current processes for ensuring worker and contractor safety.

3 Budget

Total program cost \$156,000.

4 References

BC Hydro (May13, 2014). Approved Work Practices for Boat Launch Construction and Maintenance in BC Hydro Manager Freshwater Systems. 21pp.