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Columbia River Project Water Use Plan

Physical Works Terms of Reference

- **CLBWORKS-33B Syringa Boat Launch Maintenance**

May 4, 2017

CLBWORKS-33B Syringa Boat Launch Maintenance Physical Works Terms of Reference

1 Background

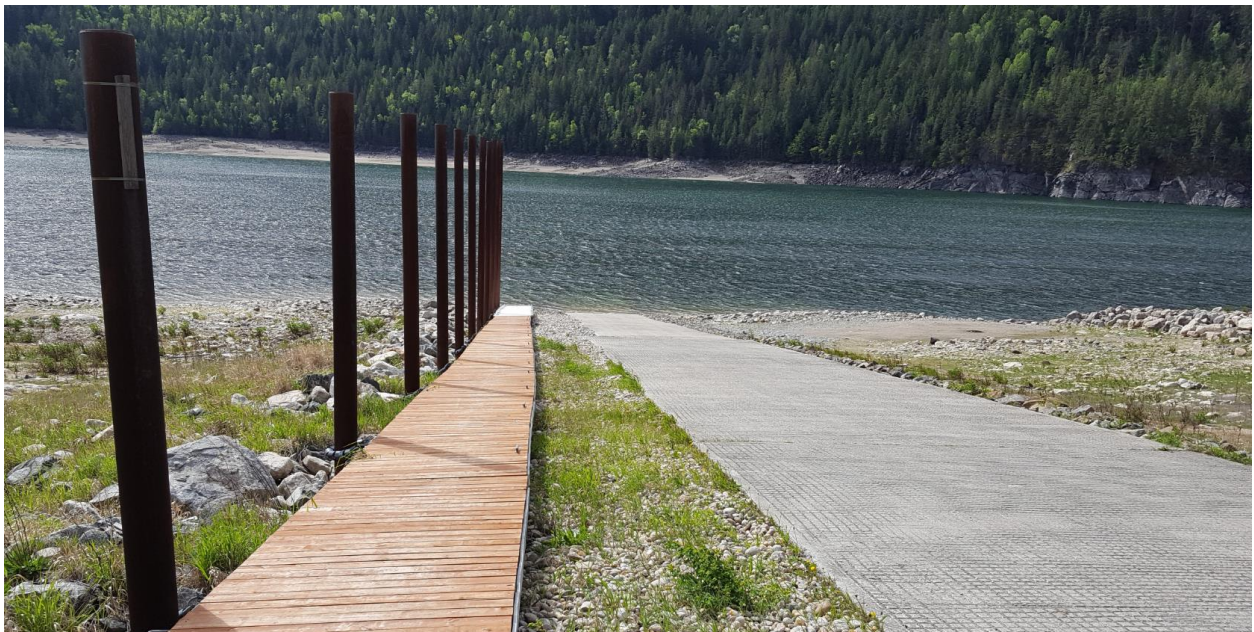
1.1 Introduction

The Syringa boat launch¹ is located approximately 17 km east of Castlegar on the northern shore of the Arrow Lakes Reservoir, as shown in Figure 2 below. The boat launch is situated within the Syringa Creek Provincial Park.

Under Clause (m) of Conditional Water Licence (CWL) 27066, plus Water Act Order (file no. 0236915) dated January 23, 2006 and related Terms of Reference (TOR), BC Hydro is required to provide reservoir access at Syringa Creek Provincial Park. BC Hydro upgraded the existing Syringa boat launch with all construction completed by October 2015. As part of the upgrades, BC Hydro undertook repairs to the ramp, boarding floats, upland turnaround area, and parking lot. The upgrade work was undertaken under the CLBWORKS-33A Arrow: Syringa Boat Launch physical works project.

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

Figure 1: Syringa Creek boat launch; 25 April, 2016. Reservoir elevation: 429.59 m (1409.4 ft.) Lat: 49°20'28.83"N Long: -117°52'18.01"W

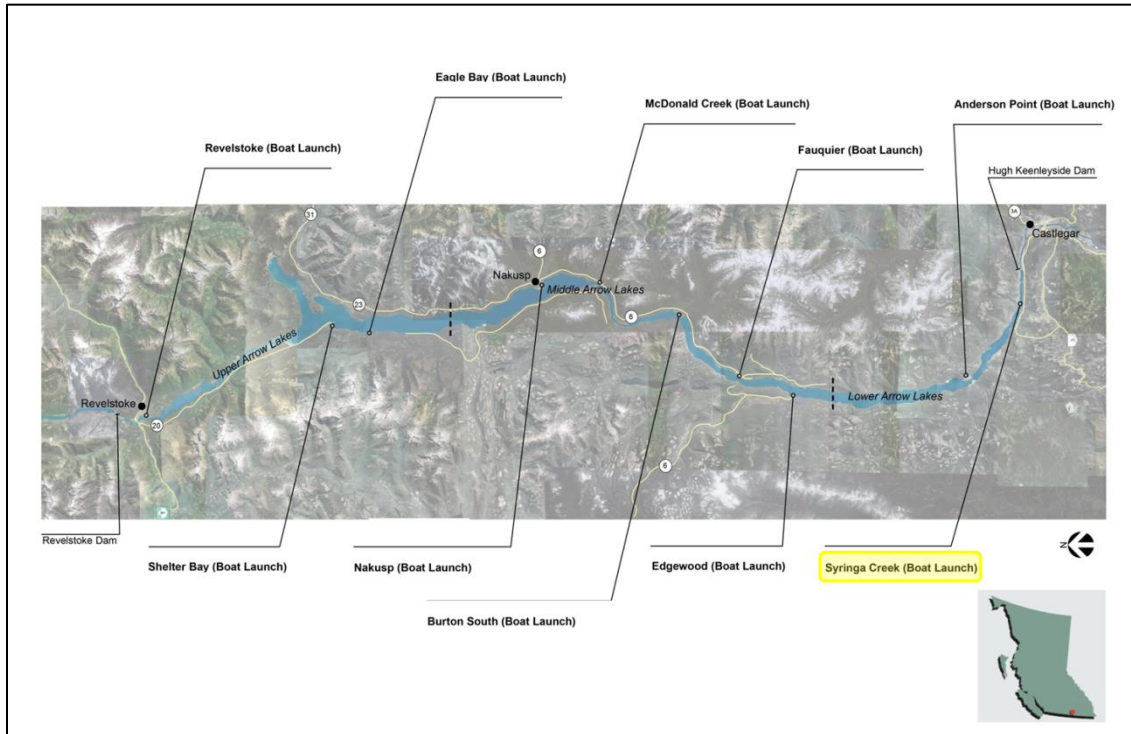


¹ Boat ramp refers to the concrete or gravel ramp used to access the reservoir. Boat launch is used more broadly to refer to all related facilities, including the ramp, walkways, breakwaters, etc. and may include other non-access related facilities such as parking lots, etc.

1.2 Location

The location of the Syringa boat launch is shown in relation to the other Arrow reservoir boat launches in Figure 2 below.

Figure 2: Boat launches on the Arrow Lakes reservoir



1.3 BC Hydro's approach to boat launch maintenance

BC Hydro filed its approach to boat launch maintenance with the Comptroller of Water Rights (CWR) on January 30, 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.

In some locations, additional non-access facilities may have been constructed or upgraded as part of the boat launch upgrade projects. Typically, the Park Operator or land owner will hold the responsibility for maintenance of these non-access facilities as part of their crown License of Occupation or tenure and would be specified in their Crown Management Plan responsibilities. However, in a few instances where there is no other operator and BC Hydro holds the right and responsibilities by tenure or by the License of Occupation, then BC Hydro will additionally take on the maintenance (structural and routine) of these non-access facilities.

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 to 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 this includes, for example, 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.

2 Syringa boat launch maintenance

2.1 Maintenance period

BC Hydro will undertake routine and structural maintenance of the access-related facilities at Syringa to ensure that the general public have safe access to the reservoir at Syringa for the peak recreation season, and during the spring and fall shoulder recreation seasons when the ramp is available for launching. For the Arrow Lakes 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 Syringa 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.

2.2 Area of responsibility

The Syringa boat launch sits within a Provincial Park. The BC Parks Facility Operator maintains the non-access related facilities (e.g., toilet, parking lots, etc.). BC Hydro is responsible for the structural and routine maintenance of the access-related facilities only under Parks Use Permit (PUP#103216).

The yellow highlighted area shown in Figure 3 represents BC Hydro's area of responsibility for the Syringa boat launch. This polygon is provided to give greater clarity and certainty on which parts of the launch part of BC Hydro's ongoing obligations under Clause (m) of CWL 27066.

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



2.3 Facilities to be maintained

Table 1 below provides a list of the facilities on which BC Hydro will undertake maintenance at the Syringa 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 1: Facility details at Syringa 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.
Scour protection (toe and sides of ramp)	<ul style="list-style-type: none"> Riprap. Structural maintenance: inspect for slumps and depressions. Routine maintenance: removal of debris and/or vegetation that could displace the riprap. Smaller pieces of debris and sediment that can be moved by hand will be performed by the BC Parks Facility Operator.
Boarding Floats	<ul style="list-style-type: none"> A line of floating wharves with each wharf attached to a steel piling. Structural maintenance: inspect for any reduction in freeboard, missing hardware, etc. Routine maintenance: removal of any unauthorized equipment.
Pilings	<ul style="list-style-type: none"> Steel pipe supports. Structural maintenance: inspection for pitting, corrosion or other abnormalities in the supports. Routine maintenance: removal of any unauthorized signs, structures, boats, etc. to the pilings.
Shoreline	<ul style="list-style-type: none"> BC Hydro's role is limited to removing significant safety hazards or

Facilities	Details
	removing debris and/or other items that pose a danger to the public/facilities and/or impede access to the reservoir via the ramp.

2.4 Permit information

As the site is located within a Provincial park BC Hydro has been granted access via a Parks Use Permit (PUP#103216; expiry January 14, 2040).

In addition, annual notification is provided to the Ministry of Forests, Lands and Natural Resource Operations 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 \$167,453.

4 References

BC Hydro (May 13, 2014). Approved Work Practices for Boat Launch Construction and Maintenance in BC Hydro Managed Freshwater Systems. 21pp.