



# Province of British Columbia

## *Water Act*

### CONDITIONAL WATER LICENCE

The holder of Crown land tenure covering the land to which this licence is appurtenant, is hereby authorized to divert and use water as follows:

- a) The stream on which the rights are granted is Tretheway Creek, tributary to Harrison Lake.
- b) The point of diversion denoted as PD79497 is on Tretheway Creek, at an elevation of 284.8 masl, and is located as shown on the attached plan.
- c) The date from which this licence shall have precedence is October 14, 2005.
- d) The purpose for which this licence is issued is Power (general), which is to be generated with the Tretheway Creek Generating Station.
- e) The maximum quantity of water which may be diverted and used under this licence is 11.4 cubic meters per second for Power (General), subject to the following:
  1. Minimum flows (i.e. In-stream Flow Requirements), as specified in Schedule "A" of this licence, must be maintained at all times;
  2. A minimum flow as ordered under clause (m) or (q) by the Regional Water Manager; and
  3. The minimum flows shall be measured at the works, immediately downstream of the point of diversion, and/or at a location as specified in the OPPR.
- f) The period of the year during which the water may be used is the whole year.
- g) The land upon which the water is to be used and to which this licence is appurtenant is the land on which the powerhouse of the Tretheway Creek Generating System is situated, described on Lands File 2409033.
- h) The works authorized for the Tretheway Creek Generating System are:
  1. Diversion structure and intake;
  2. Penstock;
  3. Access roads;
  4. Powerhouse, tailrace and switchyard; and
  5. Transmission line, a section of which shall be shared and jointly used with the Big

Silver Transmission Line

which shall be located approximately as shown on the attached plans.

- i) The construction of the said works shall be completed and the water shall be beneficially used prior to December 31, 2016. Thereafter, the licensee shall continue to make regular beneficial use of the water in the manner authorized herein.
- j) Before commencing construction of the works authorized under clause (h) of this licence, the licensee must to the satisfaction of the Engineer under the Water Act (the "Engineer") or the Regional Water Manager:
  1. Retain a Professional Engineer registered in the Province of British Columbia (the "Independent Engineer") who will provide services to the Engineer for the regulation of construction of the works;
  2. Retain a person with professional qualifications (the "Environmental Monitor") who will monitor environmental impacts from the construction of works;
  3. Submit, the following:
    - a) plans that show the general arrangement of the works;
    - b) criteria for the design of the works;
    - c) criteria for the operation of the works;
    - d) a schedule for the construction of the works;
    - e) a Construction Environmental Management Plan (CEMP) for the management and mitigation of construction impacts;
    - f) an Interim Operational Environmental Management Plan (OEMP); and
    - g) terms of Reference for a Hydraulic Connectivity Study, describing the methodology to be used.
  4. Obtain Leave to Commence Construction (LCC) in writing from the Engineer.
- k) Before undertaking construction of any component of works for which LCC issued under clause (j) 4., the licensee must:
  1. Ensure that the design drawings for the works to be constructed are signed and sealed by a Professional Engineer registered in the Province of British Columbia (the "Design Engineer");
  2. Ensure that a Professional Engineer registered in the Province of British Columbia (the "Construction Engineer") supervises the construction of the works; and
  3. Obtain letter from the Independent Engineer that the actual construction of that component work may proceed.
- l) Before commencing operation of the works authorized under clause (h), the licensee must:
  1. Submit a report for acceptance by the Regional Water Manager on the operational parameters and procedures (OPPR) for the operation of the works;
  2. Submit and implement an Operational Environmental Monitoring Plan (OEMP) to the satisfaction of the Regional Water Manager;

3. Submit a draft Operation, Maintenance and Surveillance (OMS) Manual and Emergency Preparedness Plan (EPP) for acceptance of the Regional Water Manager;
  4. Submit the field verification report from the Hydraulic Connectivity Study for acceptance by the Regional Water Manager; and
  5. Obtain Leave to Commence Diversion and use of water authorized in this licence in writing from the Regional Water Manager.
- m) The diversion of water authorized under this licence may be restricted or prohibited at any time by an Order in writing of an Engineer under the Water Act or the Regional Water Manager, for the regulation of the diversion, rate of the diversion, and use of the water as may be required for the preservation of fish, wildlife, or navigation.
- n) The licensee must:
1. Design an OEMP to determine the nature of any impacts on fish and fish habitat, which includes data to allow for statistically supportable quantification of impact to baseline conditions over time to the satisfaction of the Regional Water Manager;
  2. Implement the program to the satisfaction of the Regional Water Manager;
  3. Continue the program for 5 years following the commencement of operation of the works or to the satisfaction of the Regional Water Manager;
  4. Submit annual reports summarizing the results of the monitoring program to the Regional Water Manager, within 30 days of March 31st;
  5. At the completion of the monitoring program, prepare a report that identifies the nature of any impacts on fish and wildlife and implement the appropriate mitigation and/or compensation to the satisfaction of the Regional Water Manager; and
  6. Based on the results of the annual monitoring of fish populations and other aquatic parameters, the Regional Water Manager may require the licensee to undertake the following:
    - a) Submit detailed analyses to evaluate changes to fish populations;
    - b) Conduct additional studies to evaluate the cause of the changes observed; or
    - c) Prepare and implement a mitigation plan to resolve specific situations.
- o) Submit to the Engineer, and as directed by the Engineer, within six months of receiving the leave to commence the diversion and use of water, the drawings of record that show the works as they were constructed.
- p) Within one year of operations, an Operation, Maintenance and Surveillance Plan and an Emergency Preparedness Plan must be submitted to the Dam Safety Officer, or to the Regional Water Manager.
- q) Based on the results of the Hydraulic Connectivity Study, the Regional Water Manager may require the licensee to:
1. Develop and execute a monitoring plan, in addition to those specified in the Operational Environmental Monitoring Program, specifically to evaluate the potential

- influence of connectivity changes on fish migration and invertebrate drift; and
2. Implement pulse flows if the magnitude and frequency of connectivity changes are predicted to result in adverse ecological effects (such as reduction in fish migration and invertebrate drift) greater than as predicted in the technical memorandum provided on this topic.
- r) The term of this licence is forty (40) years from the date of issuance of this licence.

A handwritten signature in black ink, appearing to read 'Remko', with a long horizontal flourish extending to the right.

Remko Rosenboom, M.Sc., A.Ag.  
Assistant Regional Water Manager



## Schedule "A"

**Instream Flow Requirements (IFR)  
Tretheway Creek Hydroelectric Project  
Conditional Water Licence: C129706  
Water File: 2002814; Lands File: 2409033**

<b>Period</b>	<b>Minimum Instantaneous Flow (immediately downstream of the intake)</b>
January 1- March 31	<b>0.80 m<sup>3</sup>/s</b>
April 1-May 15	<b>2.30 m<sup>3</sup>/s</b>
May 16 - July 31	<b>1.20 m<sup>3</sup>/s</b>
August 1- December 31	<b>0.80 m<sup>3</sup>/s</b>

A handwritten signature in blue ink, appearing to read "Remko Rosenboom".

Remko Rosenboom  
Assistant Regional Water Manager

Dated at Surrey, British Columbia, this 1<sup>st</sup> day of August, 2013.

**ORDER**  
**WATER ACT**  
*Section 18 (1)*

**File No. 2002814**

**IN THE MATTER** of works authorized under Conditional Water Licence C129706 (the “licence”), held by Tretheway Creek Power Limited Partnership (the “licensee”) for its Tretheway Creek Hydroelectric Project.

**WHEREAS** the licensee has applied for a Water Licence Amendment (Change of Works) to move the location of powerhouse including associated tailrace, switchyard and nearby penstock segment works to decrease the riparian footprint and to reduce overall residual environmental effects of the project.

**WHEREAS** the licensee has submitted the following reports in support of this amendment:

- Tretheway Creek Hydroelectric Project, terrestrial wildlife and vegetation assessment, RE: Environmental Assessment Certificate # E12-05 – Amendment Request for Changes in Powerhouse Location and Access, dated March 18, 2014 by Keystone Wildlife Research Ltd.;
- Tretheway Creek Hydroelectric Project, additional information with regards to a rare plant, RE Rare Plant Information Addendum to Environmental Assessment Certificate # E12-05, Amendment Request for Change in Powerhouse Location and Access dated April 14, 2014 by Keystone Wildlife Research Ltd.; and
- Report entitled ‘Tretheway Creek Hydropower Project, EA Certificate Amendment: Powerhouse, Tailrace and Barge Landing, dated March 20, 2014, prepared by Ecofish Research Ltd.

**WHEREAS** the Environmental Assessment Office has approved this amendment on June 5, 2014 to the original certificate #E12-05.

**WHEREAS** being satisfied that no person’s rights will be injuriously affected by issuing this amendment.

**NOW THEREFORE**, I, Remko Rosenboom, Assistant Regional Water Manager under the *Water Act*, pursuant to Section 18(1) of the *Water Act* of British Columbia, hereby issue an amended plat (attached) and the following changes to be attached to the Conditional Water Licence 129706:

The following clause is amended as follows:

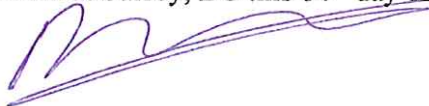
- (n)
6. Based on the results of the annual monitoring of fish populations and other aquatic parameters, including fish stranding due to ramping, the Regional Water Manager may require the licensee to undertake the following:
    - a) Submit detailed analyses to evaluate changes to fish populations;
    - b) Conduct additional studies to evaluate the causes of the changes observed; or
    - c) Prepare and implement a mitigation plan to resolve specific situation.

The following clause is added as follows:

- (i)
6. Regarding the location of the of the powerhouse and the associated tailrace works the licensee must to the satisfaction of the Regional Water Manager implement the mitigation and compensation measures and monitoring as described in the Water Licence application package submitted on May 6, 2014.

This order does not constitute authority of any other agency. The licensee shall have the necessary permits from other agencies concerned prior to the commencement of the work authorized herein.

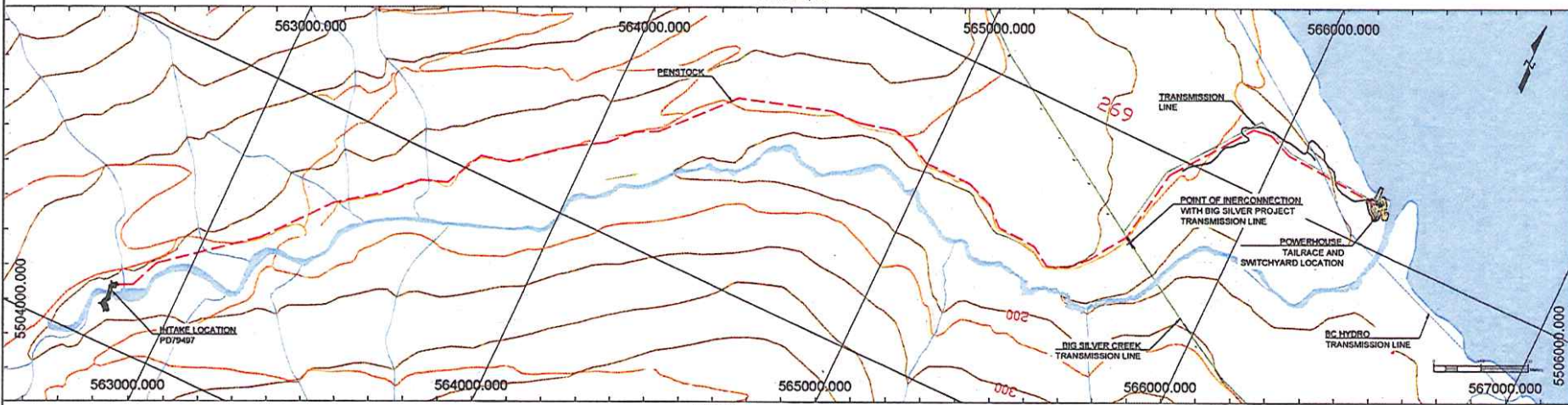
Dated at Surrey, BC this 14<sup>th</sup> day of July, 2014.



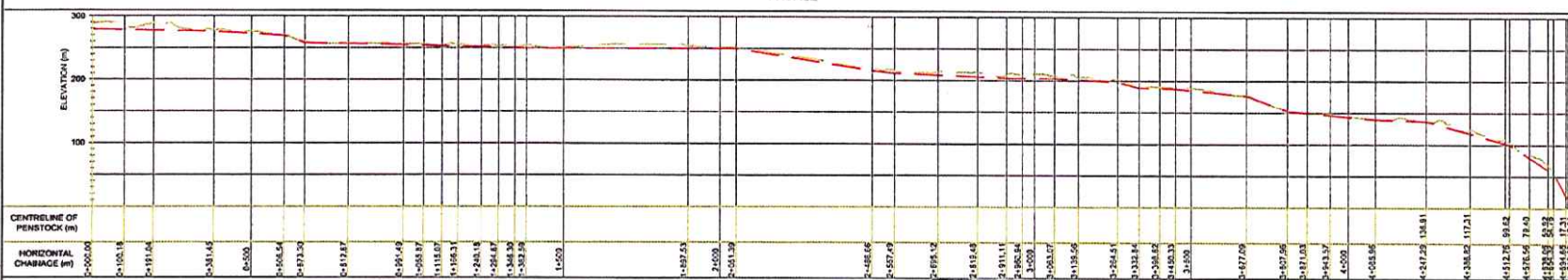
Remko Rosenboom, M.Sc, A.Ag.  
Assistant Regional Water Manager



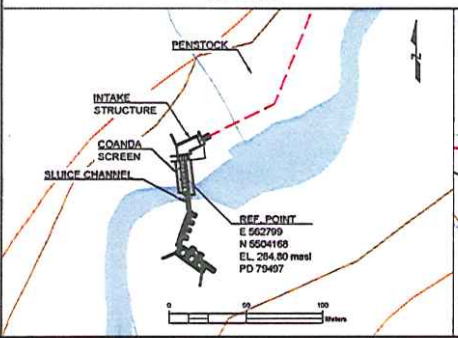
PLAN- PROJECT OVERVIEW  
scale 1:12,500



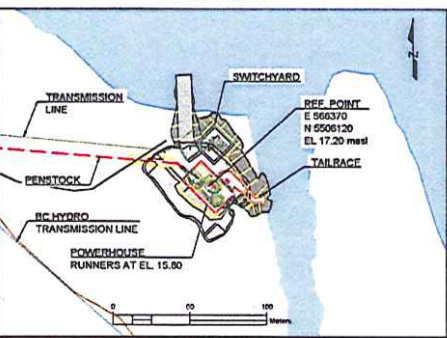
PROFILE



DETAIL- INTAKE  
scale 1:3,000



DETAIL- POWERHOUSE AND SWITCHYARD  
scale 1:3,000



Water File: 2002814  
Precinct: 20H-Kent Land District New Westminster  
*[Signature]*  
Renko Rosenborn, M.Sc. A Ag  
Assistant Regional Water Manager  
Dated: *July 14, 2014*  
This Amended Drawing is certified as part of Conditional Water Licence C7 29706

LEGEND:

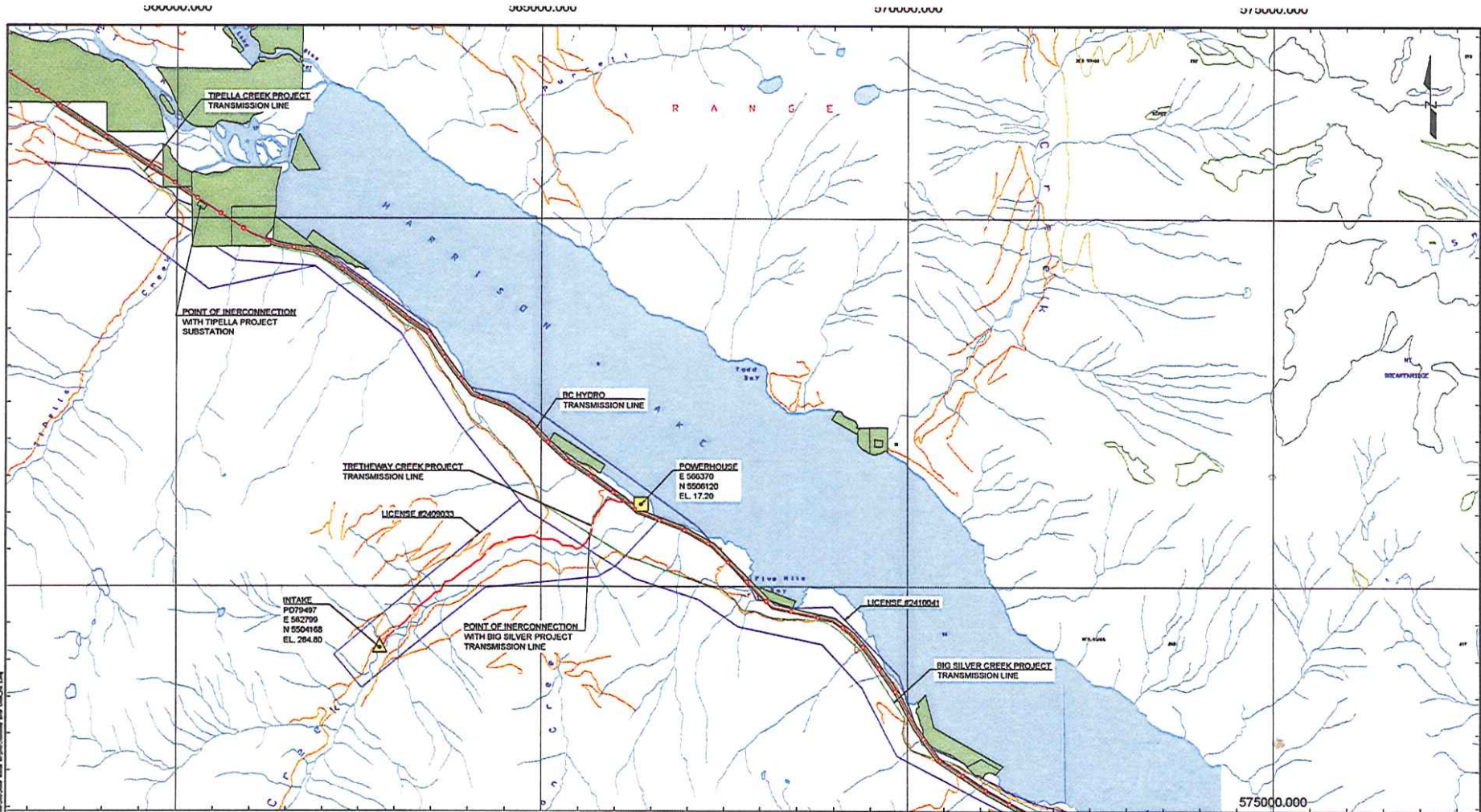
- EXISTING FOREST SERVICE ROAD
- TRANSMISSION LINE
- BC HYDRO TRANSMISSION LINE
- BURIED PENSTOCK

NOTES:

1. ALL ELEVATIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
2. COORDINATE GRID IS UTM NAD83 ZONE 10

1	20140402	WATER LICENSE CHANGES OF WORKS	CC	JD	
0	20130407	FOR WATER LICENSE APPLICATION	VL		
REV	DATE	REVISION DESCRIPTION	CAD	CHK	ENG (REV)
<b>TRETHEWAY CREEK HYDROELECTRIC PROJECT</b>					
TITLE					
<b>TRETHEWAY CREEK HYDROELECTRIC PROJECT GENERAL ARRANGEMENT</b>					
PROJECT		FILE: Tretheway Silver Creek FIG 1.dwg			
DATE	7 JAN 2013				
CAD	VL	ENG			
CHK	RVV	<b>FIGURE 1</b>			
DRAWING NUMBER					REV





Water File: 2002814  
 Precinct: 20H-Kent Land District: New Westminster  
 Renko Rosenboon, M.Sc., A.Ag.  
 Assistant Regional Water Manager  
 Dated: *July 19, 2014*  
 This Amended Drawing is certified as part of Conditional Water Licence C1 29705

**LEGEND:**

	POWERHOUSE		BURIED PENSTOCK
	INTAKE		INNERGEX TRANSMISSION LINE
	DISTRICT LOT		BC HYDRO TRANSMISSION LINE
	TANTALIS - CROWN LAND FILES		STREAM
			ROAD

**NOTES:**

- ALL ELEVATIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
- COORDINATE GRID IS UTM NAD83 ZONE 10.

0 1 2 Kilometers

1	2013MAY08	WATER LICENCE CHANGES OF WORKS	OC	JD	
2	2013MAY07	FOR WATER LICENCE APPLICATION	YL		
REV	DATE	REVISION DESCRIPTION	CAD	CHK	ENG

**TRETHEWAY CREEK HYDROELECTRIC PROJECT**

FILE

**TRETHEWAY CREEK HYDROELECTRIC PROJECT GENERAL ARRANGEMENT**

PROJECT

DATE: 7 JAN 2013

CAD: Y L EHO

CHK: RWV

FILE: Tretheway Creek\_FIG 2.dwg

**FIGURE 2**

DRAWING NUMBER

REV