

# John Hart Generating Station Replacement Project

## December 2014 Community Construction Update Report #18

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# Project Update And Schedule

## Project Status:

- Blasting continues with successful blasts to date;
- Set up of laydown area on north side of penstocks with offices and equipment storage;
- Relocation of water treatment centre to north laydown area;
- Stream relocation near north underground portal completed;
- Facility being installed for mining equipment maintenance and storage;
- Geotechnical test drilling continues to assess underground powerhouse plans;
- New site office now housing project team at former Campbellton Elementary site;
- Tree clearing and laydown area work will start soon near the John Hart intake dam for a new construction hauling bridge (Brewster Lake Road); and
- City of Campbell River's newly elected City Council toured the John Hart facilities on December 16.

**Construction**

## Replacing John Hart

Work at the John Hart replacement project in Canada is progressing well. BC Hydro gives an update on how this scheme has been designed to create an efficient and seismically safe facility that allows for the ongoing generation of clean energy.

**Viewed construction work at the project, October 2014**

**View prior forestation work on the site, May 2013**

**Regulatory approval**

**INTERNATIONAL WATER POWER & DAM CONSTRUCTION**

**November 2014**

The International Water Power & Dam Construction journal provided an update feature on the John Hart project in November 2014.

# Project Update And Schedule

## Project Schedule to May 2015:

- Mid-January: Surface blasting to be completed at south portal and drilling/underground blasting to begin;
- January-March 2015: Intermittent closures for Brewster Lake Road;
- April 2015: Full closure of Brewster Lake Road; and
- February-April 2015: Focus on tunneling and underground cavern excavation.





# Construction Pictures – Aerial Pictures From Time Lapse Camera





# Construction Pictures Around the South Portal Entrance





# Construction Pictures Around the South Portal Entrance

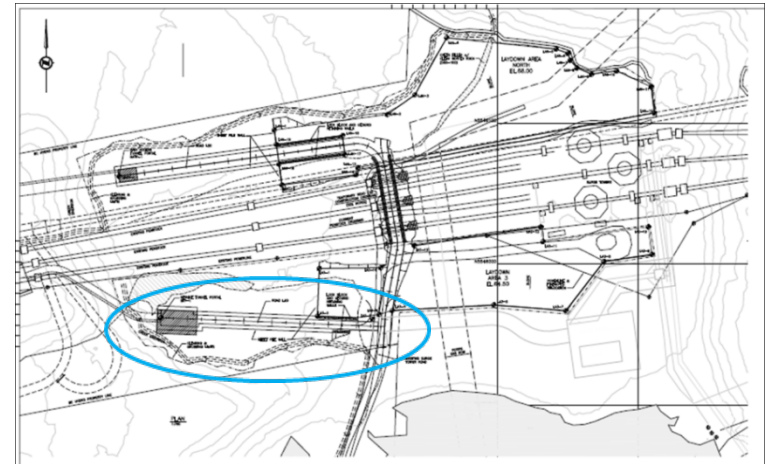


Getting ready for a rock blast. Bottom right picture shows the controlled drilling process to put in the blast materials.



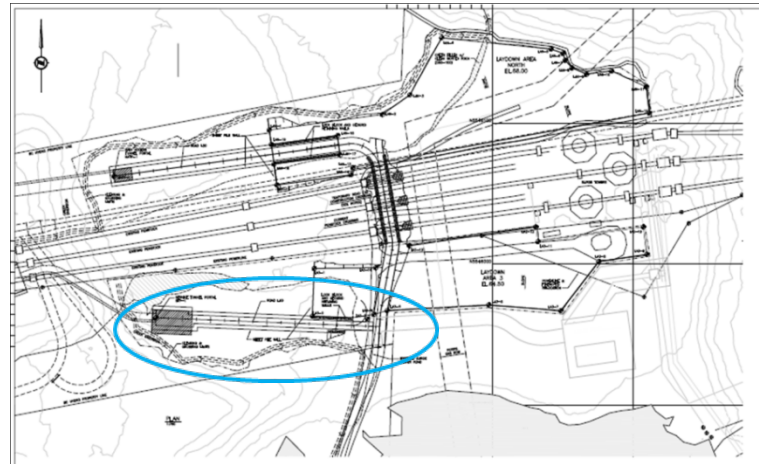
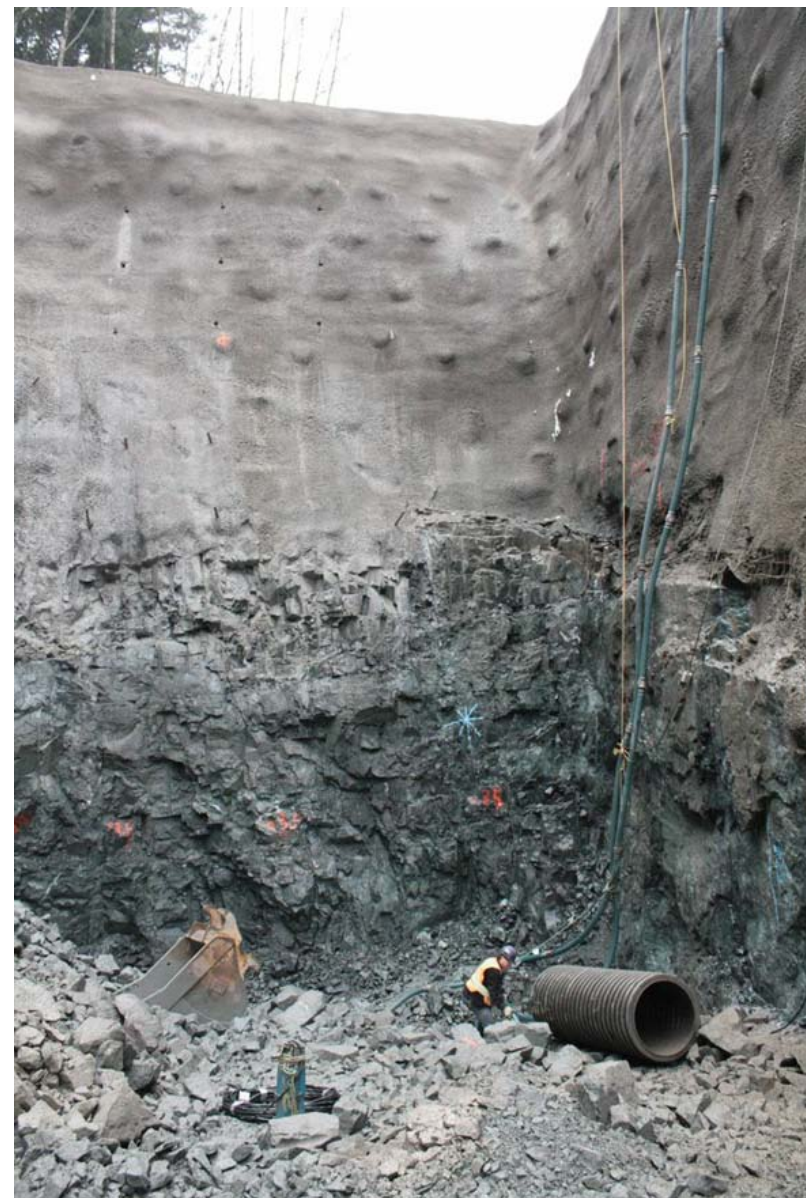


# Construction Pictures Around the South Portal Entrance



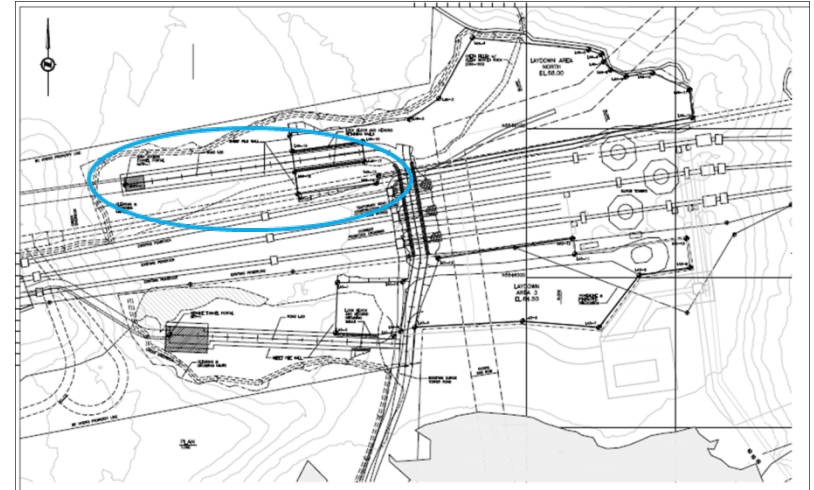


# Construction Pictures Around the South Portal Entrance





# Construction Pictures Around the North Portal Entrance

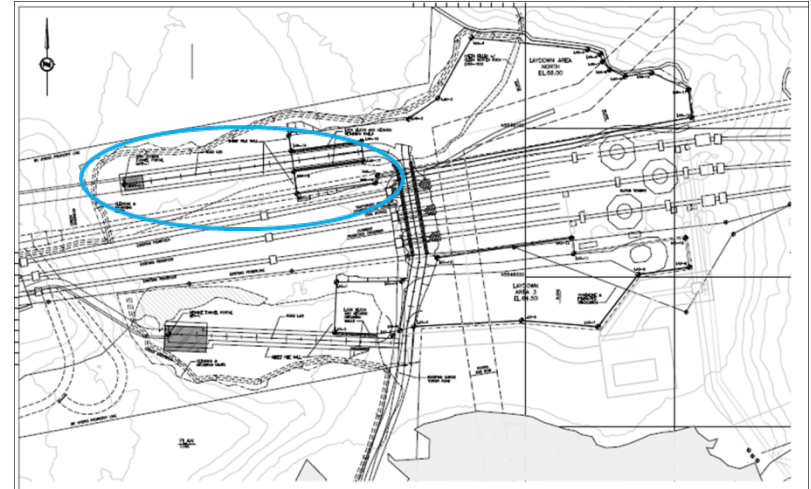


Excavation of the north portal similar to the south portal.





# Construction Pictures Around the North Portal Entrance





# Truck Traffic Update

- Truck traffic from the site will slow slightly as the project transitions from moving overburden soils from the two portals, to removing rock resulting from blasting;
- Due to the drop-off locations, most of the truck traffic in the new year will be contained to Hwy 28, between the construction site access on Surge Towers Road and a location nearby to the west. This contains noticeable traffic significantly; and
- A small amount of truck traffic does also head south on Hwy 19, using the split highway intersection at Hwy 19A and Hwy 28.

# Campbellton Off-Site Project Office

- Project team now settling in at new project office at former Campbellton school site, with access off 16th Ave;
- Site workers park at the site and are bussed to the construction site, reducing traffic on Hwy 28; and
- Work at the site included expanding and planting a buffer next to Kingfisher Creek located on the neighbouring land.





# Brewster Lake Road and Trail Closures

- A temporary construction crossing will be built over the penstocks near the John Hart dam to be able to accommodate heavy equipment needed at the site;
- Intermittent Brewster Lake Road closures of up to 15 minutes at a time will occur January-March 2015 as site prep begins, including tree falling;
- In April, the planned three-year closure is expected to begin in full to accommodate the construction work relating to the underground generating station; and
- Short, intermittent closures on Millennium trail will continue until surface blasting is completed. Closures will be up to 15 minutes, and trail users will be advised by flaggers stationed in the area.



View from the Brewster Lake Road bridge. Shows the location of where the tree clearing will take place for the temporary construction bridge.

# Economic Opportunities

- There are around 93 people currently working on site. Of those, 74 are local to the Campbell River area. That means between 75 and 80 per cent of people working on site are local. Local means workers that live within 90 km of the John Hart site;
- That percentage will increase in the New Year as a few specialty teams from out of town wrap-up work. With increased craft work required on site, it's anticipated to reach 90 per cent local in the coming months; and
- A few examples of some of the more recent local subcontractors and suppliers include:
  - R&H Printing,
  - T-Mar Industries,
  - Monk Office Supplies;
  - Walco Industries;
  - Aztec Freight;
  - Jaco Powerlines; and
  - Campbell River Metal Fabricators (featured below).



# Environment

- Water run-off at the site has been fully contained with final adjustments made to drains at the site entrances;
- New awareness signage was installed on site to remind workers of discharge points and receiving waters. The simply-worded signs make it clear what areas are environmentally sensitive;
- The water treatment facility (below left) has successfully been moved to the north lay-down area and is now treating all collected waters from site. Testing shows that water being released is meeting and exceeding environmental standards; and
- There were approximately eight frogs rescued and relocated this month, with continued focus on raising awareness with people on site about the importance of environmental management. The environmental coordinator on site even baked up some cookies (below right), shaped like red-legged frogs, to share with crews on site.



# City of Campbell River Council Tour

- Each time there is a newly elected City Council, a tour of the John Hart hydroelectric facilities is provided by BC Hydro given the importance and role these facilities play within the Campbell River community. The tour included the generating station, John Hart dam, and the John Hart project construction site.



City Council and BC Hydro staff standing on top of Generator 6, inside the six-unit John Hart generating station.



# City of Campbell River Council Tour

## BC Hydro Flood Risk Management Operations

- The week of December 8 had two large subtropical storms hit the area. The five-day water inflow totals were the highest in BC Hydro's 51 years of record. High water flows were passed downstream of the three Campbell River system dams for flood risk management. Water discharges managed to stay within bankfull in the Campbell River.



The left picture shows the water release below the John Hart spillway dam, and the right picture shows the generating station and the water coming down Elk Falls Canyon.



# City of Campbell River Council Tour

- City Council, InPower BC and BC Hydro representatives in front of the south underground portal.





# City of Campbell River Council Tour

- City Council, InPower BC and BC Hydro representatives in front of the north underground portal.



# John Hart Project Donation to the SPCA

10 | CAMPBELL RIVER MIRROR | FRIDAY, DECEMBER 12, 2014



## CHEERS FOR DO-GOODERS

# Donation charges SPCA

InPower BC, through ASL-JV, and BC Hydro have teamed together to provide a \$1,500 donation to the Campbell River SPCA, as a result of the construction work at the John Hart project.

"Our contractor needs water to support their drilling equipment to excavate the new tunnel and generating station, and ASL-JV came to us about the possibility of pulling water off the John Hart penstock," says BC Hydro's Stephen Watson. "In any potential agreement with a third party, BC Hydro must be compensated for water withdrawn that would otherwise be used for power generation. Given the small amount of water calculated over the next few years, and the order of magnitude of the compensation,



**(From left) BC Hydro's Amy Stevenson gets a cuddle with Juno the cat while Stephanie Arkwright of the Campbell River SPCA accepts a donation from Scott Marshall, Project Manager for ASL-JV.**

both parties agreed it would be best to donate the funds to a local charity."

"We're glad to make this donation to the local SPCA," says Scott Marshall, project manager for ASL-JV, the civil contractor on the John Hart project. "Our crews are members of the community and we want to support Campbell River where we can."

The agreement is good news for the SPCA who recently opened a new location on 13th Ave.

"The BCSPCA is strictly funded by donations – community support like this is the most important thing for us to continue to operate," said Stephanie Arkwright, Campbell River SPCA.



# John Hart Project Interpretive Centre

## The visitors through the centre, by month, in 2014:

- January: 121 visitors over the 9 days open, with an average of 13 people per day;
- February: 137 visitors over the 6 days open, with an average of 23 people per day;
- March: 107 visitors over the 8 days open, with an average of 13 people per day;
- April: 214 visitors over the 9 days open, with an average of 24 people per day;
- May: 376 visitors over the 14 days open, with an average of 27 visitors per day;
- June: 742 visitors over the 21 days open, with an average of 35 visitors per day;
- July: 1,121 visitors over the 22 days open, with an average of 51 visitors per day;
- August: 1,282 visitors over the 23 days open, with an average of 56 visitors per day;
- September: 466 visitors over the 13 days open, with an average of 36 visitors per day;
- October: 246 visitors over the 13 days open, with an average of 19 visitors per day;
- November: 331 visitors over the 13 days open, with an average of 25 visitors per day; and
- December: 98 visitors over the 12 days open, with an average of 8 visitors per day.

**The total for the year was 5,241 visitors, with a daily average of 32 visitors for the days open (163).**

From January to mid-May, the centre was open two days per week and staffed by the Campbell River Chamber of Commerce and BC Hydro. From mid-May to Labour Day in September, it was open five days a week and staffed by the Museum at Campbell River. From Labour Day through December the museum staffed the centre three days per week.

# People Profile – Nathalie Dinnissen

## About Nathalie:

### Background:

An engineer with experience in mining projects largely in northern Ontario, Nathalie most recently worked as the field engineer at the Waneta Expansion Project, a hydroelectric project nearing completion in the Kootenays.

### Home:

Nathalie grew up in northern Ontario and most recently lived in South Slokan while working on the Waneta project in Trail. She's recently moved to Campbell River to join the ASL-JV team working on the John Hart project.

### Hobbies:

Hiking, running and lots of yoga are all regular pastimes for Nathalie, who would also like to compete in triathlons when time allows her to train. When she has a few minutes to slow down, she also likes crafting and shopping for antiques.

### Project responsibility:

As project engineer for ASL-JV, Nathalie's responsibility is to prepare the planning for each stage of the comprehensive replacement project. She's always looking ahead to make sure the next steps of the project are ready to go from a design perspective to the construction phase.

"Campbell River is a gorgeous city and knowing that I am part of a project that will improve it as well as protect it makes me proud of why I am here. It leaves a warm feeling."





# Local Business Profile – CR Metal Fabricators

## Background:

CR Metal Fabricators has been delivering solutions in metal for over 50 years. CRMF provides general fabrication, specialty welding, CNC plasma cutting, and design & drafting services for all forms of industrial construction projects. Certified by the Canadian Welding Bureau to CSA W47.1 (fusion of steel) & W47.2 (fusion of aluminum) we offer exceptional quality in metal fabrication.

## What you may not know about us:

CRMF offers custom products and services ranging from stainless steel laboratory components, to aluminum truck/transport accessories, to heavy structural steel fabrication. Our business is providing innovative solutions to our clients' challenges.

## Project role:

CRMF is currently providing products for the above ground & the tunneling operations at the John Hart project. Including field welding, shop fabrication, explosive transport boxes, and recently shipping an order of large diameter ventilation elbows for the service and access tunnels.

## People working:

CR Metal Fabricators has a varied workforce of approximately 18 people with as many as 9 employees engaged in work for the John-Hart project at a time. Most of the crew have been with the company since their apprenticeship and some have served over 30 years.

# Local Business Profile – CR Metal Fabricators Ltd.

## What makes Campbell River a great place to live and work:

The blend of nature based recreation and industry based business prospects make Campbell River a treasure of a community to call home. Much of our workforce was born and raised in Campbell River, and continue to live, work and raise their families in our beautiful region.

### Quote:

“We are excited for the new challenges presented by the John Hart project, both in the short and long term. We welcome the opportunity of contributing our support to such a significant project.”

Tyler Abbott (pictured below with staff), Project Manager, CR Metal Fabricators Ltd.



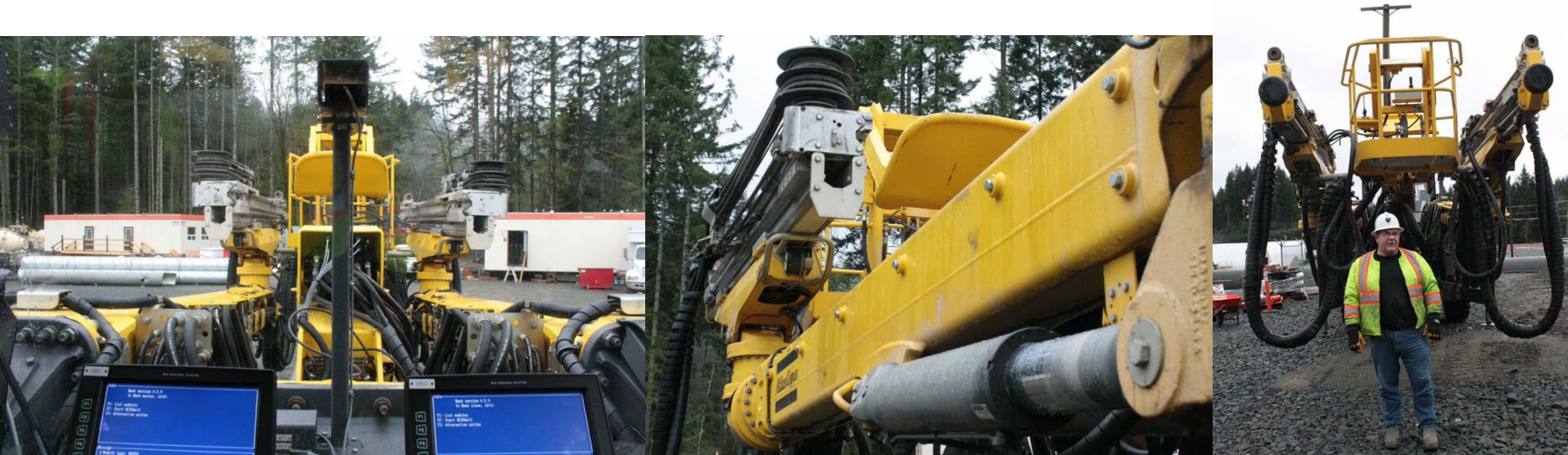
Some of the large diameter ventilation elbows for the John Hart service and access tunnels.



# Construction – Point of Interest

**Each month, BC Hydro and InPower BC will provide a construction fact, occurrence, or situation.**

- The “Jumbo” – an EC2 hydraulic drill by Atlas Copco will be the heart of the mining operation about to begin as part of the John Hart Generating Station Replacement project;
- This \$1.2 million high-powered machine has two drills, three booms (one with a man basket) – all designed to drill just 48 mm holes up to 5.5 metres into the rock;
- The production and development holes will be drilled, then filled with emulsion and detonated to open up the tunnels leading to the underground powerhouse;
- Highly electronic, this drill uses prisms to read the rock walls and understand the depth of hole that is required to achieve a pre-designed tunnel; and
- There will be three Jumbo’s being led by Frontier-Kemper at the John Hart project.



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