

An aerial photograph of a coastal town. On the left, a large marina is filled with numerous sailboats and yachts. To the right, a large, modern building complex with a grey roof and multiple wings is visible, surrounded by parking lots and greenery. In the background, a large, forested hill rises under a cloudy sky. The text is overlaid on the center of the image.

Highland Fernwood SCADA Renewal Project Open House

March 5, 2026

Territorial Acknowledgement

The CRD conducts its business within the Territories of many First Nations, including but not limited to Quw'utsun (Cowichan) Tribes, Halalt First Nation, Lyackson First Nation, MÁLEXEŁ (Malahat) Nation, BOKÉĆEN (Pauquachin) First Nation, Penelakut Tribe, Semiahmoo First Nation, Snuneymuxw First Nation, Stz'uminus First Nation, WJOŁEŁP (Tsartlip) First Nation, SĪÁUTW_ (Tsawout) First Nation, Tsawwassen First Nation, WSIKEM (Tseycum) First Nation, and Tsu'uubaa-asatx (Lake Cowichan) First Nation, and all of whom have a long-standing relationship with the lands and waters of Salt Spring Island from time immemorial that continues to this day.



Highland Fernwood Overview

- The Highland Fernwood Water Treatment System (WTP) treats water for **320 of 333 properties** in the Highland Fernwood Service area. The Service Area consists of the legacy Highland Service that joined the CRD in 2004, and the Fernwood Service that joined the CRD in 1989. The Water Treatment Plant was **constructed in 2010 after the merger of the services** to initiate the joint Highland Fernwood Water Service.
- The WTP is controlled remotely through different operating modes and flowrates through SCADA to a Programmable Logic Controller (PLC) locally at the WTP as it acquires signals from the equipment. All control logic is currently on SCADA (remote).
 - Alarms and some limited operating conditions are visible to the operators at Ganges through the Ganges server.
 - Communications for alarms and data are via the SCADA equipment which is currently over internet.
- The SSI operations team operates and maintains the system for it to run 24/7 year-round.
 - Regular site visits to Highland Fernwood are 5 days/week for 2 hours each.

What is SCADA?

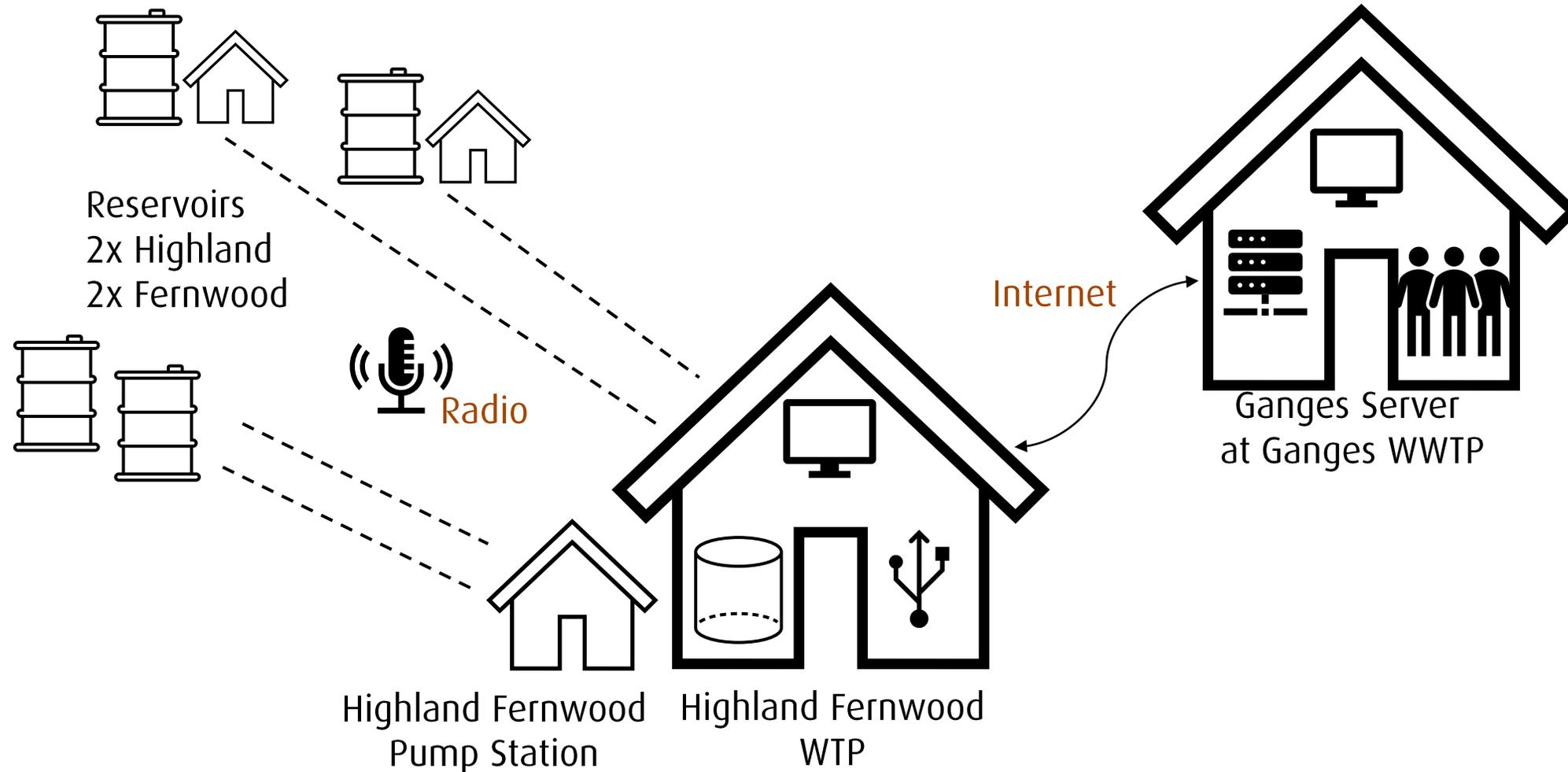
SCADA is Supervisory Control and Data Acquisition and includes hardware components such as a server computer to host data, a PLC, RTU for remote or standalone equipment and an HMI for operator interface

A **PLC** is a Programmable Logic Controller which is hardware equipment that contains a logic program which accepts inputs and gives outputs (I/O) to control equipment. Inputs can be from sensors and timers, and outputs can be to valves, switches and alarms.

An **HMI** is a Human Machine Interface that allows the operator to monitor and interact with the process and equipment through the PLC. The HMI can be used for monitoring or can be for resetting or adjusting setpoints and operating parameters.

An **RTU** is a Remote Terminal Unit that has minor control logic and I/O terminals to feed into a PLC.

Highland Fernwood SCADA Renewal



Highland Fernwood SCADA Renewal

- The upgrades required at Highland Fernwood consist of the **PLC replacement & HMI (operator interface)** to facilitate local control and remote control options via internet communications, to allow stable and secure communications to the Ganges server and the operations team.
- A PLC upgrade is required to expand communications and control. The **current PLC is obsolete, with no I/O cards available** and no expansion capacity for communications.
- Design of the PLC/SCADA system is underway, funded by reserve. CRD experts in house are assisting in the design.



Benefits of SCADA Upgrades



The improved communications will allow for remote assessment and reset, potentially less site visits, including following power outages.



The improved hardware will prevent system failure due to PLC or I/O card failure. This is a current risk for operations. Manual operation is not supported.



Improved operation modes and data collection will be possible with an upgraded PLC and I/O.

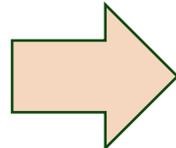
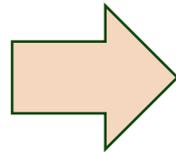
Highland Fernwood AC Pipe Strategy

- The Asbestos Concrete (AC) Pipe Strategy project is also proposed as part of the debt borrowing
- The Highland Fernwood system has approximately **12,000m of AC pipe**
- Replacement of these aging mains will be a large undertaking and therefore it is important to **strategically plan and prepare for the work**
- A **full model of the entire water system** will be developed to assist in efficient planning and design
- Condition assessment and overall system design will be reviewed to determine a **cost-effective program for the longevity of the distribution system**
- Replacement strategy is part of the **essential asset management** for the service



How we are funding

Project	Funding Source	Budget (2026)
WTP SCADA Upgrades	Debt	\$ 300,000
	Grant (CWF)	\$ 120,000
AC Pipe Strategy	Debt	\$ 100,000
	Reserves	\$15,000



- \$300,000 debt funding is required to support the finances of the SCADA project plus \$100,000 for the AC Pipe Strategy project for a total of \$400,000 of debt borrowing.
- Community Works Funds (CWF) are available to supplement the SCADA Upgrades project (\$120,000).
- A loan authorization bylaw and participating area approval is required prior to adopting a loan
 - Participating area approval will be determined through electoral assent (petition)



How we are funding

- The Parcel Tax associated with the new borrowing would be added to each rate-payers annual property tax.
- The borrowing amount will be up to \$400,000. If less is required, less will be borrowed.
- Highland Fernwood commission has selected a 15-year loan term

Borrowing Amount (\$400,000)	
Borrowing term (years)	15
Indicative Interest Rate*	4.59%
Cost of Borrowing (\$)	588,652
Annual Debt Payment (\$)	39,243
Annual Parcel Tax per taxable folio (\$) **	118
Representative monthly payment (\$)	10

*MFA Indicative Market Rates used for analysis, taken from MFA Website, December 19, 2025.

** Calculated parcel tax assuming no change in total folios, set at 2025 level of 333 folios.

Electoral Assent Options

Petition

- Only property owners may participate (one vote per property).
- 50% approval threshold representing at least 50% of taxable value of land and improvements
- Highest likelihood of approval success

Cost \$5,000 est.



Petition process has been selected to reduce expense on ratepayers and expedite issue resolution

Alternative Approval Process

- Commonly used in relation to long-term borrowing bylaws
- Borrowing initiative can be quashed if more than 10% of electors sign a counter-petition opposing the bylaw.
- A referendum must be held within 80 days if the need to proceed with the borrowing is still required.
- Less expensive than a referendum

Cost \$20,000 est.

Referendum

- Majority of the valid votes are counted in favour of the bylaw to fund a project.
- A referendum question is developed and then reviewed by the inspector of Municipalities at the province, requesting the electors to approve the borrowing of a specified amount of funds for the project.
- Must wait at least six months before seeking elector assent on another bylaw for the same purpose in a referendum
- More expensive than an Alternative Approval Process

Cost \$60,000 est.

Next Steps

- Complete the petition process with ratepayers
- Petition results certified
- Proceed with the loan authorization process
 - CRD Board approval required
 - Debt financing will be provided through the Union of BC Municipalities (UBCM) at favourable interest rates.
- Initiate construction tendering process
- Field construction, installation and commissioning of the equipment
- Key Performance Indicator (KPI) monitoring to ensure project success



Comments and feedback



For additional information please check back at the Highland Fernwood Water webpage :
<https://www.crd.bc.ca/highfern-ws>

For questions, please contact saltspring@crd.bc.ca or 250-538-4448