

Report

Date August 12, 2025

File: NC 2022-024

Subject Pre-stressed Concrete Cylinder Pipe/Ductile Iron Watermain Pipe - Scour Assessment, Mitigation, and Pipe Protection - [Cowichan River Pipe Protection Project Construction Contract Award]

PURPOSE

To seek Council approval to award the construction contract for the Cowichan River Pipe Protection Project.

BACKGROUND

A critical part of the water distribution system for South End and Crofton is two trunk mains that cross the Cowichan River from the Boys Road Water Treatment Facility north to the distribution network. This crossing point has three pipes that are near each other. The trunk mains include:

- 600 mm diameter, ductile iron (DI) potable water trunk main (North Cowichan)
- 600 mm diameter prestressed concrete cylinder pipe (PCCP) potable water trunk main (North Cowichan)
- 350 mm diameter high density polyethylene (HDPE) sanitary force main (Cowichan Valley Regional District)

In early June 2025, it was observed that approximately two metres of the DI and six metres of PCCP had become exposed, as shown in Figure 1. At this time, the HDPE remains fully covered. The exposure was caused by the formation of a scour hole in the area, which lowered the riverbed by roughly one metre. This reduction in riverbed elevation has also led to the exposure of the south dike toe and base.

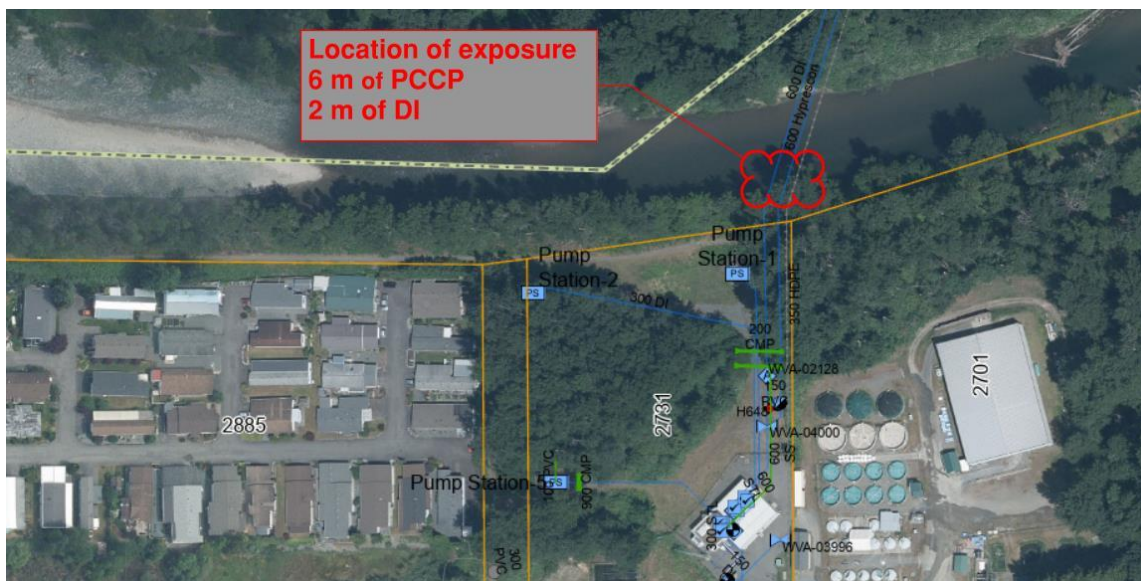


Figure 1 – Project site location.

The PCCP was installed in the early 1970s, with the DI being installed in 2003. North Cowichan is

Figure 2 – Plan view of proposed work.

This project is scheduled to be completed within the fisheries window from August 15 to September 15, 2025.

The protection plan project is very complex. There are few contractors with sufficient experience working in a flowing river environment, particularly one that is highly stressed due to dry/hot weather and flows, and has a short window of opportunity to carry out the project. Because of these conditions, this project is considered high risk.

Due to the conditions and the short time frame, it was decided to utilize the four pre-qualified contractors available to North Cowichan. Preliminary discussions were held between each of the contractors and staff to confirm capabilities, availability and depth of experience in similar situations. Three of the four contractors have displayed significant experience in carrying out projects in similar situations. The fourth contractor has more experience in conventional municipal works, but less in projects like this one.

Based on these initial discussions, one contractor declined to participate due to other commitments, and another was not invited due to a lack of experience necessary for this type of work. The remaining two contractors have their own quarries, which allow them to immediately commence and quickly produce the cobbles and rip rap needed for this project.

A request for proposal (RFP) was issued on July 23, 2025. The RFP closed on August 1 with an evaluation taking place on August 5. Only one proponent supplied a proposal. Due to the nature of the work and risks associated with this project, the other proponent declined to submit a response to the proposal call. However, they may provide equipment and personnel to the one proponent who did.

This contract will consist of two payment components. The first is a fixed-cost component, which covers mobilization and demobilization, the supply of cobbles and rip rap, and associated overhead expenses. The second component pertains to the construction of the pipe protection cap, which will be carried out on a time-and-materials basis. Equipment rates will follow the Blue Book rates as established by the province. All work will be monitored by the construction management consultant and staff from North Cowichan to ensure accuracy and accountability. The total project budget is \$4,500,000, which includes consultant fees and a contingency allowance.

When considering which contractor to award to, the methodology for undertaking this project, and meeting the fisheries window were key considerations. Cost is also an important consideration, but not the only consideration, and will be determined by the methodology each contractor presents and issues encountered at the site as the project proceeds. It is necessary for municipal staff to be comfortable with the methodology proposed so that the project proceeds in a timely manner while reducing risk and keeping costs under control.

Table 1: RFP response results.

Proponent	Bid Amount
Draycor Construction Ltd.	\$992,664

OPTIONS

1. **Option 1 (Recommended)** THAT Council:
 1. Awards the Cowichan River Pipes Crossing Protection Project to Draycor Construction Ltd. with an initial cost of \$992,664 and up to a maximum total cost of \$4,500,000 to also cover the time and materials component of the project.
 2. Authorizes the Chief Administrative Officer to enter into a construction contract for up to \$4,500,000 to carry out the above works.

2. **Option 2** THAT Council does not award the contract for the Cowichan River Pipes Crossing Project and postpones the Cowichan River Pipes Crossing Protection Project to 2026.

IMPLICATIONS

Based on river hydraulics this scour hole will not fill in. It is anticipated that more of the DI and PCCP will be exposed in the future. As the scour hole expands, the dike’s integrity will be impacted and could lead to a failure in the dike.

Failure in one or all of the river crossings lines will have environmental implications on the Cowichan River and its aquatic life. Failure of any of the lines will have a severe impact on the residents of CVRD and Cowichan Tribes who use the CVRD line, as well as on South End/Crofton. The DI and PCCP trunk mains supply potable water to approximately 20,000 residents and provide fire protection.

A breach in the south dike would see the Boys Road Water Treatment Facility and the well field inundated with flood waters, as well as the hatchery and residential lands both in North Cowichan and Cowichan Tribes.

RECOMMENDATION

THAT Council:

1. Awards the Cowichan River Pipes Crossing Protection Project to Draycor Construction Ltd. with an initial cost of \$992,664 and up to a maximum total cost of \$4,500,000 to also cover the time and materials component of the project.
2. Authorizes the Chief Administrative Officer to enter into a construction contract for up to \$4,500,000 to carry out the above works.

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