

TO: Committee of the Whole

FROM: Deb Churko
Engineering Technologist

MEETING: May 14, 2019

FILE: 5500-22-24

SUBJECT: Bylaw 1788 – A Cross Connection Control Regulation Bylaw, Water Services

RECOMMENDATION

1. That “Regional District of Nanaimo Cross Connection Control Regulation Bylaw No. 1788, 2019” be introduced and read three times.
2. That “Regional District of Nanaimo Cross Connection Control Regulation Bylaw No. 1788, 2019” be adopted
3. That “Regional District of Nanaimo Bylaw Notice Amendment Bylaw No. 1786.01, 2019” be introduced and read three times.
4. That “Regional District of Nanaimo Bylaw Notice Amendment Bylaw No. 1786.01, 2019” be adopted.

SUMMARY

A Cross Connection Control Regulation Bylaw is required to improve the protection of the public water supply from contamination due to backflow (dirty water flowing back into the water system).

The Bylaw Notice Bylaw amendment is required to include the schedule of penalties for contraventions of the new Cross Connection Control Bylaw once it is implemented.

BACKGROUND

Cross Connection Control Bylaw

While the BC Building Code and the BC Plumbing Code stipulate the type of backflow prevention equipment required on a water service connection, the water purveyor is responsible for protecting the public water supply on an on-going basis after the building permit is complete and all inspections have passed. Backflow incidents can occur when a backflow prevention valve fails to operate as intended, or is removed by the customer without permission. The purpose of the Cross Connection Control Regulation Bylaw is to establish the legal authority for the RDN to ensure that regular testing, maintenance, and reporting on backflow prevention

devices is completed for **high health-hazard** connections to the water system. Many¹ BC municipalities and regional districts have already adopted such a bylaw to mitigate the risk of backflow into the public water supply on an on-going basis, thereby reducing the risk of an event and their exposure to legal liability.

The RDN owns and operates nine public water systems and three parks with drinking water facilities. These water systems operate under the terms of Operating Permits issued by the provincial Ministry of Health. One of the conditions of the permits is to have a Cross Connection Control Program in place to protect the public health by reducing the risk of industrial fluids, gases, sewage, biohazards or other wastes flowing back into the public water supply. There are not many businesses served by the RDN's public water systems that pose **high health-hazard** risks of backflow into the water system. Those businesses falling into this category include wastewater treatment plants, dental clinics, meat processing operations, marinas, and a naval defense base. While the RDN already has a Cross Connection Control Program in place, there are only a few backflow prevention terms listed in *Regional District of Nanaimo Water Use Regulation Bylaw No. 1654, 2012*. The Ministry of Health is encouraging the adoption of a separate, stand-alone Cross Connection Control Regulation Bylaw that can regulate the type of backflow prevention equipment installed on certain types of customers' water service lines, and can mandate the testing and reporting frequency of such backflow prevention equipment.

There are documented incidents of sickness and death across North America where backflow into the public water system has occurred. These situations have led to the development of better public health standards and awareness, but no additional safeguards to the public in the building or plumbing codes. Therefore, it's important to establish a bylaw in the RDN that protects the public water supply from high health-hazard backflow incidents before they arise, thereby reducing the risk of an event and the RDN's exposure to legal liability.

The attached *Cross Connection Control Regulation Bylaw No. 1788, 2019* enables the RDN, as a public water purveyor, to require the installation and maintenance of backflow protection equipment that is commensurate with (equivalent to) the assessed degree of hazard.

Bylaw Notice Bylaw

Penalties for offences committed under bylaws in the RDN are consistently described in *Bylaw Notice Bylaw No. 1786*. Penalties related to contravention of the Cross Connection Control Regulation have been added to this bylaw in amendment 1786.01. For reference, penalties related to another Water Services bylaw, "*Water Use Regulation Bylaw No. 1654, 2012*", are already included in the Bylaw Notice Bylaw.

¹ On Vancouver Island: City of Nanaimo, City of Parksville, City of Port Alberni, City of Campbell River, City of Courtenay, District of Port Hardy, District of North Cowichan, and Capital Regional District

ALTERNATIVES

1. Adopt “Regional District of Nanaimo Cross Connection Control Regulation Bylaw No. 1788, 2019”; and “Regional District of Nanaimo Bylaw Notice Amendment Bylaw No. 1786.01, 2019”, or
2. Do not adopt the Cross Connection Control Regulation bylaw and the amendment to the Bylaw Notice Bylaw.

FINANCIAL IMPLICATIONS

The Cross Connection Control Program, under the RDN Water Services Department, is currently funded by a combination of residential and commercial customer water rates, and direct billing. An annual operating budget of \$5,000 has been in place for several years for the ongoing administration of the Cross Connection Control Program. The cost recovery for backflow prevention equipment will continue to be imposed on new building permits and payable by the applicable permit-holders. However, if existing premises are discovered to be a **high health-hazard** risk of backflow, the property owner will be requested to install additional backflow equipment on their property at their expense. The cost to the customer depends on the size and type of equipment. A testable backflow assembly for a small dental clinic could cost roughly \$500. A testable backflow assembly for a sewage pumping and treatment facility may cost roughly \$10,000.

In keeping with the Board’s strategic plan to be effective and efficient, the Water Services staff will work with customers to determine the most cost-effective solution to mitigate **high health-hazard** risks of backflow into the public water supply. In this regard, customers will have the option to install smaller, less expensive “fixture” isolation equipment wherever possible, in comparison to larger, more expensive “premise” isolation equipment.

The RDN’s water system customers are largely low health-risk residential consumers that already have adequate backflow prevention equipment in place at the water meter. Where commercial customers such as dental offices, shopping centers, wastewater lift stations, and restaurants exist, the RDN’s provincially-certified operators have already identified the degree of hazard posed to the public water system and ensured that the appropriate backflow prevention equipment has been installed. Moving forward, however, if new risks to the water system are identified and the customer is unwilling or unable to install the appropriate backflow prevention equipment, there may be some initial costs to the RDN to purchase this equipment. The customer will subsequently be invoiced for the actual time and expenses incurred, and any unpaid amounts remaining by December 31st of the calendar year in which the work was done will be considered taxes in arrears and collected as debt through the Surveyor of Taxes.

The penalties for offences committed under the Cross Connection bylaw are fully described in “*RDN Bylaw Notice Bylaw Amendment Bylaw No. 1786.01, 2019*” and are summarized in the table below. For reference, these penalties are consistent with those for similar offences in the City of Nanaimo.

**Penalties for Offences Committed Under RDN
Cross Connection Control Regulation Bylaw No. 1788, 2019**

Bylaw Section	Description	Penalty	Early Payment Penalty	Late Payment Penalty
6(b)	Unapproved Connection	\$200	\$150	\$250
7(a)	Prohibited Cross Connection	\$200	\$150	\$250
7(i)	Tamper with Backflow Preventer Assembly	\$200	\$150	\$250
9(a)	Fail to test Backflow Preventer Assembly	\$200	\$150	\$250
9(b)	Fail to provide test report (Backflow Preventer Assembly)	\$200	\$150	\$250
11	Prohibited connection to private water system	\$500	\$375	\$500
12	Prohibited greywater connection	\$500	\$375	\$500

The inclusion of Cross Connection penalties in the Bylaw Notice Bylaw does not preclude the RDN from pursuing more serious matters through injunctive relief or higher fines from the courts where deemed appropriate by the Board.

STRATEGIC PLAN IMPLICATIONS

Focus On Service And Organizational Excellence - As We Invest In Regional Services We Look At Both Costs And Benefits - The RDN Will Be Effective And Efficient

Establishing a Cross Connection Control Regulation Bylaw also meets the Board's Governing Principles:

- To Have Vision and Courage – an increasingly unpredictable future will require courage to take bold actions to realize our vision for a resilient region; and
- To Be Responsive – we will be informed and prepared in order to respond to the needs of the Region in a timely manner, prioritizing projects and activities that advance residents' well-being.

Reviewed by:

- M. Walters, Manager, Water Services
- S. De Pol, Director, Wastewater and Water Services
- R. Alexander, General Manager, RCU
- P. Carlyle, Chief Administrative Officer

Attachments

1. Regional District of Nanaimo Cross Connection Control Regulation Bylaw No. 1788, 2019
2. Regional District of Nanaimo Bylaw Notice Amendment Bylaw No. 1786.01, 2019