



AGRICULTURAL ADVISORY COMMITTEE REPORT

FOR INFORMATION ONLY

To: Agricultural Advisory Committee Members

Date: February 2, 2023

From: Dylon Fellner, Utilities Technical Coordinator

Subject: **Cross Connection Control**

BACKGROUND

History:

The City of West Kelowna consists of four separate water systems that provide water to the residents of West Kelowna. Each of these systems have their own operational needs and challenges based on the size of the system, the water source (upland or Okanagan Lake), and age of the original infrastructure. Two of the oldest and largest water systems, formally known as Lakeview Irrigation District and Westbank Irrigation District, were originally constructed by the agricultural community for the purpose of providing irrigation water from the upland lakes to the parcels in the Westbank and Lakeview areas.

There are also three additional water systems servicing the City of West Kelowna known as the Sunnyside, Pritchard, and West Kelowna Estates water systems. These systems were built and installed with the intent of providing potable water from Okanagan Lake to the residents of their respective service areas. The five legacy water systems continued to operate independently from each other until incorporation.

On the legacy Westbank Irrigation District side of the community, the Powers Creek Water Treatment Plant was commissioned and began providing treated potable water to all that service area's customers in 2007. In 2023, the Rose Valley Water Treatment Plant will be commissioned and starting operations servicing the legacy Lakeview Irrigation District. This new plant along with the current interconnection projects will also extend treated water servicing to the Sunnyside, Pritchard and West Kelowna Estates water systems. Once these two critical projects are complete, all City of West Kelowna service connections will be supplied with fully treated drinking water. With these significant investments by the City to provide a consistent and reliable source of fully treated drinking water, additional on-site improvements must be made to protect these community systems from potential contamination sources via backflow prevention and cross connection control measures. In order to accommodate this, the City has been moving forward on steps to implement a bylaw supported Cross Connection Control Program.

DISCUSSION

What is a Cross Connection Control Program?

A cross connection between any potential source of non-potable water, pollution or contamination from a private property's plumbing system to the City's water system, can pose significant risk. If not appropriately protected, there is a chance that the City's public water distribution system can unfortunately become a conduit for the spread of contaminants to other City water customers. The purpose of a Cross Connection Control Program is to work with the users of the system to protect the public water system from such contamination risks, thereby safeguarding potential threats to public health.

A Cross Connection Control Program is typically initiated by the authority (the City by bylaw) having jurisdiction to administer and regulate the selection, installation, testing, and maintenance of backflow preventors. When it comes to cross connection control the City's responsibility typically ends at the point of delivery where the City no longer has control of the water. Depending on the type of parcel being serviced, this point is typically known as the curbstop, agricultural service, or City water service. Once water leaves the control of the City downstream of the point of delivery, it is recognized that there is a potential that water could become contaminated and, under the right hydraulic conditions, backflow into the City's public water system.

A successful Cross Connection Control Program relies on establishing a relationship with all non-residential owners (Industrial, Commercial, Institutional, and Agricultural) who are required, by bylaw, to be actively involved in the program. Through education and information efforts by both the City and the owner, non-residential water users will need to understand the importance of cross connection control and their responsibilities in order to provide voluntary compliance with City's requirements of the Water Regulation Bylaw.

As part of the City's education before enforcement strategy, all agricultural owners in the City of West Kelowna would have recently received their "Important Notice – Action Required" letter from the City with their annual agricultural metered water invoice in January (attached). This letter provides information and a number of City resources that agricultural owners can pursue to learn more about their cross connection bylaw requirements. Also noted in the letter is a deadline of spring of 2024 to have the appropriate infrastructure installed prior to potential bylaw enforcement.

Bylaw:

The City of West Kelowna Water Regulation Bylaw No. 274 was adopted on July 13, 2021. The purpose of the bylaw was to amalgamate the previous existing bylaws from the five legacy water purveyors into one City bylaw. The City's consolidated bylaw, which is readily available for viewing on the City's website, is to be used to regulate, prohibit, and impose requirements in relation to the distribution, operation, and connection for the use of potable water from the City of West Kelowna's Water Utility.

Section 10 of Bylaw No. 274 specifically refers to the practice of Cross Connection Control where the bylaw states in section 10.3 that:

“The City shall not provide service to a premises until the private water system has been protected from Cross Connections and is in conformance with the CSA B64.10, and with the BC Plumbing Code, Division B, 2.6.2 (Protection from Contamination).”

It is recognized and understood that there may be some agricultural parcels in the City that do not currently meet this bylaw requirement. This is why the City will be providing a reasonable timeline, spring of 2024, for agricultural owners to ensure that they have time to install their on-site, bylaw required, cross connection control infrastructure.

The bylaw applies to all owners in the City of West Kelowna but has special provisions in place for Industrial, Commercial, Institutional, and Agricultural (ICIA) customers. These provisions provide guidance for the ICIA customers regarding some of the unique requirements to operate within the City.

Legal Requirements:

The City of West Kelowna requires a permit from Interior Health to operate as a water purveyor, this permit is renewed on an annual basis. Part of the conditions on the permit requires the City to have a Cross Connection Control Program that identifies water users that require mandatory service protection, identifies & catalogs all backflow prevention devices, and perform cross connection assessments to determine the degree of hazards presents and identify any uncontrolled cross connections.

Backflow prevention devices are also required under BC Plumbing Code – Section 2.6.2 Protection from Contamination. This section of the plumbing code explains how connections to potable water systems shall be designed and installed so that non-potable water or substances that may render the water non-potable cannot enter the system. This is achieved by selecting and installing backflow devices that are in conformance with the Canadian Standards Association B64.10.

The information in the CSA B64.10 relates to the selection criteria, installation, and maintenance procedures for backflow preventors. It is used to determine the degree of identified hazards and the proper device selection to control the pollutant or contamination. Irrigation systems with no chemical injection systems are labeled as moderate hazard, and therefore require a Double Check Valve Assembly to be installed.

New Water Meter Responsibility:

Section 7 of the consolidated Water Regulation Bylaw No. 274 specifically applies to water meters located within the City it states that:

7.1 “A Water Meter shall be installed for each category on every parcel that receives water service from the City as per the Fees and Charges Bylaw.”

and that;

7.5 “The City will specify the type and size of Water Meters for Commercial, Industrial, Institutional, Agricultural, and Multi-Family. Water Meters will be supplied and installed at the owner’s expense and confirmation shall be delivered to the City within 14 days of installation.”

The Water Regulation Bylaw also states that if a meter is damaged, has failed, or is deemed inoperable then Industrial, Commercial, Institutional, Agricultural or Multi-family parcel owners shall be responsible for the cost of the repair or replacement of the water meter.

FINANCIAL IMPLICATIONS

For the ICIA owners, the cost of purchasing, installing, and the annual testing of a backflow prevention device is solely the responsibility of the parcel owner.

In the case that a backflow preventor has not been installed by the April 1, 2024 deadline, then potential bylaw fines up to \$1000 a day may be levied against the parcel owner.

CLOSING

The City of West Kelowna is continuing to implement a Cross Connection Control Program that will require that all agricultural service connections be protected by a testable double check valve assembly installed on private property after the water meter by April 1, 2024. Proof of installation and test reports must be submitted to the City’s Cross Connection Control Coordinator before the deadline to avoid any potential service interruptions in the spring of 2024.

All backflow prevention devices must be tested annually by a certified tester registered with the BC Water and Waste Association. A list of certified testers that operate within the City can be provided by the City’s Cross Connection Control Coordinator.

The City of West Kelowna’s Utilities Division of the Public Works Department looks forward to working with the agricultural community to help us ensure that the City provides clean, safe, potable drinking water to the residents of West Kelowna for many years to come.

Respectfully submitted,

Dylon Fellner, Utilities Technical Coordinator

Powerpoint: Yes

Attachments:

1 - January 2023_Important Notice - Action Required_Letter