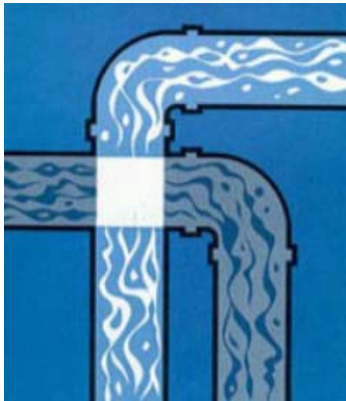
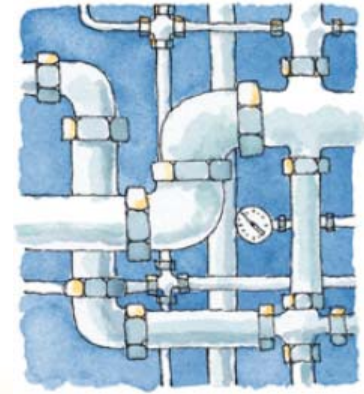


# Overview of the Cross Connection Control Bylaw



October, 2017





# Outline

- Background
- What is a Cross Connection?
- How does Cross Connection occur?
- What is Cross Connection Control?
- Why Cross Connection Control is Important?
- What is a Cross Connection Control Device?
- Approach
- Implementation Considerations
- Next Steps
- Questions and Comments



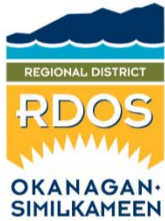
# Background

- RDOS operates 1 and owns/operates 8 water systems
- Currently the RDOS lacks a Cross Connection Control (CCC) Bylaw and Program
- There is CCC within some of the current water regulatory bylaws
  - Requirements for customers to have backflow prevention devices installed



# Background

- CCC is an Interior Health Association requirement for water systems
- CCC helps to meet the requirements of the BC Drinking Water Protection Act and Canadian Drinking Water Quality Guidelines



# Background

- In 2016/2017 three of the RDOS water systems (Naramata, Olalla and West Bench) were audited.
- In the report titled Local Government's Role in Ensuring Clean Drinking Water it was stated that the RDOS should implement a formal CCC program and evaluate it as necessary to prevent

## What is a Cross Connection?

- Any arrangement of pipes, fixtures, or fittings that directly or indirectly connects a non-potable water source (contaminant) to our drinking water
- When a drop in water pressure occurs, the non-potable water can be sucked backwards into the water system through backflow

# Examples of Cross Connection?



- Hose in a pool/drum
- Fertigation irrigation system
- Bottling system
- Commercial kitchen
- Mop Bucket Sink
- Illegal Grow Operations

## Examples of Cross Connection?





# How does Cross Connection occur?

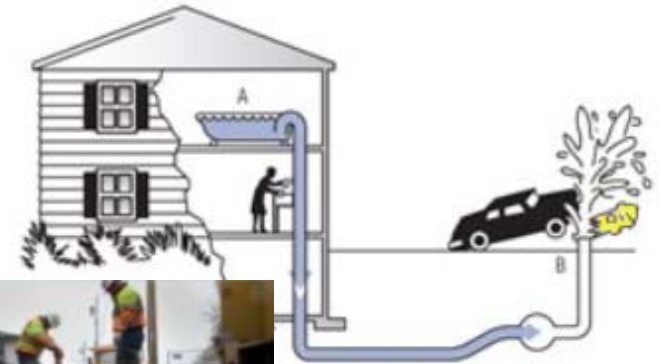
- **Backflow**

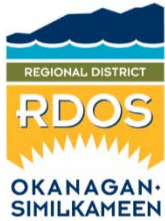
- **Back-siphonage:**

A negative pressure  
In the supply piping  
system

- **Backpressure:**

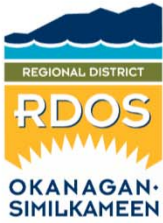
whenever a potable system is connected to a non-potable supply operating under a higher pressure by means of a pump, boiler, etc. there is a high risk that the non-potable water may be forced into the potable system





## What is Cross Connection Control?

- Regulated enforcement to minimize risk of contamination due to cross connection
- A Cross Connection Control program would monitor:
  - Installation
  - Maintenance
  - Field testing of backflow preventers
  - In accordance with local bylaws and other codes and standards



## Why Cross Connection Control is Important?

- A CCC Program will help ensure the water supplied by the RDOS to our residents remains clean and uncontaminated
- Reduce system shut down times and clean up due to back flow incidents
- Increase resident confidence and raise CCC awareness

## Why Cross Connection Control is Important?

- Demonstrate due diligence and regulatory compliance
- Reduce liability
- It will reduce or eliminate water contamination risks in our water system



## What is a Cross Connection Control Device?

- Reduced-pressure (RP) principle assembly



- Pressure vacuum breaker assembly
- Double-check valve assembly



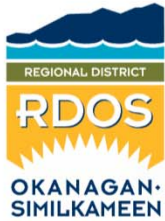
(DCVA)



- Registered Air Gaps

# Approach

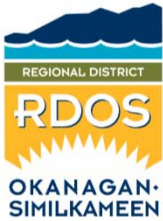
- Create a bylaw (2017), program and implementation (2018) which provides guidelines for controlling cross connections
- Ability to require CCC on all ICI, Agricultural and Residential water connections the have a cross connection
- Ability to enforce CCC compliance and apply fines/penalties and/or turn off the water service as required



# Approach

- Where a cross connection exists a Customer must:
  - Install an Approved Backflow Prevention Assembly or Device at the location of the water service connection
  - Maintain, repair and replace the assembly/device as required
  - Have a certified Backflow Assembly Tester conduct a test of the Device and provide the test report to the RDOS
    - Annually
    - After an installation, repair, replacement or relocation

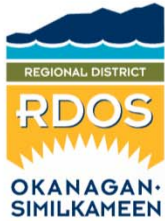
**This applies to Industrial, Commercial & Institutional (ICI), Agricultural and Residential**



# Approach

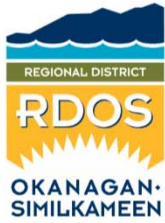
- Agricultural Irrigation that has been assessed to require CCC must:
  - Have a Device installed prior to the agricultural service connection turn on
  - Have a certified Backflow Assembly Tester conduct a test of the Device (within 30 days of irrigation turn on) and provide the test report to the RDOS (within 14 days following the test)





# Implementation Considerations

- Cross Connection Control Program Phased Implementation:
  1. Create Bylaw, Policy and Procedures
  - 2. Begin with an extensive Consultation and Educational Program**
    1. Including Assessment Surveys
  3. CCC Database and Tracking
  4. Escalating Enforcement



# Implementation Considerations

- Address high and severe hazard water use processes first:
  - 1) Industrial, Commercial & Institutional (ICI)
  - 2) Agricultural
  - 3) Residential

# Next Steps

Complete draft (with board, staff, public input)



Internal management review



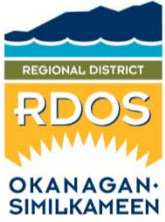
Legal review



Readings and Approval of Bylaw



Implementation



# Questions & Comments