

## What is a backflow preventer or assembly?

Backflow preventers are devices placed on cross connections to prevent water from backflowing into the public water distribution system.

The Town of Golden Cross Connection Control Bylaw No. 1282, 2011, & subsection 7.6.2. of the BC Building Code, requires the installation of an approved backflow preventer.

For a typical Industrial / Commercial / Institutional service, a Double Check Valve (DCVA) or a Reduced Pressure Backflow Assembly (RP) generally meets this requirement.

Please note irrigation systems and fire sprinkler / suppression systems require separate backflow protection. The applicable backflow preventer shall be selected and installed in conformance with CAN/CSA B64-10 "Manual for the selection & installation of Backflow prevention devices.



Double Check Valve Assembly



Reduced Pressure Backflow Assembly

## Another consideration with for facilities

### Thermal Expansion

When a check valve, pressure reducing valve or backflow preventer is installed in the service pipe a "closed system" is created. Provisions must be made for thermal expansion in these cases.

Sentence 7.6.1.11.(1) requires protection against thermal expansion. To accommodate the increase in pressure caused by thermal expansion within a closed system, one of the following should be installed:

- A suitably sized diaphragm expansion tank designed for use with potable water system; or
- An auxiliary temperature & pressure valve (T&P Valve) conforming to CAN/CSA-B125, "Plumbing Fittings", set at a pressure of 550 kPa (80 psi) or less and designed for repeated use.

## You Can Help!

There are many things you can do to help prevent contamination of the public water system due to backflow.

**Irrigation systems:** Ensure an approved backflow device is installed, in good working order and is tested annually if it requires testing.

**Outside hose bibs:** Ensure that outside water hoses are protected with hose bib vacuum breakers installed on the facet being used. Most plumbing and hardware stores stock this type of backflow preventer.



Frost Free Outside Tap  
with Hose Bib Vacuum Breaker

**Boilers, Geo-Thermal & Cooling Systems:** Ensure that there is an approved backflow assembly on the connection between the main water supply and makeup to these systems.

**Private Wells / Auxiliary Water systems:** Ensure that well systems are not interconnected to the public water distribution systems.

For additional information and any questions or concerns regarding backflow and cross connections, please contact our Cross Connection Control Officer at (250) 344-2271. It is the responsibility of everyone to keep our drinking water safe...by doing your part, we can ensure the highest standard of water quality provided by the Town.



PO Box 350, 810S. 9th Avenue  
Golden BC V0A 1H0

Phone: 250.344.2271 Fax: 250.344.6577  
E-Mail: [enquires@golden.ca](mailto:enquires@golden.ca) Website: [www.golden.ca](http://www.golden.ca)

## Backflow Protection and Cross Connections



## What you need to know about Backflow Protection

Town of Golden  
Cross Connection Control Program

# Backflow Protection and Cross Connections

As a Town of Golden water customer, you expect your drinking water to be safe. We are committed to providing you the healthiest, highest quality water, but we need your help to prevent contamination through backflow to keep our water safe throughout the system.

Customers who have cross connections are responsible for preventing contaminants from entering the public water system through their individual plumbing system by installing and maintaining approved backflow prevention devices. The following is a list of the most frequently asked questions about cross connections and backflow prevention.

## What is a Cross Connection?

A “Cross Connection” is any actual or potential physical connection between the Town’s waterworks system (directly or in-directly) and any non-potable or unapproved private water supply system, sewer, drain, well, sewage, or other waste of unknown or unsafe quality which is capable of contaminating the public water supply as a result of back siphonage or back pressure. The result is contaminants entering the drinking water distribution system.

## What is backflow and why is backflow protection necessary?

Drinking water normally flows in one direction (from the Public water system to the Private service connection), although under certain circumstances it can flow in the opposite direction, known as “backflow”.

A backflow incident can happen at any time. All that is needed is a water pressure drop in the public water system main line, most commonly caused by fire fighting, hydrant flushing, a water main break, or extremely high usage demand on the water system. Any unprotected connection to a non-potable source could be siphoned back into the public water system, which would result in a contamination of the water distribution system.

Backflow protection is an important aspect of ensuring safe drinking water is maintained at the highest standard.

It is a luxury we all enjoy with regulations and considerable expense. By maintaining the highest drinking water quality possible for our community, water protection and conservation requires the effort and cooperation of everyone to keep this standard high.



## What are some common examples of cross connections?

Some examples include commercial fire systems, wells or auxiliary water systems, lawn irrigation systems, boilers for heating, cooling systems, and direct connect filling to swimming pools and hot tubs. The most common cross connection is from outside taps with hoses connected to them that are connected to chemical spray dispensers.



## Common hazards that are serious cross connections

### Chemical Spray Applicators

The chemicals used on your landscaping can be toxic or fatal if ingested. These chemicals include pesticides, herbicides, and fertilizers.

Even strong cleaning chemicals sprayed on vehicles, building siding, etc., could cause health problems if ingested.



### Submerged Hoses

Water held in pools, ponds or other vats open to the air and exposed to humans or animals may contain microbiological contaminants.

Hoses submerged in buckets or containers can act as a conduit for contaminants under backflow conditions.

### Underground Lawn Irrigation Systems

Underground irrigation systems often have puddles of standing water around the ground level sprinkler heads. The sprinkler heads are not designed to be drip tight under backflow conditions. The puddles of water may contain microbiological contaminants, such as excrement from animals or chemical residue from fertilizer and herbicides sprayed on the lawn.

## Protection of the Town of Golden water distribution system

The Town of Golden is required by the Interior Health Authority, as indicated on our “Permit to Operate”, to have an operational and active Cross Connection Control Program. And in accordance with current CSA standards, the Town ensures that all connections to the water distribution system are adequately protected by backflow devices in accordance with the degree of hazard the property exhibits. By following these set standards, we are able to maintain and ensure the water we provide is of the highest quality.



Cross Connection Control Program  
Est. 2005

## What is the responsibility of a building owner, property owner and water supplier?

The Town of Golden is responsible for water quality and for implementing and maintaining a cross connection control program to prevent contamination of the public water system. Our responsibility ends at the outlet side (the customer’s side) of the water meter. Once the water is on the outlet side of the water meter or service connection, responsibility and liability falls to the owner of the property. With the cooperation of our customers, the Town can ensure that possible contamination from backflow can be minimized.

