

## Additional Backflow Device-Specific Requirements

### Lawn Irrigation Atmospheric Vacuum Breaker

Shall not be installed when the subjected to continuous pressure. Down stream shut off valves are not permitted.

Lawn irrigation systems with chemicals introduced into the system's drinking water supply via installed product tanks and/or pumping systems shall be protected against backflow by a reduced pressure principle backflow preventer (RPZ) tested pursuant to ASSE 1013 or other approved testing in accordance with the Wisconsin Residential Code.

The potable supply to a boiler (15 psi or less / untreated) must be equipped with a backflow preventer with an intermediate atmospheric vent compliant with ASSE 1012 or other approved testing.

The potable water supply to a solar energy system must be protected with a backflow preventer with an intermediate atmospheric vent compliant with ASSE 1012 or other approved testing. Where chemicals are used, the system must be protected with a reduced pressure principle backflow preventer (RPZ) tested pursuant to ASSE 1013 or other approved testing.

Water supplies to pool fills, fire sprinkler systems and water-activated sump pumps must also be protected again backflow and back pressure.

Visit the United States Environmental Protection Agency's website for more information.  
<https://www.epa.gov/dwcapacity/distribution-resources-small-drinking-water-systems-0>

## Who may test, repair and install backflow assemblies?

Pursuant to State of Wisconsin (State Plumbing Act), only Licensed Plumbing Contractors may perform work on a commercial, industrial, or residential plumbing system. Act 733 states that backflow preventers are a part of the plumbing systems, and that only Licensed Plumbers may perform work on them.

You must obtain the services of a certified backflow testing / Licensed Plumbing Contractor to perform backflow assembly testing, installations, relocations and repairs. If a backflow preventer is to be replaced or installed, a Plumbing Permit must first be Obtained from City Hall.

## Why is testing required?

Backflow assemblies are mechanical devices and are subject to failure from wear and tear, corrosion, freezing, water conditions, and misuse. Testing ensures that the assemblies are operating as required to prevent backflow of contaminated water into the public drinking water supply.

## How much does testing cost?

Residents should contact a licensed plumber to obtain pricing to test their residential backflow devices. Cost of testing varies between contractors and by the number of backflow devices within the plumbing system.

### **For more information contact:**

City of Shawano  
Department of Public Works  
Water & Sewer Division  
2905 E Richmond St.  
Shawano, WI 54166  
715-526-3512  
[www.cityofshawano.com](http://www.cityofshawano.com)



City of Shawano  
Department of Public Works  
Water & Sewer Division

## Residential Cross Connection Control Program

## Frequently Asked Questions

# All testing must be performed by a licensed plumbing contractor

## What is a Cross Connection?

A Cross Connection is any arrangement of piping on a building's plumbing system that could result in backflow of contaminants into the public drinking water supply system. A common example is a garden hose attached to an outdoor hose faucet with the end of the hose lying in a mud puddle. Other examples are hoses attached to a laundry tub with the end of the hose submerged in a tub full of detergent, supply lines connected to bottom-fed tanks, and supply lines connected to boilers.

## What is backflow?

In Cross Connection terms, a backflow refers to a reversal of flow from a building's plumbing system back into the public drinking water supply system. A backflow may occur when there is a pressure drop in the public drinking water supply system from a water main break or other failure. A Backflow may also occur when a plumbing fixture such as a boiler or pump generates more pressure than the public supply system and pushes water back into the public drinking water supply system.

## What are common causes of backflow contamination?

Irrigation systems may contain pesticides, herbicides, and biological organisms such as bacteria and worms, animal droppings and other contaminants.

Garden hoses may be submerged in swimming pools, mud puddles, utility sinks, buckets, etc. and can act as a siphon hose.

Boilers create back pressure that pushes contaminated water back into the water supply. Boiler tanks can contain bacteria and mold.

## Responsibilities

The City of Shawano Department of Public Works Water and Sewer Division is the entity charged with providing safe drinking water to Shawano residents and businesses. State and Federal Laws (Safe Drinking Water Acts) require that the City of Shawano protect the public water supply to the customer's tap. The Plumbing Code, Wisconsin Residential Code, and the City of Shawano Code of Ordinances also require that the City verify that cross connections on private plumbing systems do not pose a contamination risk to the public water supply through the enforcement of the Wisconsin Department of Natural Resources (WDNR) Law and Rules for Cross Connection Control.

As part of the cross connection control program, the Water and Sewer Division will be performing inspections of residential cross connections to ensure that backflow prevention devices are installed on plumbing systems. This may include testable and non-testable devices. Testable devices must be tested.

Consumers also share in the responsibility for protecting the water supply by properly maintaining their plumbing systems in a safe condition.

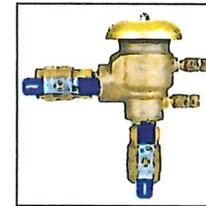
**Due to the recent WI DNR requirements for all residential properties to be included in a municipality's Cross Connection Program, the City of Shawano Water & Sewer Division shall require that all testable backflow devices be tested every 3 years.**

**This shall require a licensed and approved Certified Backflow device testing plumber to access the property to perform testing on, and repair or replace, if necessary, all testable backflow assemblies at the resident's expense.**

## Typical Testable Backflow Device

### **Pressure Vacuum Breaker (PVB) installed in Lawn Irrigation System under continuous pressure**

This backflow prevention device is common to post irrigation systems and is typically installed on the outside of the building or residence. The device is designed to prevent any irrigation system contaminants such as pesticides or herbicides from back flowing into the public water supply system. An approved PVB is required on all irrigation systems except under circumstances when specific exceptions are met.



## Typical Non-Testable Backflow Device

### **Hose Bib Vacuum Breaker**

This backflow prevention device is common to most hose bib systems and is an effective way of preventing contaminants from back flowing through a garden hose and into the public water supply system. An approved Hose Bib Vacuum Breaker is required on all hose bibs. Various types of devices are commercially available such as frost free and anti-siphon.

