

Did you know...

Your water can become contaminated if connections to your plumbing system are not properly protected!

The purpose of the local Cross-Connection Control Program, as required by State Plumbing Code and Regulations, is to ensure that everyone in the community has safe, clean drinking water.

Public Health & Safety...

To avoid contamination, backflow preventers are required by state plumbing codes wherever there is an actual or potential hazard for a cross-connection. The Wisconsin Department of Natural Resources requires all public water suppliers to maintain an on-going Cross-Connection Control Program involving public education, onsite inspections, and possible corrective actions by building owners if required.

More Information

WI Department of Safety and
Professional Services (formerly DOC)
www.dps.wi.gov



WI Department of Natural Resources
www.dnr.wi.gov



Environmental Protection Agency (EPA)
www.epa.gov

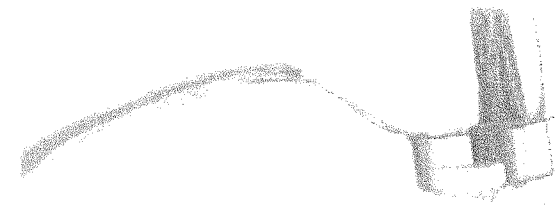


Cross-Connection Control / Backflow Prevention
www.hydrodesignsinc.com/wicc.html

Drinking Water Information

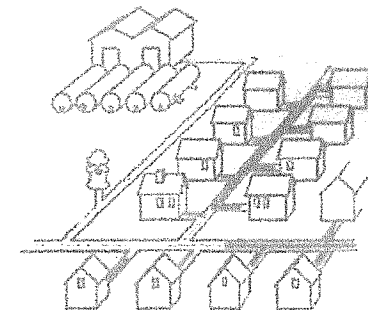


VILLAGE OF
BAY CITY
P O BOX 9
BAY CITY,
WI 54723



Residential Water User Cross-Connection Hazards

Bathrooms & Kitchens



We're All Connected.....

Maintaining the integrity of your
public drinking water system.

VILLAGE OF BAY CITY

PUBLIC WORKS DEPARTMENT

P O BOX 9

BAY CITY, WI 54723

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What is a Cross-Connection?

A cross-connection is an actual or potential connection between the safe drinking water (potable) supply and a source of contamination or pollution. State plumbing codes require approved backflow prevention methods to be installed at every point of potable water connection and use. Cross-Connections must be properly protected or eliminated.

How does contamination occur?

When you turn on your faucet, you expect the water to be as safe as when it left the treatment plant. However, certain hydraulic conditions left unprotected within your plumbing system may allow hazardous substances to contaminate your own drinking water or even the public water supply.

Water normally flows in one direction. However, under certain conditions, water can actually flow backwards; this is known as Backflow. There are two situations that can cause water to flow backward: back siphonage and backpressure.

Backsiphonage

May occur due to a loss of pressure in the municipal water system during a fire fighting emergency, a water main break or system repair. This creates a siphon in your plumbing system which can draw water out of a sink or bucket and back into your water or the public water system.

Backpressure

May be created when a source of pressure (such as a boiler) creates a pressure greater than the pressure supplied from the public water system. This may cause contaminated water to be pushed into your plumbing system through an unprotected cross-connection.

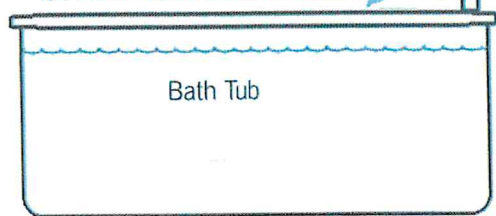
In the Bathroom - Hand Held Shower Fixture

The hand held shower fixture is compliant if:

- When shower head is hanging freely, it is at least 1" above top of the flood level rim of the receptor (tub)
- Complies with ASSE#1014
- Has the ASME code 112.18.1 stamped on the handle



1" Minimum AIR GAP Above Tub From Fixture Outlet

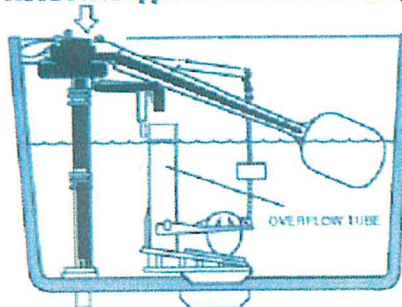


In the Bathroom - Toilet Tanks

There are many unapproved toilet tank fill valve products sold at common retailers which do not meet the state plumbing code requirements for backflow prevention.

- Look for the ASSE #1002 Standard symbol on the device and packaging
- Replace any unapproved devices with an ASSE #1002 approved anti siphon ball-cock assembly. Average cost is typically \$12 to \$22 at home improvement stores
- Verify overflow tube is one inch below critical level (CL) marking on the device

ASSE #1002 Approved Ball Cock Assembly



Toilet water tank

Insights to protect your drinking water

Do...

- Keep the ends of hoses clear of all possible contaminants.
- Make sure dishwashers are installed with a proper "air gap" device.
- Verify and install a simple hose bibb vacuum breaker on all threaded faucets around your home.
- Make sure water treatment devices such as water softeners have the proper "air gap", which is a minimum of one inch above any drain.

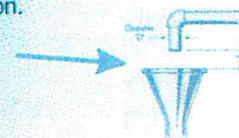
Hose bibb Vacuum Breaker



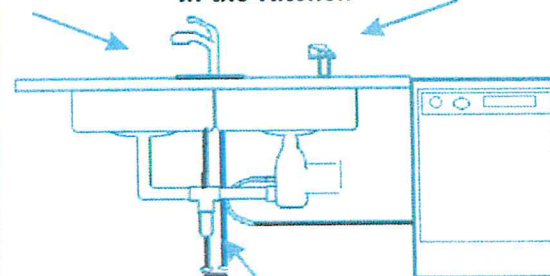
Don't...

- Submerge hoses in buckets, pools, tubs, sinks or ponds.
- Use spray attachments without a backflow prevention device.
- Connect waste pipes from water softeners or other treatment systems directly to the sewer or submerged drain pipe. Always be sure there is a one inch "air gap" separation.

Air Gap

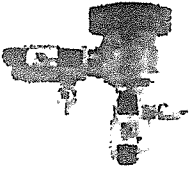


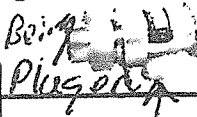

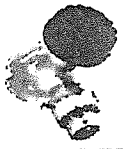

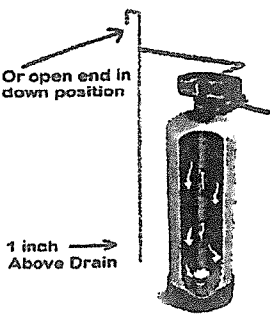


In the Kitchen



Hoses and water treatment devices may create a potential backflow hazard if not properly isolated with backflow prevention methods.

Cross Connection Control Program - Requirement Reference Sheet Page 4

Backflow Preventer	Specific Required Corrective Action:	Required ?
	<p><u>Lawn Sprinkler Backflow Preventers</u> If box "A" is checked - Install Pressure Vacuum Breaker with Product Standard Approval # ASSE 1020 in Supply to Lawn Irrigation System. Device must be tested and registered with the Dept of Commerce by a Certified Tester upon installation. <u>Location/Comments:</u></p>	A <input type="checkbox"/>
	<p><u>Toilet Tank Anti-Siphon Valves</u> If box "B" is checked - Install Anti-Siphon Ballcock Assembly with Product Standard Approval # ASSE 1002 inside toilet water tank. This device may be installed by homeowner and purchased for less than \$20 at hardware/home improvement stores. <u>Location/Comments:</u></p>	B <input type="checkbox"/>
	<p><u>Boiler Backflow Preventer - High Hazard Type</u> If box "C" is checked - Install Reduced Pressure Principle Backflow Preventer with Product Standard Approval # ASSE 1013 in Supply to Chemically Treated Boiler System. Device must be tested and registered with the Dept of Commerce by a Certified Tester upon installation. <u>Location/Comments:</u></p>	C <input type="checkbox"/>
<p>Check for it Being Plugged</p> 	<p><u>Boiler Backflow Preventer - Low Hazard Type</u> If box "D" is checked - Install Vented Dual Check Valve Product Standard Approval # ASSE 1012 in Supply to Non-Chemically Treated Boiler System. Consult a licensed plumber for proper installation. <u>Location/Comments:</u></p>	D <input type="checkbox"/>
	<p><u>Outside Hose Bibb Fixture</u> If box "E" is checked - Install Hose Bibb Vacuum Breaker Product Standard Approval # ASSE 1011 on hose threads of hose bibb or install ASSE # 1019 fixture. For cold weather/season installation, make sure hose is disconnected and relief valve has drained any water contained within the hose bibb. During winter/ below freezing weather, shut off interior control valve supply to each exterior hose bibb and open to drain the hose bibb fixture to prevent freezing and expansion damage. <u>Location/Comments:</u></p>	E <input type="checkbox"/>
	<p><u>Standard Hose Bibb</u> If box "F" is checked - Install Hose Bibb Vacuum Breaker Product Standard Approval # ASSE 1011 on hose threads of hose bibb. This device may be installed by homeowner and purchased for less than \$15 at hardware/home improvement stores. <u>Location/Comments:</u></p>	F <input type="checkbox"/>
	<p><u>Laundry Tub Threaded Fixture</u> If box "G" is checked - Install Hose Connection Vacuum Breaker Product Standard Approval # ASSE 1011 on hose threads of Laundry Tub Faucet. This device may be installed by homeowner and purchased for less than \$15 at hardware/home improvement stores. <u>Location/Comments:</u></p>	G <input type="checkbox"/>
 <p>Or open end in down position</p> <p>1 inch Above Drain</p>	<p><u>Water Softener Back Flush Drain Hose</u> If box "H" is checked - Install a minimum 1" physical air gap between Back Flush Drain Piping or install an open ended "T" with elbow in the downward position and open to atmosphere to prevent backflow potential. This correction may be installed by homeowner and corrected for less than \$15 with materials available at hardware/home improvement stores. <u>Location/Comments:</u></p>	H <input type="checkbox"/>

Definitions

“Normal Kitchen and Bathroom fixtures”- Plumbing fixtures that can normally be found in a typical kitchen and bathroom.

“Complete Description of a cross connection control program” - A written summary of the program listing who is conducting the surveys, the schedule for initial and follow up surveys, forms used during the survey(s), public education materials & distribution methods, a copy of the ordinance establishing the cross connection control program & provisions for disconnection service to properties where uncorrected cross connections exist and may pose a hazard to the water supply and an annual report template.

“Time schedule for follow up surveys” – A schedule and process for follow up surveys, or other means to document that corrections have been made.

“Public Education materials”- Copies of the materials used to educate customers on what cross connections are, plumbing fixtures that can lead to cross connections and the types of plumbing situations where cross connections can occur; and a description of the methods used to distribute and make such materials available to the customers.

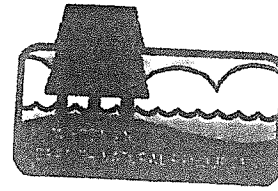
“Alternate Schedule for surveys”- Any schedule used by the water system for initial and follow up cross connection surveys other than the schedule listed in NR 810.15(1)(c) for each class of customer.

“Commercial properties of similar or lesser risk to residential properties”- Those properties that are defined as “commercial” by the utility and only contain normal kitchen and bathroom fixtures as defined above.

Cross Connection Control Program *

Why?

NR 810.15



NR 810.15 Cross connections and interconnections.
Unprotected cross-connections are prohibited. Cross-connections shall be protected as required in Chapter Comm 82.41.

(1) **CROSS CONNECTION CONTROL PROGRAM.** In order to protect the public water supply system, the water supplier for every municipal water system shall develop and implement a comprehensive cross connection control program for the elimination of all existing unprotected cross-connections and prevention of all future unprotected cross-connections to the last flowing tap or end-use device. The program may include providing public education materials in lieu of inspections of low hazard portions of residential or commercial facilities. Low hazard areas consist of normal kitchen and bathroom fixtures. The water supplier shall keep a current record of the cross connection control program available for annual review by the department. The cross connection control program shall include:

(A) Complete description of the program and the administration procedures, including designation of the inspection or enforcement agency or agencies.

(B) Local authority for implementation of the program, such as ordinance or other governing rule.

(c) A time schedule for public education materials, surveys and follow up surveys of consumer premises for cross connections including appropriate record keeping. Unless otherwise authorized by the department, water suppliers for each municipal water system shall cause a survey to be conducted for every residential service a minimum of once every ten years or on a schedule matching meter replacement. Public educational materials, when being provided in lieu of low hazard inspections, shall be provided to the customer no less than every 3 years and with every cross connection survey. Unless a detailed alternative schedule is included in the cross connection control program and is approved by the department, water suppliers for each municipal water system shall cause a survey to be conducted for every industrial, commercial and public authority service a minimum of once every 2 years. Commercial properties of similar or lesser risk to residential properties may follow the same schedule as residential properties. Completed survey results shall be maintained by the water supplier until corrections and follow up surveys have been made.

(d) A complete description of the methods, devices, and assemblies which will be used to protect the potable water supply. Compliant methods, devices and assemblies are listed in s. Comm 82.41.

(e) Provisions for denial or discontinuance of water service, after reasonable notice, to any premises where an unprotected cross connection exists or where a survey could not be conducted due to denial.

(f) Submission to the department of a copy of an ordinance establishing a cross connection Control Program, an annual report including a total number of all service connections by Category and a report indicating the number of surveys completed in each category for that year.

(2) **INTERCONNECTIONS WITH OTHER ACCEPTABLE WATER SOURCES.** Interconnections between the public water supply system and another source of water are prohibited unless permitted by the department in individual cases. Approval of the department shall be obtained prior to the interconnection.

History: CR 09-073; cr. Register November 2010 No. 659, eff. 12-1-10.

Requires municipal water suppliers have CCC Program in place

Program must be documented and inspections on a time schedule

Inspection frequency and facility hazard type must be authorized by DNR

Must refer to SPS 382.41 plumbing code

All well to city water interconnections must be permitted individually by DNR

Residential



Notes:

