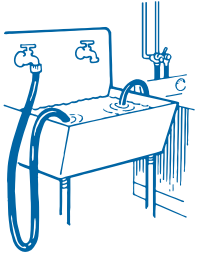
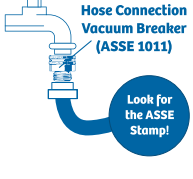
RESIDENTIAL CROSS CONNECTION CONTROL



What is a cross connection? A cross connection (see diagram) is a connection or potential connection between the water supply system and a contaminant source. Examples: a garden hose with one end submerged in soapy water, fertilizer, or a swimming pool; a supply line to a boiler; a toilet; or a lawn irrigation system.

Why should I be concerned? Under certain circumstances, a cross connection can allow the **backflow** of undesirable or toxic substances into your drinking water or the municipal water supply. This unwanted reversal of normal flow in the drinking water system may occur during system maintenance or repairs when water pressure is lower than normal. Although infrequent, backflow incidents usually occur when conditions known as back siphonage exist within the water supply system.

What is back siphonage? Back siphonage is caused by negative pressure or a vacuum. It can occur during repairs resulting from a water main break or hydrant use for flushing or firefighting. Each of these events can lower system water pressure and lead to back siphonage.

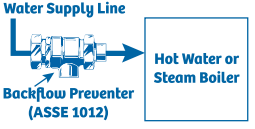


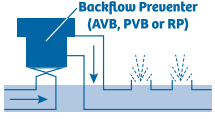
Common household hazards. The most common household cross connection is the hose connection (garden hose or utility sink). Toilets, boilers, irrigation systems, and dialysis equipment are other potential hazards in and around the home.

Hose Connections - Hoses are extensions of the water system. To ensure that no harmful materials are drawn back into a hose, a vacuum breaker should be installed on each hose connection (see left). Newer homes often have vacuum breakers incorporated into the building's plumbing; in many cases, no additional protection is required.

RESIDENTIAL CROSS CONNECTION CONTROL continued

Boilers - Pressure build-up due to the expansion of water in a boiler can result in low-quality water being pushed back into the water supply line, or worse, into your drinking water supply. A **backflow preventer** (right) is required to eliminate this risk.





Lawn Irrigation System - Irrigation systems help with watering the lawn; however, if not properly installed, lawn chemicals or other contaminants may enter your drinking water. Protection can be provided by installing an atmospheric vacuum breaker [AVB] or a reduced pressure principle backflow preventer [RP].

Toilets - Toilets flush water and waste to the sewer system. The float valve (anti-siphon ballcock) inside the toilet tank must be the correct type [ASSE 1002]. In addition, the anti-siphon ballcock and fill valve must be above the overflow tube in the tank.

Examples of backflow protection. An air gap provides the highest level of protection. However, hose connection vacuum breakers and RP assemblies can be suitable alternatives based on the degree of hazard for a given application. In the "typical" home, inexpensive vacuum breakers provide adequate protection for most applications. Make sure to only use listed or approved devices; the device should have an ASSE stamp on it.

What should I do now? Check your home and reduce these hazards with the proper backflow preventer. Please contact the City of Madison Water Utility, **608.266.4654,** madisonwater.org, if you need assistance. A licensed plumber can also provide recommendations.

Madison Water Utility