

Cross Connection and Backflow Prevention

All non-residential customers are required to take steps to prevent cross connections and backflow to the water system. This includes the installation of an approved backflow prevention device and having it tested annually. Residential customers are also required to install backflow prevention devices.

Failure to comply can result in water service disconnection. The City of Morrison Water Department can help to determine if you are in compliance with the regulations, and we are available to answer any questions that you may have related to backflow prevention.

What is a cross connection and backflow?

Cross Connection is any actual or physical connection between a potable (drinkable) water supply and any source of non-potable liquid, solid or gas that could contaminate drinking water under certain circumstances.

Backflow is the reverse flow of water or other substances into the treated drinking water distribution system. There are two types of backflow: backpressure and backsiphonage.

1. **Backpressure** happens when the pressure of the contaminant source exceeds the positive pressure in the water distribution main. An example would be when a drinking water supply main has a connection to a hot water boiler system that is not protected by an approved and functioning backflow preventer. If pressure in the boiler system increases to where it exceeds the pressure in the water distribution system, backflow from the boiler to the drinking water supply system may occur.
2. **Backsiphonage** is caused by a negative pressure (vacuum or partial vacuum) in the water distribution system. This situation is similar in effect to the sipping of water through a straw. Negative pressure in the drinking water distribution system can happen because of a water main break or when a hydrant is used for firefighting.

Why backflow prevention is important

Drinking water that meets regulations leaving the water treatment facility can become contaminated in the distribution (pipeline) system by backflow when:

- A drinking water distribution main is unprotected because of the lack of a properly installed and functioning backflow prevention device on the service connection at the customer's supply.
- A physical cross connection is made between the drinking water distribution main and a contaminant source.
- Backflow conditions occur.

How to prevent backflow contamination

Backflow contamination can be prevented. All water utility customers are required to have approved and functioning backflow-prevention devices installed.

Installation of backflow prevention devices can be completed by an independent plumbing contractor and then tested by a licensed cross connection control device Inspector. The cost of the device and installation is the responsibility of the customer. We recommend that customers obtain cost estimates before installation.

In addition to installing these devices, regulation mandates that non-residential water customers and residential customers with testable backflow prevention devices installed have these devices tested on an annual basis by a qualified tester. For a list of qualified testers please call City Hall at 815-772-7657.