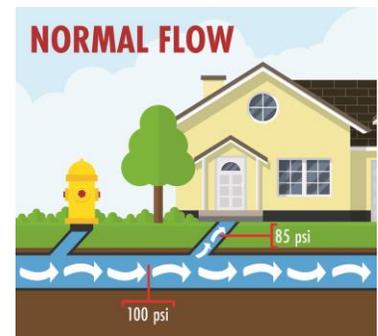


State law (Florida Administrative Code 62-555.360) as well as plumbing codes set requirements for cross connection control programs. Orange County revised its Cross Connection Control Program and effective January 1, 2018, the ownership, testing, repair, and replacement of residential backflow devices is handled by Orange County Utilities. Here are some frequently asked questions about this program:

1) *How does a drinking water system operate?*

Orange County's water begins its journey primarily as rainwater that is filtered naturally through hundreds of feet of sand and rock. It eventually comes together beneath the county in a freshwater reservoir known as the Floridan Aquifer. The water is pumped from wells and treated at a plant then disinfected with chlorine. It then is pumped into a different set of pipes that supply homes and businesses with drinking water, which is sometimes called potable water.

Typically the treated drinking water pumping provides steady water pressure and quality drinking water into a home. Every time a customer turns on the tap, they expect quality drinking water that is free from any harmful contaminants. Orange County Utilities maintains one of the safest, highest quality drinking water systems in the nation for over 138,000 households.



2) *What is a cross connection?*

A cross connection is a connection between a public drinking water system and a potential source of pollution or contamination. Examples of pollution include gases, liquids, chemicals, or solids from other connected pipes that can change the color, add contaminants or add odors to the water. Contamination could result in a health hazard that could lead to serious illness. Any temporary or permanent plumbing connections (bypass arrangements, jumper connections, removable sections that swivel, change over assemblies, etc.) through which backflow may occur are considered to be cross connections.

3) *What is backflow?*

Backflow is the undesirable reversal of non-potable fluids or other substances through a cross connection to the public drinking water system or to the consumer's potable water system. Two types of backflow conditions that may cause the undesirable fluids to mix with drinking water in the event of a cross connection are back pressure and backsiphonage.

4) *What are common examples of cross connections?*

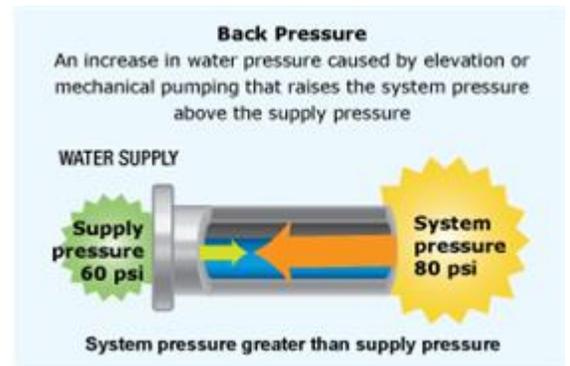


Any in-ground irrigation system could cause a cross connection and is at risk for backflow without a backflow preventer. A common cross connection is a common garden hose attached to your outdoor spigot with the hose outlet end lying in a pool or inserted into a sewer clean out. Other examples include a garden hose inserted in a car's antifreeze-containing radiator for flushing or a hose attached to a chemical sprayer for weed killing. Again, a cross connection would be any drinking water supply connected to any non-drinking water supply.

5) *What is a backflow preventer?*

Backflow prevention is the control of cross connections, stopping the reverse flow of contaminated water from its source to the utility's water supply system. There are several ways to accomplish backflow prevention. The steps to cross connection control include understanding cross connections through articles and websites, formal training in cross connection control, using backflow prevention devices, and eliminating the contaminated sources.

Back pressure may cause backflow to occur whenever the drinking water system is connected to a non-potable supply such as reclaimed water operating under a higher pressure by means of a pump, boiler, elevation difference, air or steam pressure, and so forth. There is a high risk that the non-potable water may be forced into the drinking system if these interconnections are not properly protected by a backflow preventer.

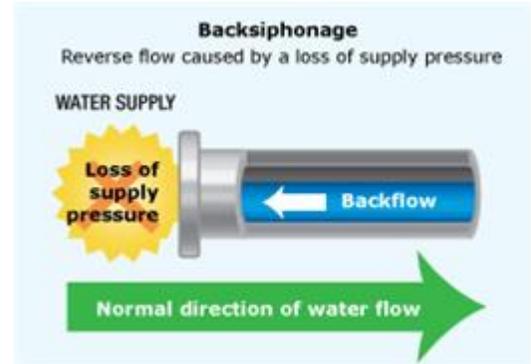


Backflow preventers come in all shapes and sizes depending on use and application. Orange County Utilities will ensure that the right device is matched with the proper use. Typically, these devices are located adjacent to a customer's water meter.



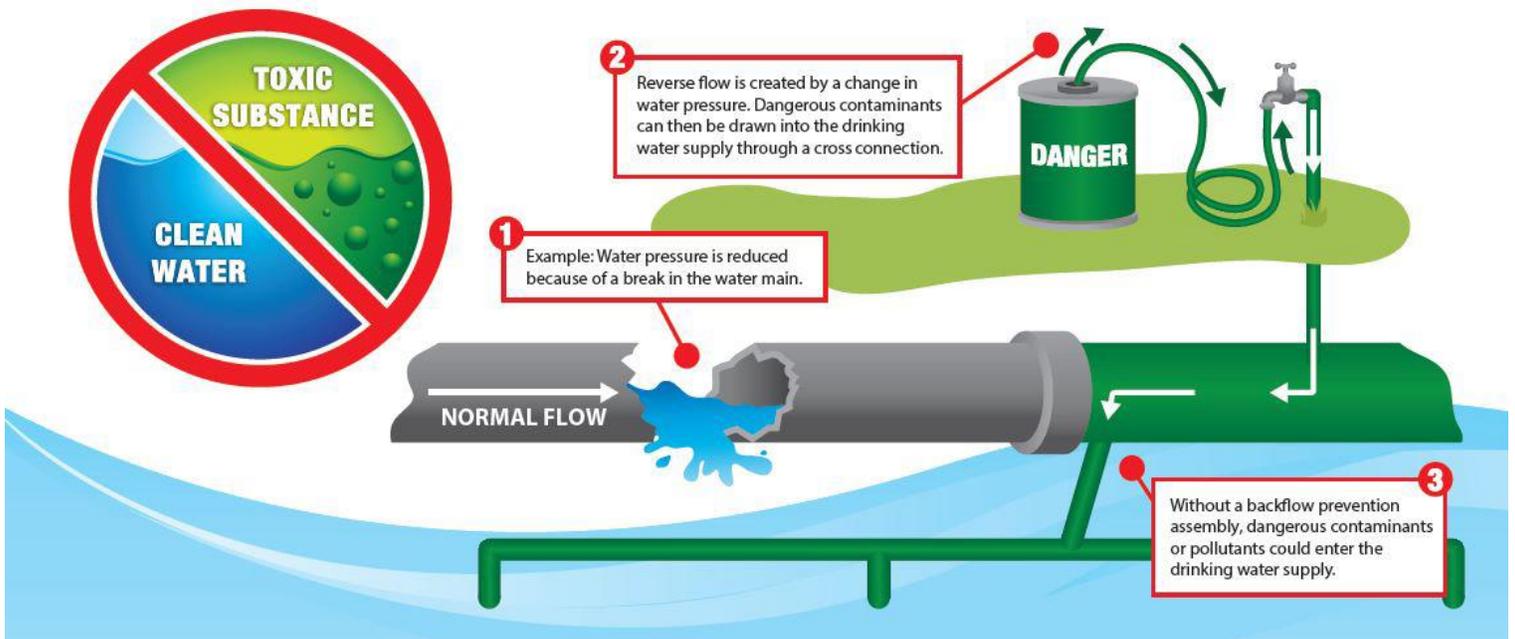
6) What is backsiphonage backflow?

Backsiphonage is caused by negative or reduced pressure in the pipes. It may occur when water main pressure breaks occur due to construction or an unforeseen pressure disruption. The water supply pressure in the pipe may be reduced sufficiently resulting in a reversal of flow elsewhere in the system. If a connection to a contaminated source exists, backsiphonage could take place. This has the potential for being a very serious backflow incident.



7) Why is backflow prevention important?

Backflow of water can make a public water system unusable or unsafe to drink. All water suppliers have a responsibility to provide water that is safe to drink and must take precautions to protect the drinking water supply against backflow. This includes ensuring a backflow preventer is installed and maintained at the water service connection to each premise that poses a significant health hazard, such as dedicated fire lines, irrigation systems, reclaimed water users, and auxiliary waters (lakes/ponds/canals).



8) *What are the methods or mechanisms used for cross connection protection?*

The basic methods/mechanisms for backflow prevention are:

1. Air gap
2. Reduced pressure backflow prevention assembly
3. Pressure vacuum breaker backflow prevention assembly
4. Double check valve backflow prevention assembly
5. Dual check (residential reclaimed water customers only)

Detailed standards and drawings for each of these are available [online](#).

9) *What type of maintenance is required for backflow preventers?*

Backflow preventers are mechanical devices that require periodic testing. Prior to 2018 all customers were responsible for testing, repairing and when necessary, replacing backflow preventers. Commercial customers are still responsible for maintenance, repairs, and replacements as well as reporting test results to Orange County Utilities. Residential customers no longer have to do anything to maintain the device. Effective January 1, 2018, Orange County assumes the testing, repair, and replacement of residential backflow preventers. A \$3 per month maintenance fee will be included on each affected customer's utility bill. Additionally, every residential connection will be evaluated to determine if a backflow preventer is needed or should be replaced.

10) *Why is a cross connection control program important?*

A cross connection control program ensures the quality and safety of drinking water are not compromised by an inadvertent cross connection.