

Backflow: What is it?

Backflow is just what it sounds like: Water flowing in a direction opposite of its normal flow.

IRWD's drinking water distribution system is designed to keep the water flowing from our system to you. When hydraulic conditions within any water system deviate from "normal", the direction of water flow can be reversed. This creates a backflow condition and the potential for contaminated water to enter the drinking water distribution system.

Backflow can occur in two ways: by backsiphonage and backpressure.

Backsiphonage occurs when there is a sudden reduction of pressure in the public drinking water system, such as during fire fighting or when a water main breaks. These instances can create a suction effect, drawing potential contaminants into the system.

Backpressure occurs when any water system connected to the public drinking water supply becomes greater than the supply pressure. Backpressure typically occurs in areas that contain boilers, "booster" pumped systems, and re-circulating systems such as pools, spas, water features or fountains. When conditions create a greater pressure than the drinking water supply pressure, water flow will be reversed and potential contaminants from these uses can enter the public drinking water system.



What is the Law?

The California Code of Regulations Title 17 requires public water suppliers to protect their water systems from cross-connections and prevent backflow situations. Public water suppliers must conduct cross-connection control surveys of their water customers' property to evaluate cross-connection hazards.

If a homeowner is found to have a potential or actual cross-connection hazard, the customer will be required to eliminate the hazard and/or install an appropriate backflow prevention assembly at the water service.

Resources:

- www.irwd.com
- www.ochealthinfo.com
- www.epa.gov/safewater (U.S. Environmental Protection Agency, Ground and Drinking Water)

Need more Information?

IRWD's Cross-Connection Control Department is happy to answer your questions. Please call (949) 453-5761 to speak with a backflow expert.



Irvine Ranch Water District

15600 Sand Canyon Avenue, Irvine, California 92618
(949) 453-5300 www.irwd.com
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How to Keep your Drinking Water Safe

Residential / Rural Cross-Connection and Backflow Prevention





How to Protect Drinking Water from Backflow

What is a Cross-connection?

Plumbing cross-connections are defined as actual or potential connections between a potable (drinking) water supply and a non-potable water supply or system.

There are many well-documented cases where cross-connections have been responsible for contamination of drinking water, and have resulted in the spread of serious health issues, including illness and death. The problem is a dynamic one, because piping systems are continually being installed, altered, or extended.

Where are Cross-connections Found?

Cross-connections can be found on hose bibbs, irrigation sprinkler systems, fire sprinkler systems, live stock water containers, wells, water storage tanks and evaporative coolers.



Landscape irrigation systems are a common site of cross-connections leading to backflow contamination.

Things You can do to Prevent Backflow:

- Be aware of and eliminate cross-connections.
- Maintain air gaps. Do not submerge hoses or place them where they could become submerged.
- Use hose bibb vacuum breakers on fixtures (hose connections in the basement, laundry room and outside).
- Install approved, testable backflow prevention assemblies on lawn irrigation systems.
- Install an approved, testable backflow prevention assembly at your home's water service connection.
- Do not create a connection between an auxiliary water system (well, cistern, body of water) and the water supply plumbing.

The Irvine Ranch Water District (IRWD) has a cross-connection control program as required by the California Department of Health. This program is a combined effort of the State and County Health agencies and IRWD's cross-connection inspectors. It includes the elimination of and/or protection of all cross-connections by approved methods or approved equipment called backflow prevention assemblies. The "degree of hazard" of the cross-connection determines the types of methods or backflow prevention assemblies required.

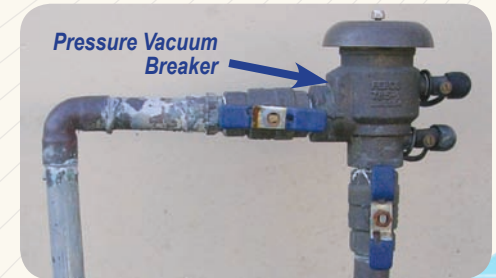
Hose Bibb Vacuum Breakers Prevent Cross-Connections



All homeowners should use hose bibb vacuum breakers on all outdoor spigots. They are available in many hardware stores, or can be purchased online.

Irrigation Precautions: Pressure Vacuum Breaker or Anti-Siphon Vacuum Breaker

Anyone with an in-ground sprinkler system or in-ground irrigation system is required to have an approved backflow prevention assembly, such as an anti-siphon vacuum breaker, a pressure vacuum breaker or a reduced pressure principle backflow assembly.



Horse Watering Requirements

Water troughs and water feeders must have a minimum air gap of 1" or twice the diameter of the inlet pipe between the inlet level and the overflow level to prevent water from being drawn back, as backflow, into the supplying pipework.

Diagram of a water feeder

