Solutions:

Solution 1 - Anti-siphon Ballcocks:

For example, toilet tanks contain a ballcock device which allows water into the tank after flushing. Older style ballcocks do not have an anti-siphon feature and can allow water from the toilet tank to backflow into your drinking water line. (fig. 1) A simple anti-siphon ballcock (fig. 2) installed with a 25mm (1") air gap above the overflow tube will prevent contaminated tank water from entering your water supply

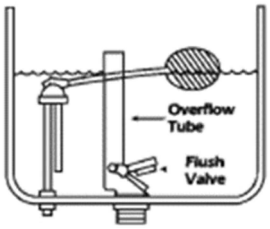


Fig. 1

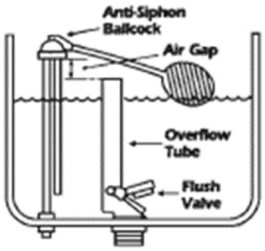
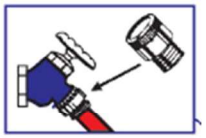
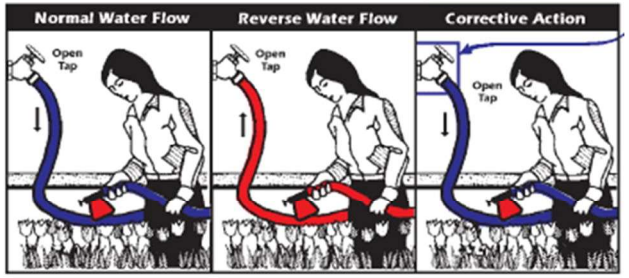


Fig. 2

Solution 2 - Hose Connection Vacuum Breakers:

You can also prevent back siphonage by using an inexpensive, easy-to-install hose connection vacuum breaker. This one-way valve allows water to flow from the tap, but not back in. (Drainable vacuum breakers should be installed on all taps which could freeze.)

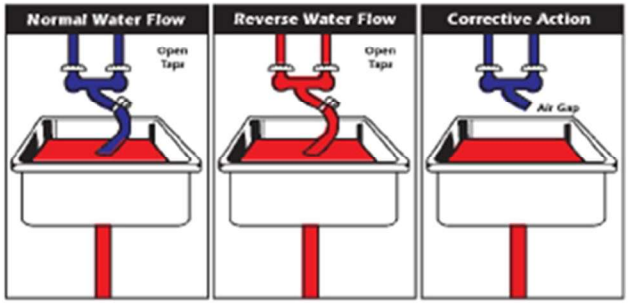




Solutions (continued):

Solution 3 - Air Gaps:

Leave a gap of at least one inch or two times the pipe diameter (whichever is greater) between the end of a hose and a source of contamination. This eliminates a link between the two. Never leave a hose where it can suck contaminants back into the drinking water supply, such as in a swimming pool, bathtub, sink or fish tank.



More Information is Available:

EPA Best Practices Guide:
https://www.epa.gov/sites/default/files/2015-09/documents/epa816f06035.pdf

VDH Effective Cross Connection Control Programs at:
https://www.vdh.virginia.gov/content/uploads/sites/14/2024/11/Cross-Connection-Control-Hip-Pocket-11-2024.pdf

Henry County Public Service Authority:
https://www.henrycountyva.gov/217/Public-Service-Authority

For questions regarding the Henry County Public Service Authority's Backflow Prevention Program, please contact:

Davis Pilson at (276) 634-4622

dpilson@henrycountyva.gov

Henry County Public Service Authority

Backflow Prevention: A Guide for Residents

Safe Drinking Water is Everyone's Responsibility

How Contamination Occurs:

Backflow occurs when a **backsiphonage** or **backpressure** condition is created in a water line.

Backsiphonage may occur due to a loss of pressure in the water distribution system during a high withdrawal of water for fire protection, a water main or plumbing system break, or a shutdown of a water main or plumbing system for repair. A reduction of pressure below atmospheric pressure creates a vacuum in the piping. If a hose bib was open and the hose was submerged in a wading pool during these conditions, the non-potable water in the pool would be siphoned into the house's plumbing and back into the public water system.

Backpressure may be created when a source of pressure, such as a pump, creates a pressure greater than that supplied from the distribution system. If a pump supplied from a non-potable source, such as a landscape pond, was accidentally connected to the plumbing system, the non-potable water could be pumped into the potable water supply.

Frequently Asked Questions?

What is Potable Water?
Potable Water is water which is safe for human consumption, free from harmful or objectionable materials, as described by the health authority.

What is a Cross Connection?
A cross connection is any link between potable (drinking) water and any other substance not intended for human consumption.

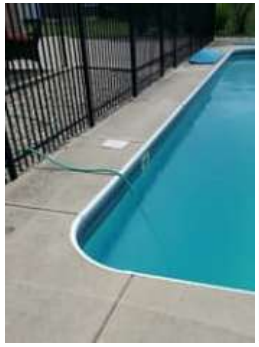
What is Backflow?
Backflow is the reversal of the normal flow of any substance back into the potable water system which could cause contamination.

What is a backflow preventer?
A backflow preventer is a mechanism or a means to prevent backflows from occurring by creating a physical barrier or eliminating cross-

Common Household Hazards

- Toilets
- Boilers
- Irrigation systems
- Dialysis equipment
- Dishwashers
- Hoses connected to sinks/faucets, pools, sprayers for chemical applications
- Water Treatment Device

What might a residential cross-connection look like?

How to Prevent Contamination of Your Drinking Water?

Don't:

X Submerge hoses in buckets, pools, tubs, sinks, ponds, etc.

X Use spray attachments without a backflow prevention device.

X Connect waste pipes from water softeners or other treatment systems to the sewer, submerged drain pipe, etc.

X Use a hose to unplug blocked toilets, sewers, etc

Do:

✓Keep the ends of hoses clear of all possible contaminants.

✓If not already equipped with an integral (built-in) vacuum breaker, buy and install hose bib type vacuum breakers on all threaded faucets around your home. These devices are inexpensive and are available at hardware stores and home improvement centers.

✓Install an approved backflow prevention assembly on all underground lawn irrigation systems.