

Village of Greenfield

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BACKFLOW/CROSS CONNECTION

The Village of Greenfield Water Department is responsible for ensuring the water delivered to your home is safe for everyone to drink, but it cannot control what happens at your residence. Your water department needs your help in protecting your home and the public water system from backflow. Backflow is the reverse flow of foreign material into water mains. Cross connections allow backflow. These are connections between the potable water system and anything that could allow dangerous and objectionable material to enter the water supply lines.

Backflow events occur because of backsiphonage or backpressure. Backsiphonage happens when there is negative pressure in a pipe, creating a vacuum, and something foreign is sucked into the water supply. The vacuum may be caused by a high demand from firefighting or a water main break, customer demand during a heat wave or a power outage to a pump. Household hoses connected to an outside faucet with the open end in another container are a common cause of backsiphonage. Backpressure occurs when the pressure in your home plumbing is greater than the pressure coming in from the water main. This can happen when your hot water heater overheats, creating a high pressure situation.

The Ohio EPA and the Board of Health have regulations that state it is unlawful to cross-connect to a Public Water Supply to a Private Untreated Water Supply.

What is a cross-connection?

Any physical connection created between a possible source of contamination and any drinking water system piping.

What is backflow?

It is the flow through a cross-connection from a possible source of contamination back into the drinking water system. It occurs when a cross-connection is created and a pressure reversal, either as backsiphonage or backpressure, occurs in the water supply piping.

Why be concerned?

- All cross – connections pose a potential health risk.

- Backflow can be a health hazard for your family or other consumers if contaminated water enters your water supply plumbing system and is used for drinking, cooking or bathing. Chemical burns, fires, explosions, poisonings, illness and death have all been caused by backflow through cross-connections.
- Backflow occurs more often than you think.
- You are legally responsible for protecting your water supply plumbing from backflow that may contaminate drinking water, either your own or someone else's. This includes complying with the plumbing code and not creating cross – connections.

What causes backsiphonage?

Backsiphonage occurs when there is a loss of pressure in the piping system. This can occur if the water supply pressure is lost or falls to a level lower than the source of contamination. This condition, which is similar to drinking from a glass with a straw, allows liquids to be siphoned back into the distribution system.

What causes backpressure?

Backpressure occurs when a higher opposing pressure is applied against the public water system's pressure. This condition allows undesirable gases or liquids from another system to enter the drinking water supply. Any pumping system (such as well pump) or pressurized system (such as steam or hot water boilers) can exert backpressure when cross – connected with the public water system.

What can I do?

- Be aware of and eliminate cross – connections.
- Maintain air gaps. Do not submerge hoses or place them where they could be submerged.
- Use hose bib vacuum breakers on fixtures (hose connections in the basement, laundry room, and outside).
- Install approved, testable backflow preventers on lawn irrigation systems.
- Do not create a connection between an auxiliary water system (well, cistern, body of water) and the water supply plumbing.

What must be done to protect the public water supply?

The public water supplier must determine potential and actual hazards. If a hazard exists at a customer's public water supply service connection, the customer will be required to install and maintain an appropriate backflow preventer.

Check with the Village of Greenfield Water Department to verify which backflow preventer is required before purchase or installation.

Who is responsible?

In Ohio, the responsibility for preventing backflow is divided. In general, state, and local plumbing inspectors have authority over plumbing systems within buildings while Ohio EPA and water suppliers regulate protection of the distribution system at each service connection.

Water customers have the ultimate responsibility for properly maintaining their plumbing system. It is the home owner's or other customer's responsibility to ensure that cross – connections are not created and that any required backflow preventers are tested yearly and are in operable condition.

What is the law?

Ohio Administrative Code Chapter 3745-95 requires the public water supplier to protect the public water system from cross – connection and prevent backflow situations. The public water system must conduct cross – connection control inspections of the water customer's property to evaluate hazards. Local ordinances or water regulations may also exist and must be followed in addition to state regulations.

What are some common backflow hazards that threaten the homeowner and other consumers?

- Hose connections to chemical solution aspirators to feed lawn and shrub herbicides, pesticides or fertilizers.
- Lawn irrigation systems.
- Chemically treated heating systems.
- Hose connections to a water outlet or laundry tub.
- Swimming pools, hot tubs, spas.
- Private and/or non-potable water supplies located on the property.
- Water-operated sump drain devices.
- Feed lots/livestock holding areas or barnyards fed through pipes or hoses from your water supply plumbing.

What are examples of cross – connections and backflow scenarios?

- Soapy water or other cleaning compounds backsiphon into the water supply plumbing through a faucet or hose submerged in a bucket or laundry basin.
Pool water back siphons into water supply plumbing through a hose submerged in a swimming pool.
- Fertilizers/pesticides backsiphon into water supply plumbing through a garden hose attached to a fertilizer/pesticide sprayer.
- Chemical/pesticide and animal feces drawn into the water supply plumbing from a lawn irrigation system with submerged nozzles.
- Bacteria/chemicals/additives in a boiler system backsiphon into the water supply plumbing.
- Unsafe water pumped from a private well applies backpressure and contaminates the public water supply through a connection between the private well discharge and the potable water supply plumbing.