

CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION

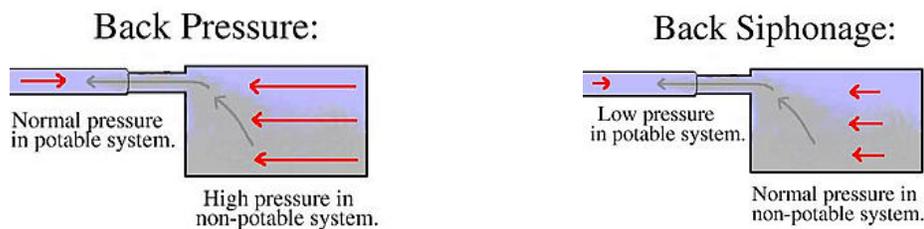
The City of Chelsea makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the supply entry point, throughout the entire distribution system, and to the customer's last free flowing outlet or consumer's tap. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

What is a cross-connection?

A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipments that allowed the drinking water to come in contact with non-potable liquids, solids or gases (hazardous to humans) in event of a backflow.

What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by an equipment or system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (backpressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (backsiphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



What can I do to help prevent a cross-connection?

Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with a backflow preventer
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. The Chelsea Water and Sewer Department re-surveys all facilities every 5 years, and all high hazards twice every five years. If your property has NOT been surveyed for cross-connection contact the Chelsea Water and Sewer Department to schedule a cross-connection survey.

The Massachusetts Drinking Water Regulations, 310 CMR 22.00, requires all public water systems to have an approved and fully implemented Cross-connection Control Program (CCCP). The City of Chelsea is working diligently to protect the public health of its drinking water customers from the hazardous caused by unprotected cross-connections through the implementation of its cross-connection survey program, elimination or properly protection of all identified cross-connections, the registration of all cross-connections protected by a reduced pressure backflow preventers (RPBPs) or a double check valve assemblies (DCVAs), and the implementation of a testing program for all RPBPs and DCVAs.

Device Testing

Testing of the protective devices depends upon the type of backflow device installed. The main types of testable devices are the Reduced Pressure Backflow Preventer (RPBP), the Double Check Valve Assembly (DCVA) and the pressure Vacuum Breaker (PVB). Other types, such as an Atmospheric Vacuum Breaker, are non-testable.

Reduced Pressure Backflow Preventer (RPBP)

The RPBP is designed for a contamination hazard and its internals consist of two check valves and a relief valve. This device must be tested every six months. This device protects the domestic water from chemicals, irrigation systems and other harmful materials.

Double Check Valve Assembly (DCVA)

The DCVA is designed to protect against a Pollutant hazard and its internals consist of two check valves. This device must be tested annually. This device can be generally found on a fire sprinkler system. These fire sprinkler systems are generally constructed of black iron pipe, which rusts when the water sits in the pipe. The rust generally will not harm a person but having it in drinking water is not desirable.

Pressure Vacuum Breaker (PVB)

The PVB is designed to protect against Contamination hazards and its internals consist of a check valve and a vacuum breaker. This device is tested annually. It is generally found on a lawn irrigation system and prevents the lawn chemicals and animal feces from getting back into the drinking water.

Cross-connection Surveys Information:

If you have any questions, please contact the Chelsea Water and Sewer Department at 617-466-4310.

Some Examples Where Cross-connections Occur

