What is a CROSS CONNECTION?

A cross connection is a point in a plumbing system where the potable water supply is connected to a non-potable source.

Briefly, a cross connection exists whenever the drinking water system is or could be connected to a non-potable source (plumbing fixture, equipment used in any plumbing system). Pollutants or contaminants can enter the safe drinking water system through uncontrolled cross connections when a backflow occurs.

Backflow is the unwanted flow of non-potable water into the consumer's plumbing system and/or public water system (i.e., drinking water).

There are two types of backflow: backsiphonage and backpressure.

BACKSIPHONAGE is caused by a low pressure in the supply line to a facility or plumbing fixture. Backsiphonage may occur during waterline breaks, when repairs are made to the waterlines, when shutting off the water supply, etc.

BACKPRESSURE can occur when the potable water supply is connected to another system operated at a higher pressure or has the ability to create pressure. Principal causes are booster pumps, pressure vessels and elevated plumbing.

Backflow preventers are mechanical devices designed to prevent backflow through cross connections. However, for backflow preventers to protect as designed, they must meet stringent installation requirements.

DeKalb County
Department of Watershed Management
Office of Engineering & Construction
Management Services
Regulatory Compliance Division

Backflow Prevention Section
4572 Memorial Drive
Decatur, Georgia 30032

For Appointments Please Call:
(404) 687-4075
7:00 a.m. - 3:30 p.m.

dekalbbackflow@dekalbcountyga.gov

WATER Matters

DeKalb County
GEORGIA

Department of
Watershed Management

Cross Connections

CAN CREATE HEALTH HAZARDS!

Drinking water systems may become **POLLUTED** or **CONTAMINATED** through uncontrolled cross connections

The DeKalb County Department of Watershed Management protects public health, safety and welfare through the provision of safe drinking water and quality wastewater treatment.

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Why Be Concerned?

Most water systems in the United States and Canada have good sources of water and/or sophisticated treatment plants to convert impure water to drinking water standards. Millions of dollars are spent to make the water potable before it enters the distribution system. However, drinking water systems may become polluted or contaminated in the distribution system through uncontrolled cross connections.

Cross connections may occur in the United States because of errors by people unaware of the problems created. Death, illness, contaminated food products, in addition to industrial and chemical products being rendered useless are some of the consequences of such connections. As a result, many hours and dollars are lost due to cross connections.

Where are Cross Connections Found?

Cross connections are be found in plumbing systems. It is important that each cross connection be identified and evaluated with regard to proper disconnection requirements and/or the type of backflow protection required to protect the drinking water supply. Some plumbing fixtures have built-in backflow protection in the form of a physical air gap. However, most cross connections will need to be controlled through the installation of an approved mechanical backflow prevention device or assembly. Some common cross connections found in plumbing and water systems include:

- Wash basins and service sinks
- Irrigation sprinkler systems
- Water recirculating systems
- Auxiliary water supplies
- Laboratory and aspirator equipment
- Solar heat systems
- Processing tanks
- Boilers
- Chillers
- Swimming pools
- Hose bibs
- Fire sprinkler systems

Plumbing codes and Georgia drinking water regulations require cross connections to be removed or controlled by approved methods (physical air gap) or approved mechanical backflow prevention devices or assemblies. The various types of mechanical backflow preventers include:

- Reduced pressure principle assembly (RPPA)
- Reduced pressure detector assembly (RPDA)
- Double check valve assembly (DCVA)
- Double check detector assembly (DCDA)
- Pressure vacuum breaker assembly (PVBA)
- Spill resistant vacuum breaker assembly (SVBA)
- Atmospheric vacuum breaker (AVB).

For a backflow preventer to provide proper protection, it must be approved for backflow protection, designed for the degree of hazard and backflow to be controlled, installed correctly, tested annually by a State Approved and Certified tester, and repaired as necessary. DeKalb County requires mandatory backflow protection on facilities where high & low hazard-type cross connections are normally found, such as:

The following is a partial list of those facilities:

- Hospitals, mortuaries, clinics
- Laboratories
- Food and beverage processing centers
- Metal plating and chemical plants
- Car washes
- Petroleum processing and storage plants
- Restaurants
- Sewage treatment plants

WATER Matters

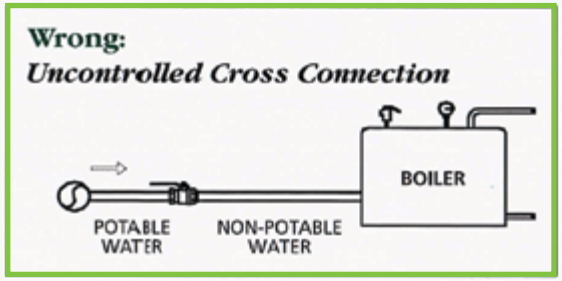
What do I do after my backflow preventer is installed?

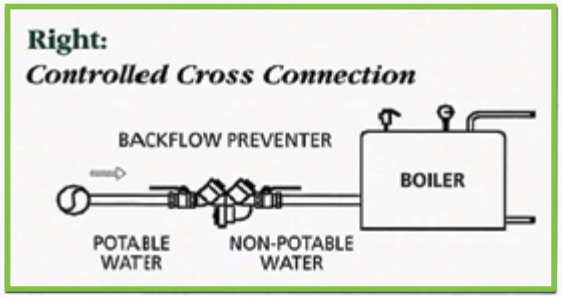
Maintain and annually test your backflow preventor. DWM does not maintain a list of approved testers (approved testers are licensed by the State or 3rd party organizations). However, a list of persons certified under the Georgia Statewide Backflow Prevention Assembly Certification Program (GBPAT) is maintained by the Georgia Association of Water Professionals (GAWP), the State's authorized testing party, at http://www.gawp.org/page/Backflow. The page allows you to "Search Testers". If you do a general search, it will provide a listing of the current testers. Note that not every tester certified offers the service commercially.

Additional testing agencies accepted by the State, and through DeKalb County, are:

- American Society of Sanitary Engineers (ASSE)
- American Backflow Prevention Association (ABPA)
- University of Florida TREEO Center

A good place to start is to contact your normal plumbing firm. They may offer this service or may have a certified tester they normally utilize.





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