



WHAT ARE PLUMBING CROSS CONNECTIONS?

A cross connection is defined as an actual or potential connection between a public water supply and a source of possible contamination or pollution. All homes have potential cross connections.

The water pipes and plumbing fixtures that make up cross connections can be the link for contamination to get into the drinking water supply. This can be a serious health hazard within your home and can be harmful to the public water supply if a backflow condition occurs. Backflow happens when the flow of water into your home is reversed by a sudden drop in pressure or a pump causing backpressure.

The result of cross connection contamination is that chemicals, poisons and bacteria might find their way into the water you drink.

Help yourself, your family and your community by eliminating unprotected cross connections. Help the Lincoln Water System and your neighbors by filling out a Residential Plumbing Cross Connection Survey form and returning it to LWS.

WHAT GOES WRONG?

Water pressure can suddenly drop because of heavy usage, a fire in the area or a broken water main. When that happens, contaminated water could be siphoned back into your plumbing system from unprotected cross connections within your home. Even though Lincoln has a very reliable water distribution system, these pressure drops do occur somewhere in the city almost every day.

The enclosed **Residential Plumbing Cross Connection Survey** is designed to identify some common residential cross connections.

BE WATER-WISE ABOUT PLUMBING CROSS CONNECTIONS

The Lincoln Water System delivers safe, high quality water to your home. The goal is to keep it that way.

That's why the Lincoln Water System has adopted a Plumbing Cross Connection Control Program. Its goal is to protect the public health -- yours and that of families throughout the city. That is also why the Nebraska Department of Health and Human Services requires each water system to have a program. Lincoln Water System has conducted a plumbing cross connection control program with business and industry for over 30 years.

In addition, Lincoln's plumbing inspectors in the Building and Safety Department check all new building construction for proper protection. And Lincoln-Lancaster County Health Department inspectors check restaurants and food preparation areas for cross connections.

HELP IS AVAILABLE

Our Plumbing Cross Connection Control Program technicians or your plumber can tell you what type of backflow prevention devices you may need.

Help is as close as your telephone. Call 441-5912 during regular business hours, Monday through Friday 8 a.m. to 4 p.m. or visit lincoln.ne.gov (keyword: backflow).

Every five (5) years, the Nebraska Department of Health and Human Services requires water utilities in Nebraska to survey customers to identify backflow hazards and plumbing cross connections that may exist in their homes. Water customers should report any of the cross connections listed in this brochure to the Lincoln Water System by completing a Residential Plumbing Cross Connection Survey form.



**Protect Our
Water System**

HOW TO DETERMINE IF YOU HAVE A RESIDENTIAL PLUMBING CROSS CONNECTION ISSUE

If a cross connection does exist, customers need to indicate if there is a backflow preventer in use.

This brochure is provided to all Lincoln Water System Customers to provide information and awareness on the hazards of cross connections and how customers can safeguard the quality of water within their home and the public water supply by using proper backflow protection when necessary.

If you have a plumbing cross connection issue please complete a survey and return it to LWS.



RESIDENTIAL CROSS CONNECTION TYPES

WHAT IS A PLUMBING CROSS CONNECTION CONTROL PROGRAM?

The Lincoln Water System is required by the Nebraska Department of Health and Human Services to conduct a cross connection control program using the specific components list below:

A survey and inspection every five (5) years of each home and building connected to the public water supply. Inspections of the plumbing system by the property owner or tenant are required to determine if backflow hazards or cross connections exist.

A public education program to inform water customers of the potential harm that plumbing cross connections can cause to the public water supply. Visit our website at lincoln.ne.gov (keyword: water).

Installation of backflow protection devices. Installing backflow protection on cross connections safeguards the public water supply.

Annual testing of backflow preventers. Testing backflow devices by a certified tester ensures proper operating and is required once each year.

1. PRIVATE WELLS AND SECONDARY WATER SOURCES

A well or secondary source of water on a property is a potential cross connection. Wells or secondary water sources are prohibited from being connected to the Lincoln Water System. A backflow preventer on the public water supply is always required when secondary sources of water are present on a customer's property.

2. LAWN IRRIGATION SYSTEMS

Underground irrigation systems are a direct cross connection, and the public water supply must be protected with a suitable backflow device. Surface water can be siphoned back into your plumbing system through an automated lawn irrigation system unless a proper backflow device is attached. If the system uses a pump or has fertilizer or chemical injection, additional backflow protection and backflow testing is required.

3. SWIMMING POOLS OR HOT TUBS

Pools and hot tubs that are permanently connected to the home plumbing system are direct cross connections and must be protected with a suitable backflow device. An unprotected cross connection could draw pool water and chemicals back into your household plumbing system and public water supply. When filling a pool or hot tub with a hose, never submerge the end as this is another cross connection. Always leave an air gap when filling pools, tubs, sinks or containers.

4. PHOTO, CHEMICAL, BIOLOGICAL, VETERINARIAN OR OTHER LAB FACILITIES

Home use of photographic chemicals, process chemicals, biological laboratory supplies, veterinarian supplies or other laboratory chemicals can cause contamination due to an unprotected cross connection. A suitable backflow device is necessary to protect the home plumbing system and public water supply.

5. BOILER SYSTEMS FOR HEATING

These systems are not common but do exist in some homes. Normally these systems are in larger homes. Water is used to replenish the boiler which also may have chemicals. This cross connection must be protected with a suitable backflow device to prevent contamination of the home plumbing system and public water supply.

6. HOME MEDICAL, DENTAL OR DIALYSIS EQUIPMENT

Similar to equipment found in medical offices, these devices are sometimes used in the home. When connected to the water supply, these cross connections must be protected with a suitable backflow device to prevent contamination of the home plumbing system and public water supply.

7. OTHER POTENTIAL CROSS CONNECTIONS

A garden hose submerged in a sink or connected to a container containing chemicals or fertilizer is a serious cross connection. A sudden drop in water pressure from a water main break or from water being used to fight a fire can siphon water back into your home plumbing system or the public water supply. A vacuum breaker is a simple inexpensive device that can be installed on the faucet or hose to prevent contamination. Vacuum breakers are provided on outside faucets on homes built since 1992.

Most bathtubs and sinks have an air gap. This space between the highest water level in the fixture and the outlet of the water is the best form of backflow protection. Never leave the end of hose submerged in a tub, pool or container.

Residential fire protection systems, in-home water treatment systems, car washes, solar heating and decorative ponds and soaking tubs are other possible cross connections.