What is Backflow?

Backflow is the undesirable reversal of the flow of water or mixtures of water and other undesirable substances from any source (such as used water, industrial fluids, gasses, or any substance other than the intended potable water) into the distribution pipes of the potable water system. Backflow occurs as a result of a "cross-connection" within the water system, which exists when there is any actual or potential connection between a potable water system and any other source or system through which it is possible to introduce into the potable system any used water or other substance.

What is Cross Connections?

There are many instances of cross-connection hazard. To explain the risk involved, imagine that one end of a garden hose is attached to your home's water system and the other end is placed down into a bucket of herbicide. At the same time an abrupt loss of water occurs in the main water line serving your home (such as a water main break or large volumes of water released from a fire hydrant). The pressure drop causes a reverse flow in the water line and in a system with no backflow prevention insecticide from the bucket is sucked into your home's drinking water and potentially into the main water line serving your community. However, if the spigot your garden hose is connected to is equipped with a hose bib device, the reverse flow would cause the check in the hose bib to engage and stop the backflow at the spigot. If there is no hose bib or if it is not operating properly, the backflow prevention assembly installed between your home and the main water line would engage and prevent the herbicide from contaminating the main water line.

General Information - What is Thermal Expansion?

When water is heated it expands. For example, water heated from 90°F to a thermostat setting of 140°F in a 40 gallon hot water heater will expand by almost one-half gallon. This is because when water is heated, its density decreases and the volume will expand. Since water is not compressible, the extra volume created by expansion must go someplace. During no-flow periods in a system, pressure reducing valves, backflow preventers, and other one-way valves are closed, thus eliminating a path for expanded water to flow back to the system supply. Hence, household system pressure can increase. The installation of a thermal expansion tank is highly recommended. Please consult a licensed plumber for more information.