

Risk Control Engineering's regular ongoing bulleting on construction, fire protection, equipment hazards and all things risk management.

## WHAT IS A BACKFLOW PREVENTER?

A backflow prevention device is used to protect potable water from contamination and pollution. They are designed to keep water inside fire-protection and other water-based systems on a property, by ensuring it only flows in one direction. Backflow is the undesirable reversal flow of liquid, gas, or suspended solid back into the potable water supply from the user side of the preventer.

### What causes backflows?

- ✓ Backflows are primarily caused by pressure changes in pipes, often from breaks in the main water line or when a fire hydrant is opened for usage.
- ✓ The pressure losses during these events interrupts the pushing of water forward onto a property, and thus water will flow backwards into the city water lines.
- ✓ When this happens, backflow can contaminate the public drinking supply with fertilizers, pesticides, human waste, harmful chemicals, chlorine, or other soapy concentrated water from domestic use.

### Fire sprinkler system backflow preventers?

- ✓ In wet fire protection systems like certain types of sprinklers or standpipes, a large volume of water never moves until it flows from an activated sprinkler head or a broken sprinkler pipe.
- ✓ When water is stagnant, bacteria can fester, hence altering the sprinkler water into a thick, smelly, black, oily sludge. This could potentially cause serious issues if it reverses into a city's drinking supply.
- ✓ Sprinkler systems connected to non-potable public water supplies or alternative sources of water can still pose contamination risks if the potential for a cross-connection exists.



### Sewer-line backflow preventers

- ✓ These works under the same principle as potable water backflow preventers.
- ✓ In this case however, these backflow preventers are connected to sewer lines and protect against waste water entering the home or building.

**Backflow is the undesirable reversal flow of liquid, gas, or suspended solid into the potable water supply. Backflow prevention devices ensures water flow in one direction only, and is used to protect potable water from contamination and pollution.**

