

Washington State Law requires annual testing of backflow prevention devices

Lawn Irrigation Systems can
Pollute or Contaminate

Drinking Water Systems
through the lack of
Backflow Prevention



What is Backflow ?

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

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

There are two types of **backflow**: **backsiphonage** and **backpressure**. **Backsiphonage** is caused by a negative 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.

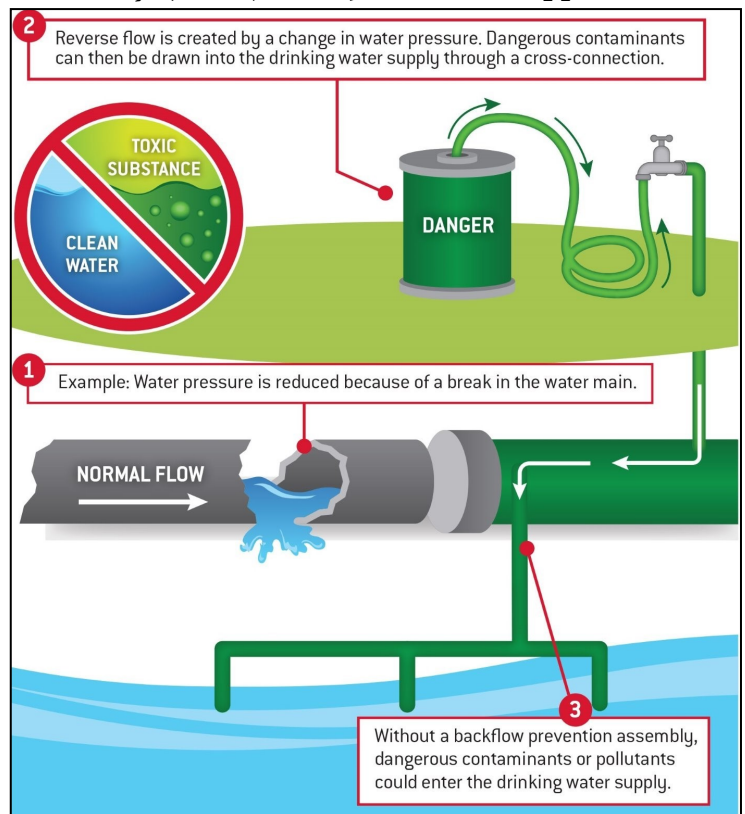
Backflow Prevention Assemblies are mechanical devices designed to prevent backflow through cross connections. However, for backflow preventers to protect as designed, they must meet stringent installation requirements and **be tested annually**.

Lawn Irrigation Systems

For the protection of the PUD drinking water system all irrigation systems must have an approved **backflow prevention assembly**.

Any irrigation system that contains pumps or injectors for the addition of chemicals and/or fertilizers is considered a high hazard. An approved **reduced pressure backflow assembly (RPBA)**, or an approved air gap separation is required in all cases where chemicals or herbicides may be injected into the irrigation system, or where an auxiliary water supply is also provided for irrigation.

All irrigation systems that are not classified as a high health hazard are considered to be moderate health hazards. This risk assessment is based on the hazard posed by bacterial and chemical contaminants found on lawns. An approved **double check valve assembly (DCVA)**, or **pressure vacuum breaker assembly (PVBA)**, is required for this application.

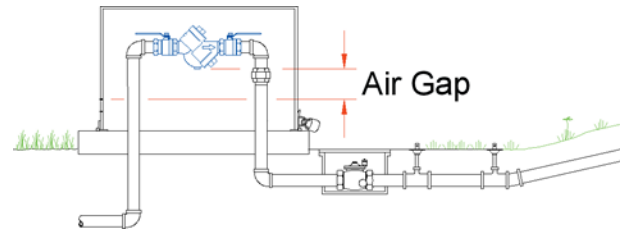


IRRIGATION SYSTEMS *and* BACKFLOW PREVENTION



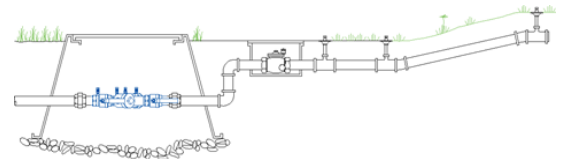
Backflow Prevention Assemblies for Isolation of Lawn Irrigation Systems

- The Reduced Pressure Backflow Assembly (RPBA) should be installed to isolate irrigation systems using injectors or pumps to apply fertilizer and other agricultural chemicals.
- The RPBA must be installed above ground to prevent the relief valve opening from becoming submerged.
- The RPBA should be installed in an insulated enclosure to provide freeze protection.
- The RPBA *is required* to be tested by a certified backflow assembly tester upon installation and annually thereafter.



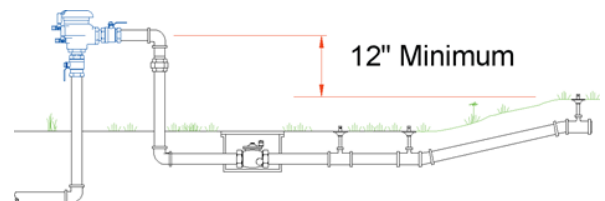
Reduced Pressure Backflow Assembly in Above-Ground Enclosure

- The Double Check Valve Assembly (DCVA) may be installed to isolate all irrigation systems that do not use injectors or pumps to apply fertilizer and other agricultural chemicals.
- The DCVA may be installed in a below-ground enclosure provided the assembly test cocks are plugged; the test cocks are pointed up; adequate space is provided for maintenance and testing; and any compressed air connections are installed only downstream of the DCVA.
- The DCVA *is required* to be tested by a certified backflow assembly tester upon installation and annually thereafter.



Double Check Valve Backflow Assembly in Below-Ground Box

- The Pressure Vacuum Breaker Assembly (PVBA) may be installed to isolate all irrigation systems that do not use injectors or pumps to apply fertilizer and other agricultural chemicals.
- The PVBA shall be installed at least 12 inches above the highest point in the irrigation piping.
- The PVBA *is required* to be tested by a certified backflow assembly tester upon installation and annually thereafter.



Pressure Vacuum Breaker Backflow Assembly 12" Above Piping