

**HUMBOLDT COUNTY BUILDING DEPARTMENT
CITY OF WINNEMUCCA BUILDING DEPARTMENT
LAWN SPRINLER HANDOUT**

The Uniform Plumbing Code 603.4.1 and Nevada Administrative Code 445A-67205 mandates that a backflow prevention device is to be installed when connecting an irrigation system to a potable water supply. The following is a list of approved backflow prevention devices (as per the above codes) that may be used for a lawn irrigation system in Humboldt County and Winnemucca.

Allowed by the UPC

1. Atmospheric vacuum breaker (may be built into an anti-siphon valve)
2. Pressure vacuum breaker
3. Reduced pressure backflow preventor

Allowed by the NAC

4. Double Check Valve (*Please note that a dual check valve and double check valve are not the same. Dual check valves are NOT an approved device.*)

Please ensure when installing it is on the approved list and it is installed per the manufacturer's instructions. In general, the devices are to be installed above ground. However, where impractical, a double check valve may be installed below ground in a vault complying with installation instructions on the attached page.

BACKFLOW PREVENTERS

**Reduce Pressure Principle (RP)
Backflow Prevention Assembly**
An assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. Install this device per the manufacturer's installations instructions.

**Double Check Valve (DC)
Backflow Prevention Assembly**
An assembly composed of two independently acting, approved check valves, including tightly closing resilient seated shutoff valves attached at each end and fitted with properly located resilient seated test cocks. Usually installed above grade. However, where impractical, a double check valve may be installed below ground in a vault comply with the installation instructions on the attached page.

Note: A "Dual Check" is NOT the same thing as a "Double Check Backflow Preventer". Dual Check Valves are NOT an approved device.

**Pressure Vacuum Breaker
Backsiphonage Prevention Assembly
(PVB)**
An assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. Equipped with properly located resilient seated test cocks and tightly closing resilient seated shutoff valves attached at each end of the assembly. Install to the manufacturer's installation instructions.

**Atmospheric Vacuum Breaker
Backsiphonage Prevention Assembly
(AVB)**

A non pressure type vacuum breaker assembly containing an air inlet, a check seat and an air inlet port. When water flows it causes the valve to close. When there is no water flow the air inlet valve falls and form a check valve against back siphonage. Install this device per the manufacturer's installation instructions

Anti-Siphon Vacuum Breaker

Manual or automatic control valve with a built-in atmospheric vacuum breaker. When using this type of device make sure it has the built-in atmospheric vacuum breaker. Install this device per the manufacturer's installation instructions.

INSTALLATION STANDARDS FOR DOUBLE CHECK VALVE

1. The double check valve assembly must be installed:
 - a. In a horizontal and level position
(except that the double check valve assembly may be installed in a vertical position if the assembly has been specifically designed for operation in that position/ and tested and certified to be suitable for operation in that position by an approved backflow test laboratory.
 - b. As close to practical to the service connection
 - c. Above ground and, to the extent possible, not less than 12" nor more than 36" above the finished grade, as measured from the bottom of the assembly.
 - d. In such a manner as to be readily accessible for maintenance and testing.
2. There must be no type of outlet, tee, tap, take-off or connection to or from the service line between the service connection and the double check valve.
3. Expansion tanks or pressure relief valves must be proved as appropriate for the potential threat of water hammer and thermal expansion.

If the above grade installation is impractical and the health authority approves it, the double check valve assembly may be installed in a below-grade vault in such a manner that:

1. The top of the double check valve assembly is not more than 8" below grade.
2. There is:
 - a. At least 12" of clearance between the bottom of the vault and the bottom of the double check, valve assembly.
 - b. At least 24" of clearance between the side of the vault and the side of the double check valve assembly with test cocks;
 - c. At least 12" of clearance between the side of the vault and the other sides of the double check valve assembly.
3. The double check valve assembly is protected from freezing.
4. The vault has adequate drainage to prevent the accumulation of water.
5. The vault is protected from vandalism and is not subject to vehicular traffic.

The double check valve assembly may be installed indoors if:

1. The assembly has a clearance of at least 12" on top;
2. At least 24" on the side with test cocks; and
3. At least 12" on the other sides.