

HUMBOLDT COUNTY BUILDING & SAFETY DEPARTMENT
CITY OF WINNEMUCCA BUILDING DEPARTMENT
LAWN SPRINKLER HANDOUT

The 2018 Uniform Plumbing Code (UPC) 603.5.6, Table 603.2 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 the City of Winnemucca.

Allowed by the UPC

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

Allowed by the NAC

5. 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 the valve it is on the approved list and it is installed per the UPC and 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.

Backflow Preventers

1. Atmospheric Vacuum Breaker (AVB). An assembly consisting of a body, a checking member, and an atmospheric port. Install in an upright position with no valve downstream. A minimum of 6" or listed distance above all downstream piping.
 - a. Anti-Siphon Vacuum Breaker. A manual or automatic control valve with a built-in atmospheric vacuum breaker. Install this device per the manufacturer's installation instructions.
2. Pressure Vacuum Breaker Backflow Prevention Assembly (PVB). An assembly consisting of a loaded air inlet valve, an internally loaded check valve, two properly located test cocks, and two isolation valves. This device shall be permitted to be installed indoors where provisions for spillage are provided. Install in an upright position and may have valves downstream. Install a minimum of 12" above all downstream piping. May discharge water.
3. Spill-Resistant Pressure Vacuum Breaker (SVB). An assembly consisting of one check valve force-loaded closed and an air inlet vent valve force-loaded open to atmosphere, positioned downstream of the check valve and located between and including two tightly closed shutoff valves and test cocks. Installed in upright position a minimum of 12" or listed distance above all downstream piping.

4. Reduced Pressure Principle (RP) Backflow Prevention Assembly. A reduced-pressure principle backflow prevention assembly consists of two independently acting internally loaded check valves, a differential pressure relief valve, four property located test cocks, and two isolation valves. Installation shall be horizontal unless otherwise listed. Access and clearance shall be in accordance with manufacturer's instructions, and not less than 12" clearance at the bottom for maintenance.

5. Double Check Valve (DC) Backflow Prevention Assembly. An assembly consisting of two independently acting internally loaded check valves, four property located test cocks, and two isolation valves.

Above Grade

- a. Installed 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, tested and certified to be suitable for operation in that position by an approved backflow test laboratory).
- b. As close to practical to 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. 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.
- e. Expansion tanks or pressure relief valves must be provided as appropriate for the potential threat of water hammer and thermal expansion.

Under Ground – 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:

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

Indoors

- a. The assembly has a clearance of at least 12" on top
- b. At least 24" on the side with test cocks
- c. At least 12" on the other sides