



CHARLOTTE WATER BACKFLOW PREVENTION BULLETIN

**SUBJECT: General Guide for Determining What Type
Backflow Preventer Charlotte Water (CLT Water) Will Require**

DATE: April 12, 1999
(Revised 2/13/2003)
(Revised 2/26/2016)

Irrigation Systems

As of March 24, 2003, all irrigation systems now require a **Reduced Pressure Principle Assembly (RP)**. Irrigation systems with a Double Check Valve Assembly (DCVA) that has been previously approved and inspected by CLT Water are "grandfathered" until such time that the DCVA needs replacement.

Fire Protection Systems

*Characteristics That Require Installing a **Reduced Pressure Principle Assembly (RP)**:*

- (1) presence of a Fire Department Connection (FDC)
- (2) chemicals (glycol or other types) added to the water in any part of the system,
- (3) system involving a water storage facility (ex.: above- or below-ground tanks, surface reservoirs),
- (4) back-up provision for using an auxiliary water source (ex.: private well, pond, river).

Note: State and local Codes do not allow a private system to be served by an auxiliary water source while connected to CLT Water's public water system. An air gap separation must be maintained.

*Characteristics That Require Installing a **Double Check Valve Assembly (DCVA)** (Minimum Protection):*

- (1) system not involving any characteristics for which CLT Water requires an RP,
- (2) system carrying only air ("dry system"),

Domestic, Process, and Combination Systems

*Characteristics That Require Installing a **Reduced Pressure Principle Assembly (RP)**:*

- (1) system involving any of the characteristics listed above for which CLT Water requires an RP,
- (2) system with any type booster pump or pressure washer equipment
- (3) system involving any piping at an elevation which is greater than fifty (50) feet above the meter piping,
- (4) system which involves water that has been or is being recirculated (ex.: boiler, chiller, machinery cooling)
- (5) system used for chemical mixing or chemical feed activities (ex.: golf course operations, industrial processes),
- (6) system involving tanks, lines, steam boilers, or vessels that carry sewage, toxic, or radioactive substances.
- (7) system which involves injection or aspiration of chemicals into any portion of the system (ex.: sanitizer system at multi-compartment sink, fertigation system)
- (8) system with sewage pump or water-operated sewage sump ejector
- (9) system with any non-potable branch or connected to any equipment serving a non-potable function (ex.: irrigation branch, decorative water features (fountain, waterfall, etc.), parts washer).
- (10) back-up provision for using an auxiliary water source (ex.: private well, pond, river),

Note: State and local Codes do not allow a private system to be served by an auxiliary water source while connected to CLT Water's public water system. An air gap separation must be maintained.

*Characteristics That Require Installing a **Double Check Valve Assembly (DCVA)** (Minimum Protection):*

- (1) system not involving any characteristics for which CLT Water requires an RP,

(continued)

General Guide for Determining What Type Backflow Preventer CLT Water Will Require (continued)

Types of Facilities That Require Installing a Reduced Pressure Principle Assembly (RP):

Facilities listed here may not necessarily involve any of the aforementioned water system characteristics, but are required to install an RP on their domestic, process, and combination systems due to the type of activities and/or materials used in the facilities and their potential to create a health hazard.

- (1) Battery manufacturer
- (2) Brewery, dairy, or bottling plant
- (3) Buildings with any tenant occupancy
- (4) Cannery
- (5) Carwash
- (6) Chemical processing plant
- (7) Dental service of any type
- (8) Dry cleaners
- (9) Dye works
- (10) Exterminating company
- (11) Film lab
- (12) Grocery store with injection or aspiration of chemicals into a portion of the system (ex.: sanitizer system in meat department)
- (13) Hospital, medical office, or health service facility of any type
- (14) Laboratory
- (15) Laundry (commercial) – except if only self-service
- (16) Lawn-care service, fertilizer plant
- (17) Metal plating or processing facility
- (18) Morgue, mortuary
- (19) Nursing home, including “assisted living” facilities
- (20) Pharmaceutical plant
- (21) Power plant
- (22) Sewage collection or treatment facility
- (23) Swimming pool – except those excluded by Sec. 23-113
- (24) Tire manufacturer
- (25) Veterinary service of any type (ex.: hospital, clinic, or office)
- (26) Water-front facilities (ex.: boat dock, marina)
- (27) Any facility or system, which is insufficiently accessible for inspection by a CLT Water backflow inspector

Types of Facilities That Require Installing a Double Check Valve Assembly (DCVA) (Minimum Protection):

Facilities listed here cannot involve any of the aforementioned water system characteristics nor facility types for which CLT Water requires an RP.

- (1) Distillery
- (2) Gas station
- (3) Mobile home park
- (4) Restaurant without injection or aspiration of chemicals into a portion of the system (ex.: sanitizer system at multi-compartment sink)
- (5) Self-service laundry
- (6) Other facilities for which no other assembly is otherwise specified

**NOTE: EACH PRIVATE WATER SYSTEM WILL BE EVALUATED ON A CASE-BY-CASE BASIS.
IN SOME CASES, THE REQUIREMENT MAY DIFFER FROM THIS LIST.**

For further information, please call Mark Krouse (704-432-5800) or Bob Briggs (704-336-2997).