

Backflow Protection & Annual Testing Requirements

Why These Requirements Exist and What North Carolina Law Requires

What Is Backflow and Why Is It Dangerous?

Backflow is the unwanted reversal of water flow, which allows contaminants from a private plumbing system to enter the public water supply. Pressure changes caused by firefighting operations, main breaks, system failures, or pump activity can pull chemicals, sediment, or non-potable water back into the drinking water system. This creates a serious health hazard.

North Carolina Requirements for Backflow Protection

According to the North Carolina Administrative Code (NCAC), all water providers must maintain a Cross-Connection Control (CCC) program and ensure that proper backflow preventers are installed and maintained. These requirements apply to both new and existing facilities with no grandfather clauses.

Key NCAC Requirements:

- Water purveyors must establish a CCC program (T15A:18C.0307.c.5.A).
- Purveyors must implement an operations and maintenance plan for backflow assemblies (T15A:18C.0307.d.3).
- No unapproved water source may be connected to the water system (T15A:18C.0406.b.1).

Fire Code Requirements

The NC Fire Code reinforces these rules by requiring potable water supplies serving fire sprinkler and standpipe systems to be protected against backflow according to the International Plumbing Code.

Cited Sections:

- Section 903.3.5 — Water supplies.
- Section 912.6 — Backflow protection.

These sections specifically state that potable water connected to fire protection systems must be protected from contamination hazards.

What Type of Backflow Assembly Is Required?

The North Carolina Plumbing Code (Table 608.1) determines which type of assembly is required based on the level of hazard:

- Low-hazard systems (no fire department connection, no chemicals, no pump) → Double Check (DC) Assembly.
- High-hazard systems (FDC present, chemicals present, or a booster pump installed) → Reduced Pressure (RP) Assembly.

NCDEQ further requires the installation of appropriate testable assemblies before water service can be connected for certain types of plumbing systems.

Why Annual Testing Is Required

Backflow prevention assemblies are mechanical devices that can degrade over time due to wear, corrosion, sediment buildup, temperature changes, or freeze damage. Annual testing ensures that the assembly continues to function properly and remains compliant with North Carolina regulations.

Only certified testers are permitted to test assemblies. Regular testing protects the health and safety of all customers on the Davidson Water system.

Why This Matters to All Members

Backflow protection doesn't just protect one property—it protects the entire drinking water system. A single unprotected service can contaminate water for thousands of members. Davidson Water is legally and ethically required to protect community drinking water from preventable hazards.

By complying with installation requirements and annual testing, members play a vital role in keeping our shared water system safe.