

Backflow and Cross-Connection Program FAQ



What are backflow and cross connections, and why are they a concern?

The City of Richmond's water distribution system is pressurized to allow clean drinking water to flow to all parts of the City. The system is designed so that the pressure in the distribution pipes is higher than pressure on properties. That way, flow goes from the distribution system to the property.

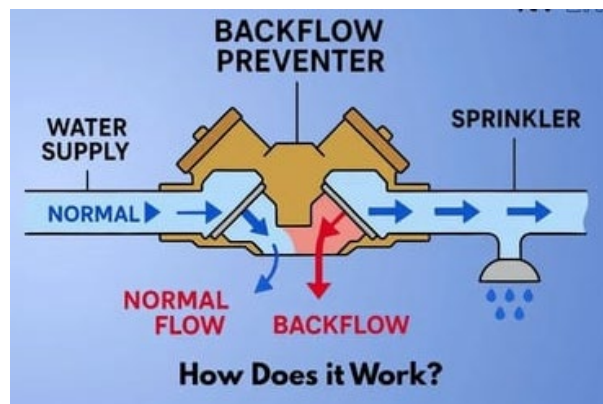
However, when there is a drop in pressure in the water distribution system from water line flushing, firefighting or a water main break, or there is an increase in pressure on the property side, it is possible for unsanitary water to travel backwards from the customer's plumbing system into the public water system. **Backflow is water that flows backwards into the public water system. It could contaminate the City's drinking water if a proper backflow prevention device is not installed on the service line connecting the property to the public water system.** This contaminated water could lead to serious health risks.

A cross-connection links a clean water source and a potentially contaminated source. The installation of a backflow device on a service line protects from the contaminated water from being drawn into the public water system.

What is a backflow prevention device and why is it important?

A properly installed backflow prevention device on a service line protects the City's public water system from backflow of contaminated water. DPU, by law, actively seeks to control and eliminate unprotected cross connections to the drinking water supply through enforcement of our Cross Connection and Control Program.

The most common type of backflow prevention devices are a Reduced Pressure Zone device (RPZ) and a Double Check Valve Assembly device (DCVA). Backflow prevention devices are typically located just downstream of the water meter.



Source: <https://www.ny-engineers.com/blog/what-is-a-backflow-preventer-and-how-does-it-work>

Who is required to have a backflow prevention device on their service line?

Some multi-family residential, all commercial, and all industrial properties are required to have a backflow prevention device installed on the service line for domestic, fire and irrigation service lines per VA Code 12VAC5-590-600. These requirements are in accordance with the Federal Safe Drinking Water Act, Virginia Department of Health, DPU, and Uniform Plumbing Code. There is no grandfathering clause for backflow prevention - regardless of how long a building or property has existed without backflow prevention, property owners that are legally required to have backflow prevention are responsible for making sure that their services lines are protected. Most single-family residences are not required to have a backflow prevention device.

What should I do if I am required to have a backflow prevention device?

1. Check if you have a backflow prevention device.
2. If you do not have a backflow prevention device, please contact a licensed plumber or contractor to have one installed. Once the device is installed, or if you replace or relocate an existing device, please contact DPU to have it inspected by calling 804-646-8544.
3. Once you have a device installed, please test your device annually in accordance with the law and send your test form to DPU.DevelopmentServices@rva.gov. The form can be found here: https://www.rva.gov/sites/default/files/2025-03/DPUForm_Backflow_Test_rev2025_0.pdf

Do I need a service line backflow prevention device if I have a backflow preventer on a boiler or other “point of connection”?

Yes. Regardless of whether a backflow prevention device is installed at the point of connection on a boiler or other type of equipment, a backflow preventer is still required immediately downstream of the water service line meter before any wyes, tees or taps.

How often does my backflow prevention device need to be tested?

Annually. DPU requires that a certified tester check all backflow assemblies at the time of installation, annually after installation, after repairs, and after relocating. Both the RPZ and DCVA type backflow prevention devices are testable to ensure they are in proper working order. Backflow assembly testers are private contractors certified by the state of Virginia and possess valid and current certification. A link to the VA Department of Professional and Occupational Regulation can be found here: [License Lookup | Virginia Department of Professional and Occupational Regulation](#). The tester must fill out this form: https://www.rva.gov/sites/default/files/2025-03/DPUForm_Backflow_Test_rev2025_0.pdf and submit to DPU.DevelopmentServices@rva.gov.

Will I receive notification when to perform my test?

Yes. DPU tracks backflow prevention device information in a database that will generate a reminder letter to customers of when their annual test is due. These letters are typically sent 45 to 60 days before the test is due. If you do not receive a letter, contact the Backflow Prevention and Cross Control Connection Division by calling 804-646-8544 to ensure your device is properly documented in our database. Please note the absence of a reminder letter does not void the requirement of the annual inspection required by DPU.

What happens if I don't install a backflow prevention device or annually test in accordance with federal, state, and local regulations?

Your water service is subject to being terminated to protect the public water system.

Do backflow incidents really happen?

Yes! Here are just a couple of examples:

- A resident called to complain that the tap water was pink, after an estimated 2,000 gallons of water mixed with car washing chemicals got into the city's drinking water supply. City staff traced the problem to a car

wash with an unprotected cross-connection. The facility was using a pressure washer to clean out pipes as part of maintenance work on plumbing.

- Creosote was found in the water system due to backflow from a wood preservative company. The company had installed an unprotected cross-connection between a hose used as a priming line, a fire service connection and the suction side of a creosote pump.

What is the City's Cross Connection Control and Backflow Prevention Program?

The City of Richmond Department of Public Utilities Cross Connection and Control program protects the city's water supply from pollutants and contamination being drawn into the drinking water system by:

1. Ensuring commercial and industrial properties are performing annual certification testing of backflow devices.
2. Performing inspections/surveys when needed to identify hazards and provide guidance to property owners to bring them into compliance with our Cross Connection and Control Standards.
3. Issuing notices of potential hazards to commercial and industrial property owners and educating them on corrective measures to bring the property into compliance within a designated timeframe to avoid possible disconnection.

Contact Information

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