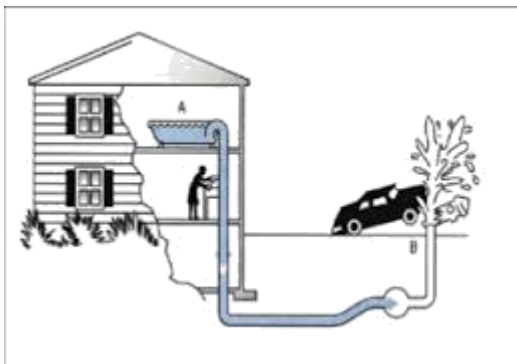




Backflow Prevention Frequently Asked Questions

1. What is a backflow?

Backflow is the flow of water or other liquids, mixtures or substances, under positive or reduced pressure into the distribution pipes of a potable water supply from any source other than its intended source. Backflow is caused by either backsiphonage or backpressure. Backsiphonage occurs when a flow of used, contaminated, or polluted water from a plumbing fixture or vessel enters into the public water system, often due to negative pressure in a pipe. Backpressure occurs due to a drop in pressure from the water system. It is important to note that drop in pressure is out of your control and can occur at any time.



2. What is a Cross-Connection?

Cross-Connection is any connection between the public water supply and a source of contamination or pollution. Examples of cross connections include a hose connection to a chemical solution, lawn irrigation systems, water softeners, hose connections, and swimming pools.

3. Does Rochester Public Utilities (RPU) have a backflow program?

Yes. RPU has had a backflow program for commercial and industrial customers since the early 1990's. Although Minnesota's [public water supply rules](#) already prohibit unsafe water connections, the Minnesota Plumbing Code was recently amended to [prohibit unlawful connections](#), and to [require annual testing](#) of backflow prevention devices. As your water purveyor, RPU has the authority to have a more stringent backflow program, which has been approved by RPU's Board of Directors and is a part of RPU's [Water Service Rules and Regulations](#).

4. Why do backflow preventers have to be tested annually?

Backflow preventers have internal seals, springs, and moving parts that are subject to fouling, wear, or fatigue. Also, backflow preventers can be bypassed. Therefore, all backflow preventers have to be tested annually; regardless of the installation date, to ensure that they are functioning properly. A visual check of air gaps is sufficient, but backflow preventers have to be tested with properly calibrated gauge equipment.

5. Why is it important to control backflow and cross-connections?

Proper backflow prevention on cross connections can eliminate contaminants from entering our public water supply. Remember you are drinking the same water as your neighbor – we are all connected!

6. Who needs a backflow preventer?

- All commercial and industrial RPU water customers are required to have backflow protection at the water service entrance.
- Residential water customers are required to have an approved backflow preventer if they have an underground lawn irrigation system.
- Residential customers may also need backflow preventing on heating boilers, which is a requirement of the MN Plumbing Code. Customers can check with the City of Rochester Building Safety Department to make sure.

7. Why am I considered an RPU Water Commercial Customer?

- Any customer conducting a business is considered a commercial account.
- Any apartment building over 3 units is considered a commercial account.
- Any residential property doing business out of the home (salon, etc.) is considered a commercial account.
- This designation also shows up on your RPU Utility bill for reference if you are not sure.

8. How do I know if I have a backflow at the meter?

The backflow prevention assembly will be located where the water service enters the building, typically near the RPU water meter. RPU did an inventory of all commercial and industrial businesses and determined who had protection at the meter and who does not.

9. Does my backflow assembly have to be installed in an accessible location?

Yes, the 2015 MN Plumbing Code Section 603.4.3 requires access and clearance of backflow devices for testing and repair. This section also states that access and clearance shall be in accordance with the manufacturer's installation instructions. Manufacturers require that devices be easily accessible.

10. Why do I have to have backflow at the meter if I already have backflow inside my building?

Isolation backflow protects occupants of a building. The RPU containment program protects the public supply. Questions about isolation backflow can be directed to City of Rochester Building Safety Department.

11. Does RPU have documented instances of when backflow has ever occurred?

There are many documented backflow occurrences around the nation. Rochester doesn't want to experience a backflow case, because if Rochester were to experience a backflow occurrence, people could potentially get very ill or even die. The key aspect to a cross-connection backflow program is all about prevention.

12. If I'm a residential water customer and I'm unsure if I have a lawn irrigation system, how can I identify if I have one?

There will be a pipe hooked after the meter going to the underground lawn irrigation system outside.

13. What if I'm a Residential water customer and I have decided I no longer want to use my lawn irrigation system. What protocol do I need to follow?

You would need to cap off your lawn irrigation system, resulting in a gap between the irrigation system and the water service. Once this is accomplished RPU will need to physically inspect to ensure the lawn irrigation system was disconnected properly.

14. If I'm a residential customer, but have my own well and are not connected to RPU's water distribution system, do I still need to have my lawn irrigation system tested?

No, only if the residential customer is an RPU water customer would they then need to have their backflow lawn irrigation assembly tested.

15. Who is responsible for the testing and maintenance of the backflow preventers?

The owner is responsible for testing to ensure the backflow prevention assembly is in proper operating conditions at all times.

16. Who can install a backflow preventer?

Installation of a backflow preventer can only be done by a licensed plumber.

17. Does the installing of the backflow device require a permit?

Yes. Permits can be obtained by your licensed plumber through the City of Rochester Building Safety Department.

18. Who can test backflow preventers?

American Society of Sanitary Engineers (ASSE) certified plumber or tester of your choice.

19. How much will a backflow test cost?

The cost of having a device tested varies among testers. The cost is also dependent on several factors, including the size of the device, where the device is located, the type of device, etc.

20. What happens if my backflow test fails?

Any backflow preventer which fails during an annual test shall be immediately repaired or replaced.

21. What happens if I don't have my assembly tested?

RPU will send a notice of violation when the test is thirty (30) days past due. RPU will send a final notice of violation when the test is sixty (60) days past due. After the final notice, the Owner will have thirty (30) days to become compliant, or face possible termination of water service to their premise and may be subject to a reconnection charge. In the event the Owner informs RPU of extenuating circumstances as to why the test has not been made, a time extension may be granted by RPU.

22. What is a backflow preventer and why are they needed?

A backflow prevention assembly is an approved, testable assembly, which uses valves to prevent potential contaminants from flowing into the drinking water system. Common assemblies are the Reduced Pressure Zone (RP), Double Check Valve (DC), Pressure Vacuum Breakers (PVB), and Spill Resistant Vacuum Breakers (SVB)

- **Reduced Pressure Backflow Prevention Assembly (RP)**

An RP is a mechanical backflow preventer that consists of two independently acting, spring-loaded check valves with a hydraulically operating, mechanically independent, spring-loaded pressure differential relief valve between the check valves and below the first check valve. It includes shutoff valves at each end of the assembly and is equipped with test cocks. An RP is effective against backpressure backflow and backsiphonage and may be used to isolate health or nonhealth hazards.



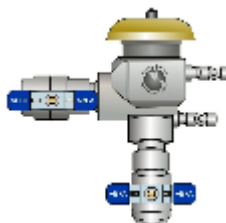
- **Double check valve assembly (DC)**

A DC is a mechanical backflow preventer that consists of two independently acting, spring-loaded check valves. It includes shutoff valves at each end of the assembly and is equipped with test cocks. A DC is effective against backpressure backflow and backsiphonage but should be used to isolate only non-health hazards.



- **Pressure Vacuum Breaker Assembly (PVB)**

A PVB is a mechanical backflow preventer that consists of an independently acting, spring-loaded check valve and an independently acting, spring-loaded, air inlet valve on the discharge side of the check valve. It includes shutoff valves at each end of the assembly and is equipped with test cocks. The PVB may be used to isolate health or nonhealth hazards but is effective against backsiphonage only.



- **Spill-Resistant Pressure Vacuum Breaker Assembly (SVB)**

As assembly containing an independently operating internally loaded check valve and independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with a properly located resilient seated test cock, a properly located bleed/vent port, and tightly closing resilient seated shutoff valves attached at each end of the assembly.



23. Who can I contact for additional information on RPU's Cross-Connection Control and Backflow Prevention Program?

Contact RPU's Business Services Dept. at 507-280-1544 or email: backflowtesting@rpu.org