

**Ordinance No. 1380
Series 2026**

An Ordinance of the Town of Berthoud Repealing and Reenacting Section 6.28 of the Berthoud Municipal Code Regarding Backflow Prevention, Adopting a New Section 6.29 Regarding Non-Potable Cross-Connection Control, and Repealing Provisions in Conflict Therewith

Whereas, the Town operates a municipal public water system;

Whereas, the Colorado Department of Public Health and Environment requires water suppliers in Colorado to adopt standards for backflow prevention;

Whereas, protection of the public potable water system from contamination and pollution is necessary to protect public health and safety;

Whereas, certain properties within the Town receive non-potable or secondary irrigation water, including systems operated by homeowners' associations or special districts;

Whereas, cross connections between potable and non-potable systems create a risk of backflow contamination of the public drinking water supply;

Whereas, the Town has identified illegal cross connections between potable and non-potable systems, including prior incidents resulting in illness; and

Whereas, the Board of Trustees finds it necessary to establish clear regulatory authority, inspection rights, enforcement procedures, and penalties to prevent and eliminate cross connections.

Now Therefore be it Ordained by the Board of Trustees of the Town of Berthoud as follows:

Section 1. Section 6.28 of the Berthoud Municipal Code is hereby repealed in its entirety and reenacted as follows:

6.28 Backflow Prevention and Cross-connection Control Program

6.28-1. Purpose and Authority

A. The Town is the supplier of its public water system and maintains a Backflow Prevention and Cross-Connection Control Program (the "BPCCCP") to protect its potable water supply from contamination or pollution caused by backflow or back-siphonage.

B. The purpose of the BPCCCP is to:

1. Prevent contaminants from entering the public water system from private plumbing systems;
2. Identify, control, and eliminate existing or potential cross connections between potable and non-potable systems;
3. Maintain a consistent, effective process for backflow prevention and inspection; and
4. Ensure all assemblies comply with the Town's adopted plumbing code, CDPHE Reg. 11, Section 11.39 and applicable ASSE/USC standards.

C. The BPCCCP is authorized by the Safe Drinking Water Act, 42 U.S.C. § 300f, *et seq.*; the CDPHE Backflow Prevention and Cross Connection Control Regulation 11, Section 11.39; Title 25, Articles 8 and 10, C.R.S.; and the Colorado Plumbing Code.

6.28-2. Applicability

A. The BPCCCP applies to:

1. All commercial, industrial, institutional, multi-family, irrigation, and other non-single residential property type water service connections to the Town's system; and
2. All customers located outside Town limits who receive water from the Town by agreement or otherwise.

B. Single-family residential connections are generally exempt from the BPCCCP unless the Town identifies a cross connection or potential contamination hazard, or the residence has an additional irrigation service not tapped directly off the domestic potable service or a fire suppression system.

C. If a conflict arises between this Section and any plumbing, mechanical, building, electrical, fire or other code adopted by the State, then the most stringent provisions of each respective code shall prevail.

6.28-3. Definitions

For purposes of this Section, the following terms shall have the following meanings:

ABPA – The American Backflow Prevention Association, a national organization that provides training and certification programs for backflow prevention assembly testers and cross connection control specialists.

ASSE – The American Society of Sanitary Engineering (ASSE International), an organization that develops performance standards and certification criteria for plumbing and backflow prevention assemblies.

Backflow – The reverse flow of water or other substances into the public water system from an unintended source.

Backflow Event – The confirmed or reasonably suspected reversal of flow from a non-potable source into the Town's potable water system.

Backflow Prevention Assembly – An approved, testable, lead-free, mechanical device installed on a service line or internal plumbing to prevent backflow into the potable water supply system, meeting the laboratory and field performance specifications of ASSE or the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California.

Backflow Prevention Method – A method or non-testable device used to prevent backflow for low-hazard conditions, which is not considered acceptable backflow protection where a testable backflow prevention assembly is required by the Town.

CDPHE – The Colorado Department of Public Health and Environment, the state agency responsible for administering and enforcing the Colorado Primary Drinking Water Regulations (5 CCR 1002-11) and overseeing public water system compliance with state and federal drinking water requirements.

Certified Tester – An individual certified by ASSE or ABPA and state-approved program to test backflow prevention assemblies.

Containment – Installation of a backflow prevention assembly at the service connection to prevent backflow from an entire property or facility.

Cross Connection – An actual or potential connection between the potable water system and a source that could cause contamination.

Cross Connection Survey – A systematic on-site inspection or documented questionnaire conducted by the Town to identify and evaluate the physical presence of any actual or potential cross connections at a water service connection or within the plumbing system, to assess the degree of hazard posed by such cross connections, and to determine whether a backflow assembly is required.

Customer – An individual or entity receiving water service from the Town.

Hazard (degree of) – The evaluation of the actual or potential conditions within water system that can be classified as either a health or non-health hazard.

High Hazard Property – Any property that has access to or is served by both potable water and non-potable or secondary water.

Isolation – Backflow prevention protection at each fixture or appliance outlet/connection.

Multi-family residential – Residential housing with three (3) or more dwellings on a single water service connection.

Non-hazard – A potential cross connection involving any pollutant that will not create a health hazard as determined by the public water system.

Non-Potable Water – Water not meeting drinking water standards, including but not limited to secondary irrigation water, ditch water, lake water, well water, or reclaimed water not intended for human consumption.

On-Site Verification Inspection – An inspection of water cross connections, backflow prevention methods and backflow prevention assemblies performed by the Town.

Pressure Vacuum Breaker (PVB) – A breaker used for low-hazard irrigation systems without chemical injection or booster pumps.

Reduced Pressure Zone (RPZ) Assembly – An assembly designed for high-hazard situations.

Secondary Water System – Any distribution system supplying non-potable water for irrigation or other non-drinking purposes.

Single-family residential – A standalone dwelling for a single household that includes its own land, separate utilities, and private entrance.

Testable Double Check Valve Assembly (DCVA) – An assembly used for medium-hazard situations such as non-chemical fire systems.

USC – The Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (USC-FCCCHR), which evaluates and lists backflow prevention assemblies that meet accepted performance standards.

6.28-4. Authority and Standards

The BPCCCP complies with the following regulatory authorities and technical standards:

1. The Colorado Primary Drinking Water Regulations, 5 CCR 1002-11, including CDPHE Section 11.39 governing backflow prevention and cross connection control;
2. The current plumbing code adopted by the Town;
3. Applicable ASSE standards;
4. Approval listings and performance criteria established by USC; and
5. Additional technical standards adopted by the Town necessary to administer the BPCCCP.

6.28-5. Administration

The Town shall administer the BPCCCP by:

1. Maintaining a database of backflow inspection reports and hazard surveys;
2. Issuing notices for required installation, testing, and maintenance;
3. Ensuring compliance with CDPHE cross connection control requirements;
4. Coordinating with certified testers and property owners to track compliance; and
5. Conducting annual on-site verification inspections of non-residential properties, and when required of residential properties using backflow prevention methods.

6.28-6. General Requirements

A. The Town will inspect each non-single family residential connection to determine if there is a cross connection hazard that requires backflow protection. Inspections will be conducted whenever a property changes ownership or occupancy, or when alterations are made to the water service or internal plumbing system. If a cross connection is found, the Town will determine what type of backflow assembly is required.

B. All commercial, industrial, institutional, individual irrigation systems, and multi-family buildings shall install an RPZ assembly (lead-free) to isolate their private plumbing systems from the Town's distribution system, unless otherwise approved by the Town. Where an RPZ assembly is not feasible, an approved alternative testable backflow assembly shall be provided at all identified cross connections within the plumbing system.

C. Water heating or storage systems that can cause pressure increases shall include an approved expansion or pressure-control device.

D. Building or plumbing plans for new or modified construction shall be approved by the Town prior to issuance of a building permit. Plans shall include:

1. Service type, size, and location;
2. Meter size and location;
3. Backflow assembly type, size and location;
4. Fire sprinkler system(s) service line, size, and type of assembly; and
5. Any necessary thermal expansion control measures.

6.28-7. Backflow Prevention Assemblies

A. *Where Required.*

1. *Non-Single Residential Properties.* All commercial, industrial, institutional, irrigation, and multi-family service connections shall install an approved RPZ assembly at the service connection for containment unless the Town determines that a lesser degree of hazard exists and approves an alternative backflow prevention assembly or a waiver.

2. *Commercial and Industrial Internal Hazards.* Where internal cross connections or hazardous processes exist, the Town may require isolation protection at specific equipment, processes, or plumbing connections in addition to containment protection.

3. *Fire Protection Systems.*

a. Non-chemical fire protection systems shall include a testable Double Check Valve Assembly (DCVA) unless a greater degree of hazard requires a higher level of protection.

b. Fire protection systems containing antifreeze, foam, corrosion inhibitors, or other chemical additives shall install an RPZ assembly.

4. *Irrigation Service Connections.* Irrigation service connections shall install backflow protection as follows:

a. Non single-family residential irrigation systems shall install an RPZ assembly unless otherwise approved by the Town.

b. Single-family residential irrigation systems with no chemical injection or booster pumps shall install a PVB unless the Town determines that a greater level of protection is required due to site-specific conditions.

5. *Increased Protection.* The Town may require a higher level of backflow protection where the degree of hazard warrants additional protection of the public water system.

B. *Installation Standards.*

1. Each backflow prevention assembly shall be installed by a licensed plumber in accordance with Town's adopted plumbing code and ASSE/USC specifications.

2. Assemblies shall be located on the customer side of the meter in an accessible, non-hazardous location.

3. Branch connections or tees between the meter and the assembly are prohibited.

4. Each assembly shall be installed horizontally unless specifically approved for vertical installation by ASSE or USC standards.

5. An RPZ shall be installed at least twelve (12) inches above finished grade, with adequate drainage and freeze protection.

6. An assembly shall not be submerged, buried, or located in areas subject to flooding or freezing.

7. Each backflow assembly shall be protected from freezing with an outdoor enclosure in accordance with a ASSE 1060 or by method approved by Berthoud Water Utilities.

C. *Responsibility.* The customer is responsible for all design, installation, testing, maintenance, and replacement costs associated with backflow prevention assemblies.

6.28-8. Degree of Hazard Determination

The Town shall determine the degree of hazard presented by a customer's plumbing system or water use practices. The Town may classify a connection as a health hazard or non-health hazard based on cross connection surveys, inspection findings, operational conditions, or other information available to the Town. The Town's determination of hazard classification shall govern the type of backflow prevention assembly required.

6.28-9. Testing and Maintenance

- A. Backflow prevention assemblies shall be tested:
 - 1. At installation, both new and replacement;
 - 2. After repair or relocation; and
 - 3. Annually thereafter on a date set by the Town between February 1st and September 1st.
- B. Tests shall be performed by a certified backflow assembly tester/technician.
- C. Assemblies that fail must be repaired or replaced with re-submission of the passing test results within seven (7) days of the test completion by a licensed installer or certified tester. The failed test result must also be submitted within seven (7) days of failure.
- D. Each tester shall use calibrated test equipment verified annually.
- E. The Town may require more frequent testing for high-hazard facilities or after suspected contamination events.
- F. Non-approved or non-testable assemblies must be replaced with approved assemblies.

6.28-10. Reporting and Recordkeeping

- A. Each test report shall include:
 - 1. Customer account information;
 - 2. Assembly type, make, model, serial number, and size;
 - 3. New installation or replacement date, with replaced assembly serial number;
 - 4. Installation location;
 - 5. Test date and results;
 - 6. Technician name, certification agency, number, and expiration; and
 - 7. Test kit make, model, serial number, and calibration date.
- B. All records shall be retained by the tester and the customer for a minimum of three (3) years.
- C. Newly installed backflow prevention assembly reports and test results shall be submitted within seven (7) days. The Town may reject incomplete, illegible or inaccurate test reports and may restrict testers that submit unreliable data.
- D. Each backflow prevention assembly shall display a test tag including the following:
 - 1. Test date;
 - 2. Assembly serial number, make, model, size; and

3. Tester's name, contact, signature, and state certification number; and
4. Pass or fail results.

6.28-11. Right of Entry

A. Authorized representatives of the Town may enter any property served by the public water system, during reasonable hours and upon presentation of proper credentials, to conduct cross connection surveys, inspect backflow prevention assemblies, verify compliance with the BPCCCP, or investigate conditions that may pose a risk to the public potable water system.

B. Right of entry under this Section shall be a condition of water service. Property owners and customers shall provide reasonable access to water service connections, plumbing systems, and backflow prevention assemblies required by this Section.

C. Where security or restricted access exists, the property owner shall arrange reasonable access for Town personnel to inspect required backflow prevention assemblies.

6.28-12. Notice and Order to Correct

The Town shall provide written notice to any customer whose plumbing system has been determined to present a risk to the Town's distribution system. The notice and order shall state that the customer must install an approved backflow prevention assembly at their own cost at the main service connection, or at each service connection as required by the Town, and shall include a deadline for such installation.

6.28-13. Emergency Authority

A. In the event of a suspected or confirmed backflow event, the Town may immediately take any action necessary to protect the public water supply, including without limitation:

1. Termination of water service;
2. Isolation of affected distribution system areas;
3. Flushing of distribution mains;
4. Collection of water quality samples;
5. Public notification; and
6. Coordination with CDPHE.

B. The Town may recover from all responsible parties all costs associated with investigation, mitigation, and regulatory response.

6.28-14. Violation and Penalties

A. *Violation.* It is unlawful to violate any provision of this Section or the BPCCCP. Each day a violation continues shall constitute a separate offense.

B. *Notice of Violation.* If the Town determines that a certified tester or testing company has violated the requirements of the BPCCCP or this Section, the Town shall issue a written notice of violation describing the violation and required corrective action. Notice may be provided by personal delivery, United States mail, or other method permitted by law.

C. *Tester Penalties.* Violations by a testing company or certified tester may result in the following enforcement actions:

1. For the first violation, the Town shall issue a written notice of violation identifying the violation and requiring corrective action.

2. For the second or any subsequent violation, the Town may suspend or revoke authorization for the certified tester or testing company to perform backflow prevention assembly testing within the Town's water service area.

3. The Town may prohibit any certified tester or testing company that fails to comply with the BPCCCP or this Section from performing backflow testing within the Town's water service area.

D. *Tampering Penalty.* The Town shall assess a penalty of one hundred dollars (\$100) for the removal or damage to a water service locking device installed by the Town, in addition to assessment for all costs associated with restoring the device.

E. *Testing Results Penalty.* Failure to submit required backflow assembly test results within the required timeframe shall result in the following penalties:

<u>Days Past Due</u>	<u>Civil Penalty</u>
31 days past due	\$100
61 days past due	\$250
91 days past due	\$500
After 91 days past due	Water service may be suspended.

F. *Suspension.*

1. The Town may suspend water service and assess additional fees if:

- a. An uncontrolled cross connection exists;
- b. A required assembly is defective, bypassed, or removed;
- c. Inspection or testing is refused; or
- d. Annual inspection or testing is past due.

2. The Town shall provide reasonable notice to the customer prior to suspension.

3. Water service will be restored only after the condition causing the suspension has been corrected and verified by the Town.

4. Notwithstanding the foregoing, the Town may immediately suspend water service without prior notice whenever, in the judgment of the Town, such action is necessary to protect the public health, the public potable water supply, or the integrity of the distribution system due to an actual or suspected cross connection, backflow condition, or other contamination risk.

Section 2. Section 6.29 is hereby added to the Berthoud Municipal Code, to read as follows:

6.29 Non-Potable Water Cross Connection Control Program

6.29-1. Purpose

This Section establishes requirements to prevent cross connections between the Town's potable water system and non-potable or secondary water systems.

6.29-2. Definitions

The definitions set forth in Section 6.28-3 shall apply to this Section.

6.29-3. Cross Connections Prohibited

A. No person shall create, install, maintain, or permit a cross connection between the Town's potable water system and any non-potable water source. Any person who creates or contributes to the creation of a prohibited cross connection shall be considered a responsible party under this Section.

B. A cross connection shall remain a violation regardless of whether a device intended to prevent backflow has been installed unless such device has been expressly approved in writing by the Town.

C. The following shall not be considered acceptable protection against cross connection:

1. Single check valves;
2. Swing checks;
3. Dual check valves;
4. Irrigation pressure vacuum breakers (PVB) used to justify interconnection; or
5. Hose bib vacuum breakers.

D. Any approved backflow prevention assemblies shall be installed and tested in accordance with Town standards, including without limitation applicable ASSE and USC-FCCCHR standards, and maintained in proper working order at all times.

6.29-4. High Hazard Properties

Any property with access to both potable and non-potable water shall be classified as a High Hazard Property. On a High Hazard Property, the Town may require installation or upgrade of a backflow prevention assembly where it determines that site conditions present an increased risk of backpressure, back siphonage, or contamination.

6.29-5. Owners' Association and Special District Responsibilities

A. Any owners' association or special district receiving non-potable water service from the Town shall maintain a cross connection control program for its non-potable distribution system.

B. On or before March 1st of each year, each owners' association and special district receiving non-potable water service from the Town shall provide an annual affidavit to the Town stating that the owners' association or special district:

1. Maintains a cross connection control plan acceptable to the Town;
2. Is not aware of any cross connections exists within the non-potable system;
3. Verified that residents have received annual notification that potable and non-potable systems may not be interconnected;
4. Will provide updated management contact information to the Town within thirty (30) days of any change; and
5. Will maintain a list of all addresses receiving non-potable water and a primary contact name and contact information for each property and provide it to the Town upon request.

6.29-6. Right of Entry

- A. Authorized representatives of the Town may enter any property served by a non-potable water system, during reasonable hours and upon presentation of proper credentials, to inspect or investigate conditions that may pose a risk to the Town's potable water system.
- B. Right of entry under this Section shall be a condition of non-potable water service. Property owners and customers shall provide reasonable access to service connections, plumbing systems and other facilities.
- C. Where security or restricted access exists, the property owner shall arrange reasonable access for Town personnel to inspect required backflow prevention assemblies.

6.29-7. Violation and Penalties

- A. *Violation.* It is unlawful to violate any provision of this Section. Each day a violation continues shall constitute a separate offense.
- B. *Penalty for Administrative Violations.* For failure to comply with inspection, certification, or protective requirements, the following shall apply:
 - 1. The Town shall issue a written notice of violation, which shall include a deadline for compliance
 - 2. The Town may impose a civil penalty not to exceed one thousand dollars (\$1,000) per violation.
- C. *Penalty for Unlawful Cross Connection.* For creation or maintenance of a prohibited cross connection, the following shall apply:
 - 1. The Town shall issue a written notice of violation, which shall include a deadline for elimination of the cross connection.
 - 2. The Town may impose a civil penalty not to exceed \$2,650 per violation, subject to inflationary increases as allowed by law.
 - 3. The Town may recover all costs incurred for investigation and inspection.
 - 4. The Town may terminate water service to the property.
- D. *Penalty for Backflow Event.* If a backflow event occurs, the following shall apply:
 - 1. The Town shall immediately terminate water service to the property. Water service shall not be restored until the hazard is eliminated and all costs and penalties are satisfied.
 - 2. The Town shall require installation or upgrade of a Town-specified backflow protection.
 - 3. The Town may impose a civil penalty not to exceed \$2,650 per violation, subject to inflationary increases as allowed by law, against the property owner or other person responsible for the backflow event.
 - 4. The Town may recover all costs incurred, including without limitation: investigation; sampling and laboratory testing; system flushing; public notification; consultant and engineering services; and regulatory reporting.
 - 5. The Town's determination that a backflow event has occurred shall be *prima facie* evidence for purposes of enforcement of this Section.

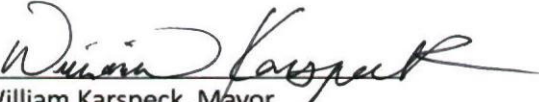
E. **Responsibility.** The existence of a cross connection or the occurrence of a backflow event shall be strict liability, regardless of intent or negligence, and it shall not be a defense to enforcement that: a device was installed in good faith; a contractor recommended or installed the device; the property owner believed the device prevented backflow; or the condition predated the adoption of this Section.

Section 3. Severability. If any provision of this Ordinance is determined to be invalid for any reason, such determination shall not affect the validity of the remaining provisions of this Ordinance, and the Board of Trustees hereby declares that it would have passed this Ordinance and each provision thereof irrespective of the fact that any one or more provisions may be declared invalid.

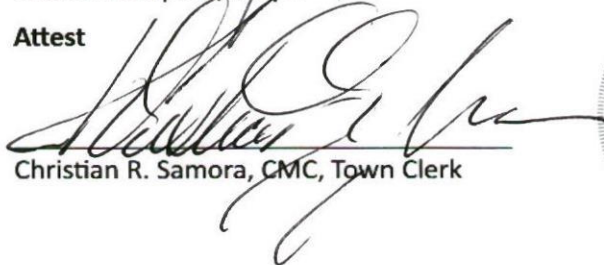
Section 4. Repeal. Existing ordinances or provisions thereof inconsistent with the provisions of this Ordinance are hereby repealed, except that this repeal shall not affect or prevent the prosecution or punishment of any person for any act done or committed in violation of any ordinance hereby repealed prior to the effective date of this Ordinance.

Introduced, approved and adopted this 12th day of May, 2026.

Town of Berthoud


William Karspeck, Mayor

Attest


Christian R. Samora, CMC, Town Clerk

