

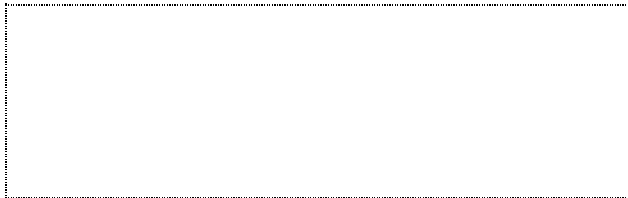


## WATTS BAR UTILITY DISTRICT

P. O. Box 910 - Kingston, TN 37763 - Phone: 865-270-8070 – Toll Free: 800-882-5099 - Fax: 865-270-8073 - [www.wbud.org](http://www.wbud.org)

July 01, 2024

### The letter has been issued to:



This letter is to inform that you must install and maintain an approved **reduced pressure principle backflow prevention assembly** on your water service at the meter or “premises isolation.” This action is taken in accordance with the Federal Safe Drinking Water Act, Tennessee Code Annotated 68-221-701 through 68-221-718, State of Tennessee Department of Environment and Conservation (TDEC), Public Water Systems Rules 0400-45-01-.17(6), and Watts Bar Utility District (WBUD) Cross-Connection Control Policies and Program.

Under these Policies and Programs, WBUD has the primary responsibility of protecting the public potable water from backflow of dangerous substances, pollution, or contamination, which would endanger the public health or physically damage the public water system.

This letter does not address internal protection requirements. WBUD suggests you contact the agency or agencies having jurisdiction to ensure your water system complies with plumbing codes. WBUD however, does not accept responsibility to guarantee that all cross-connections will be protected or for cross-connections that may be created in the future, due to repair or alterations made in your water system.

It is necessary to shut off the flow of water through a backflow prevention assembly during the time it is being tested and/or repaired. If the complete interruption of water through as given service is critical to your operation, WBUD recommend you install backflow prevention assemblies in parallel. This will allow one assembly to continue serving water while the other is being tested or repaired. A check should be made with your engineer or plumber to be sure that assemblies are properly sized for desired flows.

Note that installation of a backflow prevention assembly will prevent release of on-site pressure to the utility water mains. Therefore, it is important that the temperature/pressure relief valve and/or thermal expansion tank be properly installed to relieve any excessive increase in on-site pressure due to hot water heating systems or other activities.

All devices installed must be evaluated and approved by the **Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California**. The list may be obtained by contacting the cross connection manager of Watts Bar Utility District and the assemblies listed thereon have been adopted by WBUD as the only assemblies approved for use on the water lines under WBUD’s jurisdiction.

Failure to comply with this letter will result in water service discontinued until you have complied with this letter. The discontinuance of your water service until you have so complied is required by WBUD's Policies and Programs.

**WBUD must inspect installation of the Backflow Device to ensure it is installed to State and WBUD policy, Installation Criteria, and/or specifications.**

For additional information regarding this matter you may either write to the Cross Connection Manager at Watts Bar Utility District, P. O. Box 910, Kingston TN, 37763 or telephone 800-882-5099 between the hours of 9 a.m. to 4 p.m. Please contact the Cross Connection Manager as soon as the work is done or if, for any reason, you cannot comply with the **time frame** installation period or for clarification of any cross-connection control requirements discussed in this letter.

**Information on Backflow Devices**

1. Backflow Devices

- a. When determined by WBUD, an approved backflow prevention device shall be installed on each water service line and un-metered fire line at the customer's premises (**premises isolation**); *at or near the property line being served and/or; at the water meter or un-metered fire line stub out*; but in all cases, **before the first branch line leading off the service line.**
- b. For new installations, the manager or is designated agent shall determine the type of backflow prevention device that will be required.  
(RPBP or RPDA, will be the primary device required)
- c. All backflow devices shall be of the type approved by the Tennessee Department of Environment and Conservation, WBUD, and University of Southern California. The installation and maintenance of backflow prevention devices shall be at the expense of the owner or occupant of the premises. The backflow devices shall be testable and must be a Reduce Pressure or a Reduce Pressure Detector Assembly.
- d. All required devices shall be installed in accordance with the provisions of this policy, by a person certified by the Tennessee Department of Environment and Conservation, Division of Drinking Water Supply, or its successor. Certification shall be for *completion of special training and demonstration of competency in the installation, maintenance and testing of backflow prevention devices*. Evidence of current certification shall be required at the time of permit application and installation. **Only licensed sprinkler contractors may install, repair or test backflow prevention devices on fire protection systems.**
- e. All devices shall be installed in accordance with the manufacturer's instructions and shall possess appropriate test cocks, fittings and caps required for the testing of the device. All fittings shall be of brass construction, unless otherwise approved by WBUD, and shall permit direct connection to department test equipment.
- f. The entire device, including valves and test cocks (**with adapters**), shall be easily accessible for testing and repair.
- g. Reduced Pressure Backflow Prevention devices shall be located a minimum of twelve (12") inches plus the nominal diameter of the device above either; 1) the floor, 2) the top of opening(s) in the

enclosure or 3) maximum flood level, whichever is higher. Maximum height above the floor surface shall not exceed sixty (60") inches.

- h. Devices shall be protected from freezing, vandalism, mechanical abuse, and from any corrosive, sticky, greasy, abrasive or other damaging environment.
- i. Approved Backflow devices for sizes 2 ½" – 10", Ames Series 5000CIV Reduced Pressure Detector Assemblies or Watts Series 909RPDA Reduced Pressure Detector Assemblies, or equal.
  - i. The Detectable Meter must be a Badger Model 25, 70, or 170, and must have a RTR register with a 3' lead wire. In most cases, the meter will be a ¾" Badger Meter, model 25 with RTR register with a 3' lead wire. The meter shall register in gallons.
- j. Approved Backflow devices for 2" and smaller not used for fire protection/un-metered water, shall be a Reduced Pressure Backflow Preventor.
- k. After installation, the Backflow Device shall be tested by a person having a valid Certificate of Competency in Testing and Evaluation of Backflow Prevention Assemblies issued by the Division of Water Supply. The results shall be faxed or mailed to WBUD not later than 30 days after installation.
- l. The person testing the backflow device shall fax, mail, or hand deliver a copy of the Certificate of Competency in Testing and Evaluation of Backflow Prevention Assemblies to WBUD.
- m. **Note:** All assemblies approved for use in WBUD system must be approved by the foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

2. Enclosures:

- a. 5052-H32 aluminum, or an approved equal material, with a minimum of 1.5" factory manufactured polyisocyanurate insulation in the walls and roof. For backflow prevention devices 2-1/2" and larger, the enclosure shall be constructed of 5052-H32 aluminum, or an approved equal material, with a minimum of 1.5" factory manufactured polyisocyanurate insulation in the walls and 3" factory manufactured polyisocyanurate insulation in the roof.
- b. The complete assembly, including valve stems and hand wheels, shall be protected by being inside the enclosure.
- c. To provide access for backflow prevention devices up to and including two (2") inches, the enclosure shall be completely removable. Access for backflow prevention devices 2-1/2" and larger shall be provided through a minimum of two access panels. The access panels shall be of the same height as the enclosure and shall be completely removable. All access panels shall be provided with built-in locks.
- d. The enclosure shall be mounted to a concrete pad as specified by the manufacturer, but in no case less than four (4") inches thick. The enclosure shall be constructed, assembled and/or mounted in such a manner that it will remain locked and secured to the pad even if any outside fasteners are removed. All hardware and fasteners shall be constructed of 300 series stainless steel.
- e. 5. Heating equipment, if required, shall be designed and furnished by the manufacturer of the enclosure to maintain an interior temperature of +40°F with an outside temperature of -30°F and a wind velocity of 15 miles per hour.

- f. If the customer wants to lock the enclosure, the customer shall contact WBUD for a combination lock. The lock will be provided by WBUD at no additional cost. The combination will also be provided to the customer by WBUD.
3. The Backflow Device and Enclosure must be inspected and approved by WBUD.
  4. The backflow device will be tested at least annually by WBUD. If the device fails, it will be repaired or replaced at the customer's expense. Once the Backflow Device has been repaired or replaced, the customer must have the backflow device tested before putting it back in service. The backflow device must be repaired or replaced within 30 days after failing an inspection. After the backflow device has been repaired or replaced it must meet section 1(k) and 1(l) of this letter.
  5. There is a monthly fee that is added to the monthly water bill for a one (1) test annually by WBUD. See Schedule of Rates and Charges
  6. The information provided above is a ***brief*** summary of the specs and policy of WBUD and is intended for a quick reference guide for contractors and customers installing an approved backflow device. A full copy of the specs and policy is provided upon written request, a nominal fee will be charged for the copies.
  7. This letter of information is only valid for **60 days** from the date above. If you are past the 60 days from the date above, you must be re-issued another letter of information.

Respectfully,

Cross Connection Manager

INSTALLATION CRITERIA  
FOR  
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLIES

MINIMUM INSTALLATION REQUIREMENTS are underlined, all others are suggestions or items to consider:

- A. The RP assemblies should never be subject to flooding; therefore should:
  - 1. Never be located in a pit or other area subject to flooding
  - 2. Avoid piped drains for enclosures housing the units. Provision should be made for discharging water (maximum design discharge) directly through the wall of the enclosure housing the unit at a slightly higher elevation than surrounding ground level or maximum flood level.
  - 3. The lowest part of the relief valve discharge port should be a minimum of 12 inches above either:
    - 1. The ground
    - 2. Top of the opening(s) in enclosure wall
    - 3. Maximum flood level

Whichever is highest, in order to prevent any part of the assembly from becoming submerged.
- B. All new backflow prevention assemblies being installed in Tennessee for the protection of a public water system should be included on the latest listing of “Approved Backflow Prevention Assemblies” maintained by the Division of Water Supply.
- C. The assemblies should be installed where the units can be easily tested and repaired.
  - 1. Installation of assemblies 2” and less there must be a minimum of six inch clearance from all walls. Assemblies over 2” must be a minimum of twelve inches from all walls.
  - 2. Assemblies installed in stationery enclosures should have at least a 2 ft. clearance on each side of the assembly to facilitate testing and servicing. Adequate drainage must be provided.

3. Assemblies should not be installed higher than 5 ft. from the floor/ground to the center line of the assembly unless safe permanent access is provided for testing and servicing
- D. The pipelines should be thoroughly flushed to remove foreign material and debris. A strainer should be added on the inlet side of the assembly before installation except for fire protection service lines.
- E. Installation of backflow prevention assemblies will not allow any unprotected or uninspected connections in front of the backflow prevention assembly.
- F. Backflow preventers should be installed with unions and isolation valves on both ends of the assembly to allow removal of the assembly for repair or replacement.
- G. Provisions should be made to protect the assemblies from freezing. Insulating materials should not restrict the relief valve discharge or accessibility to test cocks or name plate of the unit. All enclosures should be designed to provide for adequate draining for the relief valve.
- H. The relief valve of an RP should never be plugged, restricted, or solidly piped to a drain, ditch or pump. Rigidly secured air-gap funnels may be used to direct discharges away from the unit provided an approved air-gap separation is provided at the relief valve discharge and again at the discharge end of the drainpipe. An adequate area drain is recommended to handle the maximum relief valve flow to prevent flooding.
- I. The test cocks, valve stems, or name plates should not be painted and their accessibility, operation of legibility should not be hampered nor the relief valve discharge passage be restricted by insulation or other coverings.
- J. The assemblies should be installed in an approved position as listed in the Latest Approved List and special supports added if needed.
- K. For applications where water temperatures exceed 110°F (43°C) only approved hot water devices are to be used.
- L. Prior to completing the installation, temperature pressure relief valves on heating vessels should be properly installed and in good working condition. If needed, thermal expansion tanks should be installed.
- M. No unprotected bypasses or connections are made between the assembly and meter.

## **Watts Bar Utility District Backflow Device Banned Device List**

1. Watts 009



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## Cross Connection/Backflow Inspection Checklist

This is a quick checklist by WBUD and is not the complete specifications. For complete specifications, you can request WBUD's Cross Connection Policy and the State Minimum Installation Specifications.

The following is a highlight in what WBUD will be looking for when inspecting.

### ▪ Device

- Installed at water meter or within five (5) feet of meter, premise isolation. ([WBUD Spec](#))
- Installed above ground, at least 12 inches from the bottom of ground to the bottom of relief port and no higher than 60 inches off the ground/floor to the center line of the assembly, unless safe permanent access is provided for testing and servicing.
- No unprotected bypasses or connections are made before the backflow assembly.
- Device is a Reduced Pressure Backflow Preventer (RPBP) for metered taps or Reduced Pressure Detector Assembly (RPDA) for un-metered Fire Lines. ([WBUD Spec](#))
- Relief port is free from all obstructions.
- USC approved.
- All fittings shall be of brass construction, unless otherwise approved by WBUD
- Test Cock Adapters installed. ([WBUD Spec](#))
- Is not on the WBUD Banned List. ([WBUD Spec](#))
- An approved air-gap shall separate the relief port from any drainage system. An approved air-gap shall be at least twice the inside diameter of the supply line, but never less than one (1") inch
- Is in an Enclosure.
  - If yes, go to “Enclosure(s)” Section.
  - If no, go to “Testing of Device” Section



- **Enclosure(s)**

- Will device flood due to the enclosure?
- Is the enclosure Locked?
  - If yes, WBUD will provide the lock(s).
- Is enclosure permanent or removable
  - If removable, does it meet WBUD specifications?
    - If it meets the specifications, Go to “Testing of Device” section
  - If permanent, go to “Permanent Enclosure” Section under the “Enclosures” Section.
- Permanent Enclosure
  - Is there 24” on both sides of Device(s)

- **Testing of Device**

- Device tested by a State of TN Certified Tester
- Results recorded on WBUD Test Form
- Results submitted to WBUD no later than 30 days from completion of test by mail, fax, or at office.
- Copy of current valid Certificate must be submitted with results or be on file with WBUD.
- Copy of current valid Test Kit Calibration Certificate or Results
- Copy of valid Certificate of Liability Insurance in the amount of not less than \$100,000.00 “per occurrence” must be submitted to WBUD with test or be on file with WBUD. Insurance coverage must cover the test date that is recorded on form.

The policy set forth uniform requirements for the protection of the public water system for WBUD from possible contamination, and enable WBUD to comply with all applicable local, State and Federal laws, regulations, standards or requirements, including the Safe Drinking Water Act of 1996, TCA 68-221-701 to 68-221-720 and the Rules and Regulations for Public Water Systems and Drinking Water Quality issued by the Tennessee Department of Environment and Conservation, Division of Water Supply.

Objectives.

The objectives of this policy are to:

- (1) To protect the public potable water system of WBUD from the possibility of contamination or pollution by isolating within the customer's internal distribution system, such contaminants or pollutants that could backflow or backsiphonage into the public water system;
- (2) To promote the elimination or control of existing cross connections, actual or potential, between the customer's in-house potable water system and non-potable water systems, plumbing fixtures, and industrial piping systems;
- (3) To provide for the maintenance of a continuing program of cross connection control that will systematically and effectively prevent the contamination or pollution of all potable water systems.

Devices must be installed to State Minimum Specs and WBUD policies and specifications, this includes but not limited to, installation of the device, testing of the device, Enclosures of the devices. WBUD is not responsible for the following, but not limited to, installation of the device(s), the device, any other materials, enclosure, etc...