

RESOLUTION
FOR
ADOPTION OF HARRIMAN UTILITY BOARD
CROSS-CONNECTION POLICY

A Resolution to adopt a new Cross-Connection Control Policy to replace the previous version adopted by the City of Harriman in 1978.

WHEREAS, Under Sections 68-221-701 through 68-221-720 of the Tennessee Code Annotated, the water purveyor has primary responsibility to prevent water from unapproved sources, or any other foreign substance from entering the public water supply system. The water purveyor is prohibited by this law and the regulations authorized therein from installing or maintaining a water service connection to a customer's private water system where cross-connection or backflow hazard exists or will probably exist, unless the public water supply system is properly protected against backflow;

WHEREAS, Furthermore, Section 68-221-711 of the Tennessee Code Annotated specifically prohibits "...the installation, allowing the installation, or maintenance of any cross connection, auxiliary intake, or bypass, unless the source and quality of water from the auxiliary supply, the method of connection, and the use and operation of such cross connection, auxiliary intake, or bypass has been approved by the department [of environment and conservation]";

WHEREAS, The Harriman Utility Board has previously adhered to the City of Harriman's existing Ordinance No. 821, adopted upon second reading on February 17, 1978 by the City of Harriman Council via ordinance to amend "Harriman Municipal Code" title 8, chapter 3, relating to Cross Connections, Auxiliary Intakes, Etc.; and

WHEREAS, The Tennessee Department of Environment and Conservation, Division of Water Resources (Department), formally directed the Harriman Utility Board via letter dated July 6, 2016, to update its existing Cross-Connection Control Plan (approved by the Department in 1980) to conform to the Department's Cross-Connection Guidance Manual published in 2008.

NOW, THEREFORE, be it resolved by the Harriman Utility Board as follows:

Harriman Utility Board

Cross-Connection Control Policy

Section 1. Introduction

Harriman Utility Board has the responsibility of providing its customers with water that is safe under all foreseeable circumstances. Thus, in fulfilling this responsibility, HUB must protect the water distribution mains from hazards within the customer's premises that have the potential of degrading the quality of water in the community system. Harriman Utility Board retains the authority to adopt requirements that meet or exceed minimum requirements set forth by the state or federal agencies.

Furthermore, Harriman Utility Board has the responsibility to:

- A. Conduct surveys to determine if the customer's water use practices pose a danger of contaminating the water system.
- B. See that cross-connection problems are corrected or that adequate protection against backflow is provided.
- C. Make regular visits to determine if protection remains adequate.
- D. Maintain records regarding efforts to protect the water system.

In summary, Harriman Utility Board must have an effective ongoing program consisting of informing the public, routine investigations, enforcement, testing, and record keeping in order to fulfill their responsibility to provide safe water to each customer under all foreseeable circumstances and to minimize the potential of legal liability.

Harriman Utility Board will therefore develop and maintain a Cross-Connection Control Plan which is acceptable to the Division of Water Resources. This plan will be a practical guide for safeguarding the quality of water distributed from becoming contaminated or polluted through backflow. By following the plan of action, HUB will ensure that all aspects of this policy are being followed by customers. The Cross-Connection Control Plan may be modified upon the General Manager's approval; whereas, this Cross-Connection Control Policy is additionally subject to review and approval by the governing Board.

Section 2. Definitions

Air Gap: A physical separation between the free flowing discharge end of a potable water supply line and an open or non-pressurized receiving vessel.

Approved Air Gap: An air gap separation with a minimum distance of at least twice the diameter of the supply line when measured vertically above the overflow rim of the vessel, but in no case less than one (1) inch.

Approved: Any condition, method, device, procedure accepted by the Tennessee Department of Environment and Conservation, Division of Water Resources and Harriman Utility Board.

Auxiliary Intake: Any piping connection or other device whereby water may be secured from any sources other than from the public water system.

Auxiliary Water Supply: Any water supply on or available to the premises other than water supplied by the public water system.

Backflow: The reversal of the intended direction of flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of a potable water system from any source.

Backpressure: A pressure in the downstream piping that is higher than the supply pressure.

Backsiphonage: Negative or Sub-atmospheric pressure in the supply piping.

Backflow Prevention Assembly: An approved assembly designed to prevent backflow.

Bypass: Any system of piping or other arrangement whereby water may be diverted around a backflow prevention assembly, meter, or any other public water system controlled device.

Contamination: The introduction or admission of any foreign substances that causes illness or death.

Cross-Connection: Any physical arrangement whereby public water supply is connected, directly or indirectly, with any other water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture or other device which contains, or may contain, contaminated water, sewage, or other waste or liquid of unknown or unsafe quality which may be capable of contaminating the public water supply as result of backflow caused by the manipulation of valves, because of ineffective check valves or backpressure valves or because of any other arrangement.

Customer: Any natural or artificial person, business, industry, or governmental entity that obtains water, by purchase or without charge, from the water provider.

Direct Cross-Connection: An actual or potential cross-connection subject to backsiphonage and backpressure.

Double Check Detector Assembly: A specially designed assembly composed of line-size approved double check valve assembly, with a bypass containing a water meter and approved double check valve assembly specifically designed for such application. The meter shall register accurately for very low rates of flow up to 3 gallons per minute and shall show a registration for all rates of flow. This assembly shall only be used to protect against non-health hazards and is designed primarily for use on fire sprinkler systems.

Double Check Valve Assembly: An assembly of two internally loaded check valves, either spring loaded or internally weighted, installed as a unit between tightly closing resilient seated shutoff valves and fitted with properly located resilient seated test cocks. This type of device shall only be used to protect against non-health hazard pollutants.

Failed: The status of a backflow prevention assembly determined by a performance evaluation based on the failure to meet all minimums set forth by the approved testing procedure.

Fire System Classifications Protection: The classes of fire protection systems, as designated by the American Water Works Association "M14" for cross-connection control purposes based on water supply source and the arrangement of supplies, are as follows:

Class 1: Direct connection to the public water main only; non pumps, tanks, or reservoirs; no physical connection from other water supplies; no antifreeze or other additives of any kind; all sprinkler drains discharging to the atmosphere, dry well or other safe outlets.

Class 2: Same as Class 1, except booster pumps may be installed in connection from the street mains.

Class 3: Direct connection to public water supply mains in addition to any one or more of the following: elevated storage tanks; fire pumps taking suction from above ground covered reservoirs or tanks; and pressure tanks.

Class 4: Directly supplied from public water supply mains, similar to Class 1 and Class 2, with and auxiliary water supply dedicated to fire department use and available to premises, such as an auxiliary supply located within 1700 feet of the pumper connection.

Class 5: Directly supplied from public water supply mains and interconnection with auxiliary supplies such as pumps taking suction from reservoirs exposed to contamination, or from rivers, ponds, wells or industrial water systems; where antifreeze or other additives are used.

Class 6: Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks.

Harriman Utility Board: The entity who is vested with the authority and responsibility for the implementation of the Cross-Connection Control Program and for the provision of this ordinance/policy.

Hazard, Degree of: A term derived from evaluation of the potential risk to public health and the adverse effect of the hazard upon the public water system.

Hazard, Health (also known as a **High Hazard**): A cross-connection or potential cross-connection involving any substance that could, if introduced in the public water supply, cause death, illness or spread disease.

Hazard, Plumbing: A cross-connection in a customer's potable water system plumbing that is not properly protected by an approved air gap or backflow prevention assembly.

Hazard, Non-health (also known as **Low Hazard**): A cross-connection or potential cross-connection involving any substance that would not be a health hazard but would constitute a nuisance or be aesthetically objectionable if introduced into the public water supply.

High Risk High Hazard: A Health Hazard which exhibits a significant risk of contamination or potential to create conditions which pose an extreme hazard of immediate concern.

Indirect Cross-Connection: An actual or potential cross-connection subject to backsiphonage only.

Industrial Fluid: Any fluid or solution that may be chemically, biologically, or otherwise contaminated or polluted in a form or concentration that could constitute a health, system, pollution, or plumbing hazard if introduced into the public water supply. This shall include, but is not limited to: polluted or contaminated water; all type of process water or used water originating from the public water system that may have deteriorated in sanitary quality; chemicals; plating acids and alkalis; circulating cooling water connected to an open cooling tower; cooling towers that are chemically or biologically treated or stabilized with toxic substance; contaminated natural water systems; oil, gases, glycerin, paraffin, caustic or acid solutions; and other liquids or gases used in industrial processes or for fire purposes.

Inspection: An on-site evaluation of an establishment to determine if backflow prevention assemblies are needed by the customer to protect the public water system from actual or potential cross-connections.

Interconnection: Any system of piping or other arrangement whereby a public water supply is connected directly with a sewer, drain, conduit or other device which does or may carry sewage.

Passed: The status of a backflow prevention assembly determined by a performance evaluation in which the assembly meets all minimums set forth by the approved testing procedure.

Performance Evaluation: An evaluation of an approved Double Check Valve Assembly or Reduced Pressure Principle Assembly (including approved Detector Assemblies) using the latest approved testing procedures in determining the status of the assembly.

Pollutant: A substance in the public water system that would constitute a non-health hazard and would be aesthetically objectionable if introduced into the public water supply.

Pollution: The presence of a pollutant or substance in the public water system that degrades its quality so as to constitute a non-health hazard.

Potable Water: Water that is safe for human consumption as prescribed by Tennessee Department of Environment and Conservation, Division of Water Resources.

Public Water Supply: An entity that furnishes potable water for general use and which is recognized as the public water supply by Tennessee Department of Environment and Conservation, Division of Water Resources.

Pressure Vacuum Breaker Assembly: An assembly consisting of one or two independently operating spring loaded check valve(s) and an independently operating spring loaded air inlet valve located on the discharge side of the check valve(s), with tightly closing shutoff valve(s) on each side of the check valves and properly located test

cocks for testing valves. This assembly is approved for internal use only and is not approved for premise isolation by the State of Tennessee.

Public Water System: A water system furnishing water to the public for general use which is recognized as a public water supply by the State of Tennessee.

Reduced Pressure Principle Assembly: An assembly consisting of two independently acting approved check valves together with hydraulically operating, mechanically independent, pressure differential relief valve located between the check valves and below the first check valve. These units shall be located between two tightly closing resilient seated shutoff valves as an assembly and equipped with properly located resilient seated test cocks.

Reduced Pressure Principle Detector Assembly: A specially designed assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a bypass containing a water meter and approved reduced pressure principle backflow prevention assembly specifically designed for such application. The meter shall register accurately for very low flow rates of flows up to 3 gallons per minute and shall show registration for all flow rates. This assembly shall be used to protect against non-health and health hazards and used for internal protection.

Service Connection: The point of delivery to the customer's water system; the terminal end of a service connection from the public water system where the water department loses jurisdiction and control over the water. "Service Connection" shall include connections to fire hydrants and all other temporary or emergency water service connections made to the public water system.

State: The State of Tennessee, Tennessee Department of Environment and Conservation, Division of Water Resources.

Survey: An evaluation of a premise by a water system operator performed for the determination of actual or potential cross-connection hazards and the appropriate backflow prevention needed.

Water System: The water system operated, whether located inside or outside, the corporate limits thereof, shall be considered as made up of two (2) parts, the Utility System and the Customer System. The utility system shall consist of the facilities for the production, treatment, storage, and distribution of water, and shall include all those facilities of Harriman Utility Board under the complete control of the water department, up to the point where the customer's system begins (i.e. downstream of the water meter); or the customer system shall include those parts of the facilities beyond the termination of the water department distribution system that are utilized in conveying water to the point of use.

Section 3. Responsibility for Water System

- A. Notwithstanding any provisions of a plumbing code adopted by units of local government having jurisdiction, the Harriman Utility Board shall be responsible for protecting the water system from contamination or pollution due to implementation and enforcement of this policy. Such authority shall extend beyond service connection to whatever extent is necessary to meet the requirements of this policy.
- B. The authority to terminate water service for violation of any provision of this policy shall rest solely with the Harriman Utility Board, whom shall have authority to take action to protect public health and safety.
- C. This section shall not be construed to prevent other officers or employees of the Harriman Utility Board from terminating water service for failure to pay for water service or for violation any other provision of Harriman Utility Board Water System policy.

Section 4. Compliance with TCA

The Public Water System is to comply with Section 68-221-711 of the Tennessee Code Annotated, as well as the Rules of Public Water Systems, legally adopted in accordance with this policy, which pertain to cross-connections, auxiliary intakes, bypasses, and interconnections, and establish an effective, ongoing program to control these undesirable water uses.

Section 5. Inspection and Testing Fees

- A.** Fees for initial or annual certification of a backflow prevention assembly may be published by the Harriman Utility Board to reflect the cost of processing such certification.
- B.** In the event that a backflow prevention assembly is deemed Failed after the Initial and Annual Performance Evaluations, or there are deficiencies in the installation either from failure to conform to the installation criteria specified in this ordinance/policy, or from deterioration, then Harriman Utility Board shall issue a written notice of failure or deficiency. Harriman Utility Board may waive any fees and/or cost that should be appropriately relieved.

Section 6. Regulated

No person shall cause a cross-connection, auxiliary intake, bypass, or interconnection to be made, or allow one to exist for any purpose whatsoever unless the construction and operation of same has been approved by the Tennessee Department of Environment and Conservation and the operation of such cross-connections, auxiliary intake, bypass, or interconnection is at all times under the direct supervision of the Harriman Utility Board.

- A.** No water service connection to any premises shall be installed or maintained by Harriman Utility Board unless the water supply is protected as required by this policy. Service of water to any premises shall be discontinued by Harriman Utility Board if a backflow prevention assembly required by this policy is not properly installed, tested, and/or maintained; or if it is found that a backflow prevention assembly has been removed, bypassed, or if an unprotected cross-connection exists on the premises. Service shall not be restored until such conditions or defects are correct.
- B.** If, in the judgment of the Harriman Utility Board, an approved backflow prevention assembly is required at the water service connection to a customer's premises, or at any point(s) within the premises, to protect the potable water supply, Harriman Utility Board shall compel the installation, testing, and maintenance of the required backflow prevention assembly(s) at the customer's expense.
- C.** Where required by this policy, an approved backflow prevention assembly shall be installed on each water service line to a customer's premises at or near the property line or immediately inside the building being served; but in all cases before the first branch line leading off the service line.
- D.** The customer shall install approved assembly(s) at their expense. Failure, refusal, or inability on the part of the customer to install, and maintain such an assembly shall be cause for discontinuance of, or refusal of, water service to the premises until such requirements are satisfactorily met.
- E.** No installation, alteration or change(s) shall be made to any backflow prevention assembly connected to the public water system without first securing permission from the Harriman Utility Board.
- F.** All backflow prevention assemblies will inspected after installation for compliance with all requirements of this policy. Failure to meet all installation and testing requirements shall be cause for discontinuance of, or refusal of, water service to the premises until such requirements are satisfactorily met.
- G.** It shall be unlawful to install or allow any unprotected takeoffs from the water service line ahead of any meter or backflow prevention assembly located directly after the service connection to a customer's water system.

Section 7. Applicability

The requirements contained herein shall apply to all customers and premises within the Harriman Utility Board water service area, and is hereby made a condition required to be met before water service is provided to any customer. This policy shall be strictly enforced since it is essential for the protection of the public water supply against contamination and pollution.

Section 8. Inspections/Surveys

The Harriman Utility Board shall inspect all properties served by the public water supply where cross-connections with the public water supply are deemed possible. The frequency of inspections and re-inspections based on potential health hazards involved shall be established by the Harriman Utility Board in accordance with guidelines acceptable to the Division of Water Resources.

Section 9. Backflow Prevention Determination

An approved backflow prevention assembly shall be installed on each service line to a customer's premises, before the first branch line leading off the service line, if it is impractical or easily altered to provide an effective air gap separation, when any of the following conditions exist.

- A. All premises listed as High Risk High Hazard including industrial fluids, sewage, or any other nonpotable substances are handled in such a manner as to create actual or potential health hazard to the public water system.
- B. Premises having auxiliary water supply, including but not limited to a well, cistern, spring, pond, river, or creek that is not, or may not be, of safe bacteriological or chemical quality and that is not acceptable as an additional source by the Harriman Utility Board.
- C. The plumbing from a private well or other water supply entering the building served by the public water supply, or is connected, directly or indirectly, to the public water supply.
- D. The owner or occupant of the premises cannot, or is not willing to demonstrate that the water use and protective features of the plumbing are such that frequent alterations are made to the plumbing.
- E. The nature and mode of operation within the premises is such that frequent alterations are made to the plumbing.
- F. The nature of the premises is such that the use of the structure may change to a use wherein backflow prevention is required.
- G. There is likelihood that protective measures may be subverted, altered, or disconnected.
- H. Any premises having service and fire flow connections, most commercial and educational buildings, construction sites, all industrial and medical facilities, lawn irrigation systems, public or private swimming pools, private fire hydrant connections used by any fire department in combating fires, photographic laboratories, standing ponds or other bodies of water, auxiliary water supplies, and wastewater treatment plants.
- I. Any premises having fountains, water softeners or other point of use treatment systems hot tubs or spas, or other type(s) of water using equipment.
- J. Premises otherwise determined by the Harriman Utility Board to create an actual or potential hazard to the public water system.
- K. In the case of any premises where there is any material dangerous to health that is handled in such a fashion as may create an actual or potential health hazard to public water system, the public water system shall be protected by an air gap separation (at the discretion of water provider to allow) or a reduced pressure principle backflow prevention assembly. The following premises, where such conditions may exist, include but are not limited to: sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries, funeral homes, and metal plating operations.
- L. In the case of any premises where, because of security requirements or other prohibitions or restriction it is impossible or impractical to make a complete cross-connection survey, the public water system shall be protected against backflow from the premises by either an air gap separation (at the discretion of the water provider) or reduced pressure principle assembly on each service line to the premises.

- M.** A backflow prevention assembly shall be installed on each fire service line at the property line or immediately inside the building being served, but in all cases, before the first branch line leading off the service line wherever any of the following conditions exist:
- a. Class 1, 2, and 3 fire protection systems shall require at minimum a double check valve (detector) assembly; provided however, that a reduced pressure principle (detector) shall be required:
 - i. Underground fire sprinkler pipelines are parallel to and within (10') feet horizontally of pipelines carrying waste water or significantly toxic wastes;
 - ii. Premises having unusually complex piping systems;
 - iii. The pumpers connecting to the system have corrosion inhibitors or other chemical added to the tanks of the fire trucks;
 - iv. The piping system(s) has corrosion inhibitors or other chemical added to prevent freezing; or
 - v. An auxiliary water supply exists with 1,700 feet of any likely pumper connection.
 - b. Class 4, Class 5, Class 6 fire protection systems shall require an air gap, or a reduced pressure principle assembly (detector) as determined by the Harriman Utility Board.
 - c. Where a fire sprinkler system is installed on the premises, a minimum of a double check valve assembly (detector) shall be required.
 - d. Where a fire sprinkler system uses chemicals, such as liquid foam, to enhance fire suppression a reduced pressure principle detector assembly shall be required.
 - e. Harriman Utility Board may require internal or additional backflow prevention devices where it is deemed necessary to protect potable water supplies within the premises.
- N.** In the case of any premises with an auxiliary water supply and not subject to any of the following rules, the public water system shall be protected by an air gap separation or a reduced pressure principle assembly.
- O.** Double Check Valve Assemblies (and Detectors) may **only** be used for Class 1-3 fire protection systems.
- P.** In the case of any premises where there is any material dangerous to health that is handled in such a fashion as may create an actual or potential hazard to public water system, the public water system shall be protected by a reduced pressure principle backflow prevention assembly. The following premises, where such conditions may exist, include but are not limited to: sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries, funeral homes, and metal plating operations.
- Q.** In the case of any premises where there are uncontrolled cross-connections, either actual or potential, the public water system shall be protected by a reduced pressure principle assembly (detector) or air gap separation (at the discretion of water provider) assembly on each service line to the premises.
- R.** In the case of any premises where toxic substances are present that could pose an undue health hazard, the Harriman Utility Board may require an air gap separation or reduced pressure principle assembly at the service connection to protect the public water system.

Section 10. Approved Backflow Prevention Assemblies and Methods

- A.** All backflow prevention assemblies shall be fully approved and listed as acceptable by the State of Tennessee as to manufacture, model, size, application, orientation, and alterations. The assembly must have a status of "Passed" determined by performance evaluations to suffice as an approved backflow prevention assembly. The method of installation of backflow prevention devices shall comply with installation criteria set forth by this policy and the State of Tennessee. Installation shall be at the sole expense of the owner of the owner or occupant of the premises.
- B.** The type of protective assembly required by this Policy shall depend on the degree of hazard that exists. Reduced Pressure Principle Assemblies (Detector) may be used for health hazards and non-health hazards.

Double Check Valve Assemblies (Detector) may **only** be used for non-health hazards and is limited to Class 1-3 fire systems only.

- C. Pressure vacuum breakers, spill-resistant vacuum breakers, and atmospheric vacuum breaker are not allowed for premise isolation and will not satisfy the requirements of this Policy for adequate backflow prevention due in part to the inability to protect against backpressure.

Section 11. Backflow Prevention Assembly Installation Requirements

Minimum acceptable criteria for installation of backflow prevention assemblies shall include the following:

- A. All backflow prevention assemblies shall be installed at minimum in the approved orientation as indicated by the latest Approved List.
- B. All new assemblies installed must be on the Approved Assemblies List maintained by the Division of Water Resources and existing assemblies must have status of approved.
- C. All backflow prevention assemblies installed fire protection systems must be performed by persons possessing a fire sprinkler contractor license. Evidence of current certifications/license must be on file with Harriman Utility Board before any installation or testing of the devices can be performed.
- D. All assemblies shall be installed in accordance with the manufacturer installation instructions and by the State of Tennessee installation guide, from the State Manual or policies on cross-connection control, unless such instructions are in conflict with this policy, in which case the policy shall control, and shall possess all test cocks and fittings required for testing the assembly. All test cocks will be fitted with adapters and all fittings shall permit direct connection to test kits used by the water system.
- E. The entire assembly including test cocks and valves shall be easily accessible for testing and repair and shall meet all confined space requirements of OSHA/TOSHA.
- F. Reduced Pressure Backflow Prevention Assemblies shall be located so that the relief valve discharge port is a minimum of twelve (12) inches, plus nominal diameter of the supply line, above the floor surface. The maximum height above the floor surface shall not exceed sixty (60) inches.
- G. Clearance of devices from wall surfaces or other obstructions shall be a minimum of six (6) inches; or if a person must enter the enclosure for repair or testing, the minimum distance shall be twenty-four inches.
- H. Devices shall be protected from freezing, vandalism, mechanical abuse, and from any corrosive, sticky, greasy, abrasive, or other damaging substance.
- I. Devices shall be positioned where discharge from a relief port will not create undesirable conditions. An approved air gap shall separate the relief port from any drainage system. Such air-gap shall not be altered without the specific approval of the water system.
- J. Devices shall be located in an area free from submergence or flood potential and cannot be placed in a pit.
- K. All devices shall be adequately supported to prevent sagging.
- L. An approved strainer, fitted with a test cock, should be installed immediately upstream of all backflow prevention assemblies or shut-off valve, except on fire lines, using only non-corrosive fittings (e.g. brass or bronze) in the device assembly.
- M. Gravity drainage is required on all installations. Below ground installations shall not be permitted for Reduced Pressure Principle Assemblies (detectors).
- N. Fire hydrant drains shall not be connected to the sanitary sewer, and fire hydrants shall not be installed in such manner that backsiphonage or backflow through the drain may occur.

- O. Where jockey (low volume-high pressure) pumps are utilized to maintain elevated pressure, as in fire protection system, the discharge of the pump shall be on the downstream side of any check valve or backflow prevention assembly. Where the supply for the jockey pump is taken from the upstream supply side of the check valve or backflow prevention assembly, a backflow prevention assembly of the same type(s) required on the main line shall be installed on the supply line.
- P. Fixed position, high volume fire pumps shall be equipped with suction limiting control to modulate the pump if the residual line pressure reaches 20 psi. If line pressure drops below 20 psi, the pump will shut off to protect the distribution system. This shut off system must be tested annually for proper operation and report of the test must be sent to Harriman Utility Board.

Section 12. Existing Backflow Prevention Assemblies

- A. All presently installed backflow prevention assemblies which were previously acceptable to the State of Tennessee that complies with installation, testing, and maintenance requirements of this policy and in the sole discretion of the Harriman Utility Board adequately protect the public water system from backflow and that were approved assemblies for the purpose described herein at the time of installation may be retained in service.
- B. Any backflow prevention assembly that is presently installed in a vertical run of pipe shall be subject to replacement and reinstallation in an approved manner in a horizontal run of pipe, at the discretion of Harriman Utility Board.
- C. Wherever an existing assembly is moved from the present location, or when the inspector finds that the conditions of the assembly constitutes a health hazard, the unit shall be replaced by the backflow prevention assembly meeting the requirements of this policy.

Section 13. Assembly Performance Evaluations and Testing

- A. All assemblies used to protect the public water system must be tested every 12 months.
- B. Any assembly not tested within a 12 month period will be deemed not approved and have a status of **Failed**. The customer will be sent notification that the assembly is not in compliance with this ordinance or Policy.
- C. All assemblies must be deemed **Passed** for each initial and subsequent annual performance evaluations to satisfy as approved backflow prevention assembly.
- D. All assemblies will be tested by backflow prevention assembly tester possessing a valid (see definition) Certificate of Competency in Testing and Evaluation Backflow Prevention Assemblies issued by the State of Tennessee.
- E. All performance evaluation must be performed with an annually certified test kit.
- F. Certifications for test kits are valid for one year after certification is performed. If the test kit is not recertified after one year, it is deemed expired.
- G. Test kits must be certified annually and the backflow prevention assembly tester must show proof of certification from manufacturer-approved entities. No performance evaluations will be accepted from a backflow prevention assembly tester with an expired test kit certification.
- H. Proof of annual test kit certification and Certificate of Competency must be kept on file for each tester by water provider.
- I. Backflow Prevention Assembly Testers must test and evaluate according to the latest Division of Water Resources's latest approved procedures for Reduced Pressure Principle Assembly and the Double Check Valve Assembly.
- J. If any test does not meet the minimum requirements set forth in the approved testing procedure, the assembly is deemed **Failed** and does not suffice as an approved backflow prevention device. If conditions around the

assembly do not allow the assembly to be tested, the assembly fails the assembly performance evaluation and is marked **Failed** on test report. Examples would include assembly is submerged, test cocks missing or plugged, relief valve continually discharging.

- K. Backflow Prevention Assemblies are deemed **Passed** if all parts of the performance evaluation meet the minimum requirements in the approved testing procedure.
- L. Each location requiring an assembly shall have a documented backflow prevention assembly.
- M. Test reports must be completely and accurately documented and the appropriate evaluation (**Passed** or **Failed**) determined from testing procedure. Any test report that is not recorded completely in the sections pertinent to the results of the performance evaluation tests will not be accepted by Harriman Utility Board.
- N. All performance evaluations on file will be recorded on a State approved test report.
- O. Assemblies must be tested when installed and after every repair. Backflow prevention assemblies on lawn irrigation systems must be tested when assemblies are placed in service after winterization (To prevent testing just prior to winterization). If lawn irrigation backflow assemblies are taken removed to winterize the system, upon startup of the system, the assemblies must be retested.
- P. Failure to maintain a backflow prevention assembly that is deemed **Passed** shall be grounds for discontinuance of water service. The removal, bypassing, or altering of a protective device or installation, without the approval of the Harriman Utility Board, thereof so as to render a device ineffective shall constitute grounds for discontinuance of water service. Water service to such premises shall not be restored until the customer has corrected or eliminated such conditions or defects to the satisfaction this ordinance/policy and the Harriman Utility Board.
- Q. The backflow prevention assembly must be tested after every repair and have a status of **Passed** to be in compliance with this policy.
- R. Harriman Utility Board shall have the right to inspect and test any assemblies whenever it is deemed necessary. Water service shall not be disrupted to the assembly without the knowledge of the occupant of the premises.

Section 14. Corrections of Violations

- A. Any customer having cross-connections, auxiliary intakes, bypasses, or interconnection(s) in violation of this ordinance/policy shall, after a thorough investigation of existing conditions and an appraisal of the time required, complete the work within the time designated by the Harriman Utility Board, but in no case shall the time for correction exceed ninety (90) days for High and Low Hazards or fourteen (14) days for High Risk High Hazards.
- B. Failure to comply with any order of the Harriman Utility Board within the time set out therein shall result in the termination of water service.
- C. Where cross-connections, auxiliary intakes, bypasses, or interconnections are found to constitute a high risk high hazard, Harriman Utility Board shall require prompt corrective action (within 14 days) to be taken to eliminate the threat. Expedient steps shall be taken to disconnect the public water system from the customer's piping systems unless the extreme hazard is corrected immediately.
- D. Failure to correct conditions threatening the safety of the public water system as prohibited by this ordinance or Tennessee Code Annotated 68-221-711 within the time limits set by the Harriman Utility Board or this ordinance/policy, shall be cause for denial or termination of water service. If proper protection is not provided after times set forth in this policy, the Harriman Utility Board shall give the customer written notification that water service is to be discontinued, and thereafter physically separate the public water system from the customer's system in such a manner that the two systems cannot be connected by an unauthorized person.

Section 15. Non-Potable Supplies

- A. Any water outlet connected to auxiliary water sources, industrial fluid systems, or other piping containing non-potable liquids or gases, which could be used for potable or domestic purposes, shall be labeled in a conspicuous manner as: **WATER UNSAFE FOR DRINKING**
- B. The minimum acceptable sign shall have black letters at least one inch (1") high on red background.
- C. Color coding of piping in accordance with Occupational Safety and Health Act guidelines may be required in locations where, in the judgment of the inspector, such color coding is necessary to identify and protect the potable water supply.

Section 16. Conflicting Provisions

If any provision of this policy is found to conflict with any provision of any other ordinance/policy, then the provision of this policy shall control. That should any part, or parts of this policy be declared invalid for any reason, no other part, or parts, of this policy shall be affected thereby.

Section 17. Penalties

Any person responsible for a violation of this policy may be subject to discontinuance of the public water service at any premises upon discovery and service shall not be restored until such cross-connection, auxiliary intake, bypass, or interconnection has been discontinued. Furthermore, Harriman Utility Board may discontinue the public water supply service to any premises upon which there is found to be a cross-connection, auxiliary intake, bypass, or interconnection; and service shall not be restored until such cross-connection, auxiliary intake, bypass, or interconnection has been eliminated.

Section 18. Effective Date

This policy shall take effect from and after its passage and publication as the law directs, the public welfare requiring it.

Approved this 27 day of February, 2017.

Section 19. Approval Signatures

HUB Approval: William G. [Signature] Date: 4-27-17
General Manager

HUB Approval: Edgar R. Bowen [Signature] Date: 4/24/17
Board Chairman

TDEC Approval: Ash [Signature] Date: 6/22/17
Executive Director