

ORDINANCE NO. 217-98

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF TEXARKANA, TEXAS, AMENDING CHAPTER 29, "WATER AND SEWER," OF THE CODE ORDINANCES, THROUGH THE ADDITION OF ARTICLE VII, ENTITLED "CROSS CONNECTION CONTROL AND PREVENTION", RELATIVE TO THE PROTECTIONS REQUIRED TO PREVENT CONTAMINATION TO THE POTABLE WATER SUPPLY OF THE CITY OF TEXARKANA, TEXAS THROUGH CROSS-CONNECTIONS; PROVIDING FOR A FINE OF UP TO TWO THOUSAND AND NO/100 DOLLARS (\$2,000.00) FOR EACH OFFENSE IN VIOLATION OF THE ORDINANCE; MAKING THIS ORDINANCE BE CUMULATIVE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR GOVERNMENTAL IMMUNITY; PROVIDING FOR PUBLICATION; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, in order to further provide for the health, safety and welfare of the people served by Texarkana, and in compliance with Texas Natural Resource Conservation Commission, 30 TEXAS ADMINISTRATIVE CODE §290.44, TEXAS HEALTH AND SAFETY CODE, Chapter 341, Subchapter C, and the FEDERAL SAFE DRINKING WATER ACT, 42 U.S.C.A. §§300f et seq., it is necessary to adopt cross-connection control standards which establish the requirements for the design, construction and maintenance of connections to the public water supply; and

WHEREAS, these standards are supplemental to and, where more stringent, supersede the Standard Plumbing Code under which the City operates; and

WHEREAS, the purposes of this Ordinance are:

- (1) To provide for the protection of the public potable water supply;
- (2) To control any actual or potential pollution or contamination to the public water supply system within the consumers' premises through isolation at the water service connection and/or containment within the customer premises; and
- (3) To provide a continuous, systematic and effective program of cross-connection control;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TEXARKANA, TEXAS

SECTION 1: That Chapter 29, "Water & Sewer," of the Code of Ordinances of the City of

Texarkana, Texas, is hereby amended through the addition of Article VII, "Cross Connection Control and Prevention", so that hereafter said Article shall be and read as follows:

**ARTICLE VII
CROSS CONNECTION CONTROL AND PREVENTION**

Section 29-90. Cross Connection standards

Every identifiable source of contamination or potential contamination from any contaminant which originates from or is located at a residential or commercial establishment, which is connected to any public water supply or which provides water to the public shall be equipped with the protection required under the provisions of this Article.

Section 29-91. Applicability.

The rules and regulations set forth herein are intended to limit backflow potential at residential, commercial and industrial facilities as well as all wholesale customers and all other connections to the Texarkana potable water system whatsoever. Nothing contained herein shall be construed to prevent the Control Authority from requiring appropriate backflow prevention, including disconnection from service, for any water service that presents a backflow potential where plumbing code requirements are not sufficient in the Control Authority's opinion to protect the Public Water Supply.

Section 29-92. Implementation

It is the intent of this article that Texarkana Water Utilities and the Public Works Department implement and enforcement a cross connection control and prevention program to protect the public water supply of Texarkana, Texas. In general, following passage of this article, all commercial customers will be surveyed by mail, followed by a visit where necessary by one of the two departments to determine the hazard level. A notification will be mailed to commercial customers of the actions necessary for compliance. A hazard level determination will be made and cross connection devices installed as necessary at the expense of the customer on all new commercial construction prior to providing continuous water service. Customer Service Inspection, backflow device inspections and testing and proper record keeping procedures shall be implemented. All implementation and enforcement responsibilities shall be determined and coordinated by the Public Works and Utilities Directors.

Section 29-93. Interpretation

This Article shall be liberally interpreted to achieve the above stated policy and purposes.

Section 29-94. Cross Connections Prohibited

- (a) No installation of potable water supply, piping, or part thereof shall be made in such a manner that allows used, unclean, polluted, or contaminated water, mixtures, gasses, or other substances to enter any portion of such piping by reason of back siphonage, backpressure or any other cause.
- (b) No person shall install any water operated equipment or mechanism, or use any water treating chemical or substances, if it is found that such equipment, mechanism, chemical or substance may cause pollution or contamination of the public potable water supply. Such equipment or mechanism may be permitted only when equipped with an approved backflow prevention assembly.
- (c) No person shall connect to the public potable water system any mechanism(s) or system(s) designed to return used water to the public potable water system through any measures. An exception to this prohibition is that the control Authority may approve installation of mechanism(s) or system(s) designed to return used water to the public potable water system provided such systems have received the approval of TNRCC or the United States Environmental Protection Agency.
- (d) No person shall connect to the public potable water system an auxiliary water system without the approval of TNRCC and the Control Authority.

Section 29-95. Definitions.

The following definitions shall apply in the interpretation and enforcement of this article. If a word or term used in this Ordinance is not contained in the following list, its definition, shall have the meanings or definitions listed in the most recent adopted edition of the Standard Plumbing Code and/or the Manual of Cross Connection Control published by the Foundation for Cross Connection Control and Hydraulic Research, University of Southern California. The following definitions shall apply to this Ordinance:

Air gap - shall mean a physical separation between the free flowing discharge end of a potable water supply piping and/or appurtenance and an open or non-pressure receiving vessel, plumbing fixture or other device. An "approved air-gap separation" shall be at least twice the diameter of the supply pipe measured vertically above the overflow rim of the vessel, plumbing fixture or other device but in no case less than one inch.

Atmospheric vacuum breaker backflow prevention device or atmospheric vacuum breaker or AVB - means a device consisting of a float check, a check seat, and an air inlet port. A shutoff valve immediately upstream may be an integral part of the assembly. The AVB is

designed to allow air to enter the downstream water line to prevent back siphonage. This unit may never be subjected to a back pressure condition or have a downstream shutoff valve, or be installed where it will be in continuous operation for more than 12 hours.

Auxiliary supply - shall mean any water supply on or available to the premises other than the City's approved public water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural sources, such as, but not limited to a well, spring, river, stream, used waters, or industrial fluids. These waters may be contaminated or polluted, or they may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.

AWWA - shall mean American Waterworks Association.

Backflow prevention assembly or assembly - shall mean a device or means to prevent backflow into the potable water system, including reduced pressure backflow assemblies, double-check valve assemblies, atmospheric vacuum breakers, pressure vacuum breaker assemblies or air gap..

Backflow - shall mean the undesirable reversal of flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of a potable water supply from any source(s).

Backpressure - shall mean a pressure higher than the supply pressure, caused by a pump, elevated tank, boiler, air/stream pressure, or any other source to exist at a site in the water system.

Backsiphonage - shall mean a form of backflow due to a reduction in system pressure which causes a negative or sub-atmospheric pressure to exist at a site in the water system.

City or The City - shall mean the City of Texarkana, Texas or its authorized representative, which, for the purposes of implementation and enforcement of the backflow prevention program, shall normally mean representatives of the Public Works Department or Texarkana Water Utilities.

Commercial establishment - shall mean property or location which is used primarily for manufacture, production, storage, wholesaling or retailing of goods or services which are or may be placed in the flow of commerce or any property or location which is used primarily for the provision of any service; any user classified as a commercial water customer.

Contaminants - shall mean any foreign material, solid or liquid, not common to the potable water supply which would make the water unfit or undesirable for human or animal consumption by posing a health threat.

Contamination - means an impairment of the quality of the public potable water supply or a private potable water supply by the introduction or admission of any foreign substance that degrades the quality and which creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids, or waste.

Control Authority - shall mean the City; normally, for the purposes of the backflow prevention program, the Executive Director of Texarkana Water Utilities, the Public Works Director, or their designated representative who is vested with the authority and responsibility for the implementation of an effective cross-connection control program and/or for the enforcement of the provisions of this Article.

Cross-connection - shall mean any actual or potential connection or structural arrangement between a public or private water system through which it is possible to introduce any used water, industrial fluids, gas, or substance other than the intended potable water with which the system is supplied. By-pass arrangements, jumper connections, removal sections, swivel or changeover devices and other temporary or permanent devices through which or because of which backflow can or may occur.

Cross Connection Survey means a detailed inspection of a location and disposition of the water lines, including without limitation, establishing water lines on the premises, the existence of cross connections, the availability of auxiliary or used water supplies, the use of or availability of pollutants, contaminants and other liquid, solid or gaseous substances which maybe used industrially for stabilization of water supplies and such other processes necessary to determine degree of hazard.

Cross-connection control device - shall mean any approved device placed upon any connection, physical or otherwise, between a potable water supply system and any plumbing fixture or any tank, receptacle, equipment or device, which is designed to prevent nonpotable, used, unclean, polluted and contaminated water, or other substances, from entering into any part of such potable water system under any condition or set of conditions.

Customer Service Inspections - shall mean an inspection by the City or other individual authorized by this article designed to inspect and detect any actual or potential cross connection hazards and/or potential exceedences of the lead action level in solder or flux, pipes or pipe fittings.

Customer's Potable Water System means that portion of the privately owned potable water system lying between the point of delivery and the point of use. This system will include all pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances used to produce, convey, store or utilize the potable water.

Degree of hazard - shall mean the low, medium, or high hazard classification that shall be

attached to all actual or potential cross-connections. The degree of hazard increases with both the probability that backflow will occur and the toxicity or virulence of the substance that may backflow.

- (a) *High hazard* - means that level of potential hazard at any facility where the substance which could backflow is hazardous to human health; any actual or potential hazard involving any contaminant or substance that could, if introduced into the potable water supply, cause death, illness, spread disease or have a high probability of causing such effect.
- (b) *Medium hazard* - means that level of potential hazard at any facility where the substance which could backflow is objectionable, but does not pose an unreasonable risk to health; any actual or potential hazard involving any pollutant or substance that generally could not be a health hazard, but would constitute a nuisance, or be aesthetically objectionable if introduced into the potable water supply.
- (c) *Low hazard* - means that level of potential hazard at any facility where the substance which could backflow is objectionable, but does not pose an unreasonable risk to health, and there is no reasonable possibility of backpressure in the downstream piping system.

Double Check detector backflow prevention assembly or double check detector of DCDA - shall mean an assembly composed of a line-size approved double check assembly with a bypass containing a specific water meter and an approved double check valve assembly.

Double check valve backflow prevention assembly or double check or DC - shall mean an assembly which consists of two independently acting, approved check valves, including tightly closing resilient seated shutoff valves attached at each end of the assembly and fitted with properly located resilient seated test cocks.

Fireline Tester - An individual properly and currently accredited by TNRCC to test and repair backflow prevention assemblies on firelines only and is employed by an approved fireline contractor and has registered with the Control Authority.

General Tester - An individual properly and currently accredited by TNRCC to test and repair backflow prevention assemblies on any domestic, commercial, industrial or irrigation service except firelines and has registered with the Control Authority.

Licensed Installer - An individual who (a) actually connects an irrigation system to a private, public, raw or potable water supply and (b) who has pre-qualified and is licensed with TNRCC in accordance with Chapter 34 of the TEXAS WATER CODE.

Licensed Irrigator - An individual who (a) sells, designs, consults, installs, maintains, alters, connects, repairs or services an irrigation system and (b) has pre-qualified and licensed with TNRCC in accordance with Chapter 34 of the TEXAS WATER CODE.

Mobile Unit - shall mean any operation which may have the potential to introduce contaminants into a potable water system from a mobile source. These include, but are not limited to, carpet-cleaning vehicles, water-hauling vehicles, street-cleaning vehicles, liquid waste vehicles, power-wash operations and pest control vehicles.

Nonpotable Water means water that does not comply with the TNRCC's rules and regulations governing drinking water.

Non-residential use - shall mean water used by any person other than a residential customer of the water supply and include all uses not specifically designated as residential by Texarkana Water Utilities.

Person - shall mean any individual, partnership, associations, corporations, firms, clubs, trustees, receivers, and bodies politic and corporate.

Point-of-use isolation - shall mean the appropriate backflow prevention within the consumer's water system at the point at which the actual or potential cross-connection exists.

Pollutant shall mean any substance that causes or could cause an impairment of the quality of the public potable water supply to a degree which does not create a hazard to the public health but does adversely and unreasonably affect the aesthetic qualities of such potable waters for domestic use.

Potable water supply - shall mean any water supply intended or used for human consumption or other domestic use.

Premises - shall mean any piece of property to which water is provided, including all improvements, mobile structures, and structures located on it.

Premises Isolation - shall mean the appropriate backflow prevention at the service connection between the public water system and the water user.

Pressure vacuum breaker backflow prevention assembly or pressure vacuum breaker or PVB - shall mean an assembly which provides protection against backsiphonage, but does not provide adequate protection against backpressure backflow. The assembly is a combination of a single check valve with an AVB and can be used with downstream resilient seated shutoff valves. In addition, the assembly has suction and discharge gate valves and resilient seated test cocks which allows the full testing of the assembly.

Public water system or supply - shall mean any public or privately owned water system which supplies water for public domestic use. The system will include all services, reservoirs, facilities, and any equipment used in the process of producing, treating, storing or conveying water for public consumption.

Reduced pressure principle backflow prevention assembly or reduced pressure principle assembly or RP assembly or RPZ - shall mean an assembly containing two independently acting approved check valves together with a hydraulically-operated, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The assembly shall include properly located resilient seated test cocks and a tightly closing resilient seated shutoff valve at the end of the assembly.

Reduced pressure principle detector backflow prevention assembly or reduced pressure detector or RPDA - shall mean an assembly composed of a line-size approved reduced pressure principle assembly with a bypass containing a specific water meter and an approved reduced pressure principle backflow prevention assembly. The meter shall register accurately for very low rates of flow.

Service connection - shall mean the point of delivery at which the City loses control of the water; the discharge side of the water meter

Spill-resistant pressure vacuum breaker or SVB - shall mean an 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. This assembly is to be equipped with a properly located resilient seated test cock and tightly closing resilient seated shutoff valves attached at each end of the assembly.

TNRCC - shall mean the Texas Natural Resources Conservation Commission.

Used water - shall mean water supplied by a public water system to a water user's system after it has passed through the service connection.

User - shall mean any person or customer whether a property owner, renter or water purveyor where property or water system is connected to the public water supply.

Water Purveyor means the utility, private owner, political subdivision or operator of a potable water system supplying at least 15 service connections or servicing at least 25 individuals at least 60 days out of the year.

Section 29-96. Air Gap Separation

Air gaps provide maximum protection from backflow hazards and are the preferable method of

backflow prevention at all locations where “high” hazardous substances are at risk of entering the potable water system. Air may be used in lieu of other backflow prevention assemblies where appropriate design and installation is possible.

- (a) An air gap separation shall be at least twice the diameter of the supply pipeline measured vertically above the top rim of the receiving vessel and in no case less than one (1) inch. If splashing is a problem, tubular screens may be attached or the supply line may be cut at a 45° angle. The air gap distance is measured from the bottom of the angle. Hoses are not allowed.
- (b) Air gap separations shall not be altered in any way without prior approval from the Control Authority and must be available for inspection at all reasonable times.
- (c) Side walls, ribs or similar obstructions do not affect air gaps when spaced from the inside edge of the spout opening a distance greater than three times the diameter of the effective opening for a single, or distance greater than four times the effective opening for two intersecting walls.

Section 29-97. General Intent and Requirements.

- (a) It is the primary responsibility of the City through its water department known as the Texarkana Water Utilities to evaluate the hazards inherent in supplying a consumer’s water system, i.e., determine whether solid, liquid or gaseous pollutants or contaminants are, or may be, handled on the consumer’s premises in such manner as to possibly permit contamination of the public water system. When a hazard or potential hazard to the public water system is found on the consumer’s premises, the consumer shall be required provide premises isolation by installation of an approved backflow prevention device at each public water service connection to the premises in accordance with this article’s requirements or where appropriate and approved by the Control Authority by point of use isolation by installation of an approved backflow prevention device. The type of device shall depend on the degree of hazard involved. The type of protective device required shall depend on the degree of hazard as described in AWWA Manual M-14, or its latest revisions. Where more than one type of protection is possible, the actual method utilized shall be at the discretion of the City after physical inspection of the hazard. General criteria for evaluation are as follows:
 - (1) All commercial and industrial facilities classified as **high hazard** shall be separated from the public water system by an RPZ backflow preventer¹ or air gap approved² by the cross connection control program. The RPZ device or air gap may be located on

¹Special consideration may be given when retrofitting existing facilities when the installation of an RPZ would result in residual pressures less than 15 psi.

²All devices must meet the requirements specified in the Plumbing Code.

the service line side of the meter or, if approved by Control Authority, within the plumbing system. If the Control Authority allows the RPZ device or air gap to be located within the plumbing system, annual inspections (surveys) are required to insure that additional high hazard fixtures have not been installed within the plumbing system, upstream of the backflow prevention device.

- (2) All commercial and industrial facilities classified as **medium hazard** shall be separated from the water system by a double check valve assembly approved by the cross connection control program, installed as specified above, and shall be inspected (surveyed) every three (3) years, to insure that no **high hazard** fixtures have been installed within the plumbing system.
 - (3) All commercial and industrial facilities classified as **low hazard** shall be inspected (surveyed) every five (5) years, to insure that no **medium hazard** or **high hazard** fixtures have been installed within the plumbing system. If such devices are found, the facility shall be reclassified to **medium hazard** or **high hazard**, as appropriate.
 - (4) For new or expanded fire protection systems³, fire protection lines shall be separated from the public water system by a double check assembly, unless the system utilizes antifreeze or other chemicals within the fire protection lines. In such cases, an RPZ backflow preventer or air gap, approved by the cross connection control program is required.
- (b) Circumstances requiring appropriate backflow prevention assemblies include, but are not limited to the following:
- (1) The nature and extent of any activity on the premises, or the material used in connection with any activity of the premises, or materials stored on the premises, could contaminate or pollute the potable water supply.
 - (2) Premises having any one or more cross-connections and the cross-connection(s) is protected by an atmospheric vacuum breaker device (AVB).
 - (3) Internal cross-connections are present that are not correctable.
 - (4) Intricate plumbing arrangements that are present which make it impractical to ascertain whether cross-connection exist.
 - (5) There is unduly restricted entry so that inspections for cross-connections cannot be made with sufficient frequency to assure that cross-connections do not exist.
 - (6) Installation of an approved backflow prevention assembly is deemed to be necessary to accomplish the purpose of these regulations in the judgment of the Control Authority.
 - (7) An appropriate cross-connection survey report form has not been appropriately filed with the Control Authority.
 - (8) A fire suppression system that is connected to the public water supply system.

³Special consideration may be given when retrofitting existing facilities when the installation of an RPZ would result in residual pressures less than that necessary to meet fire protection standards.

- (9) All new construction if deemed necessary after evaluation by the Control Authority. The type of assembly required will be determined by the degree of hazard.
 - (10) When a building is constructed on commercial premises, and the end use of such building is not determined or could change, a reduced pressure principle backflow prevention assembly may be required at the service connection that supplies water for public domestic use.
 - (11) Any used water return system.
 - (12) In the event a point-of-use assembly has not had the testing or repair done as required by this Ordinance, a premises isolation assembly may be required.
 - (13) If it is determined that additions or alterations have been made to the plumbing system without obtaining proper permits, premises isolation may be required.
 - (14) All multistory buildings or any buildings with a booster pump or elevated storage tank.
 - (15) Retrofitting will be required on all high hazard connections and wherever else the Control Authority deems necessary to retrofit.
 - (16) An auxiliary water supply is or has the potential to be connected to the public water supply.
 - (17) Any premises where there is water or a substance that would be objectionable but not hazardous to health, if introduced into the public water supply.
 - (18) Any premises where there is any material dangerous to health which may be handled in such a fashion as to create an actual or potential hazard to the public water supply.
- (c) The following is a partial list of facilities which may require reduced-pressure-principle RPZ backflow preventers at the service connection. Requirements are based upon the degree of hazard afforded the public water system.
- (1) Automatic car washes
 - (2) Auxiliary water systems
 - (3) Exterminators
 - (4) Facilities with commercial boilers or chilled water systems
 - (5) Fire systems
 - (6) Hospitals, medical buildings, sanitariums, morgues, mortuaries, autopsy facilities, nursing and convalescent homes and clinics
 - (7) Irrigation systems
 - (8) Laboratories (industrial, commercial, medical and school)
 - (9) Laundries
 - (10) Radiator shops
 - (11) Restricted, classified or other closed facilities
 - (12) Sand and gravel plants
 - (13) Wastewater treatment plants, pump stations and storm water pumping facilities
 - (14) Waterfront homes, facilities and industries
 - (15) Swimming pools
 - (16) Others, as found with high hazards

- (17) Any premises where, because of security requirements or other prohibitions or restrictions, it is impossible to impractical to make a complete in facility cross connection survey.
 - (18) Any premises with actual or potential connection to an auxiliary supply
- (d) The following is a partial list of facilities which may require double-check valve assemblies:
- (1) Apartments
 - (2) Beauty parlors and barber shops
 - (3) Doctors and dental offices
 - (4) Greenhouses and nurseries
 - (5) Hotels and motels
 - (6) Laundry and cleaners
 - (7) Restaurants and food handlers
 - (8) Service stations

Section 29-98. Customer Service Inspections

Pursuant to 31 Texas Administrative Code 290.46, the Control Authority shall implement Customer Service Inspections:

- (a) A Customer Service Inspection with written certification shall be completed prior to providing continuous water service in each of the following circumstances:
 - (1) Water service to any newly constructed structure or location;
 - (2) Water service to any existing structure or location not previously receiving water service;
 - (3) Any material improvement, correction or addition to a structure's private plumbing facilities;
 - (4) Any existing structure or water service where the Control Authority has reason to believe that cross connection or other unacceptable plumbing practices exist.
- (b) A Customer Service Inspection is not required on:
 - (1) Existing services unless (a)(4) of this section applies;
 - (2) Temporary or construction connections;
 - (3) Transfer of service;
 - (4) Mobile homes entering mobile home parks.
- (c) Customer Service Inspections shall be on a form and contain information specified by the Control Authority.
- (d) Customer Service Inspection shall at a minimum document through written certification the

following:

- (1) No direct connection between the public drinking water supply and a potential source of contamination exist. Potential sources of contamination are isolated from the public water system by an air-gap or an appropriate backflow prevention assembly, in accordance with state plumbing regulations. Additionally, all pressure relief valves and thermal expansion devices are in compliance with state plumbing codes.
 - (2) No cross-connection between the public drinking water supply and a private water system or well exists. Where an actual air gap is not maintained between the public water supply and a private water supply, an approved reduced pressure-zone backflow prevention assembly is properly installed. A service agreement shall be maintained according to the Utility's rules for annual inspection and testing by a certified backflow prevention device tester.
 - (3) No connection exists which would allow the return of water used for condensing, cooling, or industrial processes back to the public water supply.
 - (4) No pipe or pipe fittings which contains more than 8.0% lead exists in the private plumbing facilities installed on or after July 1, 1988.
 - (5) No solder or flux which contains more than 0.2% lead exists in the private plumbing facilities installed on or after July 1, 1988.
- (e) Customer Service Inspections may be performed by:
- (1) Plumbing inspectors licensed by the Texas State Board of Plumbing Examiners;
 - (2) Water supply protection specialists who are licensed by the Texas State Board of Plumbing Examiners;
 - (3) Certified water operators who complete an approved training course and pass an examination;
 - (4) Licensed plumbers, at the discretion of the Control Authority, may perform Customer Service Inspections on single family residential units.

29-99. Installation Guidelines and Requirements for Backflow Prevention Assemblies

- (a) *General* - to ensure proper operation and accessibility of all backflow prevention assemblies, installation shall be performed by a licensed plumber with a Repair Certification and the following guideline requirements shall apply to the installation of these assemblies.
- (1) Backflow prevention assemblies shall be installed in accordance with the current Plumbing Code and these regulations. The Licensed Installer must obtain the required plumbing permits and have the installation inspected by a representative of the Control Authority.
 - (2) At those facilities where the Control Authority requires a backflow prevention assembly be installed at the point of delivery of the water supply, such installation of

the assembly must be before any branch in the line and on private property located just inside the boundary between the City right-of-way and the landowner's property. The Control Authority may specify other areas for installation of the assembly. Assemblies that must be installed or are located in City rights-of-way are the responsibilities of the business or entity that the water line is serving and such installation shall be at the sole discretion of the Control Authority.

- (3) The assembly must be protected from freezing and other severe weather conditions.
 - (4) All backflow prevention assemblies shall be of a type and model approved by the Control Authority.
 - (5) All vertical installations of backflow assemblies must have prior approval by the Control Authority.
 - (6) Assemblies that are larger than four (4) inches and installed more than five (5) feet above floor level must have a suitable platform for use by testing or maintenance personnel.
 - (7) Bypass lines are prohibited. Pipe fittings which could be used for connecting a bypass line shall not be installed.
 - (8) Premises where an uninterrupted water supply is critical should be provided with two assemblies installed in parallel. They should be sized in such a manner that either assembly will provide the maximum flow required.
 - (9) Lines should be thoroughly flushed prior to installation. A strainer with blowout tapping may be required ahead of the assembly.
 - (10) All facilities that require continuous, uninterrupted water service and are required to have a backflow assembly must make provisions for the parallel installation of assemblies of the same type so that testing, repair and maintenance can be performed.
 - (11) The property owner assumes all responsibilities for any damages resulting from installation, operation, and/or maintenance of a backflow assembly. The owner shall be responsible for keeping all backflow prevention assembly enclosures reasonably free of silt and debris.
 - (12) Upon completion of installation, the Control Authority shall be notified and all assemblies must be inspected and tested. Testing of new assemblies shall be within ten (10) days of installation. All assemblies must be registered with the Control Authority and shall provide the date of installation, manufacturer, model, type, size, serial number of the backflow assembly, initial test report.
- (b) *Reduced pressure principle backflow prevention assemblies (RPP's or RPS's or RPZ's)* - may be utilized at premises where a substance is handled that would be hazardous to health if introduced into the potable water system. The RPZ is normally used in locations where an air gap is impractical. The RPZ is effective against both backsiphonage and backpressure.
- (1) RPZs must be sized to provide an adequate supply of water and pressure for the premises being served. Flow characteristics are not standard. Consult manufacturer's specifications for specific performance data.

- (2) The assembly must be readily accessible for testing and maintenance and must be located in an area where water damage to the building would not occur from relief valve discharge. The property owner assumes all responsibility for any damage caused by water discharge from an RPZ assembly. An approved air gap shall be located at the relief valve orifice of RPZ assemblies.
 - (3) No part of a reduced pressure principle backflow prevention assembly shall be submerged in water or installed in a location subject to flooding. RPZs are typically installed above grade in well drained areas, and shall not be buried or installed in pits or vaults without the express written permission of the Control Authority. When such devices are installed in vaults or pits which extend below grade level, relief vent openings must terminate in a downward direction at a point not less than twelve inches (12") above grade. An opening shall be provided in the vault or pit wall at one-half the distance between the relief vent opening terminus and bottom of the pit. This opening must drain by gravity to atmosphere and be screened or otherwise protected against the entrance of vector or vermin to the vault or pit. These openings must be at least four in number, each being two and a half (2.5) times the diameter of the supply piping.
 - (4) Enclosures shall be designed for ready access and sized to allow for the minimum clearances established below. Removable protective enclosures are typically installed on the smaller assemblies. Daylight drain ports must be provided to accommodate full pressure discharge from the assembly.
 - (5) Assemblies two (2) inches and smaller shall have at least six (6) inch clearance on both sides and on top of the assembly, and twelve (12) inches below and behind the assembly. All assemblies larger than two (2) inches shall have a minimum of twelve (12) inches on the back side, twenty-four (24) inches on the test cock side, and the relief value opening shall be at least twelve (12) inches plus nominal size of assembly above the floor or highest possible water level. Headroom of six (6) feet no (0) inches is required in vaults without a fully removable top. A minimum access opening of thirty-six (36) inches is required on all vault lids.
 - (6) All RPZ assemblies must be tested in accordance with this article, but in no case less than annually. Tests are the responsibility of the assembly owner. The owner must notify the Control Authority upon installation of any backflow prevention assembly. The owner shall supply the Control Authority with copies of all testing results.
- (c) *Reduced pressure principle detector backflow prevention assemblies (RPDA or RPZDA)* - may be utilized in all installations requiring a reduced pressure principle backflow prevention assembly and detector metering.
- (1) RPZDAs shall comply with the installation requirements applicable for reduced pressure principle backflow assemblies (RPZ).
 - (2) The line-size RPZ assembly and the by RPZ assembly must each be tested. A separate test report for each assembly must be completed by a Certified Testing Technician.

- (d) *Double check valve backflow prevention assemblies (DC)* - may be utilized at premises where a substance is handled that would be objectionable but not hazardous to health if introduced into the potable water system.
- (1) DCs must be sized to provide an adequate supply of water and pressure for premises being served. Consult manufacturer's specifications for specific performance data.
 - (2) Premises where an uninterrupted water supply is critical should be provided with two assemblies installed in parallel. Assemblies should be sized in such a manner that either assembly will provide the minimum water requirements while the two together will provide the maximum flow required.
 - (3) The assembly shall be readily accessible with adequate room for testing and maintenance. DCs may be installed below grade, providing all test cocks are fitted with brass pipe plugs. All vaults shall be well drained, constructed of suitable materials, and sized to allow for the minimum clearances established below
 - (4) Assemblies two (2) inches and smaller shall have at least six (6) inch clearance on both sides and on top of the assembly, and, if located in a vault, the bottom of the assembly shall be not more than twenty-four (24) inches below grade. All assemblies larger than two (2) inches shall have a minimum clearance of twelve (12) inches on the back side, twenty-four (24) inches on the test cock side, and twelve (12) inches below the assembly. Headroom of six (6) feet no (0) inches is required in vaults without a fully removable top. A minimum access opening of thirty-six (36) inches is required on all vault lids. "Y" pattern double check valve assemblies shall be installed so that the checks are horizontal and the test cocks face upward. These clearance standards apply to all assemblies installed in vaults, enclosures, and meter boxes.
 - (5) Vertical installations of DCs are allowed only on sizes up to and including four (4) inches that meet the following requirements:
 - a. Internally spring-loaded check valves;
 - b. Flow is upward through assembly;
 - c. Manufacturer states their assembly can be used in a vertical position;
 - d. Approved by Director.
 - (6) All DCs must be tested in accordance with this article. Tests are the responsibility of the assembly owner. The owner must notify the Control Authority upon installation of any backflow prevention assembly.
 - (7) Variances from these specifications will be evaluated on a case-by-case basis. Any deviations must have prior written approval by the Control Authority.
- (e) *Double check detector backflow prevention assemblies (DCDA)* - may be utilized in all installations requiring a double check valve assembly and detector metering.
- (1) DCDA's shall comply with the installation requirements applicable for double check

- valve assemblies (DC).
- (2) The line-size DC assembly and the bypass DC assembly must each be tested. A separate test report for each assembly must be completed by the certified tester.
- (f) *Pressure vacuum breaker backflow prevention assemblies (PVB)* - may be utilized at point-of-use protection only and where a substance is handled that would be objectionable but not hazardous to health if introduced into the potable water system. PVBs protect against backsiphonage only and shall not be installed where there is potential for backpressure.
- (1) Assembly shall be installed a minimum of 12 inches above highest downstream piping.
- (2) PVBs shall not be installed in an area subject to flooding or where damage would occur from water discharge.
- (3) The assembly shall be readily accessible for testing and maintenance, with a minimum clearance of 12 inches all around the assembly.
- (4) All PVBs must be tested in compliance with this article. Tests are the responsibility of the assembly owner. The owner must notify the Control Authority of the installation of any backflow prevention assembly.
- (5) Variances from these specifications will be evaluated on a case-by-case basis. Any deviations must have prior written approval of the Control Authority.
- (g) *Spill resistance pressure vacuum breaker backflow prevention assemblies (SVB)* - may be utilized in all installations requiring a pressure vacuum breaker.
- (1) SVBs shall comply with the installation requirements applicable for pressure vacuum breaker backflow prevention assemblies.

Section 29-100. Customer Responsibility.

- (a) **Ownership.** The customer shall purchase, own, repair, maintain and have properly tested all backflow prevention devices installed at the point of delivery to the user's water system or those within the user's water system in accordance with this Article and applicable state regulations.
- (b) **Installation and costs.** Customers of the public water supply system requiring backflow prevention devices shall pay all costs associated with installation of the appropriate size and type of device through private transactions. New installation shall be completed prior to the "final" plumbing inspection so that the device can be included as part of the inspection.
- (c) **Testing and maintenance.** The user will be responsible for the annual testing as well as any maintenance and/or repair of the backflow prevention assembly by contract with a General Tester. The consumer will annually furnish the Control Authority with a certificate of such satisfactory testing by the anniversary date of the installation of the assembly.

All testing and repair shall be performed by properly certified individuals. The user shall furnish to the Control Authority, along with the annual testing information, a copy of any information or data related to other testing, repairs, replacement, or maintenance or other work of any type on the backflow prevention assemblies. The user shall keep a copy of all records related to backflow prevention assemblies on the premises for a period of not less than three (3) years.

In instances where the Control Authority deems the hazard to be great enough, testing may be required at more frequent intervals, costs of which would be borne by the user. Any maintenance fees required as a result of inspections or testing shall be paid by user. Records of inspections, testing or repairs shall be kept by the Control Authority and made available to the TNRCC as appropriate.

- (d) Thermal expansion. It is the sole responsibility of any user who owns or controls property to eliminate the possibility of thermal expansion, if a closed system has been created by the installation of a backflow assembly.
- (e) Pressure loss. It is the sole responsibility of any user who owns or controls property to have an appropriately sized and installed assembly that will not cause an unacceptable reduction in water pressure.
- (f) Rental properties. Any person who owns or controls rental property is responsible for the installation, testing and repair of any necessary backflow prevention assemblies on that property.

Section 29-101. Right-of-Way Encroachment

No person shall install or maintain a backflow prevention assembly upon or within any city right-of-way except as provided in this section.

- (a) A backflow prevention assembly may be located upon or within any City right-of-way only if the owner proves to the Control Authority that there is no other feasible location for installing the assembly, and installing it in the right-of-way will not interfere with traffic or utilities. The Control Authority retains the right to approve the location, height, depth, enclosure, and other requisites of the assembly prior to its installation. All decisions as to the final location of a backflow assembly shall be with the Control Authority.
- (b) All permits and inspections required by the City Code to perform work in the right-of-way shall be obtained.
- (c) The assembly shall be installed below or flush with the surrounding grade except when it is

- not practicable to install it in this manner. Any assembly or portion of an assembly which extends aboveground shall be located no closer than eighteen (18) inches to the face of the curb.
- (d) The City shall not be liable for any damage done to or caused by an assembly installed in a right-of-way.
 - (e) A property owner shall, at the request of the City and at the owner's expense, relocate a backflow prevention assembly which encroaches upon any City right-of-way when such relocation is necessary for street or utility construction or repairs for purposes of public safety.
 - (f) A person commits an offense if he/she fails to relocate a backflow prevention assembly located in or upon any City right-of-way after receiving a written order from the Control Authority.

Section 29-102. Multiple Connections

Any premises requiring multiple service connections for adequacy of supply and/or fire protection shall be required to install a backflow assembly on each of the additional service lines to the premises. The type of assembly will be determined by the degree of hazard that could occur in the event of an interconnect between any of the buildings on the premises.

Section 29-103. Fire Suppression Systems

All new installations of fire suppression system which utilize the City's potable water supply shall have installed an approved backflow prevention device according to the degree of hazard.

An approved double check detector backflow prevention assembly (DCDA) or reduced pressure detector assemblies (RPZDA) shall be the minimum protection for fire sprinkler systems using piping material that is not approved for potable water use and/or that does not provide for periodic flow-through during each twenty-four (24) hour period, unless a variance has been issued in writing from the Control Authority. An RPZDA must be installed if any solution other than the potable water can be introduced into the system.

- (a) It is the responsibility of all property owners and persons in charge of any premises to abide by the conditions of this ordinance. In the event of any changes to the plumbing system, it is the responsibility of the property owners to notify the Control Authority. All costs associated with this article and the purchase, installation, testing and repair of a DCDA or RPZDA devices is the responsibility of the property owner and persons in charge of any premises.

- (b) Upon the approved installation of the DCDA or RPZDA device, a cross-connection test report completed by a licensed fireline tester must be sent to the attention of the Control Authority or his representative and include the information required by this article.

Section 29-104. Fire Hydrant Protection

An approved double check device backflow prevention assembly (DCD) or reduced pressure detector assemblies (RPZDA) shall be the minimum protection for fire hydrant water meters which are being used for a temporary water supply during any construction or other uses which would pose a potential hazard to the public water supply. A RPZDA must be installed if any solution other than the potable water can be introduced into the system.

- (a) It is the responsibility of all persons engaging in the use and rental of a fire hydrant water meter to abide by the conditions of this article. All fire hydrant water meter rentals shall meet the current requirements as provided for by the Utility Customer Service Division and the Utility Water Distribution Division.
- (b) Only fire hydrant water meters with approved backflow prevention assemblies are allowed to be used on fire hydrants in the Texarkana public water supply system. All fire hydrant meters shall be obtained from Texarkana Water Utilities unless specific written variance is granted.
- (c) A deposit is required to insure the return of all water meter and backflow assemblies to the Utility Customer Service Division. Failure to return the assemblies can result in forfeiture of deposit and/or enforcement action being taken against the responsible party, as allowed for in the penalty section of this article.
- (d) Non approved fire hydrant meters which are found to be in use in the City of Texarkana, Texas system will be confiscated and enforcement action taken against the responsible party, as allowed for in the enforcement section of this article.
- (e) It shall be a violation of this Article for anyone other than employees of Texarkana Water Utility or the Texarkana, Texas Fire Department to open, tamper with or use water from any fire hydrant without the express written permission of Texarkana Water Utilities.

Section 29-105. Mobile Units

- (a) The connection of a mobile unit to any potable water system is prohibited unless such connection is protected by an air gap or an approved backflow prevention assembly. Prior approval and annual device testing of any backflow prevention assembly must be received from the Control Authority before connecting to any potable water system.

Section 29-106. Lawn Sprinklers and Irrigation Piping Systems.

- (a) Lawn sprinkler systems and irrigation piping systems, whether residential or commercial, shall be equipped with an approved backflow preventer to protect against contamination of the potable water system by a reduce pressure zone backflow preventer. Where combination control valves and backflow preventers are installed the bottom of the valve shall constitute the bottom of the backflow preventer.
- (b) New sprinkler or irrigation systems must have an approved reduced pressure principal assembly before the first outlet.
- (c) Existing double check and atmospheric or pressure vacuum breakers on lawn sprinkler installations shall meet the standards by which they were installed. However, they must be replaced with reduced pressure principal assemblies when in need of any repair or change requiring a plumbing permit.

Section 29-107. Temporary Water Service.

Temporary or construction water service connections which pose, in the opinion of the Control Authority, a potential cross connection threat to the public water supply shall be protected by an approved backflow prevention assembly.

Section 29-108. Right of Access.

For the purpose of making any inspections or discharging the duties imposed by this article, Control Authority shall have the right to enter upon the premises of any user. Each user, as a condition of the continued delivery to his premises of water from the public water supply, shall be considered as having stated his consent to the entry upon his premises of the Control Authority or the TNRCC for the purpose stated herein.

Duly authorized employees of the Control Authority bearing proper credentials and identification are entitled to enter any public or private property at any reasonable time for the purpose of enforcing this article. Persons and occupants of premises which are provided water service by the City, either directly or indirectly, shall allow the representatives of the Control Authority ready access at all reasonable times to all parts of the premises for the purposes of inspection, testing, records examination, or in the performance of their duties. Where persons or occupants of premises have security measures in force which would require proper identification and clearance before entry into their premises, the persons and occupants of the premises shall make necessary arrangements with their security guards so that upon presentation of suitable identification, personnel from the Control Authority will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

Section 29-109. Certified General Tester.

- (a) Certified General Testers for backflow prevention assemblies shall be those persons who have received their certification and renewal as appropriate through the educational and training requirements of the State of Texas for the testing, maintenance and repair of backflow prevention assemblies.
- (b) All testing of backflow assemblies covered in this article shall be by properly certified persons.
- (c) All repair of backflow assemblies covered under this article shall be by properly certified persons.
- (d) All certified persons shall provide copies of their certification and any subsequent renewals to the Control Authority. This list may be made available to users on request.

Section 29-110. Testing of Assemblies

- (a) The user shall have all backflow prevention assemblies inspected and tested in each of the following circumstances:
 - (1) Within ten (10) days of installation;
 - (2) Whenever the assembly is moved;
 - (3) A minimum of once a year;
 - (4) Premises that have been vacated and unoccupied for one year, prior to re-occupancy;
 - (5) Immediately after repairs.
- (b) All assembly testing shall be performed by a certified General Tester, approved by the Control Authority.
- (c) The Control Authority shall retain the right to inspect and test with its own certified personnel or have inspection and testing done by outside certified personnel any backflow assemblies within its jurisdiction at the cost of the consumer.
- (d) The City shall not be liable for damage to a backflow prevention assembly which may occur during testing.
- (e) The Control Authority may cause a water use survey to be conducted at any establishment which is served by a public water supply or which provides water to the public. Such water use survey may be an onsite survey or may require the customer to submit a written survey, or both. Upon determination by the Control Authority that the establishment falls under the provisions of this article and requires a backflow prevention assembly, the Control Authority shall issue a notice to abate the condition or order the establishment to install the proper

- backflow prevention assembly.
- (f) It is the responsibility of any person who owns or controls property to have all assemblies tested in accordance with this article. Assemblies may be required to be tested more frequently if the Control Authority deems necessary.
 - (g) All results from assembly testing by a certified backflow prevention assembly tester, shall be placed on a form containing all required information concerning installation, testing, and/or repair. It shall be the responsibility of the consumer to provide copies of all forms to the Control Authority within a reasonable time but in not case greater than thirty (30) days following any inspection or repair.

Section 29-111. Fees

- (a) There shall be an annual non-refundable registration fee of \$50.00 for each non-residential backflow prevention assembly device. This fee may appear on the monthly city water/sewer bill and relates solely to the matters covered in this Ordinance and is separate from other fees chargeable by the City.
- (b) In the event that the Control Authority tests or has tested by others any backflow assembly all costs shall be passed unto the user and included on the monthly water/sewer bill.

Section 29-112. Wholesale Customers

Any customer purchasing water for the purpose of resale or distribution shall:

- (a) Install an air gap separation or a reduce pressure backflow assembly at the service connection, certified for operation upon installation and annually thereafter by a certified General Tester forwarding the results to the Control Authority for review and audit.
- (b) Implement a plumbing inspection and cross connection control program not less restrictive than that of the city and provide annual program records to the Control Authority for review.

Section 29-113. Government Customers

Any premises owned, operated, or occupied by a state, federal, foreign government or agency refusing to comply with the provisions of this Article shall install a reduced pressure backflow prevention assembly at each service connection, being certified and tested for proper operation and upon installation and annual thereafter. In those instances where the Control Authority deems potential or actual hazard to be deleterious to human health certified inspections and operational testing shall be required semi-annually.

Section 29-114. Non-Compliance and Enforcement

- (a) In emergency situations when the public potable water supply is being contaminated or is in immediate danger of contamination water service may be immediately discontinued by the Control Authority.
- (b) No water service connection shall be installed on the premises of any user unless the public potable water system is protected as required by this article.
- (c) Delivery of water to premises of any user may be discontinued by the Control Authority if any protective device required by this article has not been installed, or is defective, or has been removed or bypassed. Discontinued water service shall not be resumed until conditions at the consumer's premises have been abated or corrected to the satisfaction of the Control Authority.
- (d) Upon discovery of a violation of this article, written notice shall be given to user. If violations are not corrected by date and time as stated on notice, water supply will be discontinued and the violation will be referred to the City Attorney for further action. Nothing contained herein shall prevent the Control Authority from immediate termination of service when there is an actual or perceived threat to the public water supply.
- (e) *Violations.* The following is a noninclusive list of offenses:
 - (1) By failure to maintain backflow prevention assemblies in compliance with this section.
 - (2) By failure to comply with a repair order issued by the Control Authority.
 - (3) If backflow from premises owned by user, operates or manages enters the public water supply system.
 - (4) By failure to pay any fees required by this article.
 - (5) By violation of any section of this article.
 - (6) By failure to install a backflow prevention assembly upon notification by the Control Authority.
 - (7) By reconnection of water service to premises discontinued or disconnected under this article, except as directed by the Control Authority.
 - (8) By allowing an unregistered tester to perform testing work at their establishment.

- (9) By testing a backflow prevention assembly within the City without being registered with the Control Authority.
 - (10) By testing a backflow prevention assembly within the public water supply system without being certified by the State of Texas.
- (b) *Penalty.*
- (1) A person who violates any provision of this Ordinance is guilty of a misdemeanor and upon conviction is punishable by a fine of up to \$2,000 for each act of violation and for each day or part of a day during which the violation is committed, continued or permitted.
 - (2) In addition to proceeding under the authority of subsection (b)(1) of this section, the City is entitled to pursue all other criminal and civil remedies to which it is entitled under authority of statutes or other ordinances against a person committing any violation of this Ordinance.
 - (3) Water service may be terminated by the Control Authority where there is an actual or perceived threat to the public water supply. Any failure to comply with the Article or violation thereof shall be construed as a potential threat to the public water supply.
- (c) *Administrative fees* - in addition to sanctions and penalties provided for by this article, the Control Authority is entitled to recover all costs expended in the enforcement of noncompliance with backflow prevention program and to bill and collect those amounts on the regular monthly water/sewer bill.
- (d) Certification and/or registration of any certified water operator, licensed plumber, fireline tester, general tester, water supply protection specialist or plumbing inspector may be reviewed and the ability to perform work or services under this Article or any other work related to the public water supply system may be revoked if the Control Authority determines that the tester:
- (1) Has falsely, incompetently, or inaccurately reported assembly reports;
 - (2) Has used inaccurate gauges;
 - (3) Has used improper testing procedures; or
 - (4) Has created a threat to public health or the environment; or
 - (5) Has falsely, incompetently, or inaccurately prepared records or performed work governed by this Article.

Section 29-115. Wells

In order to protect the public water supply and to assist in protecting groundwater sources, persons owning property served by City water shall register water wells with the Control Authority upon notice.

- (a) The owner of a new well shall provide depth, yield, exact location, casing type and other available data.
- (b) Owners of existing wells shall provide available data.

Section 29-116. Article deemed part of contract with customer.

All of the provisions of this article shall be deemed to be incorporated in every contract between the water and sewer systems and its customers, and each customer shall be charged with the knowledge of the provisions of this article and, by applying for and accepting water or sewer services from the water and systems, he shall be deemed to have assented to the provisions hereof.

SECTION 2: That all ordinances or parts of ordinances in conflict herewith are specifically repealed to the extent of such conflict.

SECTION 3: That in case a section, clause, sentence or part of this Ordinance shall be deemed or adjudged by a Court of competent jurisdiction to be invalid, then such invalidity shall not affect, impair or invalidate the remainder of this Ordinance.

SECTION 4: That all of the regulations provided in this Ordinance are hereby declared to be governmental and for the health, safety and welfare of the general public. Any member of the City Council or any city official or employee charged with the enforcement of the Ordinance, acting for the City of Texarkana, Texas, in the discharge of his duties, shall not thereby render himself personally liable; and he is hereby relieved from all personal liability for any damage that might accrue to persons or property as a result of any act required or permitted in the discharge of said duties.

SECTION 5: That the City Secretary be and is hereby directed to publish the caption of this Ordinance for three (3) consecutive days in the Texarkana Gazette within ten (10) days of the passage of this Ordinance, as provided in Article XI, Section 3 of the Charter of the City of Texarkana, Texas.

SECTION 6: That this Ordinance shall be in full force and effect immediately upon its passage, approval and publication.

PASSED AND APPROVED in Regular Council Session on this the _____ day of _____, 1998.

James Bramlett, Mayor

ATTEST:

Geri Haddock, City Secretary

APPROVED AS TO FORM:

Thomas H. Arnold, City Attorney