

AN ORDINANCE OF THE CITY OF RED OAK, TEXAS

ORDINANCE NO. 16-037

AN ORDINANCE OF THE CITY OF RED OAK, TEXAS, AMENDING THE CODE OF ORDINANCES BY ADOPTING A NEW ARTICLE 13.11, CROSS CONNECTION AND BACKFLOW PREVENTION PROGRAM, REGULATING CONNECTIONS TO THE CITY'S PUBLIC WATER SUPPLY SYSTEM; AUTHORIZING INSPECTIONS; REQUIRING DISCONNECTION OF ILLICIT CONNECTIONS; PROVIDING FOR NOTICE AND OPPORTUNITY TO DISCONNECT; AUTHORIZING DISCONNECTION FROM WATER SUPPLY; PROVIDING FOR FEES; PROVIDING FOR ENFORCEMENT; PROVIDING FOR SEVERABILITY; PROVIDING A SAVINGS CLAUSE; PROVIDING A REPEALING CLAUSE; PROVIDING A PENALTY OF A FINE NOT TO EXCEED TWO THOUSAND DOLLARS (\$2,000) FOR EACH VIOLATION; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Red Oak, Texas (the "City Council") has investigated and determined that it would be in the best interest of the City of Red Oak, Texas (the "City") and its inhabitants to establish and enforce a cross connection program for the purpose of protecting its drinking water supply from contamination and/or pollution due to any cross connections; and

WHEREAS, it is the desire, purpose and intent of Red Oak to comply with the regulatory requirements applicable to the establishment of a cross connection program; and

WHEREAS, the Texas Commission on Environmental Quality (TCEQ) mandates that each municipality have in place an ordinance relating to cross connection and backflow prevention; and

WHEREAS, the City Council has determined in its legislative capacity that adoption of Cross Connection and Backflow Prevention Program furthers the best interest of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF RED OAK, TEXAS:

SECTION 1. That Chapter 13 of the Red Oak Code of Ordinances be, and the same is, hereby amended by adopting a new Article 13.11, Cross Connection and Backflow Prevention Program, which shall read as follows:

"ARTICLE 13.11. CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION

Sec. 13.11.001 Definitions

For the purpose of this article, the following definitions shall apply unless the context clearly indicates or requires a different meaning. If a word or term used in this article is not contained in the following list, its definition, or other technical terms used, shall have the meanings or definitions listed in the most recent edition of the Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California.

Air gap. A physical separation between the free flowing discharge end of a potable water supply piping 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 in no case less than one inch.

Approved fire sprinkler contractor. A person or entity holding a certificate of registration as such issued by the Texas State Fire Marshal's Office.

Atmospheric vacuum breaker backflow prevention device or atmospheric vacuum breaker or AVB. A device used to prevent backsiphonage in non-health hazard conditions. This device cannot be tested and cannot prevent backpressure backflow.

Approved backflow prevention assembly or backflow assembly or assembly. An assembly to prevent backpressures or prevent backsiphonage and which is listed as an approved assembly by the University of Southern California (USC) Foundation for Cross-Connection Control and Hydraulic Research or similar rating or standards organization recognized by the Public Works Director.

Backflow. A flow in a direction opposite to the normal flow or the introduction of any foreign liquids, gases, or substances into the public water system.

Boresight or boresight to daylight. Providing adequate drainage for backflow prevention assemblies installed in vaults through the use of an unobstructed drain pipe.

Contamination or contaminate. The entry into or presence in a public water supply system of any substance which may be harmful to health or to the quality of the water.

Cross-connection. Any physical arrangement where a potable water supply is connected, directly or indirectly (actually or potentially), to or with any non-potable water system or source, used water system or auxiliary water supply, sewer, drain conduit, swimming pool, storage reservoir, plumbing fixture, evaporative coolers, air conditioner units, fire protection system, or any other assembly which contains, or may contain, contaminated water, sewage, or other liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water system as a result of backflow. Bypass arrangements, jumper connections, removable sections, swivel or change-over assemblies, or other temporary or permanent assemblies through which, or because of which, backflow may occur are considered to be cross-connections.

Customer service inspection. An inspection designed to inspect and detect any actual or potential cross-connection hazards and/or exceedance of the lead content levels in solder or flux, pipe or pipe fittings.

Degree of hazard. The hazard classification (low or high) assigned to an actual or potential cross-connection.

Director. The Public Works Director, person designated by the Public Works Director, City Manager, or person designated by the City Manager.

Double check detector backflow prevention assembly or double check detector or DCDA. An assembly composed of a line-size approved double check assembly with bypass containing a specific water meter and an approved double check valve assembly. The meter shall register accurately for very low rates of flow.

Double check valve backflow prevention assembly or double check assembly or double check. An assembly which consists of two independently operating check valves which are spring-loaded or weighted, a gate valve on each side of the checks, and test cocks to test the checks for tightness.

Fire line tester. A tester who is employed by an Approved Fire Sprinkler Contractor and is qualified to test backflow prevention assemblies on fire lines.

General tester or tester. A tester who is qualified to test backflow prevention assemblies on any domestic, commercial, industrial or irrigation service except fire lines. Recognized backflow prevention assembly testers shall have completed a TCEQ Executive Director approved course on cross-connection control and backflow prevention assembly testing, pass an examination administered by the TCEQ Executive Director, and hold a current license as a backflow prevention assembly tester.

Health hazard. A cross-connection or potential cross-connection involving any substance that could, if introduced into the potable water supply, cause death or illness, spread disease, or have a high probability of causing such effects.

Inspector. A person who is recognized by the City of Red Oak as a licensed inspector under the provisions of this article.

Non-health. The classification assigned to an actual or potential cross-connection that may allow contamination which may be objectionable but not hazardous to health to backflow into the public water system.

Multifamily residential use. Water used by any residential customer of the water supply and include duplexes, multiplex, housing and apartments where the individual units are each on a separate meter; or, in cases where two or more units are served by one meter, the units are full-time dwellings.

Nonresidential use. Water used by any person other than a residential customer of the water supply and include all uses not specifically included in residential uses as defined in the City of Red Oak Comprehensive Zoning Ordinance.

Pollution hazard. An actual or potential threat to the physical properties of the water system or the potability of the public or consumer's potable water system or the consumer's potable water system but which would not constitute a health hazard. Maximum degree of intensity of pollution which the potable water system could be degraded under this definition would cause a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances.

Potable water. Any water supply intended or used for human consumption or other domestic use.

Premises. Any real property to which water is provided, including all improvements, buildings, mobile and other structures located on it.

Premises containment. Backflow prevention at the service connection between the public water system and the water user.

Premises isolation. Backflow prevention at the point of use internally on the customer's premises.

Public water system or system. Any public or privately owned water system which supplies water for public domestic use including all service lines, reservoirs, facilities, and any equipment used in the process of producing, treating, storing or conveying water for public consumption.

Reduced pressure principle detector backflow prevention assembly or reduced pressure detector or RPDA. 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.

Residential use. Water used by any residential customer of the water supply and include single-family dwellings.

Reduced pressure principle backflow prevention assembly or reduced pressure principle assembly or RP assembly or RP. An assembly containing two independently acting approved check valves, a hydraulically-operated, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve, and including properly located test cocks and tightly closing shut-off valves at each end of the assembly.

Service connection. The point of delivery at which the public water system connects to the private supply line or lateral of a water user.

Spill-resistant pressure vacuum breaker or SVB. 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.

Thermal expansion. The natural change in volume of a confined quantity of water as a result of the raising of the temperature of that water.

TCEO. Texas Commission on Environmental Quality.

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

Water use survey. A survey conducted or caused to be conducted by the local authority designed to identify any possible source of contamination to the potable water supply.

Sec. 13.11.002 Purpose of this article

(a) To protect the public potable water supply from possible contaminants or pollutants which could backflow into the public water system from the consumer's internal distribution system(s) or private water system(s).

(b) To promote the elimination or control of existing cross-connections, actual or potential, between the consumer's potable water system(s) and non-potable water system(s), plumbing fixtures and industrial piping systems.

(c) To provide for the maintenance of a continuing program of cross-connection control which will systematically and effectively prevent the contamination or pollution of the potable water supply of the city.

Sec. 13.11.0003 Administration

The Director is responsible for protecting the public potable water distribution system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connection. Should the Director and City Council determine it is appropriate to retain a third party vendor to assist in administration of this Article, the administrative fees charged by the vendor shall be in addition to the fees listed in the City's Master Fee Schedule, as adopted herein. If, in the judgement of the Director, an approved backflow prevention assembly is required at the consumer's water service connection or within the consumer's private water system, the Director shall require a consumer to install an approved backflow prevention assembly at a specific location on his or her premises.

Sec. 13.11.004 Backflow prevention assembly required

(a) The City will not install or maintain a water service connection to any premises unless the water supply is protected as required by all applicable laws and regulations of the City and the State. Service of water to any premises may be discontinued by the City if a backflow

prevention assembly required by this article is not of the proper type, is not approved by the Director, is not installed, is not successfully tested and maintained, or if a backflow prevention assembly has been removed, bypassed, or if an unprotected cross-connection exists on the premises. Service will not be allowed or restored until such conditions or defects are corrected.

(b) A backflow prevention assembly shall be required in each of the following circumstances, but is in no way limited to the following circumstances:

- (1) When the nature and extent of any activity at a premises, or the materials or equipment used in connection with any activity at a premises, or materials stored at a premises, could present a health hazard upon entry into the public water system;
- (2) When a premises has one or more cross-connections;
- (3) When internal cross-connections are present that are not correctable;
- (4) When intricate plumbing arrangements are present that make it impractical to ascertain whether cross-connections exist;
- (5) When a premises has a repeated history of cross-connections being established or re-established;
- (6) When entry to a premises is restricted so that inspections for cross-connections cannot be made with sufficient thoroughness or frequency to assure that cross-connections do not exist;
- (7) When materials are being used such that, if backflow should occur, a health hazard could result;
- (8) When installation of an approved backflow prevention assembly is determined by an inspector to be necessary to accomplish the purpose of these regulations;
- (9) When an appropriate Cross-Connection Survey Report Form (CST) has not been filed with the Director;
- (10) On all multistory buildings or any building with a booster pump or elevated storage tank; and
- (11) For any used water return system that has received approval from the Director.

(c) In all new non-residential construction, the Director has the authority to require an approved backflow assembly at the service connection. The type of the assembly will correspond to the degree of hazard as determined by the Director. At any residence or establishment where an actual or potential contamination hazard exists and an adequate internal cross-connection control program is in effect, backflow protection at the water service entrance or meter is not required.

(d) 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 shall be installed at the service connection to provide protection of the public water supply in the event of the most hazardous use of the building. The use of a backflow prevention assembly at the service connection shall be considered as additional backflow protection and shall not negate the use of backflow protection on internal hazards as outlined and enforced by local plumbing codes.

(e) If a point-of-use assembly has not been tested or repaired as required by this article, the installation of a reduced pressure principle assembly will be required at the service connection.

(f) If an inspector determines that additions or rearrangements have been made to the plumbing system of a premises without the proper permits as required by the Plumbing Code, premises containment shall be required.

(g) Retrofitting shall be required on all point-of-use health hazard connections and wherever else the Director determines that retrofitting is necessary due to circumstances that indicate that cross-connection is likely to occur unless an approved back-flow prevention assembly is installed.

(h) An approved double detector check valve assembly shall be the minimum protection on all new fire sprinkler systems. An RPDA assembly shall be installed if any solution other than potable water can be introduced into the sprinkler system. Retrofitting shall be required on all high hazard systems, where improper maintenance has occurred, and wherever an inspector determines that such measures are necessary under the conditions found by the inspector.

Sec. 13.11.005 Fire protection systems

(a) Commercial.

(1) All new and existing fire protection systems which utilize the City's potable water supply shall have installed an approved backflow prevention device according to the degree of hazard.

(2) An approved double check detector backflow prevention assembly (DCDA) or reduced pressure detector assembly (RPDA) shall be the minimum protection for fire sprinkler systems. A RPDA must be installed if any solution other than potable water can be introduced into the sprinkler system.

(3) It is the responsibility of all property owners and persons in charge of any premises to abide by the conditions of this article. In the event of any changes to the plumbing system, it is the responsibility of the property owners to notify the City in writing of the change. Notification shall be sent to the attention of the Director. All costs associated with this article and the purchase, installation, testing and repair of a (DCDA) or (RPDA) device is the responsibility of the property owner and persons in charge of any premises. Only approved fire line testers registered with the City of Red Oak are authorized to test fire line devices.

(4) Upon the approved installation of the DCDA or RPDA device, a cross-connection test report completed by a Fire line Tester shall be sent to the attention of the Director and include the information required by this article.

(5) Retrofitting shall be required:

- (A) When the water supply in a certain area has been contaminated;
- (B) The fire protection system has contributed to the contamination; and
- (C) When an authority having jurisdiction to protect the potable water supply mandates a fail-safe system.

(6) Any person performing maintenance, repair or testing on fire lines shall be a full-time employee of an Approved Fire Sprinkler Contractor. Approved Fire Sprinkler Contractors shall verify in writing that each tester is a full-time employee and that the company carries general liability insurance.

(b) Residential.

(1) All new and existing fire protection systems which utilize the City's potable water supply shall have installed an approved backflow prevention device according to the degree of hazard.

(2) An approved double check valve backflow prevention assembly (DC) or reduced pressure principle backflow prevention assembly (RP) shall be the minimum protection for the fire sprinkler systems. A RP must be installed if any solution other than potable water can be introduced into the sprinkler system.

(3) It is the responsibility of all property owners and persons in charge of any premises to abide by the conditions of this article. In the event of any changes to the plumbing system, it is the responsibility of the property owners to notify the City in writing of the change. Notification shall be sent to the attention of the Director. All costs associated with this article and the purchase, installation, testing and repair of a DC or RP device is the responsibility of the property owner and persons in charge of any premises. Only approved Fire line Testers registered with the City of Red Oak are authorized to test fire line devices.

(4) Upon the approved installation of the DC or RP device, a cross-connection test report completed by a Fire line Tester shall be sent to the attention of the Director and include the information required by this article.

(5) Retrofitting shall be required

- (A) When the water supply in a certain area has been contaminated;
- (B) The fire protection system has contributed to the contamination; and

(C) When an authority having jurisdiction to protect the potable water supply mandates a fail-safe system.

(6) Any person performing maintenance, repair or testing on fire lines shall be a full-time employee of an Approved Fire Sprinkler Contractor. Approved Fire Sprinkler Contractors shall verify in writing that each tester is a full-time employee and that the company carries general liability insurance.

Sec. 13.11.006 Fire hydrant protection

- (a) A reduced pressure assembly (RP) shall be the minimum protection for fire hydrant water meters used for a temporary water supply during any construction or other uses which would pose a potential hazard to the public water supply.
- (b) 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 City.
- (c) Only City of Red Oak issued fire hydrant water meters with approved backflow prevention assemblies are allowed to be used on fire hydrants connected to the City of Red Oak water system.
- (d) A refundable deposit in the amount specified in section 11.001.d.2 of the Master Fee Schedule is required to insure the return of all water meters and backflow assemblies to the City. Failure to return the assemblies can result in the forfeiture of deposit and enforcement action being taken against the responsible party, as allowed for in the enforcement section in this article.
- (e) All non-approved fire hydrant meters which are found to be in use in the City of Red Oak will be confiscated and enforcement action may be taken against the responsible party, as allowed for in the enforcement section in this article.

Sec. 13.11.007 Mobile units

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 City before connecting to any potable water system.

Sec. 13.11.008 Plumbing code

As a condition of water service, a customer shall install, maintain, and operate the customer's piping and plumbing systems in accordance with the Plumbing Code provisions adopted by the City of Red Oak. In the event of a conflict between this article and the Plumbing Code, the more restrictive provision shall apply.

Sec. 13.11.009 Thermal expansion

It shall be the responsibility of the premises owner to provide for the possibility of damage or injury which might be caused by thermal expansion, if a closed system has been created by the installation of a backflow assembly.

Sec. 13.11.010 Pressure loss

Any water pressure drop caused by the installation of a backflow assembly shall be the responsibility of the premises owner and not the City. The City may provide reasonable assistance to a premises owner regarding information on adequate sizing of assemblies and proper plumbing practices to provide for required pressure and flows but shall not be obligated to provide assistance or alternative measures to increase water pressure.

Sec. 13.11.011 Compliance for landscape irrigation

For all landscape irrigation system installations a permit shall be required. Such permit shall be issued by the Building Inspection Department. Installation requirements for any device or equipment to be installed must comply with the current City plumbing code and the guidelines and requirements of this article. Interconnections of the potable water supply with an alternate water source are prohibited unless appropriate backflow protection is installed. Health hazard backflow protection devices must be installed if any mechanical injection stations are used with the irrigation system and shall conform to the device testing requirements as provided in this article.

Sec. 13.11.012 Rainwater harvesting

An approved backflow prevention assembly must be installed to prevent non-potable water from entering the potable system. All piping that contains non-potable water must be labeled (Untreated Rainwater - Do Not Drink) and an air gap or reduced-pressure principle backflow prevention assembly be installed to protect the water system.

Sec. 13.11.013 Residential service connections

(a) Any person who owns or controls rental property is responsible for the installation, test and repair of all backflow assemblies on their property.

(b) A residential premises that has been determined to have an actual or potential cross-connection shall be equipped with an approved backflow prevention assembly installed in accordance with this article. This device can be required to be installed either at the customer meter or at the point-of-use at the expense of the owner/occupant and shall conform to the device testing requirements as provided in this article.

Sec. 13.11.014 Customer service inspections

(a) A customer service inspection (CSI) is an examination of water distribution facilities for the purposes set forth in section 13.11.001 of this article. Permanent water service to a new facility will not be granted until the water facilities pass a customer service inspection.

- (b) A customer service inspection certification form shall be completed and filed with the Director under each of the following circumstances:
 - (1) New construction.
 - (2) Material improvement, correction, or addition to the private water distribution system (defined as plumbing work that requires a permit and involves a major modification to the private water distribution system). The private water system refers to the facilities on the owner's side of the meter.
 - (3) When the Director believes that a cross-connection or other potential contamination hazard exists. In this instance, the Director shall notify the customer that an inspection will be conducted and will identify the threat that is believed to exist prior to discontinuation of water service.
- (c) In order to perform the customer service inspections, the City of Red Oak may:
 - (1) Provide a list of certified inspectors to the customer, from which list the customer may select and hire an inspector;
 - (2) Provide qualified employees to perform the inspections at a cost to the customer in order to complete the state required inspection; or
 - (3) Hire independent, qualified contractors to perform the inspections; or
 - (4) Upon approval of the Director, allow the customer to hire an independent, qualified contractor to perform the inspections.

Sec. 13.11.015 Certification of customer service inspectors

A person who performs customer service inspections or who prepares customer service inspection certification forms shall be registered as a licensed customer service inspector with the City and shall meet all the requirements of the TCEQ Rules and Regulations of Public Water Systems for accreditation as a customer service inspector.

Sec. 13.11.016 Certification of backflow prevention assembly testers

All testers operating within the City shall be licensed in accordance with all applicable regulations of TCEQ and this article. No person shall operate as a backflow prevention assembly tester within the City without being annually registered with the Director of the City.

Sec. 13.11.017 Licensed backflow prevention assembly tester responsibilities

- (a) Only approved TCEQ licensed backflow prevention assembly testers that are registered with the City in accordance with this article can test backflow prevention assemblies in the City of Red Oak.
- (b) Testers must register annually with the City, provide proof of TCEQ licensing, and pay an annual, non-refundable tester registration fee.

- (c) An annual licensed backflow assembly tester registration shall remain in effect so long as:
 - (1) The tester maintains eligibility for registration and certification as provided in this article including continued certification by the TCEQ and timely payment of the annual registration fee;
 - (2) The Director has not revoked the registration.
- (d) Upon recertifying with TCEQ, a tester shall renew the tester's registration with the Director.
- (e) An applicant for registration shall:
 - (1) Demonstrate to the Director that the applicant has available the necessary tools and equipment to properly test backflow prevention assemblies;
 - (2) Identify all test gauges the applicant will use in testing backflow prevention assemblies. Gauges used in the testing of backflow prevention assemblies shall be tested for accuracy annually in accordance with the University of Southern California's Manual of Cross-Connection Control or the American Water Works Association Recommended Practice for Backflow Prevention and Cross-connection Control (Manual M14). Testers shall include test gauge serial numbers on "Test and Maintenance" report forms and demonstrate that gauges tested for accuracy.
- (f) A registered backflow prevention assembly tester shall:
 - (1) Record the serial number of each of the tester's test gauges with the Director;
 - (2) Annually, have each recorded set of test gauges tested for accuracy and calibrated to maintain a plus or minus 2% accuracy factor;
 - (3) Perform competent and accurate certifications of each backflow prevention assembly tested and submit complete reports thereof to the Director;
 - (4) List registered serial numbers of test gauges on tests and maintenance reports prior to submitting the reports to the Director.
- (g) A registered backflow prevention assembly tester shall not change the design or operating characteristics of a backflow prevention assembly.
- (h) The Director may revoke a tester's registration if the Director determines that the tester:
 - (1) Has made false, incomplete, or inaccurate assembly testing reports;
 - (2) Has used inaccurate gauges;
 - (3) Has used improper testing procedures;
 - (4) Is not in compliance with safety regulations;

(5) Has failed to register the serial numbers of the tester's test gauges or has failed to calibrate gauges annually;

(6) Has violated any other provision of this article.

(7) Has performed inappropriate testing activities.

Sec. 13.11.018 Tester registration fee

See section 5.003.c.3 on the Master Fee Schedule.

Sec. 13.11.019 Testing of assemblies

(a) At minimum, all backflow prevention assemblies shall be inspected and tested by a licensed backflow assembly tester upon installation or as required by the Director.

(b) All multifamily residential use and nonresidential use backflow prevention assemblies shall be inspected and tested in each of the following circumstances:

(1) Immediately after installation;

(2) A minimum of once a year or more frequently, as required by the Director;

(3) Immediately after repair;

(4) When premises that have been vacated and unoccupied for one year, prior to re-occupancy;

(5) Whenever the assembly is moved.

(c) The City shall not be liable for damage to an assembly that occurs during testing.

(d) A water use survey may be conducted at any establishment which is served by the City of Red Oak water supply or which provides water to the public. Upon determination that the establishment falls under the provisions of this article and requires a backflow prevention assembly, a notice to abate the condition or to install the proper backflow prevention assembly shall be issued.

(e) It is the responsibility of the 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 Director deems necessary.

(f) All results from assembly inspection and testing shall be placed on a form designated by the City and provided to the Director.

Sec. 13.11.020 Maintenance of assemblies

A person who owns, operates, or manages a premises in which a required backflow prevention assembly is installed shall maintain such assemblies in proper working order at all times, including such repairs as may be necessary to keep the assembly in proper working order. The maintenance and repair of all assemblies shall be done in accordance with the applicable

regulations of the TCEQ and this article. A backflow prevention assembly shall be maintained in a manner that allows the assembly to be tested by a method that has been approved by TCEQ.

Sec. 13.10.021 General installation requirements

A backflow prevention assembly shall be installed in accordance with the following requirements in order to ensure the proper operation of and accessibility to the assembly:

(a) A backflow prevention assembly shall be installed in accordance with current TCEQ rules and this article. The assembly installer shall obtain the required plumbing permits prior to installation and shall have the assembly inspected by the City.

(b) All assemblies must be installed in accordance with the most recent edition of the *University of Southern California Manual for Cross-Connection Control*, or of equal standards approved by the Director.

(c) No part of a reduced pressure principle backflow prevention assembly shall be submerged in water or installed in a location subject to flooding. If a double check valve assembly is installed in a vault, brass plugs shall be maintained in the test ports at all times and adequate drainage shall be provided.

(d) At facilities which require a backflow prevention assembly to be installed at the point of delivery of the water supply, installation of the assembly must be before any branch in the line and on private property located just inside the boundary between the City's right-of-way and the landowner's property. The Director may authorize other areas for installation of the assembly. Assemblies that must be installed in or are located in City rights-of-way are the responsibility of the business or entity that the water line is serving.

(e) The assembly shall be protected from freezing and other severe weather conditions.

(f) All backflow prevention assemblies shall be of a type and model approved by the Director.

(g) All vertical installations of backflow prevention assemblies shall be approved in writing by the Director prior to installation.

(h) An assembly installed five (5) feet or higher above floor level shall be equipped with a rigid and permanently installed scaffolding acceptable to the Director which shall contain a platform for use by testing and maintenance personnel. The installation shall meet all applicable requirements of the U.S. Occupational Safety and Health Administration and State occupational safety and health laws.

(i) Upon completion of the installation, the premises owner shall notify the Director and schedule the inspection and testing of all assemblies. The premises owner shall register all backflow assemblies with the Director by providing the date of installation, the manufacturer, model and serial number of the backflow prevention assembly, and the initial test report for the assembly.

(j) The premises owner assumes all responsibility for any damages resulting from installation, operation, and maintenance of a backflow assembly. The owner shall also see that any vault in

which a backflow prevention assembly is contained is kept free of silt and debris that may interfere with the proper operation, inspection or testing of the assembly.

(k) Lines shall be thoroughly flushed prior to installation. A strainer with blowout tapping may be required ahead of the assembly.

(l) Bypass lines are prohibited. Pipefittings which could be used for connecting a bypass line must not be installed.

(m) Premises with two assemblies installed in parallel shall be sized in such a manner that either assembly will provide the maximum flow required.

(n) 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 and size so that testing, repair and maintenance can be performed.

Sec. 13.11.022 Health Hazard Locations

(a) All Locations deemed health hazards by the TCEQ, including those listed on the graph referenced in 30 TAC 290.47 (f), Assessment of Hazards and Selection of Assemblies, must have the assembly required by TCEQ, as reflected in the graph referenced above.

(b) All Locations deemed to have a health hazard, or a potential for a health hazard may be subject to annual Customer Service Inspections, or a Safe Drinking Water Survey.

(c) If a location is determined to have a health hazard by the Director, through a Customer Service Inspection or a Safe Drinking Water Survey, the property owner or responsible party shall, within the timeframe allowed by the Director, eliminate all actual or threatened backflow, backsiphonage or cross-connection conditions or install an approved backflow prevention assembly based on the degree of hazard.

(d) If a property type is determined to be one where an actual or potential contamination hazard exists, per TCEQ or as determined by the Director, that property must have premises isolation.

Sec. 13.11.023 Reduced pressure principle backflow prevention assemblies

RPs shall be utilized at any premises where a substance is handled that could be hazardous to the public health if introduced into the potable water system. In addition to the provisions of section, an RP shall be installed in accordance with the following requirements in order to ensure the proper operation of and accessibility to the assembly:

(a) RPs shall be sized to provide an adequate supply of water and pressure for the premises being served.

(b) On premises where non-interruption of water supply is critical, two assemblies of the same type installed in parallel shall be provided. The assemblies shall 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.

- (c) Bypass lines are prohibited. Pipe fittings that could be used for connecting a bypass line shall not be installed.
- (d) The assembly shall be readily accessible for testing and maintenance and shall be located in an area where water damage to buildings or furnishings will not occur from relief valve discharge. An approved air gap funnel assembly may be used to direct minor discharges away from the assembly provided the air gap funnel assembly will not control flow in a continuous relief situation. Daylight drain ports shall be provided to accommodate full pressure discharge from the assembly.
- (e) All RP assemblies larger than two (2) inches shall have a minimum of twelve (12) inches clearance on the back side, twenty-four (24) inches clearance on the test cock side, and the relief valve 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 is required in vaults without a fully removable top. A minimum access opening of twenty-four (24) inches square is required on all vault lids. All RP assemblies two (2) inches and smaller shall have at least a six-inch clearance on all sides. RP assemblies may be installed in a vault only if relief valve discharge can be drained to a free and unrestricted space through a boresight type drain. The drain shall be of adequate capacity to carry the full rated flow of the assembly and shall be screened on both ends.
- (f) An approved air gap shall be located at the relief valve orifice of RP assemblies. The air gap shall be at least twice the inside diameter of the incoming supply line as measured vertically above the top rim of the drain and in no case less than one (1) inch.
- (g) No deviations from this section shall be permitted without prior written approval of the Director.

Sec. 13.11.024 Double check valve backflow prevention assembly

Double check valve assemblies may be utilized at a premises where a substance is handled that could be objectionable - but not hazardous to health - if the substance is introduced into the potable water system. In addition to the provisions of section 13.11.019, a DC shall be installed in accordance with the following requirements in order to ensure the proper operation of and accessibility to the assembly:

- (1) DCs shall be sized to provide an adequate supply of water and pressure for the premises being served.
- (2) On premises where non-interruption of water supply is critical, two assemblies of the same type installed in parallel shall be provided. The assemblies shall 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) Bypass lines are prohibited. Pipe fittings that could be used for connecting a bypass line shall not be installed.
- (4) The assembly shall be readily accessible with adequate room for testing and maintenance. DCs may be installed below grade provided all test cocks are fitted with brass pipe plugs. All

vaults containing a DC shall be well drained, constructed of suitable materials, and sized to allow for the minimum clearances established below.

(5) DC assemblies two (2) inches and smaller shall have at least a six-inch clearance below and on both sides 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 DC 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 is required in vaults without a fully removable top. A minimum access opening of twenty-four (24) inches square is required on all vault lids.

(6) All DC assemblies used on irrigation systems must have a y-type strainer that is installed on the inlet side of the double check valve, per TAC 344.50 (e)(3).

(7) Vertical installations are allowed on sizes up to and including four (4) inches that meet the following requirements:

- (a) The DC assembly shall contain internally spring-loaded check valves;
- (b) Flow is upward through assembly;
- (c) The assembly manufacturer specifies that the assembly can be used in a vertical position; and
- (d) The Director authorizes the vertical installation of the DC assembly.

(8) No deviations shall be permitted without prior written approval of the Director.

Sec. 13.11.025 Double detector check valve assembly

Double detector check valve (DDC) assemblies may be utilized in any installation that requires a double check valve assembly and detector metering. DDCs shall comply with the installation requirements applicable for double check valve assemblies (DCs).

Sec. 13.11.026 Pressure vacuum breaker assembly

(a) Pressure vacuum breaker ("PVB") assemblies may be utilized at point-of-use protection only and only if a substance is handled at the premises where the assembly is installed that could be objectionable but not hazardous to health - if the substance introduced into the potable water system. PVBs protect against backsiphonage only and shall not be installed where there is potential for backpressure.

(b) In addition to the provisions of section 13.11.019, a PVB shall be installed in accordance with the following requirements in order to ensure the proper operation of and accessibility to the assembly:

- (1) The assembly shall be installed a minimum of twelve (12) inches above the highest use outlet or overflow level downstream from the assembly.

(2) A PVB shall not be installed in an area subject to flooding or where damage could occur from water discharge.

(3) The assembly shall be readily accessible for testing and maintenance, with a minimum clearance of twelve (12) inches all around the assembly. PVBs shall be located between twelve (12) inches and sixty (60) inches above ground level.

(4) No deviations shall be permitted without prior written approval of the Director.

Sec. 13.11.027 Atmospheric vacuum breaker

Atmospheric vacuum breakers (“AVB”) provide minimal protection and are approved for very low hazard application only. AVBs protect against backsiphonage only and are prohibited where there is potential for backpressure. In addition to the provisions of section 13.11.019, an AVB shall be installed in accordance with the following requirements in order to ensure the proper operation of and accessibility to the assembly:

(1) The AVB assembly shall be installed a minimum of six (6) inches above the highest use outlet or overflow level downstream from the assembly.

(2) Shutoff valves downstream from the assembly are prohibited.

(3) An AVB shall not be used on any application where there is more than twelve (12) hours per day continuous use.

(4) An AVB shall not be installed in an area subject to flooding or where damage may occur from water discharge.

(5) AVBs shall be allowed for point-of-use protection only, in accordance with the plumbing code.

Sec. 13.11.028 Air gap separation

Air gap separations provide maximum protection from backflow hazards and shall be utilized at all locations where health hazard substances are at risk of entering the potable water system when practical.

(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 may occur, tubular screens may be attached or the supply line may be cut at a 45° angle. The air gap distance shall be measured from the bottom of the angle. Hoses shall not be allowed.

(b) Air gap separations shall not be altered in any way without prior approval from the Director and must be available for inspection at all reasonable times.

(c) The effective opening shall be the minimum cross-sectional area at the seat of the control valve or the supply pipe or tubing which feeds the assembly or outlet. If two or more lines supply one outlet, the effective opening shall be the sum of the cross-connectional areas of the individual supply lines or the area of the single outlet, which is smaller.

Sec. 13.11.029 Right-of-way encroachment

- (a) No person shall install or maintain a backflow prevention assembly upon or within any City right-of-way except as allowed by this section.
- (b) The Director may grant a license to install a backflow prevention assembly required by this article upon or within a City right-of-way, only if the owner demonstrates to their satisfaction that there is no other feasible location for installing the assembly and that installing it in the right-of-way will not interfere with traffic, utilities or any other public use of the right-of-way. The City retains the right to approve the location, height, depth, enclosure and other requisites of the assembly prior to its installation.
- (c) Any person performing work in the City rights-of-way shall obtain all necessary permits and inspections.
- (d) The assembly shall be installed below or flush with the surrounding grade except when it is not practical to install it in this manner. Any backflow prevention assembly or portion of an assembly which extends above ground must have final approval from the Director. RPs, AVBs and SVBs are not allowed to be installed below grade.
- (e) The owner of a backflow prevention assembly that has been installed upon or within a City right-of-way as provided by this section shall, at the request of the City and at the owner's sole expense, relocate the assembly when such relocation is necessary for street or utility construction or repairs or for purposes of public safety or convenience.
- (f) The City shall not be liable for any damage done to or caused by an assembly installed in the right-of-way.
- (g) A person commits an offense if he fails to relocate a backflow prevention assembly located in or upon any City right-of-way after receiving a written order to do so from the Director.

Sec. 13.11.030 Emergency suspension of utility service

- (a) The Director may, without prior notice, suspend water service to any premises when such suspension is necessary to prevent or stop actual or threatened backflow, backsiphonage or cross-connection conditions which:
 - (1) Present or may present imminent and substantial danger to the environment or to the health or welfare of any person;
 - (2) Present or may present imminent and substantial danger to the City's public water supply.
- (b) As soon as practicable after the suspension of service, the Director shall notify the customer of the suspension and shall order such person to correct the unsafe condition.
- (c) The Director shall not reinstate suspended water service until:

(1) The customer presents proof, satisfactory to the Director, that the actual or threatened backflow, backsiphonage or cross-connection condition has been eliminated and its cause determined and corrected;

(2) The customer pays the City for all costs the City incurred in responding to the unsafe condition or threatened unsafe condition; and

(3) The customer pays the City for all costs the City will incur for reinstating service.

(d) Failure on the part of a customer to eliminate actual or threatened backflow, backsiphonage or cross-connection conditions is sufficient cause for the immediate discontinuance of public water service to the premises.

(e) A customer whose service has been suspended may appeal such suspension to the Director, in writing, within ten business days of notice of the suspension.

(f) A person commits an offense if the person, without the prior written approval of the Director, reinstates water service to a premises for which water service has been suspended pursuant to this section.

Sec. 13.11.031 Non-emergency termination of water supply

(a) The Director may terminate, after written notice and opportunity for a hearing, the water service of any customer who:

(1) Fails or refuses to provide adequate protection from actual or threatened backflow, backsiphonage or cross-connection conditions when required by this article;

(2) Fails or refuses to install and maintain backflow prevention assemblies in compliance with this article; or

(3) Fails or refuses to install, maintain, and operate the customer's piping and plumbing systems in accordance with the plumbing code.

(b) The Director shall notify the customer of the proposed termination of water service at least five business days before the proposed termination. The customer may request a hearing on the proposed termination by filing a written request for a hearing with the Director not more than five business days after receipt of notice of the proposed termination.

(c) If water service is terminated, the Director shall not reinstate water service until:

(1) The customer presents proof, satisfactory to the Director, that the actual or threatened backflow, backsiphonage or cross-connection condition has been eliminated and its cause determined and corrected; and

(2) The customer pays the City for all costs the City will incur for reinstating service.

Sec. 13.11.032 Access to premises

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

Sec. 13.11.033 Enforcement

- (a) This article shall be enforced by the Director.
- (b) The City shall inspect and initially test, cause to be inspected and tested, or require to be inspected and tested, all backflow prevention assemblies installed pursuant to the requirements of this article. For new facilities, permanent water service shall not be provided until all backflow prevention assemblies have been tested and are operational. Except in cases where the testing of backflow prevention assemblies must be delayed until the installation of internal production or auxiliary equipment, the City shall not approve a certificate of occupancy until all backflow prevention assemblies have been tested and are operational. The City shall not be liable for damage caused to any backflow prevention assembly as a result of the inspection or testing.
- (c) If a backflow prevention assembly is not tested prior to the expiration of the prior annual test the Director has the authority to test, or cause to be tested, the expired assembly and add the actual cost of the inspection to the customer's utility bill."

SECTION 2. That all provisions of the Ordinances of the City of Red Oak, Texas, in conflict with the provisions of this ordinance be, and the same are hereby, repealed, and all other provisions of the Ordinances of the City not in conflict with the provisions of this ordinance shall remain in full force and effect.

SECTION 3. That should any word, sentence, paragraph, subdivision, clause, phrase or section of this ordinance, or of the Code of Ordinances, as amended hereby, be adjudged or held to be void or unconstitutional, the same shall not affect the validity of the remaining portions of said ordinance or the Code of Ordinances, as amended hereby, which shall remain in full force and effect.

SECTION 4. Any person, firm, corporation or business entity violating this Ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be subject to a fine not to exceed the sum of Two Thousand Dollars (\$2,000.00). Each continuing day's violation under this Ordinance shall constitute a separate offense. The penal provisions imposed under this Ordinance shall not preclude Red Oak from filing suit to enjoin the violation. Red Oak retains all legal rights and remedies available to it pursuant to local, state and federal law.

SECTION 5. That this ordinance shall take effect immediately from and after its passage as the law and charter in such cases provide.

DULY PASSED by the City Council of the City of Red Oak, Texas, this the 11th day of October, 2016.

APPROVED:



ALAN HUGLEY, MAYOR


ATTEST:



DANA ARGUMANIZ, TRMC
CITY SECRETARY



APPROVED AS TO FORM:



Robert E. Hager, City Attorney