



1        *Auxiliary supply* means any water source or system other than the public potable water system that  
2 is or may be available in a building or on real property, including reuse water, groundwater or surface  
3 water used for industrial, irrigation or any other purpose.

4        *Backflow* means the flow in the direction opposite to the normal flow of the city's potable water  
5 system, or the introduction of any foreign liquids, gases, or substances into the city's potable water  
6 system.

7        *Backflow prevention assembly tester* means a licensed tester who is registered with the city's third  
8 party vendor qualified to test backflow pressure assemblies on any domestic, commercial, industrial or  
9 irrigation service ~~except firelines~~.

10       *Backpressure* means any elevation of pressure in the downstream piping system (by any means)  
11 above the supply pressure at the point of consideration which would cause, or tend to cause, a reversal of  
12 the normal direction of flow of water in the city's potable water system, or the introduction of fluids,  
13 mixtures or substances from any source other than the intended source.

14       *Backsiphonage* means the flow of water or other liquids, mixture or substances into the distribution  
15 pipes of a potable water supply system from any source, other than its intended source, caused by a  
16 sudden reduction of pressure in the potable water supply system.

17       *Boresight or boresight to daylight* means the provision of adequate drainage for assemblies installed  
18 in vaults through the use of an unobstructed drain pipe.

19       *Commercial establishment* means any property or location which is used for the manufacture,  
20 production, storage, wholesaling or retailing of any good or ware which is, or may be, placed in the flow of  
21 commerce, or any property or location which is used for the provision of any service for compensation.

22       *Contaminants* means any foreign material, solid or liquid, not common to the potable water supply  
23 which makes or may make the water unfit or undesirable for human or animal consumption.

24       *Contamination* means the admission of contaminants into the potable water supply system.

25       *Cross connection* means any connection, physical or otherwise, between a potable water supply  
26 system and any plumbing fixture or any tank, receptacle, equipment or device through which it may be  
27 possible for any reuse, nonpotable, used, unclean, polluted and/or contaminated water, or other  
28 substances, to enter into any part of such potable water system under any condition or set of conditions.

29       *Cross connection control device* means any device placed upon any connection, physical or  
30 otherwise, between a potable water supply system and any plumbing fixture or any tank, receptacle,  
31 equipment or device, which is designed to prevent reuse, nonpotable, used, unclean, polluted and/or  
32 contaminated water, or other substances, from entering into any part of such potable water system under  
33 any condition or set of conditions.

34       *Degree of hazard* means the hazard classification that shall be assigned to all actual or potential  
35 cross connections.

36       (1) The term "health hazard" means an actual or potential threat of contamination of a physical or  
37 toxic nature to the public potable water system or the consumer's potable water system that  
38 would be a danger to health.

39       (2) The term "high hazard" means the classification assigned to an actual or potential cross  
40 connection that potentially could allow a substance that may cause illness or death to backflow  
41 into the potable water supply.

42       (3) The term "low hazard" means the classification assigned to an actual or potential cross  
43 connection that potentially could allow a substance that may be objectionable but not hazardous  
44 to a person's health to backflow into the potable water supply.

45       (4) The term "plumbing hazard" means an internal or plumbing-type cross connection in a  
46 consumer's potable water system that may be either a pollutional or a contamination-type  
47 hazard.

1 (5) The term "pollutional hazard" means an actual or potential threat to the physical properties of  
2 the water system or the potability of the public or the consumer's potable water system but  
3 which would not constitute a health or system hazard, as defined herein. Maximum degree of  
4 intensity of pollution which the potable water system could be degraded under this definition  
5 would cause a nuisance or be aesthetically objectionable or could cause damage to the system  
6 or its appurtenances.

7 (6) The term "system hazard" means an actual or potential threat of severe danger to the physical  
8 properties of the public or consumer's potable water supply or of pollution or contamination that  
9 would have a detrimental effect on the quality of the potable water in the system.

10 Director means Director of Utilities and Environmental Services, or his designee.

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

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

19 *Fireline tester* means a tester who is employed by a state-approved fireline contractor and is  
20 qualified to test assemblies on firelines only.

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

25 *Non-residential use* means water used by any person other than a residential customer of the water  
26 supply and include all uses not specifically included in "residential uses."

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

29 *Potable water supply* means any water supply intended or used for human consumption or other  
30 domestic use.

31 *Premises* means any piece of property to which water is provided, including all improvements,  
32 mobile structures, and structures located on the property.

33 *Premises isolation* means the appropriate backflow prevention at the service connection between the  
34 public water system and the water user.

35 *Pressure vacuum breaker backflow prevention assembly or pressure vacuum breaker or PVB* means  
36 an assembly which provides protection against backsiphonage, but does not provide adequate protection  
37 against backpressure backflow. The assembly is a combination of a single check valve with an AVB and  
38 can be used with downstream resilient seated shutoff valves. In addition, the assembly must have suction  
39 and discharge gate valves and resilient seated test cocks which allow the complete testing of the  
40 assembly.

41 *Public water system or water system* means any public or privately owned water system which  
42 supplies water for public domestic use. The system will include all services, reservoirs, facilities, and any  
43 equipment used in the process of producing, treating, storing, or conveying water for public consumption.

44 *Reduced pressure principal detector backflow prevention assembly or reduced pressure detector or*  
45 *RPDA* means an assembly composed of a line-size approved reduced pressure principle assembly with a  
46 bypass containing a specific water meter and an approved reduced pressure principle backflow  
47 prevention assembly. The meter must be capable of accurately registering very low rates of flow.

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

6 ~~*Regulatory authority means the director of the city, or his designee, who is vested with the authority*~~  
7 ~~*and responsibility to administer this article.*~~

8 ~~*Representative of the water system means the director of the city, or his designee, who is vested*~~  
9 ~~*with the authority to perform cross connection control duties which shall include, but are not limited to,*~~  
10 ~~*cross connection inspections and water use surveys.*~~

11 *Residential use* means water use of any residential customer of the water supply and shall include,  
12 but is not limited to, single family dwellings, duplexes, multiplex, housing and apartments where the  
13 individual units are each on a separate meter; or, in cases where two or more units are served by one  
14 meter, the units are full-time dwellings.

15 *Service connection* means the point of delivery at which the water supplier loses control of the water.

16 *Spill-resistant pressure vacuum breaker or SVB* means an assembly containing an independently  
17 operating, internally loaded check valve and an independently operating, loaded air inlet valve located on  
18 the discharge side of the check valve. This assembly must be equipped with a properly located resilient  
19 seated test cock and tightly closing resilient seated shutoff valves attached at each end of the assembly.

20 *Thermal expansion* means heated water that does not have the space to expand.

21 ~~*Third party vendor means a third party contracted by the city to provide backflow testing notification*~~  
22 ~~*and data management services on behalf of the city.*~~

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

## 25 **Sec. 44-175. Right-of-way encroachment.**

26 No person shall install or maintain an assembly, or any part thereof, upon or within any city right-of-  
27 way except as provided in this article.

28 (1) An assembly required by the city may be installed upon or within any city right-of-way only if the  
29 owner demonstrates to the city's satisfaction that there is no other feasible location for installing  
30 the assembly, and installing it in the right-of-way will not interfere with traffic, utilities or any  
31 other purpose for which the right-of-way exists. The person installing an assembly must obtain  
32 express written approval from the city regarding the location, height, depth, enclosure, and other  
33 requisites of the assembly prior to its installation.

34 (2) All permits and inspections required by any applicable code or regulation to perform work in the  
35 right-of-way shall be obtained prior to the installation of the assembly.

36 (3) The assembly shall be installed below or flush with the surrounding grade except when it is not  
37 practicable to install it in this manner. Any assembly or portion of an assembly which extends  
38 above ground shall be located no closer than 18 inches to the face of any curb.

39 (4) The city shall not be liable for any damage done to or caused by an assembly installed in a  
40 right-of-way. A person that installs an assembly in a city right-of-way shall repair, clean up, and  
41 restore any and all streets, alleys, highways, public thoroughfares, public utility easements,  
42 public ways, and other public property within a reasonable time, not to exceed ten days after the  
43 completion of the work, to as good or better condition as existed prior to the commencement of  
44 the work, and to the satisfaction of the director.

- 1 (5) A property owner shall, at the request of the city and at the owner's expense, relocate an  
2 assembly that encroaches upon any city right-of-way when such relocation is deemed  
3 necessary by the city.
- 4 (6) A person commits an offense if he fails to relocate an assembly located in or upon any city right-  
5 of-way after receiving a written order from the ~~regulatory authority~~Director requesting such  
6 relocation.

7 **Sec. 44-176. Multiple connections.**

8 The owner of any premises requiring multiple service connections for adequacy of supply and/or fire  
9 protection must install an assembly on each of the additional service lines to the premises. The type of  
10 assembly required will be determined by the degree of hazard that may occur in the event of an  
11 interconnect between any of the buildings on the premises.

12 **Sec. 44-177. Protection required; installation.**

- 13 (a) The assembly protection which is required under this article shall be any of the duly authorized  
14 assemblies listed in the Uniform Plumbing Code, or as determined by the ~~regulatory~~  
15 ~~authority~~Director. Each assembly must be approved in writing by the ~~regulatory authority~~Director in  
16 conjunction with the chief building inspector of the city prior to installation. Failure to obtain such  
17 written approval prior to installation of the assembly may result in the assembly failing to meet final  
18 approval by the ~~regulatory authority~~Director. The ~~regulatory authority~~Director shall determine the  
19 type and location of assembly to be installed within the area served by the city. An assembly shall be  
20 required in each of the following circumstances, but the ~~regulatory authority~~Director is not limited to  
21 requiring the installation of an assembly only in the following circumstances:
- 22 (1) The nature and extent of any activity on or near the premises, or the materials used in  
23 connection with any activity on or near the premises, or materials stored on or near the  
24 premises, may contaminate or pollute the potable water supply.
- 25 (2) Premises having any one or more cross connections identified or one or more cross  
26 connections present on the premises.
- 27 (3) One or more cross connections are present on the premises and the cross connections are  
28 protected by an atmospheric vacuum breaker device (AVB).
- 29 (4) Internal cross connections are present that are not correctable.
- 30 (5) Intricate plumbing arrangements are present which make it impractical to ascertain whether  
31 cross connections exist.
- 32 (6) There is a repeated history of cross connections being established or re-established on the  
33 premises.
- 34 (7) There is unduly restricted entry so that inspections for cross connections cannot be made with  
35 sufficient frequency to assure that cross connections do not exist.
- 36 (8) Materials are being used on the premises such that, if backflow should occur, a health hazard  
37 may result.
- 38 (9) Installation of an approved backflow prevention assembly is deemed to be necessary to  
39 accomplish the purpose of these regulations in the sole judgment of the city.
- 40 (10) An appropriate cross connection survey report form has not been filed with the utility  
41 department of the city after a request by the city.
- 42 (11) A fire sprinkler system on the premises is connected to the city's water system.

- 1 (12) All new construction, if deemed necessary as a result of the customer service inspection  
2 referred to in section 44-182. The type of assembly required shall be commensurate with the  
3 degree of hazard as determined by the ~~regulatory authority~~Director.
- 4 (13) When a building is constructed on commercial premises, and the end use of such building is not  
5 determined or could change, a reduced pressure principle backflow prevention assembly must  
6 be installed at the service connection that supplies water for public domestic use.
- 7 (14) Any used water return system is present on the premises.
- 8 (15) In the event a point-of-use assembly has not had the testing or repair done as required by this  
9 section, a premises isolation assembly will be required.
- 10 (16) If it is determined that additions or alterations have been made to the plumbing system without  
11 obtaining proper permits, premises isolation may be required.
- 12 (17) All multistory buildings or any building with a booster pump or elevated storage tank.
- 13 (18) Retrofitting will be required on all high hazard connections, and in additional circumstances in  
14 which the city deems it necessary to retrofit.
- 15 (b) All assemblies installed after the effective date of the ordinance from which this article is derived  
16 shall be installed in a manner designed to facilitate ease of inspection by the ~~regulatory~~  
17 ~~authority~~Director of the city. Any currently installed assemblies that, in the opinion of the ~~regulatory~~  
18 ~~authority~~Director, are located in inaccessible locations, or where the tester is subjected to physical  
19 danger, shall be relocated to location approved in writing by the ~~regulatory authority~~Director.

20 **Sec. 44-178. Testing of assemblies.**

- 21 (a) The ~~regulatory authority~~Director shall inspect and test, or cause to be inspected and tested, all  
22 assemblies in each of the following circumstances:
- 23 (1) Immediately after installation;
- 24 (2) Whenever the assembly is relocated;
- 25 (3) A minimum of once ~~a~~ every 12 months for assemblies that are used in high-hazard applications.  
26 Assemblies that are used in non-hazard applications must be tested a minimum of once every  
27 ~~ten~~ seven years;
- 28 (4) Premises that have been vacated and unoccupied for 12 months, prior to reoccupancy; or
- 29 (5) Immediately after repairs have been made to the assembly.
- 30 (b) All assembly testing shall be performed by a licensed backflow prevention assembly tester registered  
31 with the ~~regulatory authority~~third party vendor.
- 32 (c) Duly authorized employees of the city are authorized to enter any public or private property at any  
33 reasonable time for the purpose of enforcing this article. Persons and occupants of premises which  
34 are provided water service by the city, either directly or indirectly, shall allow the city ready access at  
35 all reasonable times to all parts of the premises for the purposes of inspection, testing, records  
36 examination, or in the performance of any of their duties. Where persons or occupants of premises  
37 have security measures in force which would require proper identification and clearance before entry  
38 onto their premises, the persons and occupants of the premises shall make necessary arrangements  
39 with their security personnel so that upon presentation of suitable identification, personnel from the  
40 city will be permitted to enter, without delay, for the purposes of performing their responsibilities.
- 41 (d) The city shall not be liable to any person for any damage to an assembly that occurs during testing.
- 42 (e) The ~~regulatory authority~~Director may cause a water use survey to be conducted at any commercial  
43 establishment located in the city which is served by a public water supply or which provides water to  
44 the public. Upon determination by the ~~regulatory authority~~Director that the commercial establishment  
45 falls under the provisions of this article and requires an assembly, the ~~regulatory authority~~Director

1 shall issue a notice to abate the condition or order the commercial establishment to install the proper  
2 assembly.

3 (f) It is the responsibility of any person who owns or controls property subject to this article to have all  
4 assemblies tested in accordance with this article. Assemblies may be required to be tested more  
5 frequently if the ~~regulatory authority~~Director deems it necessary.

6 (g) All results from assembly testing, repairs and replacements by a licensed backflow prevention  
7 assembly tester shall be submitted to the third party vendor recorded, in writing, on a form that may  
8 be obtained by the tester from the city.

#### 9 **Sec. 44-179. Thermal expansion.**

10 It is the responsibility of any person who owns or controls property subject to this article to eliminate  
11 the possibility of thermal expansion if a closed system has been created by the installation of an  
12 assembly.

#### 13 **Sec. 44-180. Pressure loss.**

14 Any reduction in water pressure caused by the installation of an assembly is not the responsibility of  
15 the city. The city shall not be liable to any person for damages resulting from any reduction in water  
16 pressure caused by the installation of an assembly.

#### 17 **Sec. 44-181. Residential service connections.**

18 Any person who owns or controls any residential property which has been determined to have an  
19 actual or potential cross connection will be required to eliminate the actual or potential cross connection  
20 or have an approved backflow assembly installed in accordance with this article.

#### 21 **Sec. 44-182. Customer service inspection.**

22 (a) Pursuant to commission water system regulations, a customer service inspection for cross  
23 connection control shall be completed by the city prior to providing continuous water service in each  
24 of the following circumstances:

- 25 (1) Water service to a newly constructed facility or previously nonexisting premises;
- 26 (2) After any material improvement to buildings or premises;
- 27 (3) Any correction or addition to the plumbing of any facility or premises served by the city; or
- 28 (4) The ~~regulatory authority~~Director deems it necessary.

29 (b) Permanent water service shall not be supplied to a newly constructed facility until after the customer  
30 service inspection is completed.

#### 31 **Sec. 44-183. Installation guidelines and requirements for backflow prevention** 32 **assemblies.**

33 (a) The following requirements shall apply to the installation of all assemblies:

- 34 (1) Approved backflow prevention assemblies shall be installed in accordance with state law,  
35 commission rules, this article, and any other applicable law or regulation. The assembly installer  
36 must obtain the required plumbing permits and have the installation inspected by the ~~regulatory~~  
37 ~~authority~~Director.

- 1 (2) With respect to facilities where the ~~regulatory authority~~Director requires an assembly to be  
2 installed at the point of delivery of the water supply, the installation of the assembly must be  
3 made at a point prior to any branch in the line. Such installation must be made on private  
4 property within two feet of the water meter. If deemed necessary, the ~~regulatory~~  
5 ~~authority~~Director may specify other areas for installation of the assembly. Assemblies that must  
6 be installed, or are located on, city rights-of-way are the responsibility of the business or entity  
7 that the water line is serving.
- 8 (3) All assemblies must be protected from damage caused by freezing or other severe weather  
9 conditions.
- 10 (4) All assemblies shall be of a type and model approved in writing by the ~~regulatory~~  
11 ~~authority~~Director prior to installation.
- 12 (5) All vertical installations of assemblies must have prior written approval by the ~~regulatory~~  
13 ~~authority~~Director.
- 14 (6) Approved backflow prevention assemblies that are larger than four inches and installed more  
15 than five feet above floor level must have a suitable platform for use by testing, inspection, or  
16 maintenance personnel.
- 17 (7) Bypass lines are prohibited. Pipe fittings which could be used for connecting a bypass line must  
18 not be installed on the premises.
- 19 (8) Lines should be thoroughly flushed prior to installation of an assembly. A strainer with blowout  
20 tapping may be required ahead of the assembly.
- 21 (9) All facilities that require continuous, uninterrupted water service and are required to have an  
22 assembly must make provisions for the parallel installation of assemblies of the same type so  
23 that testing, repair and maintenance can be performed without interrupting the water service to  
24 the premises. The assemblies should be sized in such a manner that either assembly, operating  
25 independently, will provide the maximum flow required.
- 26 (10) The property owner assumes all responsibility for any damages resulting from installation,  
27 operation, and/or maintenance of an assembly. The owner shall be responsible for keeping all  
28 assembly vaults reasonably free of silt and debris.
- 29 (11) Upon completion of installation, the ~~regulatory authority~~Director shall be notified by the owner of  
30 the premises, and all assemblies must be inspected and tested. All assemblies must be  
31 approved in writing by and registered with the ~~regulatory authority~~Director, and the owner of the  
32 premises shall provide to the ~~regulatory authority~~Director the date of installation, manufacturer,  
33 model, type, size, and serial number of the assembly, and initial test report.
- 34 (12) Requests for variances from the specifications and requirements of this article will be evaluated  
35 on a case-by-case basis. Any deviations from this article must have prior written approval of the  
36 ~~regulatory authority~~Director.
- 37 (b) Upon written approval by the ~~regulatory authority~~Director, reduced pressure principle backflow  
38 prevention assemblies (RPs) may be utilized on premises where a substance is handled that would  
39 be hazardous to health if introduced into the potable water system. The RP is normally used in  
40 locations where an air gap is impractical. The RP must be effective against both backsiphonage and  
41 backpressure.
- 42 (1) RPs must be sized to provide an adequate supply of water and pressure for the premises being  
43 served. Flow characteristics are not standard. The manufacturer's specifications must be  
44 consulted for specific performance data.
- 45 (2) Each RP assembly must be readily accessible for testing and maintenance and must be located  
46 in an area where water damage to building or furnishings would not occur in the event of a relief  
47 valve discharge. The property owner assumes all responsibility for any damage caused by  
48 water discharge from a RP assembly.

- 1 (3) An approved air gap shall be located at the relief valve orifice of RP assemblies. This air gap  
2 shall be at least twice the inside diameter of the incoming supply line as measured vertically  
3 above the top rim of the drain and in no case less than one inch. An approved air gap funnel  
4 assembly may be used to direct minor discharges away from the assembly; however, this  
5 assembly may not be used to control flow in a continuous relief situation. Drain lines to  
6 accommodate full relief valve discharge flow should be installed.
- 7 (4) No part of an RP assembly shall be submerged in water or installed in a location subject to  
8 flooding. RPs must be installed above grade in well-drained areas.
- 9 (5) RP assembly enclosures shall be designed for ready access and sized to allow for the minimum  
10 clearances established below. Removable protective enclosures should be installed on smaller  
11 RP assemblies. Daylight drain ports must be provided to accommodate full pressure discharge  
12 from the RP assembly.
- 13 (6) RP assemblies two inches and smaller shall have at least six inches of clearance on both sides  
14 and on top of the assembly, and 12 inches of clearance below and behind the assembly. All RP  
15 assemblies larger than two inches shall have a minimum of 12 inches of clearance on the back  
16 side, 24 inches of clearance on the test cock side. The relief valve opening shall be at least 12  
17 inches (plus nominal size of assembly) above the floor or highest possible water level.  
18 Headroom of 60 inches is required in vaults without a fully removable top. A minimum access  
19 opening of 36 inches in diameter is required on all vault lids.
- 20 (7) Vertical installation of RP assemblies is prohibited.
- 21 (8) All RP assemblies must be tested in accordance with this article. Tests are the responsibility of  
22 the premises owner. The owner must notify the ~~regulatory authority~~ Director upon the installation  
23 of any assembly.
- 24 (c) Reduced pressure principle detector backflow prevention assemblies (RPDAs) may be utilized in all  
25 installations requiring a reduced pressure principle backflow prevention assembly and detector  
26 metering.
- 27 (1) RPDAs shall comply with the installation requirements applicable for reduced pressure principle  
28 backflow assemblies (RPs).
- 29 (2) Each line-size RP assembly and the bypass RP assembly must each be tested for proper  
30 functioning. A separate test report for each assembly must be completed by the licensed tester.
- 31 (d) Double check valve backflow prevention assemblies (DCs) may be utilized on premises where a  
32 substance is handled that would be objectionable but not hazardous to health if introduced into the  
33 potable water system.
- 34 (1) DCs must be sized to provide an adequate supply of water and pressure for the premises being  
35 served. The manufacturer's specifications must be consulted for specific performance data.
- 36 (2) Premises where an uninterrupted water supply is critical must be provided with two DC  
37 assemblies installed in parallel. DC assemblies should be sized in such a manner that either  
38 assembly, operating independently, will provide the maximum flow required.
- 39 (3) Each DC assembly shall be readily accessible with adequate room for testing and maintenance.  
40 DCs may be installed below grade, provided that all test cocks are fitted with brass pipe plugs.  
41 All vaults shall be well drained, constructed of suitable materials, and sized to allow for the  
42 minimum clearances established below.
- 43 (4) DC assemblies two inches and smaller shall have at least six inches of clearance below and on  
44 both sides of the assembly, and if located in a vault, the bottom of the assembly shall be not  
45 more than 24 inches below grade. All DC assemblies larger than two inches shall have a  
46 minimum clearance of 12 inches on the back side, 24 inches of clearance on the test cock side,  
47 and 12 inches of clearance below the assembly. Headroom of 60 inches is required in vaults  
48 without a fully removable top. A minimum access opening of 36 inches in diameter is required  
49 on all vault lids. "Y" pattern DCs shall be installed so that the checks are horizontal and the test

1 cocks face upward. These clearance standards apply to all DC assemblies installed in vaults,  
2 enclosures or meter boxes.

3 (5) Vertical installations of DCs are allowed only on sizes up to and including four inches and which  
4 also meet the following requirements:

- 5 a. Equipped with internally spring-loaded check valves;
- 6 b. Flow is upward through assembly;
- 7 c. Manufacturer states their assembly can be used in a vertical position;
- 8 d. Approved by ~~regulatory authority~~Director.

9 (6) All DCs must be tested in accordance with this article. Tests are the responsibility of the  
10 assembly and premises owner. The owner must notify the ~~regulatory authority~~Director upon the  
11 installation of any assembly.

12 (e) Double check detector backflow prevention assemblies (DCDA) may be utilized in all installations  
13 requiring a DC and detector metering.

14 (1) DCDA's shall comply with the installation requirements applicable for DCs.

15 (2) Each line-size DC assembly and the bypass DC assembly must be tested for proper  
16 functioning. A separate test report for each assembly must be completed by the licensed tester.

17 (f) Pressure vacuum breaker backflow prevention assemblies (PVBs) may be utilized at point-of-use  
18 protection only and where a substance is handled that would be objectionable but not hazardous to  
19 health if introduced into the potable water system. PVBs protect against backsiphonage only and  
20 shall not be installed where there is potential for backpressure contamination.

21 (1) Each PVB assembly shall be installed a minimum of 12 inches above the highest downstream  
22 piping.

23 (2) PVBs shall not be installed in any area subject to flooding or where damage may occur from  
24 water discharge.

25 (3) Each PVB assembly shall be readily accessible for testing and maintenance, with a minimum  
26 clearance of 12 inches in all areas immediately adjacent to the assembly.

27 (4) All PVBs must be tested in accordance with this article. Tests are the responsibility of the  
28 assembly and premises owner. The owner must notify the ~~regulatory authority~~Director upon the  
29 installation of any assembly.

30 (g) Spill resistant pressure vacuum breaker backflow prevention assemblies (SVBs) may be utilized in  
31 all installations requiring a pressure vacuum breaker. SVBs shall comply with the installation  
32 requirements applicable for pressure vacuum breaker backflow prevention assemblies (PVBs).

### 33 **Sec. 44-184. Air gap separation.**

34 Air gap separations provide maximum protection from backflow hazards and may be utilized in water  
35 systems situated on premises where a substance is present which would be hazardous to health if  
36 introduced into the potable water system.

37 (1) An air gap separation shall be at least twice the diameter of the supply pipeline measured  
38 vertically above the top rim of the receiving vessel, and in no case less than one inch. If  
39 splashing is a problem, tubular screens may be attached or the supply line may be cut at a 45-  
40 degree angle, and the air gap distance shall in such case be measured from the bottom of the  
41 angle. Hoses shall not be used.

42 (2) Air gap separations shall not be altered in any way without prior written approval from the  
43 ~~regulatory authority~~Director, and must be accessible for inspection at all reasonable times.

- 1 (3) Side walls, ribs, or similar obstructions shall be spaced from the inside edge of the spout  
2 opening to a distance greater than three times the diameter of the effective opening for a single,  
3 or to a distance greater than four times the effective opening for two intersecting walls.
- 4 (4) In systems where there are three or more side walls, ribs, or similar obstructions extending from  
5 the water surface to or above the horizontal plane of the spout opening in a manner other than  
6 specified in section 44-183(c), the air gap shall be measured from the top of the wall.
- 7 (5) The effective opening shall be the minimum cross sectional area at the seat of the control valve  
8 or the supply pipe or tubing which feeds the assembly or outlet. If two or more lines supply one  
9 outlet, the effective opening shall be the sum of the cross sectional areas of the individual  
10 supply lines or the area of the single outlet, whichever is smaller.

11 **Sec. 44-185. Fire systems.**

- 12 (a) An approved DCDA or RPDA shall be installed on fire sprinkler systems comprised of piping material  
13 that is not approved for potable water use and/or that does not provide for periodic flow-through  
14 during each 24-hour period, unless a variance has been granted in writing by the ~~regulatory~~  
15 ~~authority~~Director. A RPDA must be installed if any solution or substance other than the potable water  
16 may be introduced into the sprinkler system.
- 17 (b) Upon the approved installation of a DCDA or RPDA, a cross connection test report completed by a  
18 city registered, licensed fireline tester must be sent to the ~~regulatory authority~~Director, and such  
19 report must include the information required by this article.

20 **Sec. 44-186. Responsibilities.**

- 21 (a) All property owners and persons in control of any premises shall comply with the provisions of this  
22 article. In the event of any changes to the plumbing system, it is the responsibility of the property  
23 owners and persons in control of any premises to notify the ~~regulatory authority~~Director. All property  
24 owners and/or persons in control of any premises are also responsible for the following:
- 25 (1) Payment of all costs associated with this article and the purchase, installation, maintenance,  
26 testing, and repair of the assemblies required by this article.
- 27 (2) To install and maintain all assemblies in accordance with this article and acceptable industry  
28 practices.
- 29 (3) All commercial establishments shall annually test, or cause to be tested, all assemblies on the  
30 premises. Such tests must be conducted by a licensed backflow prevention assembly tester  
31 who is registered with the city.
- 32 (4) Maintain all assemblies in proper working order at all times, including making repairs as  
33 required to ensure the proper functioning of the assemblies.
- 34 (5) Maintain all assemblies such that the assemblies may be tested by a method that has been  
35 approved by the ~~regulatory authority~~Director.
- 36 (6) Each record related to assembly installation, testing and repair shall be maintained on the  
37 premises for a minimum of three years.
- 38 (7) If not obtained by the licensed backflow prevention assembly tester, apply for and obtain a  
39 building permit from the building official of the city prior to commencing any work, including  
40 testing of, on any assembly device.
- 41 (b) All licensed backflow prevention assembly testers shall:
- 42 (1) Annually register with the ~~regulatory authority~~third party vendor, pay any required fee, and  
43 provide the information required by this article.
- 44 (2) Maintain testing equipment in proper working condition/calibration.

- 1 (3) Maintain the design or operation characteristics of an assembly.
- 2 (4) Ensure that devices are tested in compliance with accepted industry practices, commission  
3 regulations, and all other applicable laws and regulations.
- 4 (5) Enter the required testing data, including test gauge serial numbers, on third party vendor's  
5 website ~~cross connection test forms obtained from the regulatory authority.~~
- 6 (6) Report test results electronically to the third party vendor's website ~~to the regulatory authority~~  
7 within 30 ~~15~~ days of testing. For any new assemblies, either new installs or previously  
8 undocumented assemblies not in the third party vendor's system, the tester may submit by e-  
9 mail or fax the test results to the third party vendor for the initial year.
- 10 (7) Provide a copy of the completed test report to the property owners and/or persons in control of  
11 any premises subject to the testing requirements of this article.
- 12 (8) Maintain each testing and/or repair record for a minimum of three years.
- 13 (9) If not obtained by the property owner, apply for and obtain a building permit from the building  
14 official of the city prior to commencing any work, including testing, on any assembly device.
- 15 (10) Pay the third party vendor fee as a data entry charge for each test report submitted to the third  
16 party vendor's website.
- 17 (c) The ~~regulatory authority~~ Director shall have the authority to enforce the provisions of this article, state  
18 law, and regulations regarding cross connections. The ~~regulatory authority~~ Director shall inspect and  
19 initially test, or cause to be tested, all assemblies installed pursuant to the requirements of this  
20 article. Permanent water service shall not be provided to new facilities until all assemblies have been  
21 tested and are functioning properly. Except in cases where the testing of assemblies must be  
22 delayed until the installation of internal production or auxiliary equipment, the ~~regulatory~~  
23 ~~authority~~ Director shall not approve a certificate of occupancy until all assemblies have been tested  
24 and are functioning properly.
- 25 (d) The third party vendor shall:
- 26 (1) Through the use of its proprietary software, maintain an online database and website for testers  
27 to register and input test reports.
- 28 (2) Send by mail a notice to a property owner or person in control of the premises approximately 30  
29 days prior to the testing due date, advising the property owner that the assembly is due for  
30 testing, and transmit a copy of the notice to the last tester of record.
- 31 (3) Send by mail a second notice to a property owner or person in control of the premises once the  
32 testing due date has passed if a test report for the assembly has not been submitted.
- 33 (3) Transmit a notice of non-compliance to the Director by electronic transmission if the third party  
34 vendor fails to receive a test report within 15 day of the mailing the second notice.

#### 35 **Sec. 44-187. Backflow prevention assembly tester registration required.**

36 Persons desiring to be approved backflow prevention assembly testers within the city must provide  
37 to the ~~regulatory agency~~ third party vendor proof of commission licensing, and provide proof that their  
38 testing equipment is able to maintain a calibration of plus or minus 0.2 psid accuracy. The third party  
39 vendor shall maintain a database of licensed and registered testers.

#### 40 **Sec. 44-188. Fees.**

- 41 (a) All property owners and/or persons in control of an assembly device shall have the assembly tested  
42 as required by a licensed tester. All property owners and/or persons in control of an assembly  
43 device shall pay the testing fee to the tester upon completion of the test ~~fee of \$25.00 for each~~

1 ~~assembly device each time the assembly is tested.~~ If a property owner and/or person in control of an  
2 assembly device fails to test the device within 30 days of the required testing date, the ~~regulatory~~  
3 ~~authority~~Director may perform the test and assess a testing fee of ~~\$100.00~~\$75.00 plus the actual  
4 cost of the test for each separate assembly device on which the ~~regulatory authority~~Director  
5 performs a test.

- 6 (b) ~~The regulatory authority shall assess a testing fee of \$100.00 per each separate assembly on which~~  
7 ~~the regulatory authority performs a test. This fee applies to, but is not limited to, all newly installed~~  
8 ~~backflow devices. If an newly installed assembly is deemed not to be working properly upon the~~  
9 ~~initial inspection or testing of the assembly, the Director shall have the necessary repairs and/or~~  
10 ~~adjustments made immediately and shall retest the assembly. Property owners and/or persons in~~  
11 ~~control of the premises must make necessary repairs and/or adjustments prior to retesting or~~  
12 ~~reinspection by the regulatory authority. A retest fee of \$50.00 plus the actual cost of the retest and~~  
13 ~~the repairs required per assembly device will be assessed for each retest performed by the~~  
14 ~~regulatory authority~~Director.

#### 15 **Sec. 44-189. Compliance for lawn irrigation or sprinkler systems.**

16 All persons installing commercial and residential lawn irrigation or sprinkler systems shall annually  
17 register with the ~~regulatory authority~~Director and obtain a permit from the building inspection department  
18 of the city prior to making such installations. The installation requirements must comply with standards for  
19 the applicable device required by this article. Interconnections of the potable water supply with an  
20 alternate water source are prohibited. Appropriate backflow prevention devices must be installed on the  
21 premises if any mechanical injection stations are used with the irrigation or sprinkler system.

#### 22 **Sec. 44-190. Mobile units.**

23 The connection of a mobile unit to any potable water system is prohibited unless such connection is  
24 protected by an air gap or an approved backflow prevention assembly. Prior approval and annual device  
25 testing of any air gap or assembly must be obtained from the ~~regulatory Authority~~Director before  
26 connecting a mobile unit to any potable water system. Testing fees shall be assessed in the amounts  
27 provided for in section 44-188, and shall be paid by the owner or operator of the mobile units prior to any  
28 inspection or testing of the air gap or assembly.

#### 29 **Sec. 44-191. Enforcement.**

##### 30 (a) Violations.

- 31 (1) A person commits an offense if he fails to maintain an assembly in compliance with this article.  
32 (2) A person commits an offense if he fails to comply with a repair order issued by the ~~regulatory~~  
33 ~~authority~~Director.  
34 (3) A person commits an offense if backflow from premises he owns, controls, operates, or  
35 manages enters a public potable water supply system.  
36 (4) A person commits an offense if he fails to pay any fees required by this article.  
37 (5) A person commits an offense if he violates any provision of this article.  
38 (6) A person commits an offense if he reinstates water service to premises discontinued or  
39 disconnected pursuant to the provisions of this article, except as directed by the ~~regulatory~~  
40 ~~authority~~Director.  
41 (7) A person owning or in control of premises commits an offense if he allows an unregistered or  
42 unlicensed tester to perform testing work on his premises.

1 (8) A person commits an offense if he tests an assembly within the city without being registered  
2 with the ~~regulatory authority~~Director.

3 (9) A person commits an offense if he tests an assembly within the city without being licensed by  
4 the commission.

5 (10) A person commits an offense if he possesses on his premises a cross connection that is not  
6 protected by an approved backflow prevention assembly as described in Section 44-183.

7 (b) Punishment for violations; other remedies.

8 (1) A person who violates any provision of this section is guilty of a misdemeanor and upon  
9 conviction is punishable by a fine as provided in section 1-9 for a violation of an ordinance or  
10 regulation governing public health and sanitation.

11 (2) In addition to proceeding under the authority of this article, the city is entitled to pursue any and  
12 all other criminal and civil remedies to which it is entitled pursuant to the authority granted by  
13 any other applicable laws, regulations, or ordinances.

14 (c) In addition to the penalties provided for by this article, the city is entitled to impose penalties or fees  
15 provided for by other provisions of this Code for failure to timely pay any bill, or portion thereof, for  
16 water, sanitary sewer, and/or reuse water services.

17 (d) A tester's registration may be revoked by the city if the ~~regulatory authority~~Director determines that  
18 the tester:

19 (1) Has falsely, incompletely, or inaccurately written assembly testing reports;

20 (2) Has used inaccurate gauges;

21 (3) Has used improper testing procedures;

22 (4) Has created a threat to public health or the environment; or

23 (5) Has failed to register with third party vendor

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

25  
26 Secs. 44-192—44-220. - Reserved.

27 **II.**

28 **A.** All ordinances, parts of ordinances, or resolutions in conflict herewith are  
29 expressly repealed.

30 **B.** The invalidity of any section or provision of this ordinance shall not  
31 invalidate other sections or provisions thereof.

32 **C.** The City Council hereby finds and declares that written notice of the date,  
33 hour, place and subject of the meeting at which this Ordinance was adopted was posted  
34 and that such meeting was open to the public as required by law at all times during

1 which this Ordinance and the subject matter hereof were discussed, considered and  
2 formally acted upon, all as required by the Open Meetings Act, Chapter 551, Texas  
3 Government Code, as amended.

4 **READ** and **APPROVED** on first reading this the \_\_\_\_\_ day of  
5 \_\_\_\_\_, 2015.

6 **READ, APPROVED** and **ADOPTED** on second reading this the \_\_\_\_\_ day of  
7 \_\_\_\_\_, 2015.

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\_\_\_\_\_  
ALAN MCGRAW, Mayor  
City of Round Rock, Texas

13 ATTEST:

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\_\_\_\_\_  
SARA L. WHITE, City Clerk