

ORDINANCE NO. _____

AN ORDINANCE AMENDING CHAPTER 25-12, ARTICLE 6 (PLUMBING CODE) OF THE CITY CODE TO AMEND REGULATIONS REGARDING WATER CONSERVATION, PERMITTING, RECLAIMED WATER SYSTEMS, AND GAS PIPING.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

PART 1. Section 25-12-151(*Plumbing Code*) of the City Code is amended to repeal and replace Subsection (B) to read:

(B) The following provisions of the 2003 Plumbing Code are deleted:

Section 101.4.1.3	Section 101.5.3	Section 103.1.2
Section 103.1.3	Section 103.4	Section 103.5.1
Section 313.7	Section 320.0	Section 413.6
Table 5-1	Section 501.0	Section 508.4
Section 608.2	Section 704.3	Section 710.3.3
Section 712.0	Section 713.4	Section 801.3
Section 807.4	Section 905.3	Table 10-2
Section 1009.2	Section 1014.1	Section 1014.4
Section 1017.1	Section 1017.2	Section 1101.1
Section 1101.3	Section 1101.4	Section 1101.5
Section 1101.6	Section 1101.9	Section 1101.10
Section 1102.1.1	Section 1102.2.1	Section 1104.3
Section 1106.3	Section 1109.0	Section 1202.0
Section 1204.3.1	Section 1204.3.2	Section 1204.4
Section 1205.2	Section 1209.5.3.2	Section 1211.3.2
Section 1213.0	Section 1214.0	Table 12-5
Table 12-6	Section 1501.1	Section 1507.1
Appendix J		

PART 2. Section 25-12-153 (*Local Amendments to the Plumbing Code*) is amended to delete the following sections:

Section 103.1.3 (*Homestead Permit*)

Table 4-1.1 (*Minimum Plumbing Facilities for Certain Occupancies*)

Table 4-1.1 (*Minimum Plumbing Facilities*)

Section 612.0 (*Plumbing for Multi-family Sub-meters*)

PART 3. Section 25-12-153 (*Local Amendments to the Plumbing Code*) is amended to amend the following sections to read:

508.4 Protection From Damage. When a water heater is located in an attic or furred space where damage may occur from a leaking water heater, a watertight pan of corrosion resistant materials shall be installed beneath the water heater with a minimum three-quarter (3/4) inch diameter drain to an approved [~~approve~~] location. The water heater pan shall have a depth of two (2) inches and have a diameter that is two (2) inches larger than the water heater.

712.2 Testing Procedures for Drain, Waste and Vent Piping.

(2) When moisture [~~moister~~] conditions make it impractical [~~impracticable~~] to verify tightness of joints in a drainage system with a water test, the system shall be tested with air using a Class 1A diaphragm test gauge calibrated to an accuracy of ± 1 percent of the span. Refer to Section 319.0 (*Test Gauges*) of this Code for gauge requirements.

804.1 All plumbing fixtures or other receptors receiving the discharge of indirect waste pipes shall be approved for the use proposed and shall be of such shape and capacity as to prevent splashing or flooding and shall be located where they are readily accessible for inspection and cleaning. No standpipe receptor for any clothes washer shall extend more than thirty (30) inches (762 mm), nor less than eighteen (18) inches (457 mm) above its trap. No trap for any clothes washer standpipe receptor shall be installed below the floor, but shall be roughed in not less than six (6) inches (152 mm) and not more than eighteen (18) inches (457 mm) above the floor. No indirect waste receptor shall be installed in any toilet room, closet, cupboard, or storeroom, nor in any other portion of a building not in general use by the occupants thereof; except standpipes for clothes washers may be installed in toilet and bathroom areas when the clothes washer is installed in the same room.

[~~A new exception is added.~~]

Exception. Hub drains receiving the discharge from water heater temperature and pressure valve drains [~~T & P drains~~], pan drains, condensation drains and other similar drains may be located under kitchen sink cabinets, water heater closets, walk-in storage rooms and other similar accessible locations.

1014.1 When pretreatment is required, an approved type grease trap complying with Austin Water Utility regulations shall be installed in the waste discharge leading from sinks, drains, and other fixtures or equipment. Grease traps are required in commercial or institutional food preparation business, including; food processors, bakeries, restaurants, schools, hospitals, retirement homes, assisted living centers, grocery stores or other commercial or institutional food preparation facilities where grease may be introduced into the drainage or sewage system

in quantities that can effect line stoppage or hinder sewage treatment or private sewage disposal. A grease trap is not required for one-and-two-family dwelling units.

1109.2.1 Test Procedures for Material other than Polyvinyl Chloride (PVC) Drainage Piping.

- (5) When moisture or wet [~~moister~~] conditions make it impractical [~~impracticable~~] to verify tightness of joints in a drainage system with a water test, the system shall be tested with air using a Class 1A diaphragm test gauge calibrated to an accuracy of ± 1 percent of the span. Refer to Section 319.0 (*Test Gauges*) of this Code for gauge requirements.

1109.2.2 Testing Procedures for Drain, Waste, and Venting Plastic Piping.

- (5) When moisture or wet [~~moister~~] conditions make it impracticable to verify tightness of joints in a drainage system with a water test, the system shall be tested with air using a Class 1A diaphragm test gauge calibrated to an accuracy of ± 1 percent of the span. Refer to Section 319.0 (*Test Gauges*) of this Code for gauge requirements.

1204.3.2 Final Gas Inspection.

- (1) Low Pressure Final Gas Test. A low-pressure gas distribution system shall be tested with a minimum of five (5) pounds of air, carbon dioxide, or nitrogen pressure for ten (10) minutes using a Class 1A [~~Class 1A~~] diaphragm gauge test gauge calibrated to an accuracy of $\pm 1\%$ of the span. Refer to Section 319.0 (*Test Gauges*) of this Code for gauge requirements.

PART 3. Section 25-2-153 (*Local Amendments to the Plumbing Code*) is amended to add the following sections:

101.4.1.3 Existing Construction. No provision of this Code shall be deemed to require a change in any portion of a plumbing or drainage system or any other work regulated by this Code in or on an existing building or lot when such work was installed and is maintained in accordance with law in effect before the effective date of this Code, except when any such plumbing or drainage system or other work regulated by this Code is determined by the Authority Having Jurisdiction to be dangerous, unsafe, unsanitary, or a nuisance and a menace to life, health, or property, or where retrofit is required by Chapter 6-4, Article 1 (*Plumbing Fixture Retrofit*) of the City Code.

101.5.3 Existing Installation. Plumbing systems lawfully in existence at the time of the adoption of this Code may have their use, maintenance, or repair continued if the use, maintenance, or repair is in accordance with the original design and location and no hazard to life, health, or property has been created by such plumbing system unless retrofit is required by Chapter 6-4, Article 1 (*Plumbing Fixture Retrofit*) of the City Code.

103.1.3 Homestead Permit. A person who is not licensed to perform plumbing work may perform plumbing work within a residence owned by the person if the requirements of this section are met.

- (1) The residence is the person's homestead.
- (2) The work does not include plumbing work that involves natural gas plumbing systems.
- (3) The residence is the person's principal residence.
- (4) The person has not secured a homestead permit for another residence within the prior 24 month period.
- (5) The person must have owned and occupied the property as of January 1 of the tax year in which the person applies for a homestead permit.
- (6) A person must obtain a homestead permit and pay required permit fees before beginning any electrical, mechanical, or plumbing work. A person must apply for a homestead permit in person and must file an affidavit stating that the location at which the work is to be done is the person's homestead.
- (7) A person who has obtained a homestead permit may not allow or cause any person to perform plumbing work under the permit. The building official may suspend or revoke a homestead permit if work done under the permit is performed by anyone other than the person who obtained the permit.
- (8) A person may not transfer a permit to another person.
- (9) A person performing plumbing work under a homestead permit shall present a picture identification to verify that the person is authorized to perform work under the homestead permit when requested by the building official or his designee.
- (10) A homestead permit shall not be issued for plumbing work on a mobile, modular or manufactured home unless the homeowner owns the land on which the mobile, modular or manufactured home is located. A homestead permit shall not be issued if the mobile, modular or manufactured home is located in a mobile home park, mobile home community or other commercial premises.

103.1.5 Special Inspections Program. The building official may establish by rule an inspection program of plumbing components identified in this section in buildings within the zoning jurisdiction of the City and outside of the zoning jurisdiction under agreement with a

municipal utility district or where the City provides water or wastewater service of the City. Under the program, the building official shall inspect work performed under one out of five of the applications submitted.

The special inspection program applies to the replacement of an existing:

- (1) hot water heater not exceeding 100 gallons or 75,000 BTUs; and
- (2) backflow device.

424.0. Minimum Plumbing Facilities for Certain Occupancies. Table 4-1.1 (*Minimum Plumbing Facilities*) includes the minimum fixture requirements for the following occupancies:

- (1) office or public buildings for employee use (5000 square feet or less);
- (2) retail or wholesale;
- (3) exercise and health spas;
- (4) restaurants, pubs, and lounges (4500 square feet or less);
- (5) libraries;
- (6) workshops; and
- (7) warehouses.

TABLE 4-1.1 MINIMUM PLUMBING FACILITIES

Each building shall be provided with sanitary facilities, including provisions for the physically handicapped as prescribed by the Department having jurisdiction. For requirements for the handicapped, Texas accessibility Standards shall be used.

The total occupant load shall be determined by minimum exiting requirements. The minimum number of fixtures shall be calculated at fifty (50) percent male and fifty (50) percent female based on the total occupant load.

<i>Type of Building or Occupancy</i>	<i>Water Closets (Fixtures per Person)</i>		<i>Urinals (Fixtures per Person)</i>	<i>Lavatories (Fixtures per Person)</i>		<i>Drinking Fountains (Fixtures per Person)</i>
Offices or Public Buildings for Employee Use (For use with 5000 total square feet or less using 100 square feet per person.)	Male 1:1-15 2:16-25	Female 1:1-15 2:16-25	Male 0:1-15 1:16-50	Male 1per 40	Female 1per 40	See Note (2) for Offices.
Retail or Wholesale Stores (use 200 square feet per occupant for the minimum number of plumbing fixtures)	Male 1:1-50 2:51-100 3:101-400 Over 400, add one for each additional 500 males	Female 1:1-50 2:51-100 3:101-200 4:201-300 5:301-400 Over 400, add one for each additional 150 females	No urinals required	One for each two water closets.		See Note (2) for Retail.
Exercise and Health Spas (use 50 square feet per occupant for the minimum number of plumbing fixtures)	Male 1:1-30 2:31-60 Over 60 add 1 fixtures for each 40 males	Female 1:1-30 2:31-60 Over 60 and 2 fixtures for each 40 females	No urinals required	Male 1: 1-60 2:61-120 Add 1 fixture for each addition 60 persons No urinals required	Female 1:1-60 2:61-120 Add 1 fixture for each addition 60 persons	One drinking fountain for the first 150 persons, and one additional fountain for each additional 300 persons thereafter.
Restaurants, Pubs and Lounges (for use with up to 4500 square feet of space)	Male 1:1-50 2:51-150	Female 1:1-25 2:26-50 3:51-150	Male 1:1-150	Male: 1:151-200 2:151-200	Female 1:1-150 2:151-200	None required.
Libraries	Male 1:1-50 2:51-300 Over 300 add 1 fixture for each additional 300 males	Female 1:1:50 2: 51-300 2 fixtures for each 300 additional females.	No urinals required	Male 1:1-100 2:100-300 Over 300, add 1 fixture for each additional 300 males	Female 1:1-100 2:100-300 Add 2 fixtures for each 300 additional females	One drinking fountain for the first 150 persons, and one additional fountain for each additional 300 persons thereafter. A minimum of one fountain per floor is required.

Workshops and Foundries (use 2000 square feet per occupant for the minimum number of plumbing fixtures)	Male 1:1-10 2:11-15 3:25-50 4:51-75 5:76-100 Over 100 persons, add one fixture for each additional 300 males.	Female 1:1-10 2:11-15 3:25-50 4:51-75 5:76-100 Over 100 persons, add one fixture for each additional 300 females.	No urinals required.	One for each two water closets.	One drinking fountain for the first 150 persons, and one additional fountain for each additional 300 persons thereafter.
Warehouses (use 5000 square feet per occupant for the minimum number of plumbing fixtures)	Male 1:1-10 2:11-15 3:25-50 4:51-75 5:76-100 Over 100 persons, add one fixture for each additional 300 males.	Female 1:1-10 2:11-15 3:25-50 4:51-75 5:76-100 Over 100 persons, add one fixture for each additional 300 females.	No urinals required	One per 40 occupants of each sex.	One drinking fountain for the first 150 persons, and one additional fountain for each additional 300 persons thereafter See Note (2).

Table 4-1.1 Footnotes.

- (1) Location and quantity of hand washing facilities (lavatory or hand sink) shall meet the requirements of the Health Department.
- (2) Mercantile and Business occupancies consisting of 5000 square feet or less shall have one drinking fountain, or an accessible break room sink for public and employee use. Each floor occupied shall have one accessible drinking fountain and/or a break room sink.

411.3.1 Urinal Flushometer. New installation of a flushometer valve shall have a maximum discharge of (1/2) one-half gallon per flush.

608.2 Excessive Water Pressure. If local static water pressure is in excess of sixty-five (65) pounds per square inch, an approved pressure regulator preceded by an adequate strainer shall be installed and the static pressure reduced to sixty-five (65) pounds per square inch or less. For potable water services up to and including one and one-half (1-1/2) inch regulators, provision shall be made to prevent pressure on the building side of the regulator from exceeding main supply pressure. Approved regulators with integral bypasses shall be acceptable. Each such regulator and strainer shall be accessibly located and shall have the strainer readily

accessible for cleaning without removing the regulator or strainer body or disconnecting the supply piping. All pipe size determinations shall be based on eighty (80) percent of the reduced pressure when using Table 6-5 (*Fixture Unit Table for Determining Water Pipe and Meter Sizes*).

612.0 Plumbing for Multi-family Sub-meters. Each newly constructed multi-family housing unit and each newly constructed residential unit in a mixed-use facility, shall have a single cold water stub out supplying all fixtures in each dwelling unit supplied by the master meter. A City meter or privately-owned water meter shall be installed for each newly constructed unit at the time of construction. Each stub out shall have a shut off valve immediately ahead of the private meter location. The meter shall have a clearance of at least four (4) inches on all sides. The location of the private meter installation must be accessible for reading, testing, replacement, and inspection of the private meter.

Exceptions:

The following developments are not required to comply with this section:

- (1) a condominium development; and
- (2) a development that has a centralized hot water system.

613.0 Cooling Towers. New and replaced cooling tower installations must include makeup and blowdown meters, conductivity controllers, overflow alarms, drift eliminators, and a minimum of 5 cycles of concentration.

614.0 Landscaping Irrigation

614.1 New Commercial and Multi-family Landscape Irrigation.

- (1) A new commercial and multi-family irrigation system must be designed and installed so that:
 - (a) there is not direct overspray onto non-irrigated areas;
 - (b) the system does not include spray irrigation on areas less than six (6) feet wide (such as medians, buffer strips, and parking lot islands);
 - (c) above-ground irrigation emission devices are set back at least six (6) inches from impervious surfaces;
 - (d) the irrigation system has a master valve;
 - (e) circuit remote control valves have adjustable flow controls;
 - (f) serviceable in-head check valves are adjacent to paved areas where elevation differences may cause low head drainage;
 - (g) the irrigation system has a City-approved weather based controller;

- (h) an automatic rain shut-off device shuts off the irrigation system automatically after not more than a one-half inch (1/2") rainfall;
 - (i) zone valves and circuits are separated based on plant water requirements;
 - (j) an irrigation emission device (such as spray, rotor, or drip emitter) does not exceed the manufacturer's recommended operating pressure; and
 - (k) no component of the irrigation system deviates from the manufacturer's recommended use of the product.
- (2) The maximum spacing between spray or rotary sprinkler heads must not exceed the radius of throw of the head unless manufacturer of the sprinkler head specifically recommends a greater spacing. The radius of throw is determined by reference to the manufacturer's specifications for a specific nozzle at a specific operating pressure.
- (3) The irrigation installer shall develop and provide an as-built design plan and water budget to the City at the time the final plumbing inspection is performed. The water budget shall include: (1) a chart containing zone numbers, precipitation rate, and gallons per minute; and (2) the location of the emergency irrigation system shut-off valve. A laminated copy of the water budget shall be permanently installed inside the irrigation controller door.
- (4) The irrigation installer shall provide a report to the City on a form provided by the Austin Water Utility Department certifying compliance with Subsection (1) when the final plumbing inspection is performed by the City.

614.2 One and Two Family Dwelling Landscape Irrigation.

- (1) New irrigation systems for one-and two-family dwellings must be designed and installed so that:
- (a) there is not direct overspray onto non-irrigated areas;
 - (b) the system does not include spray irrigation on areas less than six (6) feet wide (such as medians, buffer strips, and parking lot islands);
 - (c) above-ground irrigation emission devices are set back at least six (6) inches from impervious surfaces;
 - (d) the irrigation system has a master valve;
 - (e) a working soil moisture sensor or an automatic rain shut-off device shuts off the irrigation system automatically after not more than a one-half inch (1/2") rainfall;
 - (f) zone valves and circuits are separated based on plant water requirements;
 - (g) an irrigation emission device (such as spray, rotor, or drip emitter) does not exceed the manufacturer's recommended operating pressure; and
 - (h) no component of the irrigation system deviates from the manufacturer's recommended use of the product.

- (2) The maximum spacing between spray or rotary sprinkler heads must not exceed the radius of throw of the head unless manufacturer of the sprinkler head specifically recommends a greater spacing. The radius of throw is determined by reference to the manufacturer's specifications for a specific nozzle at a specific operating pressure.
- (3) The irrigation installer shall develop and provide a water budget to the City at the time the final plumbing inspection is performed. The water budget shall include: (1) a chart containing zone numbers, precipitation rate, and gallons per minute; and (2) the location of the emergency irrigation system shut-off valve. A laminated copy of the water budget shall be permanently installed inside the irrigation controller door.
- (4) The irrigation installer shall provide a report to the City on a form provided by the Austin Water Utility Department certifying compliance with Subsection (1) when the final plumbing inspection is performed by the City.

615.0 Commercial garbage disposal unit installations shall be prohibited in restaurants and cafeterias.

1011.2.1 Automatic commercial vehicle wash conveyors washes shall be limited to 40 gallons of water use or less per vehicle.

1011.2.2 In-bay passenger vehicle washes are limited to 55 gallons of water use or less per vehicle.

1011.2.3 Large vehicle (bus or large truck washes are limited to 75 gallons of water use or less per vehicle.

1011.2.4 Hand wash nozzles shall not use more than 3 gallons per minute.

1211.2.1.1 Piping. All exposed gas piping shall be kept at least six (6) inches above grade or structure. The term "building or structure" shall include structures such as porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walls, covered driveways, and similar structures of appearance.

1312.1.2 Liquid Ring Surgical and Dental Vacuum Pump Installations. Liquid ring surgical and dental vacuum pump installations are prohibited in the City's jurisdiction.

Appendix J

1613.0 Reclaimed Water Systems – General.

- (1) The provisions of this appendix shall apply to the installation, construction, alteration, and repair of reclaimed water systems intended to supply water closets, urinals, and trap primers for floor drains and floor sinks. Use is limited to those fixtures that are located in nonresidential buildings. Fixtures within residential buildings are excluded from the list of approved uses. The reclaimed water system shall have no connection to any potable water system, with or without mechanical backflow prevention devices. If reclaimed water is utilized on the premises, all potable water supplies shall be provided with appropriate backflow protection, as required by the Authority Having Jurisdiction. Except as otherwise provided for in this appendix, the provisions of this code are applicable to reclaimed water system installations.
- (2) No permit for any reclaimed water system shall be issued until complete plumbing plans, with appropriate data satisfactory to the Authority Having Jurisdiction, have been submitted and approved. Changes or connections shall not be made to either the reclaimed water system or the potable water system within any site containing a reclaimed water system without approval by the Authority Having Jurisdiction.
- (3) Before the building may be occupied, the installer shall perform the initial cross-connection test in the presence of the Authority Having Jurisdiction and other authorities having jurisdiction. The test shall be ruled successful by the Authority Having Jurisdiction before final approval is granted.

1614.0 Definitions.

Reclaimed water is water that, as a result of tertiary treatment of domestic wastewater by a public agency, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. The level of treatment and quality of the reclaimed water shall be approved by the Public Health Authority Having Jurisdiction. For the purpose of this appendix, tertiary treatment shall result in water that is adequately oxidized, clarified, coagulated, filtered, and disinfected so that at some location in the treatment process, the seven (7) day median number of total coliform bacteria in daily samples does not exceed two and two-tenths (2.2) per one hundred (100) milliliters, and the number of total coliform bacteria does not exceed twenty-three (23) per one hundred (100) milliliters in any sample. The water shall be filtered so that the daily average turbidity does not exceed two (2) turbidity units upstream from the disinfection process. Specifically excluded from this definition is gray water.

1615.0 Permit.

It shall be unlawful for any person to construct, install, alter, or cause to be constructed, installed, or altered any reclaimed water system within a building or on a premise without first obtaining a permit to do such work from the Authority Having Jurisdiction.

1616.0 Drawings and Specifications.

The Authority Having Jurisdiction may require any or all of the following information to be included with or in the plot plan before a permit is issued for a reclaimed water system.

- (1) A plot plan drawn to scale and completely dimensioned, showing lot lines and structures, location of all present and proposed potable water supplies and meters, water wells, streams, auxiliary water supply and systems, reclaimed water supply and meters, drain lines, and locations of private sewage disposal systems and one hundred (100) percent expansion areas or building sewer connected to the public sewer.
- (2) Details of construction including riser diagrams or isometrics and a full description of the complete installation, including installation methods, construction, and materials as required by the Authority Having Jurisdiction. To the extent permitted by structural conditions, all reclaimed water risers within the toilet room, including appurtenances such as air/vacuum relief valves, pressure reducing valves, etc., shall be installed in the opposite end of the room containing the served fixtures from the potable water risers or opposite walls, as applicable. To the extent permitted by structural conditions, reclaimed water headers and branches off risers shall not be run in the same wall or ceiling cavity of the toilet room where potable water piping is run.
- (3) Detailed initial and annual testing requirements as outlined elsewhere in this appendix.

1617.0 Pipe Material/Pipe Identification.

Reclaimed water piping and fittings shall be as required in the Plumbing Code for potable water piping and fittings. All reclaimed water pipe and fittings shall be continuously wrapped with purple-colored Mylar tape. The wrapping tape shall have a minimum nominal thickness of five ten-thousandths (0.0005) inch (0.127 mm) and a minimum width of two (2) inches (51 mm). Tape shall be fabricated of poly (vinyl chloride) with a synthetic rubber adhesive and a clear polypropylene protective coating or approved equal. The tape shall be purple (Pantone color #512) and shall be imprinted in nominal one-half (1/2) inch (12.7 mm) high, black uppercase letters, with the words "CAUTION: RECLAIMED WATER, DO NOT DRINK." The lettering shall be imprinted in two (2) parallel lines, such that after wrapping the pipe with a one-half (1/2) inch width overlap, one (1) full line of text shall be visible. Wrapping tape is not required for buried PVC pipe manufactured with purple color integral to the plastic and marked on opposite sides to read "CAUTION: RECLAIMED WATER, DO NOT DRINK" in intervals not to exceed three (3) feet (914 mm). All valves, except fixture supply control valves, shall be equipped with a locking feature. All mechanical equipment that is appurtenant to the reclaimed water system shall be painted purple to match the Mylar wrapping tape.

1618.0 Installation.

- (1) Hose bibs are not allowed on reclaimed water piping systems.
- (2) The reclaimed water system and the potable water system within the building shall be provided with the required appurtenances (valves, air/vacuum relief valves, etc.) to allow for deactivation or drainage as may be required by this appendix.
- (3) Reclaimed water pipes shall not be run or laid in the same trench as potable water pipes. A ten (10) foot (3,048 mm) horizontal separation shall be maintained between pressurized, buried reclaimed and potable water piping. Buried potable water pipes crossing pressurized reclaimed water pipes shall be laid a minimum of twelve (12) inches (305 mm) above the reclaimed water pipes. Reclaimed water pipes laid in the same trench or crossing building sewer or drainage piping shall be installed in compliance with Sections 609.0 (*Installation, Testing, Unions, and Location*) and 720.0 (*Sewer and Water Pipes*) of this Code. Reclaimed water pipes shall be protected similar to potable water pipes.

1619.0 Signs.

- (1) **Room Entrance Signs.** All installations using reclaimed water for water closets and/or urinals shall be identified with signs. Each sign shall contain one-half (1/2) inch (12.7 mm) letters of a highly visible color on a contrasting background. The location of the sign(s) shall be such that the sign(s) shall be visible to all users. The number and location of the signs shall be approved by the Authority Having Jurisdiction and shall contain the following text: **TO CONSERVE WATER, THIS BUILDING USES RECLAIMED WATER TO FLUSH TOILETS AND URINALS.**
- (2) **Equipment Room Signs.** Each equipment room containing reclaimed water equipment shall have a sign posted with the following wording in one (1) inch (25.4 mm) letters on a purple background: **CAUTION RECLAIMED WATER, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.** This sign shall be posted in a location that is visible to anyone working on or near reclaimed water equipment.
- (3) **Water Closets Flushed with Reclaimed Water.** Where tank-type water closets are flushed with reclaimed water, the tank shall be labeled: **RECLAIMED WATER – DO NOT DRINK**
- (4) **Valve Access Door Signs.** Each reclaimed water valve within a wall shall have its access door into the wall equipped with a warning sign approximately six (6) inches by six (6) inches (152 mm x 152 mm) with wording in one-half (1/2) inch (12.7 mm) letters on a purple background. The size, shape, and format of the sign shall be substantially the same

as that specified in Subsection (2) (*Equipment Room Signs*) above. The signs shall be attached inside the access door frame and shall hang in the center of the access door frame. This sign requirement shall be applicable to any and all access doors, hatches, etc., leading to reclaimed water piping and appurtenances.

- (5) **Valve Seals.** Each valve or appurtenance shall be sealed in a manner approved by the Authority Having Jurisdiction after the reclaimed system has been approved and placed into operation. These seals shall either be a crimped lead wire seal or a plastic breakaway seal which, if broken after system approval, shall be deemed conclusive evidence that the reclaimed water system has been accessed. The seals shall be purple with the words “RECLAIMED WATER” and shall be supplied by the reclaimed water purveyor or by other arrangements acceptable to the Authority Having Jurisdiction.

1620.0 Inspection and Testing.

- (1) **Testing.** Reclaimed water piping shall be tested as outlined in this Code for testing of potable water piping.
- (2) **Inspecting and Testing Systems.** An initial inspection prior to receiving reclaimed water service (or start-up of any auxiliary water system) and subsequent periodic cross-connection inspection and test shall be performed as, and in addition to, a Customer Service Inspection as prescribed by the Texas Commission on Environmental Quality in 30 Texas Administrative Code, Section 290.46 (j) (*Minimum Acceptable Operating Practices for Public Drinking Water Systems*). The Austin Water Utility customer requesting to use or continue to use reclaimed or any auxiliary water system in addition to Austin water on a site shall employ, at his/her own expense, a licensed Water Supply Protection Specialist (WSPS) or Customer Service Inspector (CSI) registered with the Austin Water Utility to schedule and perform the customer service inspection prescribed on both the potable and reclaimed and/or auxiliary water systems as follows.
- (a) **Visual System Inspection.** Prior to commencing the cross-connection testing, a dual system inspection shall be conducted by the WSPS or CSI (terms hereafter to mean the same as “customer” or “applicant”) with direction and oversight of the Authority Having Jurisdiction and other Authorities Having Jurisdiction.
- (i) Source locations of the auxiliary water lines and meter locations of the reclaimed water and potable water lines shall be checked to verify that no modifications were made or no cross-connections are visible.
- (ii) All pumps and equipment, equipment room signs, and exposed piping in equipment room shall be checked.

(iii) All valves shall be checked to ensure that valve lock seals are still in place and intact. All valve control door signs shall be checked to verify that no signs have been removed.

(b) Cross-Connection Test. The following procedure shall be followed by the applicant in the presence of the Authority Having Jurisdiction and other Authorities Having Jurisdiction to determine if a cross-connection occurred.

(i) The potable water system shall be activated and pressurized.

(a) For the initial testing, the auxiliary water system shall not be connected to the auxiliary source until the initial cross connection inspection has been successfully performed, (i.e., proof there is no cross connection). Water source for testing reclaimed piping shall be from a 1" tee with full port ball valve installed between the potable water property owner's cut off (POCO) valve and the containment backflow preventer. A temporary reduced pressure backflow prevention assembly (RPZ) shall be connected to this valve (RPZ shall be tested and reported per standard backflow preventer use requirements) before using, to provide water to fill, flush, and test the reclaimed water piping system.

(b) For periodic testing, the auxiliary water system shall be shut down at the property owner's system supply cutoff (POSSCO) valve. The auxiliary system pressure shall be set to 20 psig at the discharge of the cut off valve, as measured by a gauge, certified within the year. A tee shall be provided at the gauge for use by the Authorities Having Jurisdiction to install a data-logger to record the event. A second tee (line size up to 2") shall be provided downstream of the pressure test tee with a capped line size (up to 2") full port ball valve for flushing, sampling, and troubleshooting. Where an auxiliary water containment backflow preventer is required, all testing, sampling, and flushing shall be downstream of the backflow preventer. All water meters should be read and the readings and times recorded.

(ii) The potable water system shall remain pressurized for a minimum period of time specified by the Authority Having Jurisdiction while the auxiliary water system is being examined. The minimum period the auxiliary water system is to remain under test shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and auxiliary water distribution systems, but in no case shall that period be less than one hour.

(iii) The gauge pressure on the auxiliary water system shall be checked and the pressure and time recorded at intervals during the test and at the end of the test.

- (iv) All potable fixtures shall be tested and inspected for flow and the time and location of each test shall be logged. Low or no flow from a potable water outlet would indicate that it may be connected to the auxiliary water system.
- (v) The potable water system shall remain activated and pressurized. The auxiliary water system shall be completely drained.
- (vi) All auxiliary fixtures, sprinkler zones, etc. shall be tested and inspected for flow. Flow from any auxiliary water system outlet shall indicate a cross-connection. No flow from a potable water outlet would indicate the potable water system may be connected to an auxiliary water system.
- (vii) For initial tests and periodic tests requiring dye-test, refill auxiliary water system with water/dye solution using hydrostatic test injection system, but leave auxiliary water system property owner's shut off valve isolated. For periodic testing not requiring dye, follow the exact same procedures, but without the dye.
- (viii) The potable water system shall then be shut down at the #1 Shut Off Valve of the containment backflow preventer and the pressure lowered to 20 psig at the discharge of the containment backflow preventer, as measured by a gauge, certified within the year. A tee shall be provided at the gauge for use by the Authorities Having Jurisdiction to install data-logger to record the event. A second tee shall be provided downstream of the pressure test tee with a capped line size (up to 2") full port ball valve for flushing, sampling, and troubleshooting. All testing, sampling, and flushing shall be downstream of the potable water containment backflow preventer. All water meters should be read and the readings and times recorded.
- (ix) The auxiliary water system shall then be activated and pressurized to 90 psig using the hydrostatic test injection system.
- (x) The auxiliary water system shall remain pressurized for a minimum period of time specified by the Authority Having Jurisdiction while the potable water system sits at 20 psig. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis, but in no case shall that period be less than one hour.
- (xi) All auxiliary water fixtures shall be tested and inspected for flow. No flow from an auxiliary water outlet would indicate the auxiliary water system may be connected to the potable water system. Increased pressure in the potable water

system may indicate a cross-connection. If so, begin testing fixtures looking for appearance of dye.

- (xii) If unexpected flows or no-flows are detected, determine cause.
 - (xiii) If there is no unexpected pressure change or flow detected in any of the fixtures which would have indicated a cross-connection, the potable water system may be repressurized.
- (c) In the event that a cross-connection is discovered, the following procedure, in the presence of the Authority Having Jurisdiction, shall be activated immediately:
- (i) Reclaimed water piping shall be shut down at the reclaimed POCO valve at the meter, and/or auxiliary water at the POSSCO valve and riser shall be drained.
 - (ii) Potable water piping to the building shall be shut down at the meter.
 - (iii) The cross-connection shall be uncovered and disconnected.
 - (iv) The building shall be retested following procedures listed in Subsections (2)(a) (*Visual System Inspection*) and Section (2)(b) (*Cross-Connection Test*) above.
 - (v) The potable water system shall be chlorinated with at least fifty ppm chlorine for twenty-four hours.
 - (vi) The potable water system shall be flushed after twenty-four hours and a standard bacteriological test shall be performed. If test results are acceptable, the potable water system may be recharged.
- (3) An annual inspection of the reclaimed water system following the procedures listed in Section (2)(a) (*Visual System Inspection*) and Section (2)(b) (*Cross-Connection Test*) shall be required by the Authority Having Jurisdiction.
- (4) A periodic (other than annual) inspection of auxiliary water systems other than reclaimed water following the procedures listed in Section (2)(a) (*Visual System Inspection*) and Section (2)(b) (*Cross-Connection Test*) may be approved by the Authority Having Jurisdiction. The frequency shall be determined and may be changed based on system complexity, exposure for modifications, hidden or visible piping, hazardous materials used or stored, history of compliance, etc.

- (5) Periodic inspections shall recur from the month of the auxiliary water system startup. Requests for changes to this schedule must be in writing. At no time may a change of schedule cause to slip a scheduled event.
- (6) Alternate methods for inspection and testing which will confirm separation of, or discover the cross connection between, auxiliary water systems and Austin potable water supplied systems may be submitted to the Authority Having Jurisdiction and must comply with the requirements set forth in Chapter 301.2 (*Alternate Materials and Methods Equivalency*) of the Plumbing Code.
- (7) The performance, witnessing and certification of the inspection and test of Austin Water sites utilizing reclaimed and/or auxiliary water systems shall be treated as Customer Service Inspections as described in the Rules and Regulations for Public Water Systems, 30 TAC Section 290.46(j) (*Minimum Acceptable Operating Practices for Public Drinking Water Systems*).
- (a) A customer service inspection certificate as described and found in the Rules and Regulations for Public Water Systems, 30 TAC Section 290.47(d) shall be completed and delivered to the Austin Water Utility, Special Services Division, Water Protection Section. Additional report on the cross-connection inspection and test containing site specific documentation, test data, gauge and meter readings, test preparations and results may be required.
- (b) Individuals with the following credentials shall be recognized as capable of conducting a customer service inspection certification.
- (i) Plumbing Inspectors and Water Supply Protection Specialists licensed by the Texas State Board of Plumbing Examiners.
- (ii) Customer Service Inspectors who have completed a Texas Commission on Environmental Quality (TCEQ) approved course, passed an examination administered by TCEQ, and hold current professional certification or endorsement as a Customer Service Inspector.

PART 4. This ordinance takes effect on January 1, 2008.

PASSED AND APPROVED

_____, 2007 § _____
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 § Will Wynn
 Mayor

APPROVED: _____
 David Allan Smith
 City Attorney

ATTEST: _____
 Shirley A. Gentry
 City Clerk