ORDINANCE NO. 1914

AN ORDINANCE OF THE CITY OF BRYAN, TEXAS, AMENDING CHAPTER 14, ARTICLE V "PLUMBING CODE", OF THE BRYAN CITY CODE; REPEALING THE 2003 EDITION OF THE INTERNATIONAL PLUMBING CODE, PUBLISHED BY THE INTERNATIONAL CODE COUNCIL AND ADOPTING THE 2009 EDITION OF THE INTERNATIONAL PLUMBING CODE, PUBLISHED BY THE INTERNATIONAL CODE COUNCIL, AND ADOPTING LOCAL AMENDMENTS TO THE 2009 EDITION OF THE INTERNATIONAL PLUMBING CODE; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING A SAVINGS CLAUSE; FINDING AND DETERMINING THAT THE MEETINGS AT WHICH THE ORDINANCE IS PASSED ARE OPEN TO THE PUBLIC AS REQUIRED BY LAW; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR CODIFICATION; PROVIDING FOR PENALTIES; PROVIDING FOR PUBLICATION IN THE NEWSPAPER; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, it is the desire of the City Council of the City of Bryan, Texas to repeal the 2003 Edition of the International Plumbing Code; and

WHEREAS, it is the desire of the City Council for the City of Bryan, Texas to adopt the 2009 Edition of the International Plumbing Code, published by the International Code Council; and

WHEREAS, the adoption of additional local amendments to the code will facilitate proper inspection activities by the City of Bryan, Texas relating to the construction and maintenance of buildings within the corporate limits of the City and relating to public, health, safety and welfare;

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

1.

That Chapter 14, Article V, "Plumbing Code" is amended to read as follows:

ARTICLE V. PLUMBING CODE

Sec. 14-122. International Plumbing Code adopted by reference.

(a) The International Plumbing Code, 2009 Edition, with Appendices "B," "E," and "F," published by the International Code Council (the "2009 International Plumbing Code") is adopted and incorporated by reference into this section as if set out at length herein with deletions and amendments contained in subsection (b) and in section 14-123 (local amendments to the plumbing code). From the date on which this section shall take effect, the provisions contained therein shall be controlling in the construction of all buildings and other structures within the corporate limits of the city.

(b) The following provisions of the 2009 International Plumbing Code are deleted:

Section 109 (Means of appeal)
Section 1003.3.4 (Grease interceptors and automatic grease removal devices)

(c) The city secretary shall retain a copy of the 2009 International Plumbing Code, with the official ordinances of the city. A copy of the 2009 International Plumbing Code shall be maintained on file by the chief building official.

Sec. 14-123. Amendments to code.

The following sections of the Plumbing Code are hereby amended:

Section 102.8 (Referenced codes and standards) is amended by adding the following exception:
Exception: Any reference to the ICC Electrical Code shall mean the National Electrical Code, as adopted and amended by the city.

Section 103 (Department of Plumbing Inspection) is amended by deleting "Department of Plumbing Inspection" and replacing with ("The Building Services Division of the Development Services Department.").

Section 105.1 (Modifications) is amended by deleting the last sentence and replacing with: The details of action granting modifications shall be recorded and entered in the files of the building services division.

Section 106.3 (Application for permit) is amended by deleting the text in said section and replacing it with the following: The code official may require a permit application for work regulated by this code.

Section 106.6.1 (Work commencing before permit issuance) is amended by deleting the text in said section and replacing with the following: Any person who commences any work on a plumbing system before obtaining the necessary permits shall be subject to five times the usual permit fee in addition to the required permit fees.

Section 106.6.2 (Fee schedule) is amended to read: The fees for plumbing work shall be in accordance with the schedule of fees as established by the city.

Section 106.6.3 (Fee refunds) is amended by deleting the text in said section and replacing it with the following: The city manager or his or her designee is authorized to establish a refund policy.

Section 108.4 (Violation penalties) is amended to read as follows: Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a plumbing system, appliance, fixture, or equipment in violation of the approved construction documents or directive of the chief building official, or of a permit or certificate issued under the provision of this code, shall be subject to penalties as prescribed by section 1-14 of the Bryan Code.

Section 108.5 (Stop work orders) is amended by inserting the following in the blanks provided at the end of said section: as set forth in section 1-14 of the Bryan Code.

Section 305.1 (Corrosion) is amended by adding: Pipes passing through concrete or cinder walls, below slabs and floors . . . .

Section 305.6.1 (Sewer depth) is amended by inserting "12" in both blanks and adding the following sentence to the end of said section: Where conditions prohibit the required amount of cover, cast iron pipe with approved joints may be used unless other means of protecting the pipe is provided as approved by the chief building official.

Section 312.1 (Required tests) is amended by deleting the following text "for piping systems other than plastic," and adding "plastic pipe may be tested with air with special permission from the chief building official or plumbing official."

Section 312.2 (Drainage and vent water test) is amended by deleting said section in its entirety and replacing with the following:

> 312.2 Drainage water test. A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest opening of the section under test, and each section shall be tested with not less than a ten-foot head of water. This pressure shall be held for at least 15 minutes. The drainage system shall then be tight at all points.

Section 312.3 (Drainage and vent air test) is amended by deleting said section in its entirety and replacing with the following:

> 312.3 Drainage air test. An air test may be applied to the drainage piping by special permission only by forcing air into the system until there is a uniform gauge pressure of five pounds per square inch (psi) or sufficient to balance a ten-inch column of mercury. This pressure shall be held for a test period of at least 15 minutes. Any adjustment to the test pressure required because of changes in ambient temperature or the seating of gaskets shall be made prior to the beginning of the test period.

Section 312.10 (Inspection and testing of backflow prevention assemblies) is amended by deleting said section in its entirety and replacing with the following:

> 312.10 Inspection and testing of backflow prevention devices and assemblies. Upon initial installation, an inspection shall be made of all backflow prevention devices and assemblies to determine whether they are operable. Testing of all backflow prevention devices and assemblies shall be in accordance with the city water services department.

Section 410.1 (Approval) is amended by deleting the last sentence and replacing it with: "In buildings with small occupancies, water coolers or bottled water dispensers may be allowed to be used in place of drinking fountains when approved in advance by the building official."

Section 504.6 (Requirements for discharge piping) is amended by adding the following at the end: "Discharge to exterior shall not be higher than six inches from ground."

Section 504.7.1 (Pan size and drain) is amended by deleting the next to last sentence and replacing with: The pan shall be drained by an indirect waste pipe, separate from the discharge pipe, having a minimum diameter of one inch.

Table 605.3 (Water service pipe) is amended by deleting the following materials:

> Acrylonitrile butadiene styrene (ABS) plastic pipe;
> Asbestos-cement pipe;
> Polybutylene (PB) plastic pipe and tubing;
> Polyethylene (PE) plastic pipe;
> Polyethylene (PE) plastic tubing;

Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe.

Table 605.4 (Water distribution pipe) is amended by deleting the following materials:

Polybutylene (PB) plastic pipe and tubing;
Polyethylene/aluminum/polyethylene (PE-AL-PE) composite pipe.

Section 605.4 (Water distribution pipe) is amended by adding: All water pipe below slabs shall be minimum type "k" copper or cross-link polyethylene (PEX) tubing. All water pipe installed without joints or connections in or below slab. Water piping above slabs shall be type "L" copper or better. Other material may be used in lieu of the material listed above but only if approved by the plumbing and/or chief building official. This request must be submitted to the chief building official from the property owner in letter form. Materials subject to corrosion shall be protected when exposed to concrete or corrosive soils.

Section 606.2 (Location of shutoff valves) is amended by adding to the end of 2: when subject to freezing.

Section 606 (Installation of the building water distribution system) is amended by adding section 606.7 to read as follows:

606.7 Sleeved cross-polyethylene piping or tubing. When a sleeve is provided for cross-linked polyethylene (PEX) plastic piping or tubing installed under concrete slabs the annular space between the piping or tubing and the sleeve must be caulked, foamed, or otherwise sealed to prevent the entrance of termiticide.

Section 608.16.5 (Connections to lawn irrigation system) is amended by deleting and adding Requirements for lawn irrigation systems as established in Appendix H, Article V, Chapter 14, of the City of Bryan Code of Ordinances.

Section 701.2 (Sewer required) is amended by deleting the section in its entirety and replacing with the following:

701.2 Sewer required. Every building in which plumbing fixtures are installed and all premises having sanitary drainage piping shall be connected to an approved sewer. All private sewage disposal systems must comply with the latest adopted standards of the Texas Commission on Environmental Quality and be installed under the direction of the Brazos County Health Department. The installer shall be licensed by the Texas Commission on Environmental Quality.

Section 702 (Materials) is amended by adding the following section:

702.7 Acrylonitrile butadiene styrene (ABS) plastic pipe. The use of acrylonitrile butadiene styrene (ABS) plastic pipe is by special permission only by the chief building official or plumbing official.

Section 708.3.5 (Building drain and building sewer junction) is amended by deleting the sentence, "The cleanout shall be either inside or outside the building wall and shall be brought up to the finished ground level or to the basement floor level," and replace it with the following: "The cleanout shall be located outside within five feet of the building wall and shall be brought up to the finished ground level."

Section 917.7 (Vent required) is amended by adding the following sentence: The vent to the open air shall be three inches in size.

Section 1003.1 (When required) is amended by adding the following sentence to the end of the section: "Interceptors and separators are also required per policies of the city's water services department and in conjunction with Chapter 122 of the Bryan Code."

Section 1003.3.4 (Grease interceptors and automatic grease removal devices) is amended by deleting the section in its entirety.

APPENDIX H

Definitions:

The following words and terms, when used in this ordinance, have the following meanings, unless the context clearly indicates otherwise.

(1) Air gap --A complete physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel.

(2) Atmospheric vacuum breaker --An assembly containing an air inlet valve, a check seat, and an air inlet port. The flow of water into the body causes the air inlet valve to close the air inlet port. When the flow of water stops the air inlet valve falls and forms a check against back-siphonage. At the same time it opens the air inlet port allowing air to enter and satisfy the vacuum. Also known as an Atmospheric Vacuum Breaker Back-Siphonage Prevention Assembly.

(3) Backflow prevention --The mechanical prevention of reverse flow, or back siphonage, of nonpotable water from an irrigation system into the potable water source.

(4) Backflow prevention assembly --Any assembly used to prevent backflow into a potable water system. The type of assembly used is based on the existing or potential degree of health hazard and backflow condition.

(5) Completion of irrigation system installation --When the landscape irrigation system has been installed, all minimum standards met, all tests performed, and the irrigator is satisfied that the system is operating correctly.

(6) Consulting --The act of providing advice, guidance, review or recommendations related to landscape irrigation systems.

(7) Cross-connection--An actual or potential connection between a potable water source and an irrigation system that may contain contaminates or pollutants or any source of water that has been treated to a lesser degree in the treatment process.

(8) Design --The act of determining the various elements of a landscape irrigation system that will include, but not be limited to, elements such as collecting site specific information, defining the scope of the project, defining plant watering needs, selecting and laying out emission devices, locating system components, conducting hydraulics calculations, identifying any local regulatory requirements, or scheduling irrigation work at a site. Completion of the various components will result in an irrigation plan.

(9) Design pressure --The pressure that is required for an emission device to operate properly. Design pressure is calculated by adding the operating pressure necessary at an emission device to the total of all pressure losses accumulated from an emission device to the water source.

(10) Double check valve --An assembly that is composed of two independently acting, approved check valves, including tightly closed resilient seated shutoff valves attached at each end of the assembly and fitted with properly located resilient seated test cocks. Also known as a Double Check Valve Backflow Prevention Assembly.

(11) Emission device --Any device that is contained within an irrigation system and that is used to apply water. Common emission devices in an irrigation system include, but are not limited to, spray and rotary sprinkler heads, and drip irrigation emitters.

(12) Employed --Engaged or hired to provide consulting services or perform any activity relating to the sale, design, installation, maintenance, alteration, repair, or service to irrigation systems. A person is employed if that person is in an employer-employee relationship as defined by Internal Revenue Code, 26 United States Code Service, § 3212(d) based on the behavioral control, financial control, and the type of relationship involved in performing employment related tasks.

(13) Head-to-head spacing --The spacing of spray or rotary heads equal to the manufacturer's published radius of the head.

(14) Health hazard--A cross-connection or potential cross-connection with an irrigation system that involves any substance that may, if introduced into the potable water supply, cause death or illness, spread disease, or have a high probability of causing such effects.

(15) Hydraulics --The science of dynamic and static water; the mathematical computation of determining pressure losses and pressure requirements of an irrigation system.

(16) Inspector--A licensed plumbing inspector, water district operator, other governmental entity, or irrigation inspector who inspects irrigation systems and performs other enforcement duties for a municipality or water district as an employee or as a contractor.

(17) Installer --A person who actually connects an irrigation system to a private or public raw or potable water supply system or any water supply, who is licensed according to Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

(18) Irrigation inspector --A person who inspects irrigation systems and performs other enforcement duties for a municipality or water district as an employee or as a contractor and is required to be licensed under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

(19) Irrigation plan --A scaled drawing of a landscape irrigation system which lists required information, the scope of the project, and represents the changes made in the installation of the irrigation system.

(20) Irrigation services --Selling, designing, installing, maintaining, altering, repairing, servicing, permitting, providing consulting services regarding, or connecting an irrigation system to a water supply.

(21) Irrigation system --An assembly of component parts that is permanently installed for the controlled distribution and conservation of water to irrigate any type of landscape vegetation in any location, and/or

to reduce dust or control erosion. This term does not include a system that is used on or by an agricultural operation as defined by Texas Agricultural Code, § 251.002.

(22) Irrigation technician --A person who works under the supervision of a licensed irrigator to install, maintain, alter, repair, service or supervise installation of an irrigation system, including the connection of such system in or to a private or public, raw or potable water supply system or any water supply, and who is required to be licensed under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations).

(23) Irrigation zone --A subdivision of an irrigation system with a matched precipitation rate based on plant material type (such as turf, shrubs, or trees), microclimate factors (such as sun/shade ratio), topographic features (such as slope) and soil conditions (such as sand, loam, clay, or combination) or for hydrological control.

(24) Irrigator --A person who sells, designs, offers consultations regarding, installs, maintains, alters, repairs, services or supervises the installation of an irrigation system, including the connection of such system to a private or public, raw or potable water supply system or any water supply, and who is required to be licensed under Title 30, Texas Administrative Code, Chapter 30.

(25) Irrigator-in-charge --The irrigator responsible for all irrigation work performed by an exempt business owner, including, but not limited to obtaining permits, developing design plans, supervising the work of other irrigators or irrigation technicians, and installing, selling, maintaining, altering, repairing, or servicing a landscape irrigation system.

(26) Landscape irrigation --The science of applying the necessary amount of water to promote or sustain healthy growth of plant material or turf.

(27) License --An occupational license that is issued by the Texas Commission on Environmental Quality under Title 30, Texas Administrative Code, Chapter 30 to an individual that authorizes the individual to engage in an activity that is covered by Title 30, Texas Administrative Code, Chapter 30.

(28) Mainline --A pipe within an irrigation system that delivers water from the water source to the individual zone valves.

(29) Maintenance checklist --A document made available to the irrigation system's owner or owner's representative that contains information regarding the operation and maintenance of the irrigation system, including, but not limited to: checking and repairing the irrigation system, setting the automatic controller, checking the rain or moisture sensor, cleaning filters, pruning grass and plants away from irrigation emitters, using and operating the irrigation system, the precipitation rates of each irrigation zone within the system, any water conservation measures currently in effect from the water purveyor, the name of the water purveyor, a suggested seasonal or monthly watering schedule based on current evapotranspiration data for the geographic region, and the minimum water requirements for the plant material in each zone based on the soil type and plant material where the system is installed.

(30) Major maintenance, alteration, repair, or service --Any activity that involves opening to the atmosphere the irrigation main line at any point prior to the discharge side of any irrigation zone control valve. This includes, but is not limited to, repairing or connecting into a main supply pipe, replacing a zone control valve, or repairing a zone control valve in a manner that opens the system to the atmosphere.

(31) Master valve --A remote control valve located after the backflow prevention device that controls the flow of water to the irrigation system mainline.

(32) Matched precipitation rate --The condition in which all sprinkler heads within an irrigation zone apply water at the same rate.

(33) New installation --An irrigation system installed at a location where one did not previously exist.

(34) Pass-through contract --A written contract between a contractor or builder and a licensed irrigator or exempt business owner to perform part or all of the irrigation services relating to an irrigation system.

(35) Potable water --Water that is suitable for human consumption.

(36) Pressure vacuum breaker --An assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. Also known as a Pressure Vacuum Breaker Back-siphonage Prevention Assembly.

(37) Reclaimed water --Domestic or municipal wastewater which has been treated to a quality suitable for beneficial use, such as landscape irrigation.

(38) Records of landscape irrigation activities --The irrigation plans, contracts, warranty information, invoices, copies of permits, and other documents that relate to the installation, maintenance, alteration, repair, or service of a landscape irrigation system.

(39) Reduced Pressure Principle Backflow Prevention Assembly --An assembly containing two independently acting approved check valves together with a hydraulically operating mechanically independent pressure differential relief valve located between the two check valves and below the first check valve.

(40) Static water pressure --The pressure of water when it is not moving.

(41) Supervision --The on-the-job oversight and direction by a licensed irrigator who is fulfilling his or her professional responsibility to the client and/or employer in compliance with local or state requirements. Also a licensed installer working under the direction of a licensed irrigator or beginning January 1, 2009, an irrigation technician who is working under the direction of a licensed irrigator to install, maintain, alter, repair or service an irrigation system.

(42) Water conservation --The design, installation, service, and operation of an irrigation system in a manner that prevents the waste of water, promotes the most efficient use of water, and applies the least amount of water that is required to maintain healthy individual plant material or turf, reduce dust, and control erosion.

(43) Zone flow --A measurement, in gallons per minute or gallons per hour, of the actual flow of water through a zone valve, calculated by individually opening each zone valve and obtaining a valid reading after the pressure has stabilized. For design purposes, the zone flow is the total flow of all nozzles in the zone at a specific pressure.

(44) Zone valve --An automatic valve that controls a single zone of a landscape irrigation system.

Valid license required:

Any person who connects an irrigation system to the water supply within the city or the city's extraterritorial jurisdiction, commonly referred to as the ETJ, must hold a valid license, as defined by Title 30, Texas Administrative Code, Chapter 30 and required by Chapter 1903 of the Texas Occupations Code, or as defined by Chapter 365, Title 22 of the Texas Administrative Code and required by Chapter 1301 of the Texas Occupations Code.

Exemptions:

A property owner is not required to be licensed in accordance with Texas Occupations Code, Title 12, § 1903.002(c)(1) if he or she is performing irrigation work in a building or on a premises owned or occupied by the person as the person's home. A home or property owner who installs an irrigation system must meet the standards contained in Title 30, Texas Administrative Code, Chapter 344 regarding spacing, water pressure, spraying water over impervious materials, rain or moisture shut-off devices or other technology, backflow prevention and isolation valves. The city may, at any point, adopt more stringent requirements for a home or property owner who installs an irrigation system. See Texas Occupations Code § 1903.002 for other exemptions to the licensing requirement.

Permit required:

Any person installing an irrigation system within the territorial limits or extraterritorial jurisdiction of the city is required to obtain a permit from the building services division of the development services department. Any plan approved for a permit must be in compliance with the requirements of this chapter.

Exemptions:

(1) An irrigation system that is that an on-site sewage disposal system, as defined by Section 355.002, Health and Safety Code; or
(2) An irrigation system used on or by an agricultural operation as defined by Section 251.002, Agriculture Code; or
(3) An irrigation system connected to a groundwater well used by the property owner for domestic use.

Backflow prevention methods and devices:

(a) Any irrigation system that is connected to the potable water supply must be connected through a backflow prevention method approved by the Texas Commission on Environmental Quality (TCEQ). The backflow prevention device must comply with the International Plumbing Code and must be certified by the American Society of Sanitary Engineers (ASSE); or the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California; or International Code Council- Evaluation Services (ICC-ES); or the International Association of Plumbing and Mechanical Officials - Research and Testing (IAPMO R&T); or any others that have equivalent capabilities for both the laboratory and field evaluation of backflow prevention assemblies. The backflow prevention device must be installed in accordance with the laboratory approval standards or if the approval does not include specific installation information, the manufacturer's current published recommendations.

(b) If conditions that present a health hazard exist, one of the following methods must be used to prevent backflow;

(1) An air gap may be used if:
    (A) there is an unobstructed physical separation; and
    (B) the distance from the lowest point of the water supply outlet to the flood rim of the fixture or assembly into which the outlet discharges is at least one inch or twice the diameter of the water supply outlet, whichever is greater.

(2) Reduced pressure principle backflow prevention assemblies may be used if:
    (A) the device is installed at a minimum of 12 inches above ground in a location that will ensure that the assembly will not be submerged; and
    (B) drainage is provided for any water that may be discharged through the assembly relief valve.
(3) Pressure vacuum breakers may be used if:
    (A) no back-pressure condition will occur; and
    (B) the device is installed at a minimum of 12 inches above any downstream piping and the highest downstream opening. Pop-up sprinklers are measured from the retracted position from the top of the sprinkler.
(4) Atmospheric vacuum breakers may be used if:
    (A) no back-pressure will be present;
    (B) there are no shutoff valves downstream from the atmospheric vacuum breaker;
    (C) the device is installed at a minimum of six inches above any downstream piping and the highest downstream opening. Pop-up sprinklers are measured from the retracted position from the top of the sprinkler;
    (D) there is no continuous pressure on the supply side of the atmospheric vacuum breaker for more than 12 hours in any 24-hour period; and
    (E) a separate atmospheric vacuum breaker is installed on the discharge side of each irrigation control valve, between the valve and all the emission devices that the valve controls.

(c) Backflow prevention devices used in applications designated as health hazards must be tested upon installation and annually thereafter.

(d) If there are no conditions that present a health hazard, double check valve backflow prevention assemblies may be used to prevent backflow if the device is tested upon installation and test cocks are used for testing only.

(e) If a double check valve is installed below ground:
(1) test cocks must be plugged, except when the double check valve is being tested;
(2) test cock plugs must be threaded, water-tight, and made of non-ferrous material;
(3) a y-type strainer is installed on the inlet side of the double check valve;
(4) there must be a clearance between any fill material and the bottom of the double check valve to allow space for testing and repair; and
(5) there must be space on the side of the double check valve to test and repair the double check valve.

(f) If an existing irrigation system without a backflow-prevention assembly requires major maintenance, alteration, repair, or service, the system must be connected to the potable water supply through an approved, properly installed backflow prevention method before any major maintenance, alteration, repair, or service is performed.

(g) If an irrigation system is connected to a potable water supply through a double check valve, pressure vacuum breaker, or reduced pressure principle backflow assembly and includes an automatic master valve on the system, the automatic master valve must be installed on the discharge side of the backflow prevention assembly.

(h) The irrigator shall ensure the backflow prevention device is tested by a licensed Backflow Prevention Assembly Tester prior to being placed in service and the test results provided to the local water purveyor and the irrigation system's owner or owner's representative within ten business days of testing of the backflow prevention device

Specific conditions and cross-connection control:

(a) Before any chemical is added to an irrigation system connected to the potable water supply, the irrigation system must be connected through a reduced pressure principle backflow prevention assembly or air gap.

(b) Connection of any additional water source to an irrigation system that is connected to the potable water supply can only be done if the irrigation system is connected to the potable water supply through a reduced-pressure principle backflow prevention assembly or an air gap.

(c) Irrigation system components with chemical additives induced by aspiration, injection, or emission system connected to any potable water supply must be connected through a reduced pressure principle backflow device.

(d) If an irrigation system is designed or installed on a property that is served by an on-site sewage facility, as defined in Title 30, Texas Administrative Code, Chapter 285, then:

(1) all irrigation piping and valves must meet the separation distances from the On-Site Sewage Facilities system as required for a private water line in Title 30, Texas Administrative Code, Section 285.91(10);
(2) any connections using a private or public potable water source that is not the city's potable water system must be connected to the water source through a reduced pressure principle backflow prevention assembly as defined in Title 30, Texas Administrative Code, Section 344.50; and
(3) any water from the irrigation system that is applied to the surface of the area utilized by the On-Site Sewage Facility system must be controlled on a separate irrigation zone or zones so as to allow complete control of any irrigation to that area so that there will not be excess water that would prevent the On-Site Sewage Facilities system from operating effectively.

Water conservation:

All irrigation systems shall be designed, installed, maintained, altered, repaired, serviced, and operated in a manner that will promote water conservation as defined in the Definitions section of this ordinance.

Irrigation plan design: Minimum standards:

(a) An irrigator shall prepare an irrigation plan for each site where a new irrigation system will be installed. A paper or electronic copy of the irrigation plan must be on the job site at all times during the installation of the irrigation system. A drawing showing the actual installation of the system is due to each irrigation system owner after all new irrigation system installations. During the installation of the irrigation system, variances from the original plan may be authorized by the licensed irrigator if the variance from the plan does not:

(1) diminish the operational integrity of the irrigation system;
(2) violate any requirements of this ordinance; and
(3) go unnoted in red on the irrigation plan.

(b) The irrigation plan must include complete coverage of the area to be irrigated. If a system does not provide complete coverage of the area to be irrigated, it must be noted on the irrigation plan.

(c) All irrigation plans used for construction must be drawn to scale. The plan must include, at a minimum, the following information:

(1) the irrigator's seal, signature, and date of signing;
(2) all major physical features and the boundaries of the areas to be watered;
(3) a North arrow;
(4) a legend;
(5) the zone flow measurement for each zone;
(6) location and type of each:
    (A) controller; and
    (B) sensor (for example, but not limited to, rain, moisture, wind, flow, or freeze);
(7) location, type, and size of each:
    (A) water source, such as, but not limited to a water meter and point(s) of connection;
    (B) backflow prevention device;
    (C) water emission device, including, but not limited to, spray heads, rotary sprinkler heads, quick-couplers, bubblers, drip, or micro-sprays;
    (D) valve, including but not limited to, zone valves, master valves, and isolation valves;
    (E) pressure regulation component; and
    (F) main line and lateral piping.
(8) the scale used; and
(9) the design pressure.

Design and installation: Minimum requirements:

(a) No irrigation design or installation shall require the use of any component, including the water meter, in a way which exceeds the manufacturer's published performance limitations for the component.

(b) Spacing.
(1) The maximum spacing between emission devices must not exceed the manufacturer's published radius or spacing of the device(s). The radius or spacing is determined by referring to the manufacturer's published specifications for a specific emission device at a specific operating pressure.
(2) New irrigation systems shall not utilize above-ground spray emission devices in landscapes that are less than 48 inches not including the impervious surfaces in either length or width and which contain impervious pedestrian or vehicular traffic surfaces along two or more perimeters. If pop-up sprays or rotary sprinkler heads are used in a new irrigation system, the sprinkler heads must direct flow away from any adjacent surface and shall not be installed closer than four inches from a hardscape, such as, but not limited to, a building foundation, fence, concrete, asphalt, pavers, or stones set with mortar.
(3) Narrow paved walkways, jogging paths, golf cart paths or other small areas located in cemeteries, parks, golf courses or other public areas may be exempted from this requirement if the runoff drains into a landscaped area.

(c) Water pressure. Emission devices must be installed to operate at the minimum and not above the maximum sprinkler head pressure as published by the manufacturer for the nozzle and head spacing that is used. Methods to achieve the water pressure requirements include, but are not limited to, flow control valves, a pressure regulator, or pressure compensating spray heads.

(d) Piping. Piping in irrigation systems must be designed and installed so that the flow of water in the pipe will not exceed a velocity of five feet per second for polyvinyl chloride (PVC) pipe.

(e) Irrigation Zones. Irrigation systems shall have separate zones based on plant material type, microclimate factors, topographic features, soil conditions, and hydrological requirements.

(f) Matched precipitation rate. Zones must be designed and installed so that all of the emission devices in that zone irrigate at the same precipitation rate.

(g) Irrigation systems shall not spray water over surfaces made of concrete, asphalt, brick, wood, stones set with mortar, or any other impervious material, such as, but not limited to, walls, fences, sidewalks, streets, etc.

(h) Master valve. When provided, a master valve shall be installed on the discharge side of the backflow prevention device on all new installations.

(i) PVC pipe primer solvent. All new irrigation systems that are installed using PVC pipe and fittings shall be primed with a colored primer prior to applying the PVC cement in accordance with the International Plumbing Code (Section 605).

(j) Rain or moisture shut-off devices or other technology. All new automatically controlled irrigation systems must include sensors or other technology designed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall. Rain or moisture shut-off technology must be installed according to the manufacturer's published recommendations. Repairs to existing automatic irrigation systems that require replacement of an existing controller must include a sensor or other technology designed to inhibit or interrupt operation of the irrigation system during periods of moisture or rainfall.

(k) Isolation valve. All new irrigation systems must include an isolation valve between the water meter and the backflow prevention device.

(l) Depth coverage of piping. Piping in all irrigation systems must be installed according to the manufacturer's published specifications for depth coverage of piping.

(1) If the manufacturer has not published specifications for depth coverage of piping, the piping must be installed to provide minimum depth coverage of six inches of select backfill, between the top of the pipe and the natural grade of the topsoil. All portions of the irrigation system that fail to meet this standard must be noted on the irrigation plan. If the area being irrigated has rock at a depth of six inches or less, select backfill may be mounded over the pipe. Mounding must be noted on the irrigation plan and discussed with the irrigation system owner or owner's representative to address any safety issues.
(2) If a utility, man-made structure, or roots create an unavoidable obstacle, which makes the six-inch depth coverage requirement impractical, the piping shall be installed to provide a minimum of two inches of select backfill between the top of the pipe and the natural grade of the topsoil.
(3) All trenches and holes created during installation of an irrigation system must be backfilled and compacted to the original grade.

(m) Wiring irrigation systems.
(1) Underground electrical wiring used to connect an automatic controller to any electrical component of the irrigation system must be listed by Underwriters Laboratories as acceptable for burial underground.
(2) Electrical wiring that connects any electrical components of an irrigation system must be sized according to the manufacturer's recommendation.
(3) Electrical wire splices which may be exposed to moisture must be waterproof as certified by the wire splice manufacturer.

(4) Underground electrical wiring that connects an automatic controller to any electrical component of the irrigation system must be buried with a minimum of six inches of select backfill.

(n) Water contained within the piping of an irrigation system is deemed to be non-potable. No drinking or domestic water usage, such as, but not limited to, filling swimming pools or decorative fountains, shall be connected to an irrigation system. If a hose bib (an outdoor water faucet that has hose threads on the spout) is connected to an irrigation system for the purpose of providing supplemental water to an area, the hose bib must be installed using a quick coupler key on a quick coupler installed in a covered purple valve box and the hose bib and any hoses connected to the bib must be labeled "non potable, not safe for drinking." An isolation valve must be installed upstream of a quick coupler connecting a hose bib to an irrigation system.

(o) Beginning January 1, 2010, either a licensed irrigator or a licensed irrigation technician shall be on-site at all times while the landscape irrigation system is being installed. When an irrigator is not onsite, the irrigator shall be responsible for ensuring that a licensed irrigation technician is on-site to supervise the installation of the irrigation system.

Completion of irrigation system installation:

Upon completion of the irrigation system, the irrigator or irrigation technician who provided supervision for the on-site installation shall be required to complete four items:

(1) a final "walk through" with the irrigation system's owner or the owner's representative to explain the operation of the system;

(2) The maintenance checklist on which the irrigator or irrigation technician shall obtain the signature of the irrigation system's owner or owner's representative and shall sign, date, and seal the checklist. If the irrigation system's owner or owner's representative is unwilling or unable to sign the maintenance checklist, the irrigator shall note the time and date of the refusal on the irrigation system's owner or owner's representative's signature line. The irrigation system owner or owner's representative will be given the original maintenance checklist and a duplicate copy of the maintenance checklist shall be maintained by the irrigator. The items on the maintenance checklist shall include but are not limited to:
   (A) the manufacturer's manual for the automatic controller, if the system is automatic;
   (B) a seasonal (spring, summer, fall, winter) watering schedule based on either current/real time evapotranspiration or monthly historical reference evapotranspiration (historical ET) data, monthly effective rainfall estimates, plant landscape coefficient factors, and site factors;
   (C) a list of components, such as the nozzle, or pump filters, and other such components; that require maintenance and the recommended frequency for the service; and
   (D) the statement, "This irrigation system has been installed in accordance with all applicable state and local laws, ordinances, rules, regulations or orders. I have tested the system and determined that it has been installed according to the Irrigation Plan and is properly adjusted for the most efficient application of water at this time."

(3) A permanent sticker which contains the irrigator's name, license number, company name, telephone number and the dates of the warranty period shall be affixed to each automatic controller installed by the irrigator or irrigation technician. If the irrigation system is manual, the sticker shall be affixed to the original maintenance checklist. The information contained on the sticker must be printed with waterproof ink.

(4) The irrigation plan indicating the actual installation of the system must be provided to the irrigation system's owner or owner representative.

Maintenance, alteration, repair, or service of irrigation systems:

(a) The licensed irrigator is responsible for all work that the irrigator performed during the maintenance, alteration, repair, or service of an irrigation system during the warranty period. The irrigator or business owner is not responsible for the professional negligence of any other irrigator who subsequently conducts any irrigation service on the same irrigation system.

(b) All trenches and holes created during the maintenance, alteration, repair, or service of an irrigation system must be returned to the original grade with compacted select backfill.

(c) Colored PVC pipe primer solvent must be used on all pipes and fittings used in the maintenance, alteration, repair, or service of an irrigation system in accordance with the International Plumbing Code (Section 605).

(d) When maintenance, alteration, repair or service of an irrigation system involves excavation work at the water meter or backflow prevention device, an isolation valve shall be installed, if an isolation valve is not present.

Reclaimed water:

Reclaimed water may be utilized in landscape irrigation systems if:

(1) there is no direct contact with edible crops, unless the crop is pasteurized before consumption;
(2) the irrigation system does not spray water across property lines that do not belong to the irrigation system's owner;
(3) the irrigation system is installed using purple components;
(4) the domestic potable water line is connected using an air gap or a reduced pressure principle backflow prevention device, in accordance with Title 30, Texas Administrative Code, Section 290.47(i) (relating to Appendices);
(5) a minimum of an eight inch by eight inch sign, in English and Spanish, is prominently posted on/in the area that is being irrigated, that reads, "RECLAIMED WATER - DO NOT DRINK" and "AGUA DE RECUPERACIÓN - NO BEBER"; and
(6) backflow prevention on the reclaimed water supply line shall be in accordance with the regulations of the city's water provider.

Advertisement requirements:

(a) All vehicles used in the performance of irrigation installation, maintenance, alteration, repair, or service must display the irrigator's license number in the form of "LI_____" in a contrasting color of block letters at least two inches high, on both sides of the vehicle.

(b) All forms of written and electronic advertisements for irrigation services must display the irrigator's license number in the form of "LI_____." Any form of advertisement, including business cards, and estimates which displays an entity's or individual's name other than that of the licensed irrigator must also display the name of the licensed irrigator and the licensed irrigator's license number. Trailers that advertise irrigation services must display the irrigator's license number.

(c) The name, mailing address, and telephone number of the commission must be prominently displayed on a legible sign and displayed in plain view for the purpose of addressing complaints at the permanent structure where irrigation business is primarily conducted and irrigation records are kept.

Contracts:

(a) All contracts to install an irrigation system must be in writing and signed by each party and must specify the irrigator's name, license number, business address, current business telephone numbers, the date that each party signed the agreement, the total agreed price, and must contain the statement, "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, P.O. Box 13087, Austin, Texas 78711-3087. TCEQ's website is: www. tceq.state.tx.us." All contracts must include the irrigator's seal, signature, and date.

(b) All written estimates, proposals, bids, and invoices relating to the installation or repair of an irrigation system(s) must include the irrigator's name, license number, business address, current business telephone number(s), and the statement: "Irrigation in Texas is regulated by the Texas Commission On Environmental Quality (TCEQ) (MC-178), P.O. Box 13087, Austin, Texas 78711-3087. TCEQ's web site is: www.tceq.state.tx.us."

(c) An individual who agrees by contract to provide irrigation services as defined in Title 30, Texas Administrative Code, Section 344.30 (relating to License Required) shall hold an irrigator license issued under Title 30, Texas Administrative Code, Chapter 30 (relating to Occupational Licenses and Registrations) unless the contract is a pass-through contract as defined in Title 30, Texas Administrative Code, Section 344.1(36) (relating to Definitions). If a pass-through contract includes irrigation services, then the irrigation portion of the contract can only be performed by a licensed irrigator. If an irrigator installs a system pursuant to a pass-through contract, the irrigator shall still be responsible for providing the irrigation system's owner or through contract, the irrigator shall still be responsible for providing the irrigation system's owner or owner's representative a copy of the warranty and all other documents required under this chapter. A pass-through contract must identify by name and license number the irrigator that will perform the work and must provide a mechanism for contacting the irrigator for irrigation system warranty work.

(d) The contract must include the dates that the warranty is valid.

Warranties for systems:

(a) On all installations of new irrigation systems, an irrigator shall present the irrigation system's owner or owner's representative with a written warranty covering materials and labor furnished in the new installation of the irrigation system. The irrigator shall be responsible for adhering to terms of the warranty. If the irrigator's warranty is less than the manufacturer's warranty for the system components, then the irrigator shall provide the irrigation system's owner or the owner's representative with applicable information regarding the manufacturer's warranty period. The warranty must include the irrigator's seal, signature, and date. If the warranty is part of an irrigator's contract, a separate warranty document is not required.

(b) An irrigator's written warranty on new irrigation systems must specify the irrigator's name, business address, and business telephone number(s), must contain the signature of the irrigation system's owner or owner's representative confirming receipt of the warranty and must include the statement: "Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, P.O. Box 130897, Austin, Texas 78711-3087. TCEQ's website is: www.tceq.state.tx.us."

(c) On all maintenance, alterations, repairs, or service to existing irrigation systems, an irrigator shall present the irrigation system's owner or owner's representative a written document that identifies the materials furnished in the maintenance, alteration, repair, or service. If a warranty is provided, the

irrigator shall abide by the terms. The warranty document must include the irrigator's name and business contact information.

Duties and responsibilities of city irrigation inspectors:

A licensed irrigation inspector shall enforce the ordinance of the city, and shall be responsible for:

(1) verifying that the appropriate permits have been obtained for an irrigation system and that the irrigator and installer or irrigation technician, if applicable, are licensed;
(2) inspecting the irrigation system;
(3) determining that the irrigation system complies with the requirements of this chapter;
(4) determining that the appropriate backflow prevention device was installed, tested, and test results provided to the city;
(5) investigating complaints related to irrigation system installation, maintenance, alteration, repairs, or service of an irrigation system and advertisement of irrigation services; and
(6) maintaining records according to this chapter.

Items not covered by this ordinance:

Any item not covered by this ordinance and required by law shall be governed by the Texas Occupations Code, the Texas Water Code, Title 30 of the Texas Administrative Code, and any other applicable state statute or Texas Commission on Environmental Quality rule.

Fees:

The city council may create a schedule of fees for obtaining and renewing an irrigation permit. These fees will be in amounts sufficient to cover the city's costs in issuing and renewing the permits, including, but not limited to, staff time and other overhead costs.

Enforcement:

(a) The city shall have the power to administer and enforce the provisions of this chapter as may be required by governing law. Any person, firm, corporation or agent who shall violate a provision of this code, or fails to comply therewith, or with any of the requirements thereof, is subject to suit for injunctive relief as well as prosecution for criminal violations. Any violation of the ordinance codified in this chapter is declared to be a nuisance.

(b) Any person who violates a provision of this code or fails to comply with any of the requirements thereof shall be subject to penalties as prescribed by Section 1-14 of the Bryan City Code

(c) Nothing in this chapter shall be construed as a waiver of the city's right to bring a civil action to enforce the provisions of this chapter and to seek remedies as allowed by law, including, but not limited to the following:

(1) Injunctive relief to prevent specific conduct that violates the ordinance or to require specific conduct that is necessary for compliance with the ordinance; and
(2) Other available relief.

That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed to the extent of such conflict.

3.

The Code of the City of Bryan, Texas, as amended, shall remain in full force and effect, save and except as amended by this Ordinance.

4.

Should any section, paragraph, sentence, clause, phrase or word of this ordinance be declared unconstitutional or invalid for any purpose by a court of competent jurisdiction, the remainder of this ordinance shall not be affected thereby and to this end the provisions of this Ordinance are declared to be severable.

5.

It is hereby found and determined that the meetings at which this ordinance was passed were open to the public, as required by Section 551.001 et seq., Texas Government Code, and that advance public notice of time, place and purpose of said meetings was given.

6.

It is the intention of the City Council that this Ordinance shall become a part of the Code of the City of Bryan, Texas, and it may be renumbered and codified therein accordingly.

7.

That, the City Secretary is directed to publish this Ordinance in a newspaper of general circulation in the City of Bryan in accordance with the provisions of Section 9 of the City Charter, which publication shall be sufficient if it contains the title, penalty, and effective date of this Ordinance.

8.

This Ordinance will be effective from and after its final passage and publication as required by law. The effective date of this Ordinance will be June 1, 2011.

PRESENTED AND GIVEN first reading the 10 day of May, 2011, at a regular meeting of the City Council of the City of Bryan, Texas; and given a second reading, passed and approved on the 24 day of May, 2011, by a vote of 7 yeses and 0 noes at a regular meeting of the City Council of the City of Bryan, Texas.

ATTEST:

Mary Lynne Stratta, City Secretary

CITY OF BRYAN:

Jason P. Bienski, Mayor

APPROVED AS TO FORM:

Janis K. Hampton, City Attorney