

ORDINANCE NO. ORD-2008-9027

AN ORDINANCE AMENDING CHAPTERS 8 AND 41 OF THE CODE OF CIVIL AND CRIMINAL ORDINANCES OF THE CITY OF IRVING, TEXAS RELATING TO IRRIGATION SYSTEMS; AMENDING THE 2003 INTERNATIONAL BUILDING CODE BY REVISING APPENDIX K ENTITLED "FEE SCHEDULE"; AMENDING THE 2003 INTERNATIONAL RESIDENTIAL CODE AND THE 2003 INTERNATIONAL PLUMBING CODE BY ADDING APPENDIX I "IRRIGATION SYSTEMS" TO SUCH CODES; PROVIDING PENALTY, SEVERABILITY, AND AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Irving has determined that water conservation and environmental protection are important issues and concerns affecting the city; and

WHEREAS, properly-installed irrigation systems will conserve water, help avoid wasteful use, and improve the overall quality of life for the citizens of Irving; and

WHEREAS, during the 2007 legislative session, the Texas Legislature adopted House Bill 1656; and

WHEREAS, House Bill 1656 amended Chapter 401 of the Texas Local Government Code to require a city with a population of 20,000 or more to regulate the installation of irrigation systems within the corporate limits of the city as well as the city's extraterritorial jurisdiction; and

WHEREAS, the provisions herein are necessary to promote and protect the health, safety, and welfare of the public by creating an urban environment that is protective of the city's water supply and provides an enhanced quality of life for the citizens of the City of Irving.

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

SECTION 1. That the findings contained in the preamble of this ordinance are determined to be true and correct and are hereby adopted as a part of this ordinance.

SECTION 2. That Section 8-5 of Chapter 8 entitled "Irving Building Standards Code" of The Code of Civil and Criminal Ordinances of the City of Irving, Texas, is amended by adding a new Subitem f. "Landscape irrigation systems" to Item 10. of Section K102 entitled "Combination Permit Fee Schedule (Building, Electrical, Plumbing, and Mechanical)" of Appendix K entitled "Fee Schedule," to read as follows:

f. Landscape irrigation systems - \$100 for one or two family residential; \$150 for commercial.

SECTION 3. That Section 8-6(b) of Chapter 8 entitled "Irving Building Standards Code" of The Code of Civil and Criminal Ordinances of the City of Irving, Texas, is amended by revising Section R102.5 of Section R102 "Applicability" of Chapter 1 "Administration" of the 2003 International Residential Code to read as follows:

**R102.5 Appendices.** Provisions in the appendices shall not apply unless specifically adopted. Appendix A "Sizing and Capacities of Gas Piping"; Appendix B "Sizing of Venting Systems Serving Appliances Equipped with Draft Hoods, Category I Appliances, and Appliances Listed for Use and

Type B Vents”; Appendix C “Exit Terminals of Mechanical Draft and Direct-Vent Venting Systems”; Appendix G “Swimming Pools, Spas and Hot Tubs”; Appendix H “Patio Covers”; Appendix I “Irrigation Systems”; and Appendix M “Aircraft Noise Attenuation Requirements” are hereby adopted as amended and shall be considered part of the requirements of this code.

SECTION 4. That Section 8-8(b) of Chapter 8 entitled “Irving Building Standards Code” of The Code of Civil and Criminal Ordinances of the City of Irving, Texas, is amended by adding a new Section R102.10 of Section 102 “Applicability” of Chapter 1 “Administration” of the 2003 International Plumbing Code to read as follows:

**R102.10 Appendices.** Provisions in the appendices shall not apply unless specifically adopted. Appendix I “Irrigation Systems” is hereby adopted and shall be considered part of the requirements of this code.

SECTION 5. That Sections 8-6(b) and 8-8(b) of Chapter 8 entitled “Irving Building Standards Code” of The Code of Civil and Criminal Ordinances of the City of Irving, Texas, relating to the 2003 International Residential Code and the 2003 International Plumbing Code, respectively, are amended by adding a new Appendix I “Irrigation Systems” to such Codes, to read as follows:

## **APPENDIX I IRRIGATION SYSTEMS**

**I101.1 Scope.** This appendix applies to the installation, alteration, repairs, relocation, replacement, addition to, use, or maintenance of irrigation systems within the city. This appendix regulates the installation of backflow prevention devices, control valves, automatic irrigation controllers, control wiring, and water conservation required for the proper design, installation, and operation of irrigation systems. All irrigation systems must comply with the provisions of this appendix and with Title 30, Texas Administrative Code, Chapter 344.

**I101.2 Purpose.** The purpose of this appendix is to require all irrigation systems to be designed, installed, maintained, altered, repaired, serviced, and operated in a manner that will promote water conservation.

**I101.3 Definitions.** The following words and terms shall have the meanings shown herein.

**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.

**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.

**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.

**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, Title 26, United States Code Service, Section 3212(d) based on the behavioral control, financial control, and the type of relationship involved in performing employment related tasks.

**HEAD-TO-HEAD SPACING.** The spacing of spray or rotary sprinkler heads equal to the manufacturer's published radius of the head.

**HYDRAULICS.** The science of dynamic and static water; the mathematical computation of determining pressure losses and pressure requirements of an irrigation system.

**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.

**INSTALLER.** A person who 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.

**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.

**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.

**IRRIGATION SERVICES.** Selling, designing, installing, maintaining, altering, repairing, servicing, permitting, providing consulting services regarding, or connecting an irrigation system to a water supply.

**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 Section 251.002.

**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.

**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.

**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.

**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.

**LANDSCAPE IRRIGATION.** The science of applying the necessary amount of water to promote or sustain healthy growth of plant material or turf.

**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.

**MAINLINE.** A pipe within an irrigation system that delivers water from the water source to the individual zone valves.

**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.

**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.

**MASTER VALVE.** A remote control valve located after the backflow prevention device that controls the flow of water to the irrigation system mainline.

**MATCHED PRECIPITATION RATE.** The condition in which all sprinkler heads within an irrigation zone apply water at the same rate.

**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.

**RECLAIMED WATER.** Domestic or municipal wastewater which has been treated to a quality suitable for beneficial use, such as landscape irrigation.

**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.

**STATIC WATER PRESSURE.** The pressure of water when it is not moving.

**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.

**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.

**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.

**ZONE VALVE.** An automatic valve that controls a single zone of a landscape irrigation system.

#### **I101.4 License.**

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

**Exemption:** A homeowner is not required to be licensed in accordance with Title 12, Texas Occupations Code Section 1903.002(c)(1) if the homeowner is performing irrigation work in a building or on a premises owned and occupied by the homeowner as the homeowner's homestead. A homeowner 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 and freeze sensors, backflow prevention and isolation valves.

#### **I101.5 Permit.**

Any person or homeowner installing an irrigation system in the city is required to obtain a permit from the city. Any plan approved for a permit must be in compliance with the requirements of this appendix.

#### **Exemptions:**

1. An irrigation system that is an on-site sewage disposal system, as defined by Texas Health and Safety Code, Section 355.002; or

2. An irrigation system used on or by an agricultural operation as defined by Section 251.002, Texas Agriculture Code, Section 251.002; or
3. An irrigation system connected to a groundwater well used by the property owner for domestic use.

#### **I101.6 Backflow prevention methods and devices.**

1. 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 be approved by: the American Society of Sanitary Engineers; the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California; the International Plumbing Code; or any other laboratory that has 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.
2. If conditions that present a health hazard exist, one of the following methods must be used to prevent backflow:
  - a. An air gap may be used if:
    - i. There is an unobstructed physical separation; and
    - ii. 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.
  - b. Reduced pressure principle backflow prevention assemblies may be used if:
    - i. 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
    - ii. Drainage is provided for any water that may be discharged through the assembly relief valve.
  - c. Pressure vacuum breakers may be used if:
    - i. No back-pressure condition will occur; and
    - ii. 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.
  - d. Atmospheric vacuum breakers may be used if:
    - i. No back-pressure will be present;
    - ii. There are no shutoff valves downstream from the atmospheric vacuum breaker;

- iii. 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;
  - iv. 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
  - v. 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.
3. Backflow prevention devices used in applications designated as health hazards must be tested upon installation and annually thereafter.
4. 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.
5. If a double check valve is installed below ground:
  - a. Test cocks must be plugged, except when the double check valve is being tested;
  - b. Test cock plugs must be threaded, water-tight, and made of non-ferrous material;
  - c. A y-type strainer is installed on the inlet side of the double check valve;
  - d. 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
  - e. There must be space on the side of the double check valve to test and repair the double check valve.
6. 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.
7. 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.
8. 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.

### **I101.7 Specific conditions and cross-connection control.**

1. 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.
2. 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.
3. 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.
4. 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:
  - a. 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);
  - b. 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
  - c. 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.

### **I101.8 Irrigation plan design: Minimum standards.**

1. 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:
  - a. Diminish the operational integrity of the irrigation system;
  - b. Violate any requirements of this appendix; and
  - c. Go unnoted in red on the irrigation plan.
2. 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.



3. All irrigation plans used for construction must be drawn to scale. The plan must include, at a minimum, the following information:
  - a. The irrigator's seal, signature, and date of signing;
  - b. All major physical features and the boundaries of the areas to be watered;
  - c. A North arrow;
  - d. A legend;
  - e. The zone flow measurement for each zone;
  - f. Location and type of each:
    - i. Controller; and
    - ii. Sensor (i.e., rain and freeze);
  - g. Location, type, and size of each:
    - i. Water source, including, but not limited to, a water meter and point(s) of connection;
    - ii. Backflow prevention device;
    - iii. Water emission device, including, but not limited to, spray heads, rotary sprinkler heads, quick-couplers, bubblers, drip, or micro-sprays;
    - iv. Valve, including but not limited to, zone valves, master valves, and isolation valves;
    - v. Pressure regulation component; and
    - vi. Main line and lateral piping.
  - h. The scale used; and
  - i. The design pressure.

**I101.9 Design and installation: Minimum requirements.**

1. 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.

## 2. Spacing.

- a. 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.
  - b. 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, including, but not limited to, a building foundation, fence, concrete, asphalt, pavers, or stones set with mortar.
  - c. 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.
3. 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.
  4. 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.
  5. Irrigation Zones. Irrigation systems shall have separate zones based on plant material type, microclimate factors, topographic features, soil conditions, and hydrological requirements.
  6. 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.
  7. 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.
  8. Master valve. When provided, a master valve shall be installed on the discharge side of the backflow prevention device on all new installations.
  9. PVC pipe primer solvent. All new irrigation systems that are installed using PVC pipe and fittings shall be primed with a purple primer prior to applying the PVC cement in accordance with the *International Plumbing Code*, Section 605.

10. Rain and freeze sensors.

- a. Any commercial, industrial, multi-family, or residential customer class irrigation system installed within the City on or after January 1, 2009, must be equipped with rain and freeze sensors.
- b. Any commercial, industrial, or multi-family customer class irrigation system installed within the City before January 1, 2009, may not be operated after January 1, 2010, without being equipped with rain and freeze sensors.
- c. Any residential customer class irrigation system installed within the City before January 1, 2009, may not be operated after January 1, 2011, without being equipped with rain and freeze sensors. If a person repairs or replaces more than 50% of a residential customer class irrigation system before January 1, 2011, then such irrigation system must be equipped with rain and freeze sensors.
- d. Any rain and freeze sensor shall be installed according to the manufacturer's published recommendation and shall be from a list approved by the public works director.
- e. Repairs to existing automatic irrigation systems that require replacement of an existing controller shall include a rain and freeze sensor designed to inhibit or interrupt operation of the irrigation system during periods of freezing temperatures and rainfall.

11. Isolation valve. All new irrigation systems must include a lockable isolation valve between the water meter and the backflow prevention device.

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

- a. 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.
- b. 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.
- c. All trenches and holes created during installation of an irrigation system must be backfilled and compacted to the original grade.

13. Wiring irrigation systems.

- a. 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.

- b. Electrical wiring that connects any electrical components of an irrigation system must be sized according to the manufacturer's recommendation.
  - c. Electrical wire splices which may be exposed to moisture must be waterproof as certified by the wire splice manufacturer.
  - d. 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.
14. Water contained within the piping of an irrigation system is deemed to be non-potable. No drinking or domestic water usage, including, 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.
15. 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 on-site, the irrigator shall be responsible for ensuring that a licensed irrigation technician is on-site to supervise the installation of the irrigation system.

**I101.10 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, 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.

#### **I101.11 Maintenance, alteration, repair, or service of irrigation systems.**

1. 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.
2. 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.
3. Purple 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.
4. When maintenance, alteration, repair, or service of an irrigation system involves excavation work at the water meter or backflow prevention device, a lockable isolation valve shall be installed, if an isolation valve is not present.

#### **I101.12 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);
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 city ordinances.

SECTION 6. That Chapter 41 entitled “Water and Sewer Systems” of The Code of Civil and Criminal Ordinances of the City of Irving, Texas, is amended by adding a new Section 41-14.1 “Lawn and landscape irrigation restrictions,” to read as follows:

**Sec. 41-14.1. Lawn and landscape irrigation restrictions.**

(a) A person commits an offense if the person knowingly or recklessly irrigates, waters, or causes or permits the irrigation or watering of a lawn or landscape located on premises owned, leased, or managed by the person in a manner that causes:

- (1) A substantial amount of water to fall upon impervious areas instead of a lawn or landscape, such that a constant stream of water overflows from the lawn or landscape onto a street or other drainage area; or
- (2) An irrigation system or other lawn or landscape watering device to operate during any form of precipitation.

(b) A person commits an offense if, on premises owned, leased, or managed by that person, the person operates an irrigation system or other lawn or landscape watering device that:

- (1) Has any broken or missing sprinkler head; or
- (2) Has not been properly maintained in a manner that prevents the waste of water.

SECTION 7. Any person violating or failing to comply with any provision of this ordinance shall be fined upon conviction not less than one dollar (\$1.00) nor more than two thousand dollars (\$2000.00). Each day any violation of any provision of this ordinance continues constitutes a separate offense.

SECTION 8. That nothing in this ordinance shall be constructed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or prior ordinance; nor shall any legal right or remedy of any character be lost, impaired, or affected by this ordinance.

SECTION 9. That the terms and provisions of this ordinance shall be deemed to be severable and that if the validity of any section, subsection, sentence, clause, or phrase of this ordinance shall be declared to be invalid, the same shall not affect the validity of any other section, subsection, sentence, clause, or phrase of this ordinance.

SECTION 10. That this ordinance shall have an effective date of January 1, 2009.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF IRVING, TEXAS,  
on December 11, 2008.

---

HERBERT A. GEARS  
MAYOR

ATTEST:

---

Janice Carroll, TRMC  
City Secretary

APPROVED AS TO FORM:

---

Charles R. Anderson  
City Attorney

## AGENDA ITEM SUMMARY

Meeting: 12/11/2008

DOC ID: 2252

Recommending Department: Public Works - Water Utilities

LSR No:

**Ordinance -- An Ordinance Amending Chapters 8 and 41 of the Code of Civil and Criminal Ordinances of the City of Irving, Texas Relating to Irrigation Systems; Amending the 2003 International Building Code by Revising Appendix K Entitled "Fee Schedule"; Amending the 2003 International Residential Code and the 2003 International Plumbing Code by Adding Appendix I "Irrigation Systems" to Such Codes; Providing Penalty, Severability, and an Effective Date.**

### Administrative Comments

1. This item supports Strategic Goal No. 10: Environmentally Sustainable Community.
2. **Impact:** This ordinance benefits City of Irving residents by defining and providing for enforcement of water conservation measures related to irrigation systems as mandated by the State of Texas through House Bill 1656 which was passed during the last Texas Legislative Session.
3. HB 1656 requires municipalities with a population of 20,000 or more to adopt a landscape irrigation ordinance, which at a minimum must provide that:
  - An installer of an irrigation system must be licensed by the Texas Commission on Environmental Quality (TCEQ).
  - An installer of an irrigation system must obtain a permit from the municipality before installing a system. There are exemptions for: (1) on-site sewage disposal systems; (2) irrigation systems used on or by an agriculture operation; or (3) irrigation systems connected to a groundwater well used for domestic use.
  - Minimum standards and specifications for the design, installation, and operation of an irrigation system must be in accordance with TCEQ rules. Municipalities may add more specific criteria to address local needs.
4. The proposed ordinance is patterned after a model ordinance developed by TCEQ and the Texas Municipal League.

### Recommendation

The ordinance be adopted.

### ADDITIONAL COMMENTS:

**Contract Required:** No  
**Previous Action:** N/A

**Review Completed By:** Kuruvilla Oommen  
**Council Action:** N/A

As a follow-up action to HB 1656, TCEQ adopted rules related to landscape irrigation. These rules are intended to promote water conservation and prevent the wasting of water and are summarized as follows:



- An irrigation plan is required prior to installation of an irrigation system connected to a five-eighths inch or larger water meter.
- Beginning January 1, 2010, a licensed irrigator or irrigation technician must be on-site during the installation of the irrigation system. All other portions of the rule are effective January 1, 2009.
- All irrigation system owners or owners' representatives must be provided a drawing showing the actual installation of the irrigation system.
- Irrigation systems may not be designed to spray water on hard surfaces such as sidewalks, driveways, streets, fences, etc.
- Backflow devices must be approved by a laboratory that has capabilities for testing the backflow device in the lab and field.
- All new automatically controlled . . . during periods of rainfall. (TCEQ requires only rain or moisture shut-off devices. Irving, however, will require rain/freeze sensors on all new installations beginning January 1, 2009. In addition, all commercial, industrial, or multi-family irrigation systems installed before January 1, 2009, must have rain/freeze sensors installed within one year of such date, and all residential irrigation systems installed before January 1, 2009, must have rain/freeze sensors installed within two years of such date).

The proposed ordinance incorporates these TCEQ rules.

**ATTACHMENTS:**

---

- TCEQ Landscape Irrigation Ordinance (PDF)

**CURRENT YEAR FINANCIAL IMPACT:**

---

N/A

**REVISION INFORMATION:**

---

Prepared: 11/24/2008 02:36 PM by Regina Bishop  
Last Updated: 12/8/2008 11:08 AM by Regina Bishop