



REVISED JUNE 2016

Irrigation Construction Guidelines

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BUILDING INSPECTIONS
100 Main Street, Colleyville, TX 76034
OFFICE 817-503-1030 – FAX 817-503-1039
INSPECTION REQUEST LINE 817-350-6321

IRRIGATION PERMIT SUBMITTAL REQUIREMENTS

Irrigation Permit Required: The installer of an irrigation system shall hold a license issued under Sec. 1903.251, TEX. OCCUPATIONS CODE, and shall obtain a permit from the City before installing an irrigation system. To obtain a permit, the applicant shall first file an application with the Department of Building Inspection. Unless otherwise exempted from registration, the installer of an irrigation system shall be registered with the City as an irrigation contractor in accordance with the provisions of Chapter 22, Article II, Colleyville Code of Ordinances.

Plan Review Submittal Requirements

Plans: A state of Texas licensed irrigator must prepare and submit a paper or electronic copy (minimum 2-copies if paper plans) to the Building Inspection Department for a conformation review. All plans must be appropriately sealed by a state of Texas licensed irrigator. There will be an administration plan review **fee of \$49.50 (UAC; Table 3-D)** for each City confirmation review. An additional fee of \$75.00 will be charged for the actual irrigation permit at the time of issuance.

Plan Minimum Design Standards: Irrigation **plans shall** be drawn to scale and must reflect complete coverage unless otherwise noted. Plans shall include the irrigator's seal, signature and date of signing. **Plans shall** also include all major physical features and boundaries of areas to be watered, a north arrow, a legend, zone flow for each zone, type and location of controller and the type and location of sensors (e.g. rain-freeze. **Plans shall** also include the location, type and size of each device such as; water meters, backflow devices, water emission devices, sprinkler heads, all valves and couplers, y-strainers, gauges, main and lateral piping, design pressure and the plan shall identify the scale used. **For a complete copy of State Law TAC 30; 344 go to:**

http://www.tceq.state.tx.us/assets/public/compliance/compliance_support/regulatory/irrigation/forms_li/rulesforregguid_063008.pdf

Minimum Design and Installation Requirements

Spacing: The maximum design and spacing of emission devices shall not exceed the spacing published in the manufacturer's installation standards. New irrigation systems shall not utilize above-ground spray emission devices in landscapes that are less than 48 inches (width/length) and which contain impervious surfaces along two or more perimeters. Pop-up sprays or rotary sprinkler heads shall direct their flow away from any adjacent surface and shall not be closer than 4-inches from a hardscape.

Water Pressure, Piping, Zones, Precipitation Rate: Emission devices shall be installed to operate at and not above their manufacturer's listed operating pressures. Piping shall be designed and installed so that the flow of water in the pipe does not exceed 5-feet per second in polyvinyl chloride (PVC) pipe. Systems shall be zoned based on plant materials, microclimate factors, topography, soil conditions and hydrological requirements. Zones must be designed to match the precipitation rate of the emission devices in each zone. System shall be designed so as to not spray over impervious surfaces.

Master Valve, Pipe Primer, Rain Sensors, Isolation Valve: When provided, a master valve shall be installed on the discharge side of the backflow prevention device. Irrigation systems utilizing PVC pipe shall be installed with the use of a colored primer solvent in accordance with the International Plumbing Code. All new automatic systems and system alterations that involve the replacement of the controller shall include a rain sensing shut-off device. All new systems must include an isolation valve between the water meter and the backflow prevention device.

Piping Coverage: All system piping must be installed in accordance with its manufacturer's installation standards. In the case where the manufacturer's installation standards are not published minimum depth coverage of 6-inches of select fill, between the top of the pipe and the natural grade, shall be maintained. Any proposed alterations to the minimum depth requirements must be noted on the City approved plan. All trenches and holes must be backfilled and compacted to the original grade.

Wiring: All underground electrical wiring shall be UL listed for underground use. All electrical wiring and components must comply (size, type, protection, etc.) with their manufacturer's listings and the National Electrical Code. Underground electrical wiring must be covered with a minimum of 6-inches of select fill and all underground splices must be waterproof as certified by the wire splice manufacturer.

Non-Potable Water: Water contained within the piping of an irrigation system is deemed non-potable. No drinking or domestic water usage (e.g. filling swimming pools, fountains, etc.) shall be connected to the system. If a supplemental hose bib is connected to the system it shall be through a quick coupler (and keyed) installed in a purple valve box and the hose bib and hoses shall be labeled "non-potable; not safe for drinking". An isolation valve must be installed upstream of a quick coupler connecting a hose bib to the irrigation system.

Piping Within Right-Of-Way: Irrigation piping within the Public Right of Way shall be installed perpendicular (right angles) to the R.O.W. / curb line/ roadway. The only exception shall be buried drip tubing.

(a) No valves, supply lines or wiring is permitted within the R.O.W.

(b) Installer shall minimize the amount of piping in the R.O.W. being careful to keep the layout orderly and predictable.

(c) Any variances may be considered by the Director of Public Works

WATER WELLS: Properties with an alternative water source (well water) have the potential for a cross connection of the municipal water supply. Any alternative water supply not regulated by the TCEQ is considered a high health hazard. The City of Colleyville is obligated to protect the municipal water system and the customer from any health hazards due to cross connections. Thus, the City of Colleyville shall require any water customer with an alternative water source to create an approved physical separation from the alternative water sources, where appropriate. The two acceptable physical separations are either a reduced pressure principal assembly (RPZ) or an air gap. When adding an RPZ, a closed loop plumbing system is created. At that time, an expansion tank will be required to be added to all water heaters on site. This is not required for tank less water heaters. A separate permit will be required for adding an RPZ and for any expansion tanks.

IRRIGATION INSPECTION REQUIREMENTS

1) **Required Submittals**

- (a) Backflow test report submitted online with VEPO. See www.vepollc.com
- (b) Copy of the final “walk through” check list signed by irrigator and the owner submitted to the Building Inspections office

2) **Final inspection**

- a) Upon receipt and approval of items 6(a) and 6(b) above, the permit holder is eligible to request an irrigation final inspection
- b) The inspector will verify the installation of the backflow protection, wye–strainer, isolation valve, rain/freeze sensor, and visual inspection of head placement
- c) The irrigation backflow device box containing the backflow assembly shall have gravel installed with a minimum three inch clearance between the device and gravel
- d) The top of the irrigation backflow device box and the box containing the isolation valve shall be set at the proper level to facilitate clearances for mowing and maintenance
- e) The licensed irrigator or other representative need not to be present for the final inspection

3) **Permit Required**

Replacement of a backflow device and/or an isolation valve on an existing irrigation system requires a *Plumbing Permit*

4) **Chemical Injection**

Any irrigation or other system that includes the capability to feed any chemical shall have an RPZ or air gap to protect the public water supply

5) **Required backflow assembly testing**

- (a) Immediately after installation
- (b) A minimum of once a year for all RP assemblies
- (c) A minimum of once a year for all RP or DC assemblies installed on commercial properties
- (d) Immediately after repair
- (e) After assembly is moved