

IRRIGATION REVIEW & INSTALLATION GUIDELINE



IRRIGATION SYSTEM DESIGN:

In order to ensure proper design and installation of irrigation systems and implement the City of Allen's water conservation initiatives, new and renovated landscape irrigation systems must comply with the City of Allen and State design and installation requirements as defined by Texas Commission on Environmental Quality (TCEQ) 30 TAC 344-Landscape irrigation.

In addition to the requirements of 30 TAC 344, the City of Allen requires the following.

- Plans shall be sealed by a licensed irrigator, landscape architect or licensed plumber to standards listed in 30 TAC 344.
 - *Plans must include and show location of an automatic controller and sensors that prevent the operation of irrigation during rainfall or in freezing weather.
- Sprinkler head radius must be shown on plans.
- Plans must designate turf and non-turf areas. All non-turf landscape areas shall be designed with drip irrigation and /or pressure compensating tubing (no above-ground spray).
- All landscaped areas (including turfgrass), regardless of size, located between the sidewalk and curb/pavement edge for any development shall be designed with drip irrigation and/or pressure compensating tubing (no above-ground spray) and must be noted on plan.
- All drip irrigation and /or pressure compensating tubing shall be designed and installed according to manufacturer's specifications. For subsurface installation, application rate shall not exceed .21 inches per hour.
- Turfgrass areas utilizing irrigation rotors are to be designed and installed using low-angle nozzles.
- Plans must indicate the designed distribution uniformity for the system. Irrigation heads shall be installed to provide maximum distribution uniformity. The system shall be designed to provide a distribution uniformity of 63 percent DU_{lq} or better.
- The irrigation design shall prevent over-spray on impervious surfaces and excessive runoff.
- If a foundation watering element is installed around the foundation perimeter, it shall be a drip system on a separate zone and designated on the plans.
- *Non-single family developments.* All landscape areas that are less than ten feet in width and adjacent to impervious surfaces, and landscape islands 200 sq. ft. or less in area shall be designed with drip irrigation and /or pressure compensating tubing (no above-ground spray).
 - *Irrigation systems that vary from the standards of this Code and are designed to minimize water usage may be reviewed and approved by the Parks and Recreation Department.

Under the water conservation plan and drought contingency plan there are limits to the use of sprinkler systems. If a new construction building or new home requires more than two days per week watering to establish new sod or landscape, the contractor/owner must apply for a variance. There is no guarantee the variance will be granted if under the drought contingency portion of the plan. To apply for a variance, visit: cityofallen.org/watervariance. For more information on water conservation: <https://www.cityofallen.org/929/water-Conservation>

IRRIGATION AUDIT REQUIRED (COMMERCIAL ONLY):

A **certified landscape irrigation auditor** shall conduct an irrigation audit inspection after installation and before final inspection. The inspection must include an evaluation of the system distribution uniformity and the design and installation requirements of City code. A completed audit form must be submitted along with the backflow test report before scheduling the final inspection (see attached Irrigation Audit Form). The irrigation audit inspection completed by a **CERTIFIED LANDSCAPE IRRIGATION AUDITOR** will need to be submitted to BOTH of the following once completed:

1. Trackmybackflow.com (Provided by Aqua Backflow):
 - a. Submitters (Certified Landscape Irrigation Auditors) will need a Controller ID to enter the information requested on the Irrigation Audit Form
 - b. A fee of \$24.95 per assessment/inspection is required and will need to be paid via the Trackmybackflow.com website
 - c. Please contact Aqua Backflow at 847-742-2296 for submission, Controller ID or payment questions

And

2. City of Allen assigned Building Inspector:
 - a. A receipt of payment to Aqua Backflow and proof of submitted Irrigation Audit form will be required to proceed for final approval on Commercial properties

When existing irrigation systems are expanded by more than 25% (25% of the land area covered by the system); or more than 25% (25% of the land area covered by the system) of the irrigation system is replaced, the portion being expanded or replaced shall meet the current Coderequirements.

IRRIGATION SYSTEM INSPECTION REQUIRED:

A city inspection of the irrigation system must be requested through the Building Inspections Department by calling the Inspection Voice Response System (IVR) 844-381-8759 or by scheduling online via the Citizen Self Service Portal: cityofallen.org/css. The permit, approved plans, a copy of the required maintenance checklist with owner or owner representative signature, and a licensed irrigator or licensed installer/technician who provided supervision of installation must be on site for the inspection.

In the case of *non-single family developments*, the inspection form documenting the evaluation of the system distribution uniformity must also be on site for the inspection. The system inspection will consist of "open trench" inspection of all piping, wiring, and components of the mainline from the point of connection of the water supply, up to and including the first electric remote valve with electrical wire and connection exposed. All lateral lines, pop up heads and other mainline or valves do not need to be exposed for this inspection. In areas, where required, a portion of the drip line or pressure compensating tubing shall be left exposed for inspection. The inspection will include a visual check of each zone for performance during a brief operation run time.

ADDITIONAL INFORMATION

City Water Pressure: Varies; if more than 80 psi, a pressure reducing valve shall be installed.

Meter Size: Systems should be sized with a 5/8" meter not to exceed 15 GPM flow

Line to House: 3/4" (usually)

Location of Line from Street: Contact your builder

Fee: Commercial permit - \$10 per zone, \$500 max/Residential permit - \$75

Plumbing Requirements:

- Materials shall be those which are included in the latest edition adopted International Plumbing Code or in the International Residential Code
- Atmospheric vacuum breakers shall not be subject to continuous pressure and must be installed at least 6" above grade. If pressure type vacuum breakers are used, they must be installed at least 12" above grade
- Other listed backflow preventers (such as double check valve assemblies), shall be installed in accordance with their listing and according to 30 TAC 344 from TCEQ
- Minimum of 2" space from gravel to double check
- Minimum of 6" gravel base in bottom
- Before excavation or boring call: Dig Tess at 1-800-344-8377



Irrigation Inspection Form

Please return completed form to address listed on the bottom of page.

Property Information:

Name of Property: _____

Address of Property: _____

Allen, Texas Zip: _____

Water utility account number: _____

Responsible Party (Person with decision making authority regarding property)

Name: _____

Address: _____

City: _____ State. Zip: _____

Phone number: _____

Email: _____

Information of person conducting irrigation system inspection:

Name: _____

Address: _____

City: _____ State: Zip: _____

Phone number: _____ TX LI # _____

Email: _____

*Certified Irrigation auditor with _____ Texas A&M _____ Irrigation Association

**A copy of certification document from either Texas A&M or the Irrigation Association must be on file.*

If licensed irrigator is found to be falsifying information, a report will be made to TCEQ and citations may be issued.



Irrigation Inspection Form Page 2

Meter Size: _____ Meter Number: _____ Irrigation only? YES NO

Controller Information* (Brand, model):

Cross Connection Control device (Brand, type, size): _____

Rain/ Freeze Sensor Brand: _____ Working? YES NO

TOTAL Number of zones: _____ Irrigation day program (include all days)

Type of irrigation on controller (all that apply): Spray Rotor Bubblers Drip

System Analysis: All sunken, clogged, misaligned, broken, blocked, or otherwise problem heads have been corrected to maximize efficiency before this system analysis was performed. All zones are in most efficient working order and a zone was chosen that most represents the irrigation coverage of 60% of the property turfgrass area. Pressure reading was performed on at least one irrigation head in the zone. An IA method catch-can test was performed to determine PR and DU and results are recorded below. *(Do not audit drip zones)*

Representative Zone information:

Soil Type: _____ Plant Type(s): _____

Zone # _____ Type of irrigation heads (check one): Spray Rotor Number of heads: _____

Nozzle type (specialty nozzle?): _____

Number of start times for zone: _____ Minutes programmed _____

Actual Pressure reading (on irrigation head) _____ psi

Precipitation Rate (PR): _____ Inches per Hour

Distribution Uniformity (DULQ): _____

Signature of Certified Irrigation Auditor: _____ (include copy of certificate from either Texas A&M or Irrigation Association if not on file)

Date: _____

**If property has more than one controller, use additional form for each controller. A minimum of one zone per controller must be audited.*