



Irrigation System Plan Review and Inspections

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. These rules are available on TCEQ website:

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

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

- Plans shall be sealed by a licensed irrigator to standards listed in 30 TAC 344 rules **or** by a Texas registered landscape architect.
- Plans must include and show location of an automatic controller and sensors that prevent the operation of irrigation during rainfall or in freezing weather.
- 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) 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.
- Turf areas utilizing spray irrigation are to be designed using low-angle spray heads.
- Plans must indicate the designed distribution uniformity for the system. Irrigation heads shall be spaced for maximum distribution and uniformity. The system shall be designed to provide a distribution uniformity of 75% or better.
- All new irrigation systems for **single-family homes** shall have separate zones for a drip system around the foundation and must be noted on the plan.
- 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.

All new irrigation systems for *non-single family developments* shall meet the following requirements:

- All landscape areas that are less than ten feet in width and adjacent to impervious surfaces, and landscape islands 200 square feet or less in area shall be designed with drip irrigation and/or pressure compensating tubing (no above-ground spray)

A licensed irrigator or certified irrigation auditor shall conduct irrigation inspections after installation.

- Documentation of the inspection shall be submitted to the City prior to issuing a certificate of occupancy. The inspection must include an evaluation of the system distribution uniformity and the

design and installation requirements of this Code. An irrigation inspection form shall be made available by the City of Allen.

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 Code requirements.

After Installation, an Irrigation System Inspection is required:

After the backflow prevention device is tested, a City inspection of the irrigation system must be requested through the Building Inspection Department by calling 214-509-4130. The permit, approved plans, backflow test report, 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.



City of Allen

Irrigation System Plan Review Check List

Property Address: _____

_____ Plan is designed according to all standards as defined by Texas Commission on Environmental Quality (TCEQ) 30 TAC 344-Landscape Irrigation. Plans to be scaled 1" = 10' or larger.

_____ Scale, north arrow, legend, irrigator's seal and signature present on plan.

_____ All irrigated and non-irrigated areas clearly shown on plan.

_____ Irrigation system has separate zones based on plant material type, microclimate, topography, soil and hydrological requirements.

_____ All non-turfgrass areas are designed with drip irrigation and/or pressure compensating tubing.

_____ All landscaped areas (including turfgrass) located between the sidewalk and curb/pavement edge are designed with drip irrigation and/or pressure compensating tubing.

_____ Turf areas utilizing spray irrigation are designed using low-angle spray heads.

_____ All components are designed to not exceed manufacturers published performance limitations.

_____ All components are clearly noted on plan:

___ Backflow prevention device ___ Controller ___ Rain/freeze sensor

___ All water emission devices ___ Zone Valves ___ Isolation Valve

___ Pressure regulating component ___ Main line and lateral piping ___ Y-Type Strainer

Applies to **single-family homes only:**

_____ System has separate zone for a drip system around the foundation.

Applies to **Non-single family developments only:**

_____ All landscape areas that are less than ten feet in width and adjacent to impervious surfaces, and landscape islands 200 square feet or less in area are designed with drip irrigation and/or pressure compensating tubing.

Signature of Irrigator: _____ * Date: _____

Print Name: _____ Phone Number: _____

License #: _____

Affix LI Seal Here:

***If licensed irrigator is found to be falsifying information, a report will be made to TCEQ.**



Landscape Irrigation Systems Information Sheet

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:	¾” (usually)
Location of Line from Street:	Contact your builder

Inspections Required by the Building Inspection Department:

- Backflow Assembly Test (forms will be given with permit)
- Irrigation final at site
- ***For non-single family developments only:*** The inspection must include an evaluation of the system distribution uniformity and the design and installation requirements of this Code. (form will be given with permit)

Fee for Permit: \$30.00 Per Double Check Device

Plumbing Requirements:

- Materials shall be those which are included in the 2006 International Plumbing Code or in the 2006 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

Plan Review: Plans must be approved before permit is granted. No work shall begin until permit is granted. All plans must be scaled 1” = 10’ or larger.

Landscape Irrigation diagram (plans) indicating piping, location of heads, coverage (radius) diagram, type of system for backflow prevention, should be taken to all utility companies for review as to the locations of their lines before trenching. Before excavation or boring call: Dig Tess at 1-800-344-8377.



**Landscape Irrigation Final Inspection Check List
(Field Inspection Checklist for the City of Allen Irrigation Inspector)**

___ The permit, approved plans, backflow test report, 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 is on site for the inspection.

___ N/A ___ Pressure reducer has been installed in areas over 80 PSI (applies according to City PSI map)

___ Isolation valve at point of connection of water supply is installed.

___ Backflow prevention device (double check assembly) installed with 2" clearance to gravel base.

___ Y-type strainer is installed on inlet side of the double check assembly.

___ Mainline piping is minimum depth of 6 inches from natural grade.

___ PVC pipe primer solvent- pipe is primed with colored primer prior to PVC cement.

___ Electrical wire splices at valve have waterproof connectors.

___ Automatic controller and rain/freeze sensor are operational.

___ All zones are operational through the controller.

___ No water emission device intentionally spraying on/over impervious surface.

___ If spray heads are used, no misting of heads is occurring during operation.

___ Irrigation system has separate zones based on plant material type, microclimate, topography, soil and hydrological requirements.

___ All non turfgrass areas are designed with drip irrigation and/or pressure compensating tubing.

___ All landscaped areas(including turfgrass) located between the sidewalk and curb/pavement edge are designed with drip irrigation and/or pressure compensating tubing.

Comments: _____

Signature of Inspector

Date of Inspection



Irrigation Inspection Form Page 1
(Commercial Only)

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: _____

Email: _____

Irrigation license number: _____ * Certified Irrigation auditor? **YES NO**

If yes, are you a CLIA with the Irrigation Association? YES NO

****If licensed irrigator is found to be falsifying information, a report will be made to TCEQ.***



Irrigation Inspection Form Page 2
(Commercial Only)

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

Controller Information (Brand, model): _____

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

Rain and Freeze Sensor Brand: _____ Working? YES NO

Number of zones: _____ Irrigation schedule (start times per week) _____

Type of irrigation heads: Spray Rotor Other: _____

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. A catch-can test was performed to determine PR and DU and results are recorded below.

Representative Zone information:

Soil Type: _____ Plant Type(s): _____

Zone # _____ Type of irrigation heads: Spray Rotor Number of heads: _____

Precipitation Rate (PR): _____ Inches per Hour

Distribution Uniformity (DU): _____% Circle method used to determine DU: DU_{LQ} CU

Signature of Licensed Irrigator/Auditor: _____

Date: _____ (LI: *Place seal or stamp below*)