

Automatic Irrigation Systems in the Town of Cary

(Procedures enacted – July 2003)

Design Requirements

All new irrigation systems must adhere to the following design criteria:

- Sprinkler heads must be spaced to provide head to head coverage, using guidelines suggested by the manufacturer, and wind factors must be considered
- Sprays and rotor irrigation heads cannot be used within the same zone, except on single family properties with a single zone system
- To avoid runoff, irrigation systems should be installed so that the precipitation rate is less than the infiltration rate, or a controller must be used which would limit run times to limit runoff
- Sprinklers located on a steep slope require check valves be installed on all the heads on that irrigation zone
- The zoning of the irrigation system must allow that plants with different water requirements (such as grass and shrubs) be on separate zones. In addition the irrigation design should consider the different microclimates found in most landscapes (such as north facing grass areas vs. south facing grass areas) and separate those microclimates into zones. These zoning practices may add slightly to the installation cost of an irrigation system, but can have a dramatic effect on system efficiency.
- The controller should have multiple programs so these different irrigation schedules can be utilized.
- All sprinkler heads as well as drip irrigation emitters should have pressure regulation to optimize system efficiency. This pressure regulation can be at the point of connection to the water supply, at each zone valve or located in each head/emitter.

Guidelines on pressure at the head/emitter

Spray Heads - 20 to 35 psi

Gear Rotors - 60 psi or less

Impact Rotors - 60 psi or less

Drip emitters - 40 psi or less

- In order to comply with the Town's Water Waste Ordinance, sprinklers should be chosen to avoid water being sprayed onto non-landscaped areas.
- To achieve compliance with Town's rain sensor Ordinance 19-48, location of rain or soil sensors should be identified.
- No sprays or rotors or bubblers can be placed in the 'devil strip' or area that is less than five feet across. Rotors may be used to spray over the sidewalk and irrigate the 'devil strip' area.

Permits

Required Submissions

- Scaled drawing (maximum scale of 1"=30'), recommend scale (1"=20').
- Designer's name, address and phone number on the plan.
- Water supply location
 - Type (meter, well, etc.)
 - Meter size

- Static pressure reading before reduction
- On-site pump location (where applicable).
- Backflow prevention device
 - Location
 - 5 ft of meter for other location needs to be approved by Bobby Fann, Town of Cary Water Distribution System Operator, (919) 319-4545
 - Size
 - Winterization techniques to be used
- All irrigation components shall be clearly shown
 - Main cut off, located behind the meter and before the PRV
 - Pipe layout, line size and material
 - Valve location and size and type
 - Sprinkler head location
 - The sprinkler throw pattern of each head (to scale)
 - Irrigation controller (location and model)
 - Include gallons per minute and square feet per zone
- Heads must be spaced to provide head to head coverage.
- Irrigation zones shall be labeled by number and identified as turf, shrub, or flower head.
- Total square footage of irrigated area of each type of zone shall be clearly indicated on the plan and on the water budget form.
- A completed Water Budget Form supplied by the town of Cary.
- An irrigation schedule for April through October (run times per cycle, cycles per day, and days per week for each station).
- Recommended maintenance schedules for the system.

Inspections

- Approved plans must be on site before an inspection will be preformed.
- Underground inspection – Includes inspection of underground pipe from meter box to RPZ before it is covered up; Inspection of connection at the water supply; and inspection of the installation of the RPZ.
- Final inspection – Includes inspection of the location of all heads, type of heads, spacing of heads and throw pattern of each head and correct pressure; Testing the system to ensure compliance with approved plans, N.C. State Plumbing Code and Town of Cary Ordinance; Inspection and collection of RPZ certification.
- A map of the valve and head layout shall be provided to the property owner and a copy placed near or with the timer.
- All zones shall be clearly delineated in the timer cabinet.
- Responsible entity shall be named on inner door of timer (for emergency contact purposes).