



10-01-08

NEWS FROM THE PLUMBING INSPECTORS

City of Winston-Salem

The following information is provided from the Plumbing Inspections Department of the City of Winston-Salem. All news letters that have been sent out can be accessed online @ www.cityofws.org/Home/Departments/Inspections Look for Newsletters, Plumbing Monthly.

INSPECTORS AREAS CHANGED

The areas have changed for some of the Plumbing Inspectors. Please see our home page @ www.cityofws.org . Or go to www.cityofws.org/Home/Departments/Inspections/Articles/FormsAndFees . Look for Inspector Territory Maps.

Questions from contractors:

When a Residential Lawn Irrigation System is installed to the potable line that supplies a house, does the plumber need to add this extra load from the lawn irrigation system to the house design for peak demand?

Answer:

Yes,

The NC Licensed Plumber would have to figure this extra load in to the house's total demand. There are many good engineering practice standards out there that are acceptable for the sizing of the water line for total load calculations. Because of this it would be impractical to specify definite and detailed rules. Section 603.1 & 604.3 of the NC Plumbing Code shows the design criteria for the water supply and water distribution lines and Appendix E of the NC Plumbing Code can guide you to obtain the information that you will need up front before installation begins.

The Winston-Salem Plumbing Inspection Department has been working diligently with City/Utilities Cross- Connection Department on the requirements for and inspections of residential lawn sprinkler systems. At the bottom of this letter is a copy of our hand outs.

Items you wish to discuss please e-mail me and we will respond to your questions and also we will include what we can in our monthly letter. Thank you for all your comments and concerns.

Please send any comments to Jamesr@cityofws.org we would like to hear from you.

Thank you

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Cell # 336-462-7147



This letter is intended to provide information regarding requirements for the installation of a Residential Lawn Irrigation System in the Winston-Salem/Forsyth County water service area, and to help clear up confusion and some misunderstandings about these systems. All information contained in this letter is centered on this point.

IRRIGATION WATER METER

When the Lawn Irrigation System is served by it's own water meter that is separate from that serving domestic water to the residential dwelling, the installation shall comply with the requirements and ordinances of City/County Cross-Connections Control Standards, as well as requirements of the most current North Carolina Plumbing Code, Chapters 3 & 6, pertaining to the use of approved materials, and protection of potable water lines from the irrigation meter to the backflow preventer. These requirements may be obtained through the City/County Utilities Cross-Connection Control Section and the City/County Inspections Division. This type of connection shall be inspected and approved by the City/County Cross-Connection Control Section.

DOMESTIC WATER METER

When the Lawn Irrigation System and the residential dwelling are served by the same domestic water meter, the installation which starts at the potable water service line and continues to the outlet side of the backflow preventer, shall be performed by a North Carolina Licensed Plumbing Contractor and shall comply with the requirements of the most current North Carolina Plumbing Code. A plumbing permit is required, and inspections will be made by the City/County Inspection Division.

The installation of the back flow preventer and enclosure, still has to comply with the standards set forth by the City/County County Utilities Cross-Connection Section and shall be tested by them or their designated tester.

Because of the many different methods and materials which are accepted by the North Carolina Plumbing Code on sizing of the water service and water distribution lines, it is difficult to explain in specifics without quoting word for word the entire Plumbing Code. It is important to mention that should the North Carolina Licensed Plumbing Contractor find in his calculations that the additional load of installing a lawn irrigation system would render the water service line and the domestic water meter too small to serve calculated loads, the domestic water meter and water service line up to the branch that serves the irrigation system, would have to be increased in size.

The plumber should report his findings to the property owner before installation begins.

Any request for a change in a domestic water meter size, would have to be scheduled through the City/Utilities Division and appropriate fees paid.

Example:

On average, a ¾" water service line with ¾" domestic water meter will usually serve at 13 fixtures inside the house during peak demand hours. If a lawn irrigation system is connected to this line, the water meter size and water service line up to the branch that serves the irrigation system would have to be increased. Why? Because on average, a ¾" domestic water meter can serve a maximum of around 12.5 GPM (information for gpm on domestic meter obtained from city/utilities). The majority of the water service lines are calculated, and sized for the minimum pipe size that can be used during peak demands for domestic use. The average 13 fixture house would require around 12 to 13 gpm demand inside the house for water uses during peak demand. The added load from a lawn irrigation system would have to be figured in for this peak demand, per the North Carolina Plumbing Code. The resulting calculation would show a need to increase the size of the domestic meter as well as the service line up to the irrigation branch.

In performing the necessary calculations it is the contractor's responsibility to obtain information on static pressure from existing water mains, the maximum flow for domestic water meters of a given size, friction and pressure losses for the pipe materials and backflow preventers which are to be installed.

It is not required at this time, but is recommended that the use of any lawn irrigation should be used in off peak hours.

If you have any questions, please give us a call at:

James Harris	Tom Hall	James Rhodes
Water Distribution Supervisor	Senior Engineer Tech	Senior Plumbing Inspector
336-771-5113	Cross-Connections	336-727-2379
	336-734-1518	

Items you wish to discuss please e-mail me and we will respond to your questions and also we will include what we can in our monthly letter. Thank you for all your comments and concerns.

Please send any comments to Jamesr@cityofws.org we would like to hear from you.

Thanks
James Rhodes, Senior Plumbing Inspector
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*****NOTICE*****

The Winston-Salem Forsyth County Inspections Division will be sponsoring a seminar for Energy Efficient Building Solutions on October 23, 2008 from 1:00 – 5:00 pm at the Ramada Inn, Clemmons, NC. The seminar is being presented by Mathis Consulting Company based in Asheville, NC.

If you are interested in attending, please contact Dan Dockery, Winston-Salem Forsyth County Inspections at 727-2084 or 462-7472. We look forward in hearing from you.