



TO: Members of Troy City Council
FROM: Brian Kischnick, City Manager
Lori Grigg Bluhm, City Attorney
DATE: July 2, 2014
SUBJECT: Cross Connection Program

At the last City Council meeting, there was some discussion generated by letters that the City sent to each home in the western 1/3 of the City, requiring either a verification that there were no underground sprinklers or other cross connections at the residence, or the completion of a cross connection inspection by August 31, 2014. The middle 1/3 will be asked to do the same next year, and the eastern 1/3 will be asked to comply in 2016. At that meeting, the City's Cross Connection Inspector Matt Kapcia also detailed the health, safety and welfare reasons behind the regulation.

Although the City of Troy has required commercial cross connection inspections for several years, in 2013 the Michigan Department of Environmental Quality (MDEQ) notified the City that they also required the adoption and implementation of a residential cross control inspection program. The August 31 deadline was chosen since many of the possible cross connections arise in underground sprinkler systems, and the testing needs to be completed prior to any winterization.

Under the Michigan Safe Water Drinking Act, 1976 PA 399 (MCL 325.1001), the MDEQ charged with the promulgation of rules to protect drinking water, and more specifically to prevent cross connections that may contaminate the public water supply systems. The statute requires the MDEQ to create administrative rules to carry out its mandate. Under Administrative Rule 325.11401, all communities are required to implement a program for the removal of **ALL** existing cross connections and the prevention of all future cross connections. Since Troy has a large commercial base, and there is a perceived greater risk of exposure to contaminants from these properties, the City was allowed to first focus on the commercial sector. The City will continue to require testing of the commercial properties, but is also now required to address the residential sector, where there is also potential risk of contamination, especially due to the vast number of underground sprinkler systems. Since there are a limited number of available licensed plumbers to complete the inspections during the sprinkling season, the City proposed a three year rotational inspection schedule, requiring the west 1/3 of the City to obtain inspections in 2014.

Although the City is mandated to implement the residential cross connection inspection program, and the testing provides homeowners with assurances that the drinking water at their home is safe to drink, it is still possible to provide some relief to those property owners who find it difficult to obtain the required inspection. Since this regulation is designed to protect the health, safety and welfare of the residents, the City is more concerned about compliance and education than punishment. In response to several requests, City Administration will extend the deadline for compliance to October 31, 2014, since some sprinkler systems are not winterized until this date. Additionally,

the deadline for home owners to complete any necessary repairs or replacements can be administratively extended beyond the allocated 15 days of the inspection, as long as there is no immediate danger to the public water supply. Although the plumbing industry is regulated by the State, if the City determines that there is a private contractor who has charged clearly excessive rates for the testing service, that contractor will be removed from the City's list of potential contractors, and this information will also be posted on the City's website. City Administration will also provide our residents with the contact information for the Michigan Attorney General's consumer protection division and the State of Michigan Licensing Division for plumbers, in the event that residents are aggrieved by a private contractor.

During the course of the three year residential testing program, the City will continue to reach out to the public and address their questions and concerns. Additionally, we will continue to closely monitor legislative or administrative developments concerning cross connection programs. After the completion of the three year residential inspection program, City Administration will review the testing results and public input, and will determine if changes to the cross connection program are appropriate at that time and would be authorized under the law.



500 W. Big Beaver
Troy, MI 48084
248.524.3300
troymi.gov

7-2-2014

To: Brian Kischnick, City Manager

From: Tim Richnak, Director of Public Works
Richard Shepler, Water and Sewer Superintendent
Matthew Kapcia, Cross Connection Inspector

Re: Information on City of Troy 2014 Residential Cross Connection Control Program

Cross Connection Control is a program that is designed to prevent contaminants from entering the drinking water supply system. Due to a recent mandate from the State of Michigan Department of Environmental Quality, the City of Troy is required to enforce mandatory backflow assembly testing for all assemblies (commercial and residential) located in Troy. Following a visit and review from Abuzoha Islam of the DEQ, it was communicated that Troy's Cross Connection Program was not in compliance with the Michigan Safe Drinking Water Act, 1976 PA 399 which requires a residential inspection and enforcement component. To be in complete compliance with PA 399, the City was required to implement a program for the removal of all existing cross connections and the prevention of all future cross connections. Upon further communication with Kris Donaldson, District Supervisor of the DEQ, the legal requirements were further explained. This requirement is promulgated from PA 399, Rule 1404 which states, "*A water utility shall develop a comprehensive control program from the elimination and prevention of all cross connections. The plan for the program shall be submitted to the department for review and approval. Public water supplies may use the Cross Connection Rule Manual prepared by the Michigan department of environmental quality, water bureau, under R 325.10113 as guidance when developing a cross connection control program. When the plan is approved, the water utility shall implement the program for removal of all existing cross connections and prevention of all future cross connections.*"

The current Cross Connection Program, which includes a residential component, is in compliance with PA 399. Of the 6,824 notifications that were sent to residents in water billing district one, 20% (1,351) of notifications have been returned. Of the 1,351 received notifications, 931 indicated there was not a testable assembly on the property and 420 included test results. Of the 420 received test results, 22% (93) of assemblies failed testing. The information below includes frequently asked questions, outlines the procedures being followed in the City of Troy's 2014 residential backflow testing program, information regarding Residential Cross Connection Control programs in other communities, and includes a response from DEQ regarding additional information.

Frequently asked Questions

- Why is the City of Troy requiring backflow assembly testing now?
 - A recent review of Troy's Water Supply Cross Connection Report. The Michigan Department of Environmental Quality found that Troy's current program was not in compliance as it did not include residential cross connection inspections and enforcement. To ensure compliance, Troy was required to submit a plan to the DEQ stating how residential cross connection testing and inspections would be included in the current plan.
- Will my water be turned off?
 - Water service will not be interrupted for assemblies that have not been tested. Shut off will only occur when there is evidence of contamination or if contamination is highly suspected.
- Why was I given such a short time to comply with the request?
 - The mailing was sent out June 4th with an original request to have the forms returned by August 31st. This 12 week time frame was chosen because residents begin to winterize their systems in September and the system needs to be operational and energized in order to be tested. The time frame is being extended to October 31st for those that require additional time to comply with the request.
- How often must the backflow assembly be tested?
 - Originally, the 2008 Cross Connection Rules Manual stated that assemblies must be tested every 5 years. After a change in rules, effective January 1, 2011, the minimum frequency that backflow assemblies must be tested was reduced from five (5) years to three (3) years. Local cross connection control programs may establish more frequent testing based on site specific conditions and the degree of hazard associated with any account. During the course of the three-year Residential Cross Connection Control Program, the City will monitor legislative and administrative developments regarding cross connection programs. After the three-year program has been completed, City Administration will review the testing results and determine if any changes should be made to the program.
- I left a voicemail on the Troy voicemail system and I have not received a returned call back yet. Why?
 - In the first few days after the letters were sent to residents, hundreds of calls were received from residents seeking clarifications, answers to their questions and additional information. It took several days to retrieve this information and to return the calls. Adjustments have been made to retrieve and respond to these calls within one business day.

- What are the requirements and specificities of Residential Cross Connection Control programs for other communities within Michigan?
 - Please refer to the attached document: *Overview of Residential Cross Connection Control Program Procedures for Communities within Michigan*.
- Are commercial and industrial water accounts being tested?
 - Yes, commercial and industrial water accounts have been involved in testing programs in the City of Troy for 40 years.
- I did not get a notification but someone else I know in Troy did receive a notification. Why?
 - The City of Troy has separated the Cross Connection Control program into three phases. Each phase is broken down by one of the three water billing districts within Troy. District one (bounded by South Blvd, 14 Mile, Adams Road and Crooks Road) is in the 2014 program year and was the first to receive notifications. District two and district three will be included in the 2015 and 2016 program years, respectively.
- Do I need to test my backflow assembly if I have not used my sprinkler system in several years?
 - If the system is inactive, the backflow prevention assembly must be disconnected from the sprinkler system and the water source must be capped. When the system is reconnected and activated, it must be tested.
- Why doesn't Troy provide additional protection by placing a backflow assembly at the water meter?
 - Requirements dictate that the backflow assemblies need to be at the end of the system in efforts to protect your home and the entire water system. Backflow assemblies must be located where a potable water system connects to a non-potable water system.
- I misplaced my residential backflow assembly test report form. Where can I obtain another copy?
 - Additional copies will be sent upon request and a PDF copy will be available to download from the City of Troy website under 'City News' at the following location: <http://troymi.govwww.troymi.gov/Home/CityofTroyHome.aspx>. A list of licensed plumbing contractors and frequently asked questions will also be available on the website.



Outline of program procedures

- Using the three water billing districts, residential property addresses and accounts were identified.
- The residential account list was generated which produced mailings that were sent out on June 4, 2014.
- The city began receiving completed reports and corresponding test results from residents and licensed plumbing contractors within a week of the mailing. The results will be recorded in the cross connection database.
- At the end of the 2014 program a comparison will be made between reports, previous field surveys and the account list for district one.
- Residential accounts that did not submit any documentation within the requested time period will receive a follow-up letter reminding them of the residential backflow testing program.

The frequently asked questions and outline of program procedures provide a short overview of the program for the 2014 year. Additional information regarding the Cross Connection Control program is provided below.

Additional Information

- The legal requirement of residential cross connection and testing comes from the Rule 1404 of the Michigan Safe Drinking Water Act, 1976 PA 399 that states, "A water utility shall develop a comprehensive control program for the elimination and prevention of all cross connections".
- The parameters of the program require residential as well as industrial and commercial testing. The cross connection rules manual provides guidance on developing a comprehensive cross connection program that includes a residential component.
- Sprinkler systems are a significant cross connection hazard for residential properties. Sprinkler heads are submerged inlets (a cross connection) to the public water system and require a backflow preventer to protect the public water system from backflow.



500 W. Big Beaver
Troy, MI 48084
248.524.3300
troymi.gov

Information received via e-mail from Brian Kischnik to Abuzoha Islam/Kris Donaldson - DEQ

Mr. Islam:

The City of Troy Water Department staff presented Troy's residential cross connection program to the Troy City Council this past Monday night. They provided excellent information about the dangers of cross connections and the resulting potential contamination, as well as the merits of a residential testing program. The City Council asked several questions and we are asking for your assistance to clarify a few issues before our next meeting July 7, 2014.

1. In your August 19, 2013 letter, you state, "Currently, the city's program does not include residential inspections and enforcement. A cross connection program, in accordance with Part 14, should (emphasis added) include a residential component to fully comply with the rule. Please respond in writing to this office on how the city intends to meet the residential program requirements for inspections and testing by September 19, 2013." I question the use of the word "should." It seems if it is required, the word "shall" would have been used. Yet, in the next sentence you imply that you really meant "shall" by requiring the city to responding in writing on how we intend to comply. What is the correct intention, word and direction?

See Rule 1404. "A water utility *shall* develop a *comprehensive* cross connection program and *shall* implement the program" Cross connection hazards do exist in a residential setting and a residential component is part of a comprehensive program.

2. **Where does the legal requirement come from and is a residential cross connection testing and inspection program required? If yes, what are the parameters for this program, if any?**

The legal requirement comes from Part 14 of the Administrative Rules promulgated under the Michigan Safe Drinking Water Act, 1976 PA399 (Act 399). In particular Rule 1404 states: A water utility shall develop a comprehensive control program for the elimination and prevention of all cross connections. The plan for the program shall be submitted to the department for review and approval. Public water supplies may use the Cross Connection Rules Manual prepared by the Michigan department of environmental quality, water bureau, under R 325.10113 as guidance when developing a cross connection control program. When the plan is approved, the water utility shall implement the program for removal of all existing cross connections and prevention of all future cross connections.

The cross connection rules manual provides guidance on developing a comprehensive cross connection program that includes a residential component. Cross connection



500 W. Big Beaver
Troy, MI 48084
248.524.3300
troymi.gov

hazards exist in a residential setting just as they do in the commercial/industrial setting. Conducting residential inspections and requiring testing of backflow prevention devices is part of preventing cross connections. Most communities implement a residential program in a phased approach. A significant cross connection hazard in a residential setting is a sprinkler system. Sprinkler heads are submerged inlets (a cross connection) to the public water system and require a backflow preventer to protect the public water system from backflow. Most communities begin their program by identifying residences with sprinkler systems and then requiring testing of the backflow devices to ensure they are operational. This required test for a residential device is no different for commercial/industrial facilities in the community.

3. What is the penalty for the city if no testing and inspection program is instituted and we provide education on the benefits and merits of backflow prevention? Does this education component meet the requirement of the DEQ?

The DEQ has not determined how specifically we would implement penalties allowed under Act 399. Currently, we are asking communities to begin incorporating a residential component to their cross connection program and respond to us what steps they plan to take. This is being asked of all water systems (without a residential component) as part of our normal evaluation cycle. The education component is an important part of the residential program and we encourage the use of educational material as a precursor to device testing requests and inspections. Educational material helps residents identify and correct (those that can be easily corrected) cross connections in the home. But, it does not replace the need to test backflow prevention devices that exist on known cross connections to ensure they are operational.

I appreciate your time and attention to answering these questions so we can respond appropriately to the City Council. Please feel free to contact me on my cell or by email. Also, we are willing to meet next week at your office to follow up on this issue.

*Brian M. Kischnick
Troy City Manager*

Overview of Residential Cross Connection Control Program Procedures for Communities within Michigan

Currently, many communities within Michigan are participating in Residential Cross Connection Control Programs. These communities require all commercial and residential backflow assemblies to be tested as required by the Michigan Department of Environmental Quality. Each Residential Cross Connection Control program is outlined below:

Oakland County - Water Resources Commissioner

- Bloomfield Hills, Bingham Farms, Commerce Township, Farmington Hills, Highland Township, Keego Harbor, Lyon Township, Oakland Township, Orchard Lake, Oxford Township, Royal Oak Township, Springfield Township, Wolverine Lake are included in the WRC Program.
- All mailings, notification and information sent to residents directly from the WRC, not an outside company.
- The WRC sends a letter which includes literature that refers residents to the website for additional information and a list of licensed plumbing contractors.
- Residents of these communities must pay for the testing of their backflow assemblies.
- Notices are sent to residents before the due date. If a test form has not been submitted by the deadline, additional notices are sent which allow residents an extra 90 days to complete testing. After the 90 days, if testing still has not been completed, a site visit is made and a notice is posted requesting compliance within seven days. After seven days, if testing is not completed, water services can be terminated.
- Residential customers are inspected by WRC every five years, and devices are tested at a minimum of every five years.

Royal Oak

- Residential Cross Connection Control Program was started five years ago.
- Hydro Designs is contracted to send out the mailings and handle phone calls/questions for commercial and residential backflow assembly testing.
- Residents of Royal Oak must pay for the testing of their backflow assemblies.
- Water service may be shut off for non-compliance with testing.
- Testing is required every three years.



Saginaw

- Residential Cross Connection Control Program was started in 2004.
- Residential backflow assemblies are required to be tested every three years.
- Water service can be terminated for non-compliance or suspected contamination. This has happened once in the history of the program due to potential contamination.
- Residents must pay for the testing of their backflow assemblies.

Midland

- Residential Cross Connection Program has been in place since 2004.
- Testing is everything three years is required by the Midland Code of Ordinances.
- Mailings are sent out from the Water Department, not an outside company.
- Residents must pay for the testing of their backflow assemblies.
- Midland has yet to terminate water service for non-compliance.

East Lansing

- Residential Cross Connection Control Program has been in place since 2006.
- Residential backflow assemblies are required to be tested every three years
- H2O Compliance sends out all mailings notifications to residents.
- Residents must pay for the testing of their backflow assemblies.
- East Lansing has the authority to terminate water service for non-compliance but has yet to do so.

Northern Michigan Communities

- Frankfort, Harbor Springs, Bay View, Boyne Highlands, Hidden Hamlet Association, Little Traverse Township, West Traverse Township, Petoskey, McBain, Ewart, Reed City, Manton are currently participating in Residential Cross Connection Control Programs.
- Mead & Hunt is responsible for sending out all mailings, forms, and testing lists to residents. Testing forms are due by July 1.
- If testing forms are not received from residents, a second notification is sent allowing a 30-day extension. If testing was not completed, any extenuating circumstances may be investigated.
- If testing is still not completed, water service can be terminated.
- Testing is required on an annual basis.



500 W. Big Beaver
Troy, MI 48084
248.524.3300
troymi.gov

Grand Traverse County

- Garfield Township, East Bay Township, Peninsular Township, Acme Township, Elmwood Township are included in Grand Traverse County's Residential Cross Connection Control Program.
- Program has been in place for at least nine years.
- Grand Traverse County sends out testing notifications and reminders on water bills to save on postage and time instead of sending out individual notifications. This new procedure began this year.
- A list of licensed plumbing contractors is provided on the website.
- Residents must pay for the testing of their backflow assemblies.
- Currently, there is no action taken for residential noncompliance of testing requirements. Water service is not terminated.
- Grand Traverse County prefers residential backflow assembly testing is completed every year, rather than every three years. Most of the testing is on irrigation lines which typically go unused for a greater portion of the year.

H2O Compliance Services

- Village of Fowlerville and City of St. John's
- H2O Compliance Services mail the residential cross connection notification and contractor list to all residents.
- The notification and list are mailed on May 1 and due by June 15. A second letter is sent to residents if test results are not received which gives them an additional 30 days to complete testing.
- Testing is required on an annual basis.
- Currently, there is no action taken for residential noncompliance of testing requirements. Water service is not terminated.

Hydro Designs

- Hydro Designs administers residential notifications and mailings to Holly, Lapeer, Southgate, and Wixom.
- Holly, Southgate, and Wixom require inspections every three years.
- Lapeer requires inspections annually.