

**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER****City of Flint Did Not Meet Treatment Requirements**

Our water system was recently found to be in violation of a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, and November 20 of 2014). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 ug/L. The location reporting the highest TTHM level was 99 ug/L; thus, our water system exceeds the TTHM MCL.

**What should I do?**

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. In that case, you may be at increased risk and should seek advice about drinking water from your health care provider.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

**What does this mean?**

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

**What is being done?**

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015.

For more information, please contact Mr. Brent Wright or Mike Glasgow at 810-787-6537 or the Water Plant at 4500 North Dort Highway, Flint, MI 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

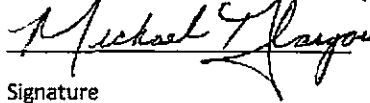
This notice is being sent to you by the City of Flint.

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CERTIFICATION: F1 53

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules. Reminder to water supplier: This notice/certification must be sent to the DEQ.

|                                                                                     |                             |                  |
|-------------------------------------------------------------------------------------|-----------------------------|------------------|
|  | <u>ASSISTANT SUPERVISOR</u> | <u>1/2/15</u>    |
| Signature                                                                           | Title                       | Date Distributed |

## **Pleyte, Beth (Treasury)**

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**From:** Darnell Earley <dearley@cityofflint.com>  
**Sent:** Monday, January 05, 2015 4:09 PM  
**To:** Saxton, Thomas (Treasury)  
**Cc:** Workman, Wayne (TREASURY)  
**Subject:** Fwd: Thank You!

Tom,

This is the email that I sent to Dan following our meeting in Flint on October 29. As I said, I have yet to hear anything back. I will reach out to him as follow-up to the attached.

Thanks for your help.



Darnell Earley, ICMA-CM, MPA  
Emergency Manager  
Flint, MI

----- Forwarded message -----

**From:** Darnell Earley <dearley@cityofflint.com>

**Date:** Fri, Oct 31, 2014 at 11:43 AM

**Subject:** Thank You!

**To:** [wyantd@michigan.gov](mailto:wyantd@michigan.gov)

**Cc:** Dayne Walling <[dwalling@cityofflint.com](mailto:dwalling@cityofflint.com)>, "Workman, Wayne (TREASURY)"

<[workmanw@michigan.gov](mailto:workmanw@michigan.gov)>, "Byrne, Randall (Treasury)" <[ByrneR1@michigan.gov](mailto:ByrneR1@michigan.gov)>, "Koryzno, Edward (Treasury)" <[koryznoe@michigan.gov](mailto:koryznoe@michigan.gov)>, Kelly Rossman-McKinney <[krossman@truscottrossman.com](mailto:krossman@truscottrossman.com)>, Elizabeth Murphy <[emurphy@cityofflint.com](mailto:emurphy@cityofflint.com)>, "Hollins, Harvey (GOV)" <[hollinsh@michigan.gov](mailto:hollinsh@michigan.gov)>

Good Morning Director Wyant:

I wanted to take just a moment to thank you and your team for travelling to Flint Wednesday to meet with me, the Mayor, and the Utilities Department staff.

Everyone on our end appreciated the opportunity to meet directly with you and your key staff at the DEQ. We all felt it was a very productive discussion of the many difficult issues facing the City of Flint not only during this transition, but as its own long-term, sustainable water supply and distribution system, leading towards full implementation of the KWA project. As you know Flint is slated to convert to the KWA water source well within the next 18 month timeline. Until that happens however, I think you would agree that we have an excellent opportunity here to send a good, positive message about how the City is managing its water services, and working very closely with your office in the process.

As we discussed, an initial media hit from your office fairly soon would also help us build public confidence through stronger communication on how we are responding to the challenges we encounter, your department's support of our efforts to resolve them, and the resultant potability of the current water source. If there are other next steps you need from us regarding such a media release, please don't hesitate to contact me.

We look forward to our continued partnership in addressing these and other matters critical to environmental quality in the City of Flint and the State of Michigan!

Sincerely,



Darnell Earley, ICMA-CM, MPA  
Emergency Manager  
Flint, MI

**Pleyte, Beth (Treasury)**

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**From:** Maxine Murray <mmurray@cityofflint.com>  
**Sent:** Tuesday, January 06, 2015 3:24 PM  
**To:** Carter, Jerry (MSP); Kapp, Gene (MSP); Muchmore, Dennis (GOV); Roberts, John (DTMB); Dempkowski, Angela (Treasury); Baird, Richard (GOV); Darnell Earley; Deasy, Thomas (MSP); Koryzno, Edward (Treasury); Clement, Elizabeth (GOV); Elizabeth Murphy; Etue, Kriste (MSP); Hollins, Harvey (GOV); Hill, Darryl (MSP); James Tolbert; Jerry Ambrose; Klotz, Josephine (MSP); Lee, Nichole (MSP); McGowan, Emmitt (MSP); Smith, Paul (GOV); Byrne, Randall (Treasury); Sands, Thomas (MSP); Sipes, Stephen (MSP); O'Neill, Stephen (MSP); Saxton, Thomas (Treasury); Workman, Wayne (TREASURY); West, Samantha (GOV)  
**Subject:** Bi-Weekly Conference Call Agenda  
**Attachments:** Conf Call Agenda 010715.pdf

Good afternoon,

Please find attached the agenda for the 9:00 am conference call scheduled for **Wednesday, January 7, 2015.**

Thank you.

--  
Maxine Murray  
Executive Assistant to  
Mayor Dayne Walling  
Darnell Earley, Emergency Manager  
1101 S. Saginaw Street  
Flint, MI 48502  
810.237.2035 Telephone  
810.766.7218 Fax

# **City of Flint Wednesday 9:00am Phone Conference Agenda**

**January 7, 2015**

1-888- Access code Last Report

**Status**

## **1) Public Safety Update – FPD, MSP, (FFD, if needed)**

a) FPD

\* The final draft reports for the evaluation of both the Police and the Fire Departments have been received. The study will be presented to City Council at the Public Safety Committee on January 22, 2015.

UPDATE

\* SRMS MOA has been signed, project charter development is underway. Last item for which Flint needed to provide a sign-off has been completed.

UPDATE

b) FFD

City applied for \$999,103 grant from the FEMA Assistance to Firefighters Grant Program to purchase a new aerial truck.

No Action Needed

c) Other update from Chief Tolbert and MSP

## **2) Governor's Office Update – R. Baird, H. Hollins, B. Clement**

a) District Court Consolidation

County Commissioners voted on 12/10/14 to approve "pursuant to the terms and conditions set forth in a MOU to be approved between City of Flint and Gen. Cty."

UPDATE

b) Local Income Tax Initiative

No action was taken during the lame duck session. Additional source of funds still needed for City.

UPDATE

c) Other

### 3) Finance and Administrative Update

#### Last Report

#### Status

a) Firefighters Contract City Council sent an alternative contract to the Emergency Loan Board on December 17, 2014. Prompt action necessary on IAFF contract - this is delaying the valuation of the pension system by MERS. Decision needed by end of January.

UPDATE

b) Financial Ordinances City Council approved first reading of Fund Balance Policy, OPEB, BSF and strategic planning processes ordinances. Purchasing Ordinance still to be moved.

UPDATE

c) City Administrator Natasha Henderson was announced as new Flint City Administrator on December 22, 2014. Start date: Feb 23, 2015

NEW

d) Management Vacancies A search firm will be contracted to identify Treasurer, HR Director and Finance Director.

NEW

e) City Clerk Supervision Can EM establish supervisory oversight of the City Clerk; change priorities, activities of Clerk?

NEW

### 4) City Council Update

a) Vacant Council Seats Three candidates have been sent to City Council for consideration for Ward 3 and Ward 6. Special meeting held Jan 5, 2015. Kerry Nelson and Herb Winfrey selected.

NEW

### 5) Water Issues

a) MDEQ Violation Notice Violation notice received 12/16/14 maximum contaminant level for TTHM exceeded. Public notice required. Notices sent out Jan 5, 2015. Most recent readings in compliance.

NEW

#### 6) 9-1-1 Reconsolidation Plan

##### a) Tower Transfer to Consortium

Tower built with C-GAP funds. Procedure necessary to transfer asset to Consortium? Need to have assessment of value?

NEW

#### 7) Transition Activities

##### a) Planning Workshop

Off-site workshop for Council, Dept. Heads, and new CA scheduled for Jan. 10, 2015. Transition activities and budget prep. Cancelled temporarily.

NEW

##### b) Council Meeting Schedule

Council President has asked to return to regular Council meeting schedule and committee meetings with new dates and fewer restrictions.

NEW

##### c) Council/Mayor Compensation

What happens to salary for council and mayor when the EM leaves? As budgeted or back to old levels?

NEW

##### d) Update of Transition Management Plan

See attached.

NEW

#### 8) Other Items

##### MDNR and Purchase of CSX rail area

Assistance needed to change allowable purchase price of Grand Traverse Greenway trail from CSX.

NEW

#### Last Report

#### Status

## City of Flint

### Steps to Prepare for Transition From Emergency Manager to Receivership Transition Advisory Board

| Chief Administrative Officer     | Target   | Completion | 7 Pt. Trans. Plan # | Comments                          |
|----------------------------------|----------|------------|---------------------|-----------------------------------|
| * National Recruitment           | 9/1/14   | 12/18/2014 | 4                   | Started 9/1/14, open until filled |
| * Appoint Selection Committee    | 10/1/14  | 11/4/2014  |                     |                                   |
| * Select finalists               | 11/10/14 | 11/4/2014  |                     |                                   |
| * Conduct Interviews             | 11/24/14 | 11/12/2014 |                     |                                   |
| * Recommend Candidate            | 12/15/14 | 12/1/2014  |                     |                                   |
| * EM Appoints Selected Candidate | 12/15/14 | 12/18/2014 |                     |                                   |

#### Organizational Development

- \* EM/Mayor determine recommended City organizational structure
- \* EM/Mayor recommend Council action on ordinance changes to implement organizational structure
- \* Council to review and adopt revised organizational structure
- \* Finalization organizational structure roles: Mayor, Council, Administration

#### Complete Bargaining Units Contracts

|                    |        |          |   |                                       |
|--------------------|--------|----------|---|---------------------------------------|
| * Local 1600       | 7/1/14 | Ratified | 4 |                                       |
| * Local 1799       | 7/1/14 | Ratified |   |                                       |
| * FPOA             | 7/1/14 | Imposed  |   |                                       |
| * PD - Sgts.       | 7/1/14 | Ratified |   |                                       |
| * PD -Capts & Lts. | 7/1/14 | Ratified |   |                                       |
| * Fire Union       | 7/1/14 |          |   | Sent to State Loan Board for decision |

## City of Flint

### Steps to Prepare for Transition From Emergency Manager to Receivership Transition Advisory Board

| Target                                                                                                             | Completion     | 7 Pt. Trans. Plan # | Comments                     |
|--------------------------------------------------------------------------------------------------------------------|----------------|---------------------|------------------------------|
| <b>Comprehensive Public Safety Study</b>                                                                           |                |                     |                              |
| * Contract with ICMA for Study                                                                                     | 5/8/2014       | 4                   |                              |
| * Collect Data                                                                                                     | 5/9/14-9/30/14 |                     |                              |
| * Receive Draft Report                                                                                             | 9/30/14        |                     |                              |
| * Receive Final Report                                                                                             | 11/1/14        |                     |                              |
| * Plan Implementation                                                                                              | 12/23/2014     |                     |                              |
| * Determine best, most appropriate use of \$1.1 million State Allocation                                           |                |                     |                              |
| <b>Retiree Health Care Lawsuit</b>                                                                                 |                |                     |                              |
| * City Notified of Lawsuit                                                                                         |                | 5                   |                              |
| * Injunction Received                                                                                              | 1/13/2014      |                     |                              |
| * Injunction Modified                                                                                              | 6/30/2014      |                     |                              |
| Cornerstone determines impact on FY15                                                                              |                |                     |                              |
| * & 16 Budget                                                                                                      | 9/1/14         |                     | Tying into budget prep       |
| * Implement Modifications                                                                                          | 11/1/14        |                     |                              |
| * Scheduling Conference                                                                                            |                |                     |                              |
| * Mayor and Council to support City's position on retiree health care or adopt measures offsetting increased costs | 6/26/14        | 5                   |                              |
| <b>Biennial Budget Implementation</b>                                                                              |                |                     |                              |
| * Biennial Budget Adopted                                                                                          | 6/26/2014      |                     |                              |
| * 1st Quarter Status                                                                                               | 10/1/14        |                     |                              |
| * 2nd Quarter Status                                                                                               | 1/1/15         |                     |                              |
| <b>FY 14 Budget Close Out</b>                                                                                      |                |                     |                              |
| * Preliminary Close                                                                                                |                |                     | FY14 closed on June 30, 2014 |
| * Audit Received                                                                                                   | 11/30/14       |                     |                              |
| * Audit Presentation to City Council                                                                               | 12/15/14       |                     |                              |

## City of Flint

### Steps to Prepare for Transition From Emergency Manager to Receivership Transition Advisory Board

|                                                                                                 | Target  | Completion | 7 Pt. Trans. Plan # | Comments                                        |
|-------------------------------------------------------------------------------------------------|---------|------------|---------------------|-------------------------------------------------|
| * EM receives BRC Final Report                                                                  | 7/18/14 | 7/18/2014  | 3                   |                                                 |
| * Present Report to Mayor and City Council                                                      | 7/28/14 | 7/28/14    |                     |                                                 |
| * Mayor and Council Submit Comments to EM                                                       | 7/28/14 | 7/28/14    | 3                   |                                                 |
| * EM Orders BRC Recommended Charter Amendments and Charter Commission Initiative on Nov. Ballot | 7/30/14 | 8/5/2014   |                     | Charter Review Cmte. approved by voters 11/4/14 |
| * EM develops proposed governance structure and sends to governor                               |         |            |                     |                                                 |
| * Mayor and Council Comments on EM Proposal                                                     | 7/28/14 | 7/28/2014  | 3                   | Part of Final Order                             |
| * Define and incorporate financial and organizational best practices                            | 3/25/13 | 3/25/2014  | 7                   | Reso on TAB                                     |
|                                                                                                 |         |            |                     |                                                 |
| * EM Submits Plan to Treasury                                                                   | 7/1/14  | 7/1/2014   |                     |                                                 |
| * Treasury Approval Received                                                                    |         | 7/16/2014  |                     |                                                 |
| * EM Orders DE/RAP Adoption                                                                     |         | 7/15/2014  |                     |                                                 |
| * City Council passes resolution of support for DE/RAP                                          |         | 3/25/2014  | 1                   | Reso on TAB                                     |
| * Confirmation by Mayor and Council that DE/RAP actions will be a top priority in budgeting     | 6/26/14 | 6/26/2014  | 1                   |                                                 |

## City of Flint

### Steps to Prepare for Transition From Emergency Manager to Receivership Transition Advisory Board

|                                                                                                                              | Target   | Completion | 7 Pt. Trans. Plan # | Comments |
|------------------------------------------------------------------------------------------------------------------------------|----------|------------|---------------------|----------|
| <b>City Council Activity</b>                                                                                                 |          |            |                     |          |
| * Council to receive quarterly reports from Mayor/Fin. Director on progress of achieving strategic objectives and priorities | 9/22/14  | 10/13/2014 | 6                   |          |
| * Completion of City Ordinance Review by Council as proposed by EM                                                           | 9/22/14  |            | 3                   |          |
| * Review Strategic Plan, FY16 Budget                                                                                         | 1/20/15  |            | 6/7                 |          |
| * 6 mos. FY15 Budget Review/Amendments                                                                                       | 1/20/15  |            | 6/7                 |          |
| * Strategic Plan to be updated annually                                                                                      | 2/20/15  |            | 6                   |          |
| * FY17 Budget Development                                                                                                    | 2/20/15  |            |                     |          |
| * Completion of MML Level One Education Award per EM Order 2                                                                 | 3/28/14  |            | 7                   |          |
| <b>Five Year Financial Analysis</b>                                                                                          |          |            |                     |          |
| * City Council adopts 5 Year Analysis                                                                                        | 6/1/14   | 6/1/2014   | 2                   |          |
| * Finance/Adm Cmte shall annually review analysis in February each year and Send to Council for approval                     | 2/20/15  |            | 2                   |          |
| <b>Issue outgoing EM Order</b>                                                                                               |          |            |                     |          |
|                                                                                                                              | 4/8/2015 |            |                     |          |



**CITY OF FLINT  
OFFICE OF EMERGENCY MANAGER  
DARNELL EARLEY  
ICMA-CM, MPA**

**Jason Lorenz  
Public Information Officer  
(810) 237-2039  
[jlorenz@cityofflint.com](mailto:jlorenz@cityofflint.com)  
Elizabeth Murphy  
(810) 237-2025  
[emurphy@cityofflint.com](mailto:emurphy@cityofflint.com)**

**For Immediate Release**

***Emergency Manager Statement on Residents' Flint River Water Concerns***

***Flint, Michigan – January 9, 2015*** – The City of Flint's Emergency Manager Darnell Earley today released a statement regarding residents' Flint River water safety concerns following the distribution of the total trihalomethanes violation letter:

"Suggestions have been made that the City of Flint should return to using water purchased through the Detroit Water and Sewerage Department (DWSD). For many reasons, financial and otherwise, the City of Flint can ill-afford to switch courses at this point. Thus, we will continue to follow the guidelines and directives of the Michigan DEQ in the implementation of our water quality plan and operational report, until the KWA water source is available. The estimated cost to go back to the water provided by the DWSD is approximately \$1 million per month and the City expects to be using the Karegnondi Water Authority (KWA) Lake Huron water within the next eighteen months. It is not financially prudent to spend \$18 million to purchase water that meets the same DEQ standards as the water now available from the Flint River.

**-CONTINUE-**

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City Hall  
1101 S. Saginaw Street - Flint, Michigan 48502  
810-766-7346 FAX: 810-766-7218 [www.cityofflint.com](http://www.cityofflint.com)



CITY OF FLINT  
OFFICE OF EMERGENCY MANAGER  
DARNELL EARLEY  
ICMA-CM, MPA

However, because of the concerns raised by the public, as well as the city council and our state legislative delegation, we want to make sure that the Flint water treatment operation is doing everything it can to address the challenges outlined in the recent violation notice issued by the State Department of Environmental Quality (DEQ). We will be seeking river water management consultants with extensive treatment expertise to work with the Flint Utilities Department staff to assure that best practices are being used for treatment and distribution of the Flint River water. This is a much better use of the City's limited funds than trying to pursue a course back to DWSD."

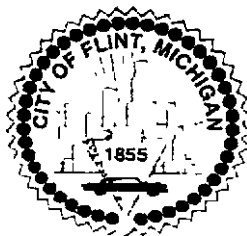
**-END-**

**City of Flint**

**Water System Questions & Answers**



**January 13, 2015**



## **CITY OF FLINT**

### **Department of Public Works**

**Dayne Walling**  
Mayor

**Gerald Ambrose**  
Emergency Manager

**Howard Croft**  
Director

**TO:** City of Flint Residents

**RE:** Water Questions

**DATE:** January 13, 2015

#### **Prelude**

The decision to switch to the Karegnondi Water Authority as the City's permanent water source was made following extensive research and in-depth engineering studies. After entering into a contract with KWA and the subsequent termination of the existing water service contract by the Detroit Water and Sewerage Department, the same diligence was given in determining what source water to use while waiting for the community supported KWA water to arrive. The City concluded from this work that the Flint River presented a safe and financially responsible alternative water source. The decision to use the Flint River as an intermediate water source was approved by state regulatory officials in 2014 whereby the City was permitted by the Michigan Department of Environmental Quality to proceed with treatment of water from the Flint River.

The following questions were presented by concerned citizens, and the City's responses follow. This document will be put on the City's website for public viewing within the next several days.

#### **1. What was the process by which the decision was made to switch from Detroit water to Flint River water? Who was responsible for what decisions?**

On March 25<sup>th</sup>, 2013, after evaluating cost comparisons for a permanent water source, the Flint City Council, with support from the Mayor, voted 7 – 1 approving a resolution to purchase water from the Karegnondi Water Authority (KWA). On March 29<sup>th</sup>, resolution 2013EM041 was signed, authorizing the City of Flint to enter into a contract with the KWA.

On April 16<sup>th</sup>, 2013, then Emergency Manager Ed Kurtz, signed the contract effectively purchasing 18 MGD of capacity from the KWA.

On April 17<sup>th</sup>, 2013 Detroit Water and Sewerage Department (DWSD) sent a letter terminating the existing water service contract between the City of Flint and Detroit. With the termination set to take effect 12 months later on April 17<sup>th</sup>, 2014, a gap was created between the end of the DWSD contract and the start of the KWA.

On June 29<sup>th</sup>, 2013, following many preliminary discussions on how the City would fill the interim gap, a formal, all day meeting was held at the Flint Water Plant with all interested parties including City of Flint Officials (COF), representatives from the Genesee County Drain Commissioners Office (GCDC), the Michigan Department of Environmental Quality (DEQ), and the design engineers from the previous plant upgrade Lockwood, Andrews, and Newnam (LAN).

The purpose and agenda of the meeting was to determine the feasibility of the following items:

1. Using the Flint River as a Water Source
2. The ability to perform the necessary upgrades to the Treatment Plant
3. The ability to perform quality control
4. The ability for Flint to provide water to Genesee County
5. The ability to meet an April/May 2014 timeline
6. Development of a cost analysis

The conversation was guided with focus on the engineering, regulatory, and quality aspects of each item listed. The resulting determinations were made.

1. Yes, the Flint River would be more difficult to treat but is viable as a source.
2. Yes, it was possible to engineer and construct the upgrades needed for the treatment process.
3. Yes, with support from LAN engineering which works with several water systems around the state, quality control could be addressed.
4. No, the Flint treatment plant would not have the capacity needed to treat and distribute sufficient water to meet the documented needs of Flint and Genesee County.
5. Possible, it was determined that many obstacles needed to be overcome but completion by the April/May 2014 target was reachable.
6. Next steps from the meeting were for LAN to present the City with a proposal that would include engineering, procurement, and construction needs for the project along with cost estimates.

As a result of extensive evaluation, discussions with the professional engineers, and consulting the state regulators, the Department of Public Works along with the Finance Department recommended utilizing the Flint River as a temporary water source while waiting for the KWA to come online. The plan to accomplish this was accompanied with a construction timeline, a needs analysis for resources, and an FY 14 spending plan to complete the project.

**2. Was it known prior to the switch that there would be problems managing total coliform and fecal coliform bacteria levels in the water?**

It was understood that the Flint River would be subject to temperature variations, rain events, and have higher organic carbon than Lake Huron water and would be more difficult to treat. These facts were balanced against a licensed staff, LAN engineering's extensive experience in this field, advanced equipment that Flint has for treatment, and support from the DEQ.

**3. What were the projected costs and benefits of the switch, and what have been the actual costs and benefits?**

The engineered costs for upgrading the Flint Plant to treat KWA water from Lake Huron were projected to be ~\$9,000,000. These upgrades need to be in place prior to KWA water reaching Flint and are coupled with an additional ~\$3,500,000 in annual operational expenses for workforce additions, electricity costs, and process equipment for a total of ~\$12,500,000

The final year that the City of Flint purchased water from DWSD, the cost was \$12,400,000 and that cost was projected to rise to ~\$14,400,000 in 2014 and increase to ~\$16,000,000 in 2015.

The financial benefit for switching to the river was the opportunity to divert that revenue towards capitalizing the upgrade expenditures needed to run the plant and the development of a capital improvement program for the aged infrastructure without a significant increase to the water bill. This aspect was figured into the cost analysis at the time of the recommendation.

Based on the current DWSD rate structure, it appears that the actual costs to purchase water this year would have been higher than projected. The fixed cost would have been ~\$5,100,000 and the additional commodity or water costs would have resulted in another ~\$11,000,000 given the City's current water usage. This would result in an estimated ~\$16,000,000 in this year alone.

The upgrade expenditures stayed close to the engineered projections. The improvements at the water plant cost ~\$7,000,000, the remediation and development of Bray Rd for lime disposal cost ~\$1,700,000 and the increased operational costs so far this year are below the estimates and on target to finish the year at ~\$3,000,000. These changes come to a total of ~\$11,700,000 of necessary expenditures in the first year.

In addition to the ability to capitalize the upgrades, switching to the Flint River has allowed us to develop a Capital Improvement Plan for the Utility Department that will begin replacing pipe underground this spring and will account for overdue maintenance concerns such as valve replacements, and pipe lining extending the useful life of the system and allowing us to deliver better quality water.

It would have required close to a 30% raise in the water and sewer bill to accomplish this without using the Flint River as a source.

**4. What were the causes of increased levels of trihalomethanes? Have those causes been sufficiently addressed? If not, what needs to be done to prevent this from occurring again in the future?**

Just as low levels of chlorine can produce coliforms, high levels of chlorine can result in Disinfectant Byproducts (DBP) generating increased levels of trihalomethanes (TTHM). The DEQ requires this testing to occur once every three months at each of the testing sites and looks at an average over four quarters (one year) to determine the level to compare against the maximum contaminant level (MCL).

Research by the Science Advisory Board, the National Academy of Sciences, and the USEPA's Carcinogen Assessment Group predicts **risk estimates** associated with high levels of TTHM at an incremental risk of 3 to 4 people out of 10,000 that consume 2 liters of water over the MCL daily for 70 years.

The required remedy for this violation is to present the DEQ with an **Operational Evaluation Report** that assesses what caused the violation and what the proposed remedy is. The City generated a report to the DEQ in November 2014, which assesses each area of the Flint water system including water source, treatment process, and distribution system. The evaluation was complete with short and long term recommendations to optimize each area and the belief that the items listed would correct the violation and give Flint an increased ability to manage the system. Continued repairs on valves and colder temperatures have created a more consistent chemical footprint, and we have been producing a more consistent water quality.

**5. What were the causes of increased levels of total coliform and fecal coliform bacteria levels? Have those causes been sufficiently addressed? If not, what needs to be done to prevent this from occurring in the future?**

What we discovered is that as water travels through the 600 miles of the City's distribution mains it will, at times, reside in the system for up to 3 or 4 weeks. Water purchased from DWSD is drawn from Lake Huron, chlorinated, and then travels over 80 miles to reach the City. By the time the water reaches Flint it is stable and capable of withstanding this type of residency time within the system. Water drawn from the Flint River, specifically in summer months when the temperature is fluctuating, is more susceptible to being impacted by variables such as high residency times and increased chemical reaction.

The DEQ requires that a minimum of 100 tests be performed monthly for chlorine residuals at various locations throughout the system. When residual levels are too low, it creates an environment in which bacteria such as fecal coliform can grow. After switching sources, we encountered testing sites in June, 2014 that were consistently returning low residual levels. Several of these sites became areas that total coliform was eventually detected and ultimately boil water notices issued.

Low residual levels can sometimes trigger a positive test result for total coliform which is an indicator of a poor water environment but does not generally require a boil water notice. The normal course of action in these situations is to flush hydrants and introduce fresh water into the defined area. In certain areas this was successful and in other areas it was not. In a second course of action, the EPA also allows for water systems to increase the residual disinfectant, including chlorine, to a level and for a time necessary to protect public health. This information can be found in the EPA manual (40 CFR 141.65 & 141.130(d)). In contending with the low residual levels which represent a more immediate health concern along with the potential for tier 1 violations and boil water notices, we increased the chlorination treatment at times in order to combat the low residuals. This was also was an unsuccessful remedy and only after we located and replaced valves that were broken in the closed position on major transmission lines in these areas did the residual levels return to normal and have remained that way since.

There is still one test site, in the 2500 block of Flushing Rd. where we continue to experience low residual levels and we are actively pursuing efforts to locate more expected valve failures. The development of a hydraulic model of the system and the ability to use unidirectional flushing are tools that will assist us in mitigating areas where low residuals surface. Both of these are in progress of being developed by the engineering firm LAN and Potter Consulting who was also the author of our Water Reliability Study.

**6. What are the public reporting requirements for these sorts of problems, and has the City met those requirements? What can be done to communicate in a more timely manner useful information about a public health threat such as the presence of cancer-causing chemicals in our drinking water?**

The EPA 2010 "Revised Public Notification Handbook" has a specific breakdown of the elements required in public notifications and includes usable templates. The EPA has three different tiers associated with community water systems (CWS), each with specific timeframes and requirements that trigger upon issuance of the violation.

- Tier 1. CWS must provide public notification within 24 hours of a violation and continue this as directed by the primary agency.
- Tier 2. CWS must provide public notification within 30 days of a violation and continue this every three months until the violation is resolved
- Tier 3. CWS must provide public notification within one year and the EPA recommends repeat occurrences be provided in an annual notice

The current EPA violation is classified as a tier 2 violation and was issued December 16<sup>th</sup>, 2014.

Moving forward, the City of Flint is striving to increase communication with the public in a variety of ways.

- The city's new website will have current news and information updated on a regular basis.
- Increased data collection will be transitioned into real time ability to communicate with the residents through the Public Works area of the City's new website.
- Timely reporting of current test results on the new City website.

The establishment of these tools is in progress and expected to be implemented in the near future along with evaluating other avenues of communication.

**7. Is there any reason to think that these or similar problems will continue even after the shift is made to water from Lake Huron?**

The water coming from Lake Huron via KWA will be more consistent in temperature, have lower organic carbon, and will be less susceptible to variations but will have its own chemical footprint. The construction upgrades to the Flint Treatment Plant give us the ability to draw water from either source and should provide Flint the opportunity for testing and thereby streamlining the treatment process to match the Lake Huron chemical footprint before fully introducing it into the distribution system.

In addition to new source water, following the recommendations contained in the Operational Evaluation Report and the City's **Water Reliability Study** is the roadmap to being able to provide quality water.

Continuing to identify integrity issues and making preemptive repairs within our antiquated infrastructure are needed to maintain and provide a healthy system. Leak detection which is scheduled for the spring, hydraulic system modeling which includes unidirectional flushing is in progress now and will give us the information and tools to accomplish these goals.

**8. Who is responsible for making sure we don't have these sorts of problems, and did that person or those people fail to meet their responsibilities?**

The Utility Department is a Division underneath the Department of Public Works. The Public Works Director along with the Utilities Administrator will continue to work hand in hand with professional engineers, consultants, and the state regulatory agency DEQ in order to manage increased public communication and address any issues that arise going forward.

The DEQ requires that public water systems with population over 20,000 must have an F-1 state licensed operator in charge that oversees the operation of the treatment process. This license is the highest classification in the state that specializes in "complete treatment" The City of Flint has such a person on staff at the water plant and that person's responsibility is to determine the correct levels of chemical treatment, monitor the system, submit official test results to the state regulatory agency, and make necessary adjustments when contaminant levels are breached. All of these steps were followed and acknowledged by the DEQ.

The following is the list of supporting documents that will be available on the City's website for public viewing.

Cost Comparisons (the ROWE Study)

Upgrade Construction Timeline

EPA Chlorinating Information

Risk Assessment Information

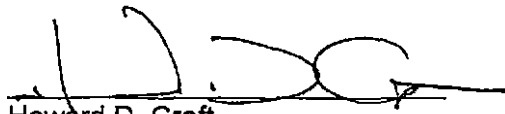
Operational Evaluation Report

EPA 2010 revised Public Notification Handbook

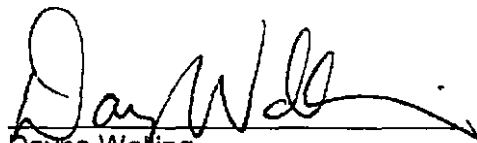
The Current DEQ Violation Letter

Flint Water Reliability Study

Respectfully submitted,



Howard D. Croft  
Public Works Director



Dayne Walling  
Mayor, City of Flint



Gerald Ambrose  
Emergency Manager

EM SUBMISSION NO.: 2013EM041

PRESENTED: 3-28-13

ADOPTED: 3-29-13

**BY THE EMERGENCY MANAGER:**

**RESOLUTION TO PURCHASE CAPACITY FROM  
KAREGNONDI WATER AUTHORITY**

The Karegnondi Water Authority (KWA) is a governmental consortium of cities and counties in southeastern Michigan that was created to build a water pipeline that will provide water from Lake Huron to interested communities in Sanilac, Lapeer, and Genesee counties. The incorporating bodies that created the KWA are Sanilac County, Lapeer County, Genesee County, the City of Flint, and the City of Lapeer.

The City of Flint is currently in a year to year contract with the City of Detroit for the purchase of water. A study was conducted that projected that staying with Detroit will cost the region \$2.1 billion over the next 25 years. In contrast, if the region builds its own pipeline, the projected costs are \$1.9 billion over the same period. After the initial 25 year period, the projected costs would be less then 25% of the projected water costs from Detroit.

In order to build the pipeline, the KWA needs commitment from its members regarding the capacity that each member will purchase in the pipeline. The KWA is allowed to withdraw 85 million gallons of water per day. Capacity is available to members in increments of 1 million gallons per day known as units. For each unit of capacity that a member purchases, the buyer shall pay to the KWA a one time fee of \$32,300.00. Additionally, the buyer shall pay to the KWA not less then \$32,300.00 per unit per year until such time as water is made available to the buyer. After water is made available, the buyer shall pay to the KWA an estimated amount not to exceed \$355,300.00 per unit per year until such time that the bonds are paid in full. If it is determined that the costs per unit will exceed \$355,300.00 the buyer has a right to cancel the contract.

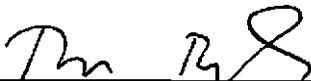
The purchase of capacity along with the payment of other costs necessary to operate the pipeline gives the member a right to water for sale to its customers. The buyer has a right to resell capacity and water rights. Each party entering into a capacity contract shall also be entitled to appoint additional board members equal to the party's percentage share of the total capacity under contract.

It is in the long term best interests of the City of Flint to enter into a contract with the KWA to purchase up to eighteen (18) units of capacity.

**IT IS RESOLVED** that City officials are authorized to enter into a contract with KWA to purchase up to eighteen (18) units of capacity.

**IT IS FURTHER RESOLVED** that the City Administrator is authorized to provide KWA information needed to administer the contract and, with approval of the Chief Legal Officer, to make minor (non-material) modifications to the contract.

**APPROVED AS TO FORM:**

  
\_\_\_\_\_  
Peter M. Bade, City Attorney

**APPROVED AS TO FINANCE:**

  
\_\_\_\_\_  
For Gerald Ambrose, Finance Director

**EM DISPOSITION:**

ENACT ✓ FAIL \_\_\_\_\_

DATED 3-29-13

  
\_\_\_\_\_  
Edward L. Kurtz, Emergency Manager

## Koryzno, Edward (Treasury)

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**From:** Workman, Wayne (TREASURY)  
**Sent:** Friday, January 16, 2015 10:53 AM  
**To:** Koryzno, Edward (Treasury); Byrne, Randall (Treasury); Cline, Richard (Treasury)  
**Cc:** Saxton, Thomas (Treasury)  
**Subject:** Fwd: Document for Review  
**Attachments:** DWSD and Flint Water Issue, 1.12.15.pdf; ATT00001.htm

Let's follow up with Gerry to discuss feasibility, options and increased cost.

Sent from my iPad

Begin forwarded message:

**From:** "Pleyte, Beth (Treasury)" <PleyteB@michigan.gov>  
**Date:** January 16, 2015 at 10:43:01 AM EST  
**To:** "darnell.earley@detroitk12.org" <darnell.earley@detroitk12.org>, "Koryzno, Edward (Treasury)" <KoryznoE@michigan.gov>, "Workman, Wayne (TREASURY)" <WorkmanW@michigan.gov>, "gambrose@cityofflint.com" <gambrose@cityofflint.com>  
**Subject:** FW: Document for Review

Please see the attached letter re: DWSD and Flint Water Issue.

---

**From:** Adamczyk, Lynne (GOV)  
**Sent:** Friday, January 16, 2015 10:27 AM  
**To:** Thelen, Mary Beth (DEQ); Pleyte, Beth (Treasury); VanSickle, Michele (GOV); Clement, Elizabeth (GOV); Rospond, Laurie (GOV); Hall, Jean (GOV); Brader, Valerie (GOV)  
**Subject:** Document for Review

FYI

Lynne Adamczyk  
Executive Assistant  
Office of Governor Rick Snyder  
517-373-3400 (o)  
517-241-9412 (d)  
[adamczykjl@michigan.gov](mailto:adamczykjl@michigan.gov)

January 12, 2015

Mr. Darnell Earley, Emergency Manager  
Mr. Dayne Walling, Mayor  
City of Flint  
1101 S. Saginaw Street  
Flint, Michigan 48502

Dear Messrs. Earley and Walling:

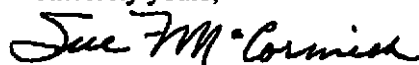
Regarding: Re-establishing Detroit Water and Sewerage Department Water Service

I was recently referred to a report in MLive in which there was reference to the City of Flint (City) potentially re-visiting its decision to utilize Flint River water as a water source prior to the completion of the KWA pipeline. Within that report, there appeared to be some incorrect assumptions about the cost of water service from the Detroit Water and Sewerage Department (DWSD). I write to you today to express the willingness of DWSD to resume delivery of drinking water to the City and its residents. We have monitored the water quality issues that have troubled the City since May, 2014, and understand that many of the difficulties stem from the limited access to source water. Please know that DWSD is ready, willing and able to resume service to the City if you so desire.

If the City is interested in a long term arrangement with DWSD, with this goal in mind, we offer that the City can immediately reconnect to the DWSD system at no additional charge to the City and at the same "expired contract" rate that the City was paying in April, 2014, modified to reflect the 4% increase experienced by all other wholesale customers in July, 2014. The resulting rate structure is a fixed monthly rate of \$846,700 and a commodity rate of \$14.92/Mcf. In order to facilitate contract negotiations, DWSD is willing to extend this rate to the City (and to Genesee County as the City's partner and former customer) until June 30, 2015.

We at DWSD take very seriously the matter of drinking water quality, and we are as concerned as you must be by the continued quality issues faced by the City. We are confident that DWSD can provide you with a solution for reliable, safe, high quality water on an expeditious timeline. Please contact me directly at (313) 224-4701 if you wish to discuss this offer further.

Sincerely yours,



Sue F. McCormick  
Director

cc: Governor Rick Snyder – (via U.S. Mail)  
Flint City Council, (via U.S. Mail and Electronic Mail)  
Eric Mays; Jacqueline Poplar (c/o Jennie Johnson); Kerry Nelson (c/o Jennie Johnson); Joshua Freeman;  
Wantwaz Davis; Herbert Winfrey (c/o Jennie Johnson); Monica Galloway, Vicki VanBuren; Scott  
Kincaid (c/o Jennie Johnson)  
Jeff Wright, GCDC – (via Electronic Mail)  
Mayor Mike Duggan (via Electronic Mail)  
James Fausone, BOWC (via Electronic Mail)  
Robert Daddow, GLWA (via Electronic Mail)

## Byrne, Randall (Treasury)

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**From:** Koryzno, Edward (Treasury)  
**Sent:** Friday, January 16, 2015 2:50 PM  
**To:** Byrne, Randall (Treasury)  
**Subject:** FW: Document for Review

FYI



Edward B. Koryzno, Jr. | Director - Bureau of Local Government Services  
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922  
(517) 373-4415 | (517) 373-0633 (fax)  
[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)



Think Green! Don't print this e-mail unless you need to.

***CONFIDENTIALITY NOTICE:** This e-mail, and any attachments, is for the sole use of the intended recipient(s) and may contain information that is confidential and protected from disclosure under the law. Any unauthorized review, use, disclosure, or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail, and delete/destroy all copies of the original message and attachments.*

*Thank you*

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**From:** Darnell Earley [mailto:[darnell.earley@detroitk12.org](mailto:darnell.earley@detroitk12.org)]  
**Sent:** Friday, January 16, 2015 12:08 PM  
**To:** Pleyte, Beth (Treasury)  
**Cc:** [gambrose@cityofflint.com](mailto:gambrose@cityofflint.com); [Dwalling@cityofflint.com](mailto:Dwalling@cityofflint.com); [workman@michigan.gov](mailto:workman@michigan.gov); Koryzno, Edward (Treasury); Saxton, Thomas (Treasury)  
**Subject:** Re: Document for Review

All,

We saw this just before I left. We maintain that the cost to reconnect to DWSD amounts to approximately \$1 million a month for a period that would amount to 18 months. These numbers were also the numbers presented to us by the Genesee County Drain Commissioner whom Jerry, Mayor Walling, and I met with before my departure.

Perhaps DWSD has made some adjustments in those numbers that the four of us are unaware of.

DE

---

**From:** "Beth Pleyte (Treasury)" <[PleyteB@michigan.gov](mailto:PleyteB@michigan.gov)>  
**To:** "darnell earley" <[darnell.earley@detroitk12.org](mailto:darnell.earley@detroitk12.org)>, "Edward Koryzno (Treasury)" <[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)>, "Wayne Workman (TREASURY)" <[WorkmanW@michigan.gov](mailto:WorkmanW@michigan.gov)>, [gambrose@cityofflint.com](mailto:gambrose@cityofflint.com)  
**Sent:** Friday, January 16, 2015 10:43:01 AM  
**Subject:** FW: Document for Review

Please see the attached letter re: DWSD and Flint Water Issue.

**From:** Adamczyk, Lynne (GOV)

**Sent:** Friday, January 16, 2015 10:27 AM

**To:** Thelen, Mary Beth (DEQ); Pleyte, Beth (Treasury); VanSickle, Michele (GOV); Clement, Elizabeth (GOV); Rospond, Laurie (GOV); Hall, Jean (GOV); Brader, Valerie (GOV)

**Subject:** Document for Review

FYI

Lynne Adamczyk  
Executive Assistant  
Office of Governor Rick Snyder  
517-373-3400 (o)  
517-241-9412 (d)  
[adamczyk1@michigan.gov](mailto:adamczyk1@michigan.gov)

## Widigan, Robert (TREASURY)

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**From:** WIDIGAN, ROBERT <rwidigan@[REDACTED]>  
**Sent:** Thursday, January 15, 2015 8:57 AM  
**To:** Widigan, Robert (TREASURY)  
**Subject:** FW: City Water Quality  
**Attachments:** City of Flint Water TTHM Release 010215.pdf; image2015-01-06-133036.pdf

Robert Widigan  
rwidigan@[REDACTED]  
810. [REDACTED]

---

**From:** Hogan, Jennifer  
**Sent:** Tuesday, January 13, 2015 12:10 PM  
**To:** AllUsers  
**Subject:** City Water Quality

Dear Campus Community,

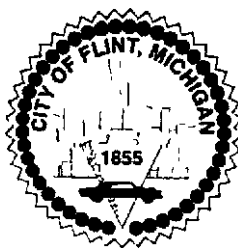
You may be aware of the recent announcement by the City of Flint that the water system was in a non-emergency violation of a drinking water standard. The full announcement from the City is attached.

Both the City and the Genesee County Health Department have reassured citizens that it is safe to use city water and that corrective actions are not necessary. Regular testing of the water supply continues to take place to ensure usability and consumption is safe for citizens. The City has indicated that there is nothing individuals need to do unless you have a severely compromised immune system, have an infant, or are elderly. In that case, they recommend that you may be at an increased risk and should seek advice about the drinking water from your health care provider. The University will be conducting monthly tests of the water that is used on campus. If there are any issues that are found as a result of the testing, that information will be communicated to the campus.

Generally speaking, there are no immediate actions that need to be taken by individuals regarding the safety of water in the City. In conversations that the UM-Flint Office of Environment, Health, and Safety (EHS) has had with the Genesee County Health Department, there are a few recommendations that one might follow if concerned about total trihalomethanes (TTHMs):

1. Use bottled water or
2. Install point-of-use home water treatment systems on delivery lines in the house (faucet mount, pour through pitcher style, and plumbed-in units)
3. It is important to note that when selecting/purchasing any water filter device that it is certified by National Sanitation Foundation (NSF), Underwriters Laboratories (UL) or the Water Quality Association (WQA) to remove TTHMs (look for the seals on the box). The filters could be a pitcher style or a point of use treatment filter that can be mounted to the faucet, under the sink or on the counter top. These treatment devices are widely available for purchase at houseware or hardware stores.

If you have further questions, the EHS in collaboration with our campus student environmental club, Future Urban & Environment Leaders (F.U.E.L.) plan to host a brownbag luncheon discussion in the near future. All faculty, students, and staff are welcome to attend. Additionally, please feel free to contact the City of Flint or the County Health Department directly, if you so choose.



**CITY OF FLINT  
OFFICE OF EMERGENCY MANAGER  
DARNELL EARLEY  
ICMA-CM, MPA**

**Jason Lorenz**  
**Public Information Officer**  
**(810) 237-2039**  
**[jlorenz@cityofflint.com](mailto:jlorenz@cityofflint.com)**

**For Immediate Release:**

**City of Flint Takes Proactive Measures to Improve Water Distribution  
System and Address Compliance Issues**

*Flint, Michigan – January 2, 2015* – The City of Flint's Department of Public Works has been actively working to address upgrades and repairs to the city's water distribution system. These actions appear to have corrected several long time concerns with the system as well as known compliance issues with the system, including a recent temporary increase in the maximum contamination level (MCL) of trihalomethanes (TTHM) found in water samples collected from the system during a testing period which ended November 30, 2014. The public was notified of the violation as a precautionary measure as required by the Michigan Department of Environmental Quality (MDEQ).

TTHM is a common by-product of the water chlorination process. Increased levels in some water samples collected in the city were an indicator of weaknesses in the distribution system and treatment process, which were due to years of deferred repairs and upgrades to a very old system. The City of Flint's DPW is and has been pursuing a comprehensive plan to make critical upgrades to its water distribution system for the long term health and operation of the system and to mitigate any future issues.

**–CONTINUE–**



**CITY OF FLINT  
OFFICE OF EMERGENCY MANAGER  
DARNELL EARLEY  
ICMA-CM, MPA**

The levels of TTHM in the water were elevated marginally above the MCL in some samples, resulting in a less urgent "Tier 2" Environmental Protection Agency notification. This means that the EPA believes there is no immediate risk to consumers and/or the system may have already returned to acceptable levels by the time the notice was issued. Although TTHM is considered to be an environmental pollutant that can be carcinogenic, it can only be hazardous if consumed in water containing the elevated levels at a rate of two liters per person, per day for 70 years. The City of Flint wants to assure the public that according to the MDEQ the water is safe for drinking and all other purposes.

The City of Flint worked closely with the MDEQ to correct the issue by flushing hydrants and replacing key valves in the distribution system. These measures have shown to be effective in not only lowering the TTHM levels in the system, but have also improved the overall health of the system. The Michigan DEQ has acknowledged and appreciates the progress of the City's preemptive evaluation of operations which identified the deficiencies and the corrective measures being taken. The latest round of testing has shown a significant decrease in levels across the board, with most samples falling well below the MCL. It is expected that all sample levels will be well below the MCL in the next round of quarterly scheduled testing in March of 2015.

Flint's DPW welcomes the rigorous review of the MDEQ to ensure steady progress is made on this important issue. "Our proactive plan of replacing valves, flushing hydrants and making other adjustments to the system has shown both promising short term

**—CONTINUE—**



**CITY OF FLINT  
OFFICE OF EMERGENCY MANAGER  
DARNELL EARLEY  
ICMA-CM, MPA**

results as well as strengthening our water distribution capability in the long term,” said Flint DPW Director Howard Croft. Both the City of Flint and the MDEQ expect the corrective measures being implemented will resolve the issue by early 2015.

The improvements in MCL levels also mirror the increased consistency being seen in chlorine residuals, flow rates, and overall water quality within the city. As part of the DPW strategic plan and Capital Improvement Plan, there are additional improvements coming to the 600 miles of distribution main including, pipe replacements, leak detection, hydraulic modeling, and enhanced asset management features. The Department of Public Works will continue to provide public education and communication about the quality, the process, and the continual improvements occurring within the system as part of the overall management of the water system.

**—END—**

## IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

### City of Flint Did Not Meet Treatment Requirements

Our water system was recently found to be in violation of a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, and November 20 of 2014). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 ug/L. The location reporting the highest TTHM level was 99 ug/L; thus, our water system exceeds the TTHM MCL.

#### What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. In that case, you may be at increased risk and should seek advice about drinking water from your health care provider.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

#### What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

#### What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015.

For more information, please contact Mr. Brent Wright or Mike Glasgow at 810-787-6537 or the Water Plant at 4500 North Dort Highway, Flint, MI 48505.

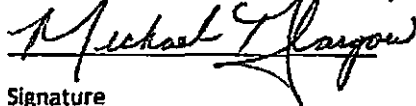
Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION: F1 S3

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules. Reminder to water supplier: This notice/certification must be sent to the DEQ.



Signature

Assistant Supervisor

Title

1/2/15

Date Distributed

## Koryzno, Edward (Treasury)

---

**From:** Gerald Ambrose <[gambrose@cityofflint.com](mailto:gambrose@cityofflint.com)>  
**Sent:** Friday, January 16, 2015 10:25 PM  
**To:** Koryzno, Edward (Treasury)  
**Subject:** Fwd: Council Update  
**Attachments:** Council Update001.PDF

Ed, fyi...I meant to copy you on this. Wayne and Randy were also copied.

----- Forwarded message -----

From: "Gerald Ambrose" <[gambrose@cityofflint.com](mailto:gambrose@cityofflint.com)>  
Date: Jan 16, 2015 10:21 PM  
Subject: Fwd: Council Update  
To: "Darnell Earley" <[dearley@cityofflint.com](mailto:dearley@cityofflint.com)>  
Cc:

Fyi.....moving right along:)

----- Forwarded message -----

From: "Maxine Murray" <[mmurray@cityofflint.com](mailto:mmurray@cityofflint.com)>  
Date: Jan 16, 2015 5:48 PM  
Subject: Council Update  
To: "Joshua Freeman" <[jfreeman@cityofflint.com](mailto:jfreeman@cityofflint.com)>, "Wantwaz Davis" <[wdavis@cityofflint.com](mailto:wdavis@cityofflint.com)>, "Eric Mays" <[emays@cityofflint.com](mailto:emays@cityofflint.com)>, "Jackie Poplar" <[jpoplar@cityofflint.com](mailto:jpoplar@cityofflint.com)>, "Kerry Nelson" <[knelson@cityofflint.com](mailto:knelson@cityofflint.com)>, "Herbert Winfrey" <[hwinfrey@cityofflint.com](mailto:hwinfrey@cityofflint.com)>, "Monica Galloway" <[mgalloway@cityofflint.com](mailto:mgalloway@cityofflint.com)>, "Vicki VanBuren" <[vvanburen@cityofflint.com](mailto:vvanburen@cityofflint.com)>, "Scott Kincaid" <[skincaid@cityofflint.com](mailto:skincaid@cityofflint.com)>  
Cc: "Jerry Ambrose" <[gambrose@cityofflint.com](mailto:gambrose@cityofflint.com)>

Good afternoon,

Please find attached a memo from Emergency Manager Jerry Ambrose outlining some of the upcoming activities as the City continues to prepare for transition.

Also attached is a communication outlining current activities with respect to addressing water concerns, and a notice of a public water presentation which will be held next Wednesday evening.

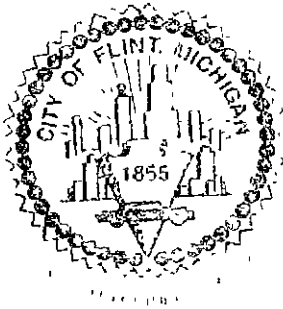
Please feel free to contact Mr. Ambrose if you have questions or comments.

Thank you.

--

Maxine Murray  
Executive Assistant to  
Mayor Dayne Walling

Gerald Ambrose, Emergency Manager  
1101 S. Saginaw Street  
Flint, MI 48502  
810.237.2035 Telephone  
810.766.7218 Fax

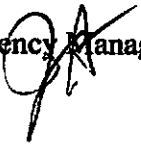


**CITY OF FLINT**  
*OFFICE OF THE EMERGENCY MANAGER*



**Gerald Ambrose**  
**Emergency Manager**

**TO:** President Joshua Freeman, Flint City Council  
Flint City Council Members

**FROM:** Jerry Ambrose, Emergency Manager 

**DATE:** January 16, 2015

**RE:** Update

As the new Emergency Manager of Flint, I look forward to working with you over the next several months as we continue progress towards a sustainable and financially secure city government. As I stated at the time of my appointment, my focus over the next several months is to transition the city from oversight by an Emergency Manager to home rule under the guidance of a Receivership Transition Advisory Board. This will be done by continuing to achieve the expectations set forth in the Seven Point Transition Plan. Assuming those expectations are met, I currently expect such transition to occur sometime during the month of April, 2015.

The progress which has been made is detailed in the attached status report. While progress has been made, there are numerous steps yet to be taken. Many will involve the City Council, including:

- Final adoption of the Capital Improvements Plan
- Final adoption of ordinances regarding planning, budgeting, fund balance, deficit elimination, purchasing, and others which are necessary to establish the organizational structure upon transition
- Completion of training requirements for Council members
- Adoption of an updated Strategic Plan from the FY15/FY19 Plan to the FY16/FY20 Plan
- Adoption of budget priorities for development of the FY16/FY17 budget

I will be working with the City Council, Mayor Walling, City staff and the new City Administrator Natasha Henderson to assure that we can achieve these, and other necessary steps.

There are other issues which we will all continue to address. One primary issue, of course, is the issue of water quality. We all know it is a very serious concern, and our staff is working every day to improve water quality. The plan articulated by former Emergency Manager Darnell Earley, which does not include reconnecting to DWSD, remains in place at this time. This week, as promised, the City released an RFP to secure the services of a firm with experience in improving water quality where the source of water is a river. We also posted on the City's web site answers to some questions which have been raised in the community. We will continue to add information as it becomes available. We are also planning on an informational meeting next week to continue addressing citizen concerns.

Another issue is the low level of resources available to address public safety issues in the City. As you know, we commissioned an independent study of our police and fire organization in order to assess our capacity and to determine how to best organize our police and fire departments in light of their diminished resources. The results of that study are being presented next week at the Council's Public Safety meeting, and will provide guidance as we consider the upcoming FY16 and FY17 plans and budgets.

Finally the issues surrounding water and public safety emphasize the tenuous financial situation of the City – one which, while significantly improved, will remain tight. The five year financial projections done last year, and the adopted budgets for FY15 and FY16, showed financial stability for FY15 and FY16, but projected a very significant gap between revenues and expenses for FY17. Regardless of whether or not the City remains under the control of an Emergency Manager, balancing the FY17 budget in a financially responsible manner will be a challenging task. If decisions become necessary to further reduce the workforce and service levels, they will be very difficult, as there are no easy answers. Likewise, responding to demands for high levels of service and lower costs in the form of water rates or taxes will also be difficult.

Achieving our objectives will take time and effort for all involved. In the next week, the Finance Committee will be meeting on Wednesday to review the second quarter Progress Report on the Strategic Plan, and the same evening will be a City-sponsored forum on water issues. Next Thursday, the Public Safety Committee will meet to review the results of the ICMA Police and Fire study. The following Monday, January 26, will be the regular Council meeting, where the FY14 audit will be presented and where the Council will consider adoption of the Capital Improvement Plan, as well as second reading and final adoption of the strategic planning and budgetary ordinances.

Looking further forward, the Council will be engaged in updating the Strategic Plan, beginning with a workshop on Wednesday, January 28<sup>th</sup>. It is anticipated that a special Finance Committee meeting will be necessary for February 4<sup>th</sup>, in order that Council can consider adoption of the framework of the updated Strategic Plan on Monday, February 9<sup>th</sup>.

Over the next several weeks I will be working with City staff to develop a tentative calendar of events which will guide the budget preparation process and other items which I feel need to be completed prior to transition.

This is an aggressive agenda for all of us. I believe it is critical to have in place the many pieces necessary to both prepare for a successful transition, and more importantly, so that the City of Flint continues on a path of sustainability and financial stability.

**Gerald Ambrose  
Emergency Manager**



**Dayne Walling  
Mayor**

**Jason Lorenz  
Public Information Officer  
(810) 237-2039  
jlorenz@cityofflint.com**

**For Immediate Release**

**City of Flint Will Hold Public Water Presentation Wednesday, January 21, 2015 at 7:00pm in the City Hall Dome**

*Flint, Michigan – January 16, 2015* – The City of Flint will be hosting a water presentation on Wednesday, January 21, 2015 at 7pm. That presentation will be held in the City Hall Dome and will feature information detailing water treatment, water distribution and the steps being taken to ensure that citizens get water that meets all regulatory safety and quality standards. “We want the residents, businesses and visitors of Flint to know that the water in Flint is safe and that we are working every day to make improvements to our system to ensure that,” said City DPW Director Howard Croft. “Our goal is make sure we get people the information on our efforts and assure them that we are on the right track with them.”

DPW Director Croft and Utilities Administrator Daugherty Johnson will be joined on a panel by representatives from the Genesee County Drain Commissioner’s office, the Michigan Department of Environmental Quality and LAN engineering. Written questions from the audience will be collected during the presentation and answered by the panel after the presentation.

**—END—**

## **Addressing Flint's Water Concerns**

Recent events have raised concerns among many as to the safety and quality of the water provided by the City's utility system. The City is and continues to be committed to assuring that residents and visitors know that the water is safe and that those responsible for providing water are working every day to improve the quality of the water. The quality of the water does need improvement, but that is not to be confused with safety of the water. The recent notice by MDEQ clearly stated that the water provided by the utility system is safe to drink, but cautioned that some vulnerable groups may want to consult with their health care provider if they have concerns. The City remains committed to their efforts to assure that the water is safe for everyone and that quality is both improved and improving.

To date, the City has taken the following actions:

- As an integral part of the transition to the Flint River on a temporary basis, the MDEQ was consulted about the City's plans, and ultimately issued necessary permits to proceed. The City also engaged the services of the LAN engineering firm to guide the city in installing the necessary equipment to treat the water on an ongoing basis. This resulted in the development of a comprehensive drinking water plan.
- The City monitors its water quality on a daily basis to assure that water quality remains within established guidelines. With the variances in water temperature and the leakage and infiltration problems arising as the result of failure of parts of the distribution system, water quality did exceed, for a time, some of the established guidelines. This resulted in the issuance of the recent notices to the public. Upon receipt of information that some guidelines were exceeded, the City's priority focus was to bring water quality back within guidelines. Efforts taken to address non-compliance included increasing water flow through valve replacements and hydrant flushing and optimizing treatment processes.
- The City has committed to increasing communication with the public in order to inform water users factually of the issues which have arisen, to alleviate unnecessary concern and to identify the steps being taken to address the issues. This is being implemented through detailed and easy to understand educational materials being made available both online and at City Hall, as well as through ongoing public informational meetings.
- Most recently, in light of recent concerns raised by resident groups over the quality and safety of water, Department of Public Works Director Howard Croft and his staff collected questions from citizens during a recent public meeting. After reviewing these questions, DPW Director Croft and his staff set out to answer them in concise detail; the result of that work is a full Water System Questions and Answers document is available online. Along with the detailed information within, the document also contains links to other source documents and regulatory statutes found online which were used as reference. **"We want the residents, businesses and visitors of Flint to know that the water in Flint is safe**

**and that we are working every day to make improvements to our system to ensure that,” said Croft. “Our goal is make sure we get people the information on our efforts and assure them that we are on the right track with them.”** More documentation, including regular water quality monitoring reports, will be made available.

- Additionally, a number of public meetings have and will continue to take place. Two of the most recent of these took place at the Antioch Baptist Church and the Mott Community College Regional Technology Center. These meetings were held by concerned neighborhood groups and were attended by Mayor Walling and DPW Director Croft. At both meetings, citizens voiced their concerns and asked questions about water quality and the recent violation notice. Director Croft offered detailed answers to common questions, but also offered to investigate specific water issues raised by residents in which the City could offer assistance. Those in attendance came away with a better understanding of the issues surrounding the drinking water in their community.
- The City of Flint will be hosting a water presentation on **Wednesday, January 21, 2015 at 7pm. That presentation will be held in the City Hall Dome** and will feature information detailing water treatment, water distribution and the steps being taken to ensure that citizens get water that meets all regulatory safety and quality standards. City DPW Director Howard Croft and Daugherty Johnson, Utilities Administrator, will be joined on a panel by representatives from the Genesee County Drain Commissioner’s office, the Michigan Department of Environmental Quality and LAN engineering. Written questions from the audience will be collected during the presentation and answered by the panel after the presentation.
- The City of Flint has also determined that in light of the serious concerns raised, it will secure the services of an external firm with expertise in managing drinking water quality to assess the steps that the city has taken, to make recommendations as to other steps to be taken, to oversee their implementation, and to monitor operations until the City’s water source becomes the KWA. A Request for Proposal was issued on January 15, 2015, with proposals due back on January 26.

### **The DWSD Question:**

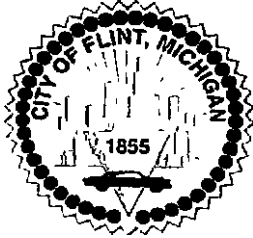
As a result of the concerns raised, several community members have suggested that the City reconnect to the Detroit Water and Sewer Department (DWSD). DWSD has advised that they would be willing to allow such a reconnection without a hook-up fee. However, the City would be obligated to pay a fixed monthly charge of \$846,700 plus the \$14.92/Mcf cost of water itself and agree to a long term arrangement. The City’s analysis of the DWSD proposal concludes that the City’s cost would increase by more than \$12 million per year at the proposed rates, and could increase even more as proposed rates are subject to change after July 1, 2015. This increase in costs would not be in the best interests of the City or its water users, as the City is committed to assuring safety and improving water quality by following its current plan, and reconnecting to DWSD would likely require deferment of existing capital improvements or an additional increase in rates.

**City of Flint**

**Water System Questions & Answers**



**January 13, 2015**



# **CITY OF FLINT**

## **Department of Public Works**

**Dayne Walling**  
Mayor

**Gerald Ambrose**  
Emergency Manager

**Howard Croft**  
Director

**TO:** City of Flint Residents

**RE:** Water Questions

**DATE:** January 13, 2015

### **Prelude**

The decision to switch to the Karegnondi Water Authority as the City's permanent water source was made following extensive research and in-depth engineering studies. After entering into a contract with KWA and the subsequent termination of the existing water service contract by the Detroit Water and Sewerage Department, the same diligence was given in determining what source water to use while waiting for the community supported KWA water to arrive. The City concluded from this work that the Flint River presented a safe and financially responsible alternative water source. The decision to use the Flint River as an intermediate water source was approved by state regulatory officials in 2014 whereby the City was permitted by the Michigan Department of Environmental Quality to proceed with treatment of water from the Flint River.

The following questions were presented by concerned citizens, and the City's responses follow. This document will be put on the City's website for public viewing within the next several days.

#### **1. What was the process by which the decision was made to switch from Detroit water to Flint River water? Who was responsible for what decisions?**

On March 25<sup>th</sup>, 2013, after evaluating cost comparisons for a permanent water source, the Flint City Council, with support from the Mayor, voted 7 – 1 approving a resolution to purchase water from the Karegnondi Water Authority (KWA). On March 29<sup>th</sup>, resolution 2013EM041 was signed, authorizing the City of Flint to enter into a contract with the KWA.

On April 16<sup>th</sup>, 2013, then Emergency Manager Ed Kurtz, signed the contract effectively purchasing 18 MGD of capacity from the KWA.

On April 17<sup>th</sup>, 2013 Detroit Water and Sewerage Department (DWSD) sent a letter terminating the existing water service contract between the City of Flint and Detroit. With the termination set to take effect 12 months later on April 17<sup>th</sup>, 2014, a gap was created between the end of the DWSD contract and the start of the KWA.

On June 29<sup>th</sup>, 2013, following many preliminary discussions on how the City would fill the interim gap, a formal, all day meeting was held at the Flint Water Plant with all interested parties including City of Flint Officials (COF), representatives from the Genesee County Drain Commissioners Office (GCDC), the Michigan Department of Environmental Quality (DEQ), and the design engineers from the previous plant upgrade Lockwood, Andrews, and Newnam (LAN).

The purpose and agenda of the meeting was to determine the feasibility of the following items:

1. Using the Flint River as a Water Source
2. The ability to perform the necessary upgrades to the Treatment Plant
3. The ability to perform quality control
4. The ability for Flint to provide water to Genesee County
5. The ability to meet an April/May 2014 timeline
6. Development of a cost analysis

The conversation was guided with focus on the engineering, regulatory, and quality aspects of each item listed. The resulting determinations were made.

1. Yes, the Flint River would be more difficult to treat but is viable as a source.
2. Yes, it was possible to engineer and construct the upgrades needed for the treatment process.
3. Yes, with support from LAN engineering which works with several water systems around the state, quality control could be addressed.
4. No, the Flint treatment plant would not have the capacity needed to treat and distribute sufficient water to meet the documented needs of Flint and Genesee County.
5. Possible, it was determined that many obstacles needed to be overcome but completion by the April/May 2014 target was reachable.
6. Next steps from the meeting were for LAN to present the City with a proposal that would include engineering, procurement, and construction needs for the project along with cost estimates.

As a result of extensive evaluation, discussions with the professional engineers, and consulting the state regulators, the Department of Public Works along with the Finance Department recommended utilizing the Flint River as a temporary water source while waiting for the KWA to come online. The plan to accomplish this was accompanied with a **construction timeline**, a needs analysis for resources, and an FY 14 spending plan to complete the project.

**2. Was it known prior to the switch that there would be problems managing total coliform and fecal coliform bacteria levels in the water?**

It was understood that the Flint River would be subject to temperature variations, rain events, and have higher organic carbon than Lake Huron water and would be more difficult to treat. These facts were balanced against a licensed staff, LAN engineering's extensive experience in this field, advanced equipment that Flint has for treatment, and support from the DEQ.

**3. What were the projected costs and benefits of the switch, and what have been the actual costs and benefits?**

The engineered costs for upgrading the Flint Plant to treat KWA water from Lake Huron were projected to be ~\$9,000,000. These upgrades need to be in place prior to KWA water reaching Flint and are coupled with an additional ~\$3,500,000 in annual operational expenses for workforce additions, electricity costs, and process equipment for a total of ~\$12,500,000.

The final year that the City of Flint purchased water from DWSD, the cost was \$12,400,000 and that cost was projected to rise to ~\$14,400,000 in 2014 and increase to ~\$16,000,000 in 2015.

The financial benefit for switching to the river was the opportunity to divert that revenue towards capitalizing the upgrade expenditures needed to run the plant and the development of a capital improvement program for the aged infrastructure without a significant increase to the water bill. This aspect was figured into the cost analysis at the time of the recommendation.

Based on the current DWSD rate structure, it appears that the actual costs to purchase water this year would have been higher than projected. The fixed cost would have been ~\$5,100,000 and the additional commodity or water costs would have resulted in another ~\$11,000,000 given the City's current water usage. This would result in an estimated ~\$16,000,000 in this year alone.

The upgrade expenditures stayed close to the engineered projections. The improvements at the water plant cost ~\$7,000,000, the remediation and development of Bray Rd for lime disposal cost ~\$1,700,000 and the increased operational costs so far this year are below the estimates and on target to finish the year at ~\$3,000,000. These changes come to a total of ~\$11,700,000 of necessary expenditures in the first year.

In addition to the ability to capitalize the upgrades, switching to the Flint River has allowed us to develop a Capital Improvement Plan for the Utility Department that will begin replacing pipe underground this spring and will account for overdue maintenance concerns such as valve replacements, and pipe lining extending the useful life of the system and allowing us to deliver better quality water.

It would have required close to a 30% raise in the water and sewer bill to accomplish this without using the Flint River as a source.

**4. What were the causes of increased levels of trihalomethanes? Have those causes been sufficiently addressed? If not, what needs to be done to prevent this from occurring again in the future?**

Just as low levels of chlorine can produce coliforms, high levels of chlorine can result in Disinfectant Byproducts (DBP) generating increased levels of trihalomethanes (TTHM). The DEQ requires this testing to occur once every three months at each of the testing sites and looks at an average over four quarters (one year) to determine the level to compare against the maximum contaminant level (MCL).

Research by the Science Advisory Board, the National Academy of Sciences, and the USEPA's Carcinogen Assessment Group predicts **risk estimates** associated with high levels of TTHM at an incremental risk of 3 to 4 people out of 10,000 that consume 2 liters of water over the MCL daily for 70 years.

The required remedy for this violation is to present the DEQ with an **Operational Evaluation Report** that assesses what caused the violation and what the proposed remedy is. The City generated a report to the DEQ in November 2014, which assesses each area of the Flint water system including water source, treatment process, and distribution system. The evaluation was complete with short and long term recommendations to optimize each area and the belief that the items listed would correct the violation and give Flint an increased ability to manage the system. Continued repairs on valves and colder temperatures have created a more consistent chemical footprint, and we have been producing a more consistent water quality.

**5. What were the causes of increased levels of total coliform and fecal coliform bacteria levels? Have those causes been sufficiently addressed? If not, what needs to be done to prevent this from occurring in the future?**

What we discovered is that as water travels through the 600 miles of the City's distribution mains it will, at times, reside in the system for up to 3 or 4 weeks. Water purchased from DWSD is drawn from Lake Huron, chlorinated, and then travels over 80 miles to reach the City. By the time the water reaches Flint it is stable and capable of withstanding this type of residency time within the system. Water drawn from the Flint River, specifically in summer months when the temperature is fluctuating, is more susceptible to being impacted by variables such as high residency times and increased chemical reaction.

The DEQ requires that a minimum of 100 tests be performed monthly for chlorine residuals at various locations throughout the system. When residual levels are too low, it creates an environment in which bacteria such as fecal coliform can grow. After switching sources, we encountered testing sites in June, 2014 that were consistently returning low residual levels. Several of these sites became areas that total coliform was eventually detected and ultimately boil water notices issued.

Low residual levels can sometimes trigger a positive test result for total coliform which is an indicator of a poor water environment but does not generally require a boil water notice. The normal course of action in these situations is to flush hydrants and introduce fresh water into the defined area. In certain areas this was successful and in other areas it was not. In a second course of action, the EPA also allows for water systems to increase the residual disinfectant, including chlorine, to a level and for a time necessary to protect public health. This information can be found in the EPA manual (40 CFR 141.65 & 141.130(d)). In contending with the low residual levels which represent a more immediate health concern along with the potential for tier 1 violations and boil water notices, we increased the chlorination treatment at times in order to combat the low residuals. This was also was an unsuccessful remedy and only after we located and replaced valves that were broken in the closed position on major transmission lines in these areas did the residual levels return to normal and have remained that way since.

There is still one test site, in the 2500 block of Flushing Rd. where we continue to experience low residual levels and we are actively pursuing efforts to locate more expected valve failures. The development of a hydraulic model of the system and the ability to use unidirectional flushing are tools that will assist us in mitigating areas where low residuals surface. Both of these are in progress of being developed by the engineering firm LAN and Potter Consulting who was also the author of our Water Reliability Study.

**6. What are the public reporting requirements for these sorts of problems, and has the City met those requirements? What can be done to communicate in a more timely manner useful information about a public health threat such as the presence of cancer-causing chemicals in our drinking water?**

The EPA 2010 "Revised Public Notification Handbook" has a specific breakdown of the elements required in public notifications and includes usable templates. The EPA has three different tiers associated with community water systems (CWS), each with specific timeframes and requirements that trigger upon issuance of the violation.

- Tier 1. CWS must provide public notification within 24 hours of a violation and continue this as directed by the primary agency.
- Tier 2. CWS must provide public notification within 30 days of a violation and continue this every three months until the violation is resolved
- Tier 3. CWS must provide public notification within one year and the EPA recommends repeat occurrences be provided in an annual notice

The current EPA violation is classified as a tier 2 violation and was issued December 16<sup>th</sup>, 2014.

Moving forward, the City of Flint is striving to increase communication with the public in a variety of ways.

- The city's new website will have current news and information updated on a regular basis.
- Increased data collection will be transitioned into real time ability to communicate with the residents through the Public Works area of the City's new website.
- Timely reporting of current test results on the new City website.

The establishment of these tools is in progress and expected to be implemented in the near future along with evaluating other avenues of communication.

**7. Is there any reason to think that these or similar problems will continue even after the shift is made to water from Lake Huron?**

The water coming from Lake Huron via KWA will be more consistent in temperature, have lower organic carbon, and will be less susceptible to variations but will have its own chemical footprint. The construction upgrades to the Flint Treatment Plant give us the ability to draw water from either source and should provide Flint the opportunity for testing and thereby streamlining the treatment process to match the Lake Huron chemical footprint before fully introducing it into the distribution system.

In addition to new source water, following the recommendations contained in the Operational Evaluation Report and the City's **Water Reliability Study** is the roadmap to being able to provide quality water.

Continuing to identify integrity issues and making preemptive repairs within our antiquated infrastructure are needed to maintain and provide a healthy system. Leak detection which is scheduled for the spring, hydraulic system modeling which includes unidirectional flushing is in progress now and will give us the information and tools to accomplish these goals.

**8. Who is responsible for making sure we don't have these sorts of problems, and did that person or those people fail to meet their responsibilities?**

The Utility Department is a Division underneath the Department of Public Works. The Public Works Director along with the Utilities Administrator will continue to work hand in hand with professional engineers, consultants, and the state regulatory agency DEQ in order to manage increased public communication and address any issues that arise going forward.

The DEQ requires that public water systems with population over 20,000 must have an F-1 state licensed operator in charge that oversees the operation of the treatment process. This license is the highest classification in the state that specializes in "complete treatment" The City of Flint has such a person on staff at the water plant and that person's responsibility is to determine the correct levels of chemical treatment, monitor the system, submit official test results to the state regulatory agency, and make necessary adjustments when contaminant levels are breached. All of these steps were followed and acknowledged by the DEQ.

The following is the list of supporting documents that will be available on the City's website for public viewing.

Cost Comparisons (the ROWE Study)

Upgrade Construction Timeline

EPA Chlorinating Information

Risk Assessment Information

Operational Evaluation Report

EPA 2010 revised Public Notification Handbook

The Current DEQ Violation Letter

Flint Water Reliability Study

Respectfully submitted,



Howard D. Croft  
Public Works Director



Dayne Walling  
Mayor, City of Flint



Gerald Ambrose  
Emergency Manager

## **Addressing Flint's Water Concerns**

Recent events have raised concerns among many as to the safety and quality of the water provided by the City's utility system. The City is and continues to be committed to assuring that residents and visitors know that the water is safe and that those responsible for providing water are working every day to improve the quality of the water. The quality of the water does need improvement, but that is not to be confused with safety of the water. The recent notice by MDEQ clearly stated that the water provided by the utility system is safe to drink, but cautioned that some vulnerable groups may want to consult with their health care provider if they have concerns. The City remains committed to their efforts to assure that the water is safe for everyone and that quality is improved.

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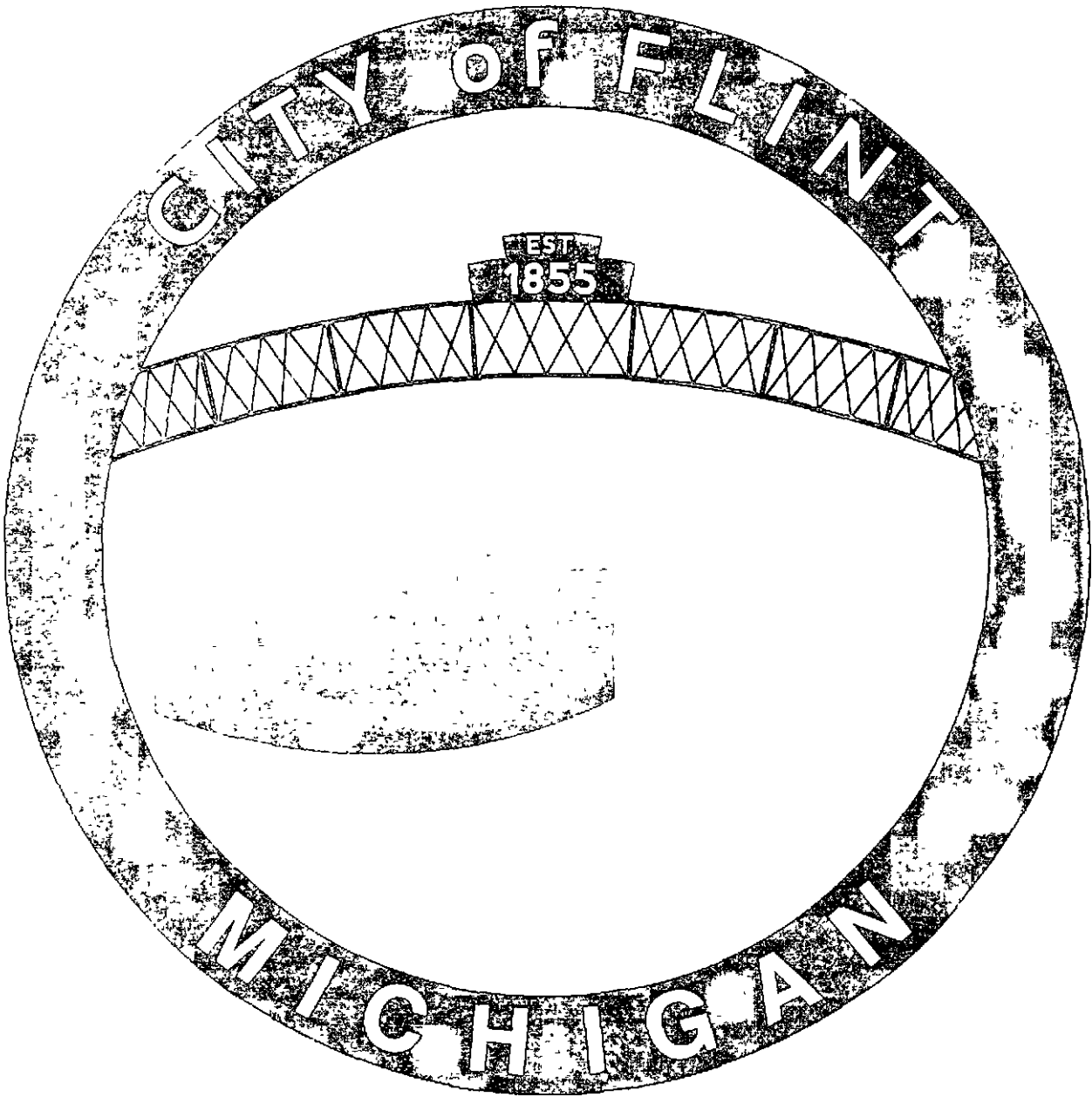
were used as reference. "We want the residents, businesses and visitors of Flint to know that the water in Flint is safe and that we are working every day to make improvements to our system to ensure that," said Croft. "Our goal is make sure we get people the information on our efforts and assure them that we are on the right track with them." More documentation, including regular water quality monitoring reports, will be made available as they become ready for distribution.

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#### **The DWSD Question:**

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rates are subject to change after July 1, 2015. This increase in costs would not be in the best interests of the City or its water users, as the City is committed to assuring safety and improving water quality by following its current plan, and reconnecting to DWSD would likely require deferment of existing capital improvements or an additional increase in rates.



## **Koryzno, Edward (Treasury)**

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**From:** Byrne, Randall (Treasury)  
**Sent:** Friday, January 16, 2015 4:30 PM  
**To:** Workman, Wayne (TREASURY)  
**Cc:** Koryzno, Edward (Treasury)  
**Subject:** RE: Flint water update

Wayne:

The cost of water in the DWSD letter is the same as in Jerry's letter. Let me know if you have anything else.

Thanks,  
Randy,

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**From:** Workman, Wayne (TREASURY)  
**Sent:** Friday, January 16, 2015 3:23 PM  
**To:** Byrne, Randall (Treasury)  
**Cc:** Koryzno, Edward (Treasury); Cline, Richard (Treasury)  
**Subject:** Re: Flint water update

Does Jerry's letter agree with what we got today from DWSD?

Sent from my iPad

On Jan 16, 2015, at 3:20 PM, "Byrne, Randall (Treasury)" <[ByrneR1@michigan.gov](mailto:ByrneR1@michigan.gov)> wrote:

Wayne and Ed:

Jerry prepared this letter addressing the water concerns. Please advise if you have any questions.

Randy,

<image001.jpg>

<Addressing Flint's Water Concerns final.docx>

**Byrne, Randall (Treasury)**

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**From:** Jason Lorenz <jlorenz@cityofflint.com>  
**Sent:** Friday, January 16, 2015 4:55 PM  
**Subject:** PRESS RELEASE: Public Water Presentation  
**Attachments:** Public Water Presentation 1.21.2015.pdf; Addressing Flint's Water Concerns Final.pdf

**For Immediate Release**

**City of Flint Will Hold Public Water Presentation Wednesday, January 21, 2015 at  
7:00pm in the City Hall Dome**

*Flint, Michigan – January 16, 2015* – The City of Flint will be hosting a water presentation on Wednesday, January 21, 2015 at 7pm. That presentation will be held in the City Hall Dome and will feature information detailing water treatment, water distribution and the steps being taken to ensure that citizens get water that meets all regulatory safety and quality standards. “We want the residents, businesses and visitors of Flint to know that the water in Flint is safe and that we are working every day to make improvements to our system to ensure that,” said City DPW Director Howard Croft. “Our goal is make sure we get people the information on our efforts and assure them that we are on the right track with them.”

DPW Director Croft and Utilities Administrator Daugherty Johnson will be joined on a panel by representatives from the Genesee County Drain Commissioner’s office, the Michigan Department of Environmental Quality and LAN engineering. Written questions from the audience will be collected during the presentation and answered by the panel after the presentation.

–END–

-Jason Lorenz  
Public Information Officer  
City of Flint  
(810) 237-2039  
[jlorenz@cityofflint.com](mailto:jlorenz@cityofflint.com)

## **Koryzno, Edward (Treasury)**

---

**From:** Gerald Ambrose <[gambrose@cityofflint.com](mailto:gambrose@cityofflint.com)>  
**Sent:** Sunday, January 18, 2015 5:42 PM  
**To:** Workman, Wayne (TREASURY); Koryzno, Edward (Treasury); Byrne, Randall (Treasury)  
**Subject:** Fwd: Flint Water  
**Attachments:** Mayor Governor Letter Flint Water Jan 18 2015.PDF

FYI...I was not aware that the Mayor was sending this. He had been very engaged in our work to address the water quality issues, including participation in public forums addressing the issue. However, it did not include a plan to request to formally request state assistance, nor did it include a plan for water amnesty.

J

----- Forwarded message -----

**From:** "Dayne Walling" <[dwalling@cityofflint.com](mailto:dwalling@cityofflint.com)>  
**Date:** Jan 18, 2015 4:16 PM  
**Subject:** Flint Water  
**To:** <[governorsoffice@mi.gov](mailto:governorsoffice@mi.gov)>, <[rick.snyder@mi.gov](mailto:rick.snyder@mi.gov)>  
**Cc:** "Joshua Freeman" <[jfreeman@cityofflint.com](mailto:jfreeman@cityofflint.com)>, <[senjananich@senate.mi.gov](mailto:senjananich@senate.mi.gov)>, "Hollins, Harvey (GOV)" <[hollinsh@michigan.gov](mailto:hollinsh@michigan.gov)>, <[muchmored@michigan.gov](mailto:muchmored@michigan.gov)>, "Gerald Ambrose" <[gambrose@cityofflint.com](mailto:gambrose@cityofflint.com)>

Dear Governor,

There is nothing more important in Flint right now than fixing the water problems. Attached is a letter outlining a plan with my request for your support. I urge you to work with all of us in the Flint community to implement solutions.

Sincerely,

Mayor Walling

--

Dayne Walling  
Mayor, City of Flint  
City Hall, 1101 S. Saginaw St.  
Flint, MI 48502  
810-766-7346  
[mayor@cityofflint.com](mailto:mayor@cityofflint.com)  
[www.cityofflint.com](http://www.cityofflint.com)  
follow me on twitter at <http://twitter.com/mayorwalling>



## CITY OF FLINT

**Dayne Walling**  
Mayor

January 18, 2015

The Honorable Rick Snyder  
Governor, State of Michigan  
P.O. Box 30013  
Lansing, MI 48909

**RE: Flint Water Improvement Plan**

Dear Governor Snyder:

On behalf of the Flint community, I am writing to convey serious concerns about water quality and to request your support for my proposed Flint Water Improvement Plan. Access to safe and clean water is a basic human right, and, therefore, policy and budget decisions need to ensure that water is affordable and secure for everyone in Flint and all across Michigan. It is essential there is City, State and Federal cooperation to address the challenges here and to meet the needs of vulnerable populations.

The Flint Water Improvement Plan is focused in five areas: safety, quality, access, investment and education. The plan puts safety and quality first because this is fundamental. It is designed to be a sustainable solution for the City of Flint and the community as we move towards a new permanent water supply from Lake Huron through the Karegnondi Water Authority. My plan offers new ideas and also builds on successful models of utility, energy and assistance programs at the State and Federal levels.

**Safety & Quality**

- 100% Safety is the standard
- City of Flint reports testing data to the public to assure safety and expands testing sites and frequency
- Bring on experienced river water treatment operational management in the City of Flint

**Access**

- Announce an amnesty program for Flint water service turn-ons and reduce the turn-on fee
- Develop a revised affordable payment plan policy to encourage customers to return
- Design Federal and State partnership to establish new Drinking Water Emergency Assistance Fund for the elderly and vulnerable families

**Investment**

- Accelerate water system improvements outlined in the City of Flint Capital Improvement Plan through Federal and State Investments
  - State approves City of Flint's Distressed Cities Fund applications

- Federal and State support for replacement or forgiveness of payment to the Drinking Water Revolving Loan Fund due to Flint's status as a distressed community
- Federal and State grants for infrastructure improvements in alignment with the Flint Master Plan
- City Water Department implements budgeted FY15 projects including leak detection, valve repairs, new pipes and meter replacements

#### Education

- Develop a community partnership with universities to provide household and business customers with information on testing and conservation
- Ongoing partnership with Michigan Department of Human Services, United Way, Salvation Army and community organizations to provide information and water assistance with the Keep the Water Flowing Fund and support services
- Expand youth energy initiative to assist households with conservation and efficiency (piloted in summer 2014 with Northwestern High School students, EcoWorks and Consumers Energy)

It is also critical to restore the public confidence in Flint Water. The implementation of this plan must be accompanied by extensive community engagement including local elected officials. My objective is to work with you and your appointed officials, State Senator Ananich, State Representatives Phelps and Neeley, Congressman Kildee, community groups, businesses, churches, foundations, the Flint City Council, and all of the City of Flint and government personnel.

It is imperative that we communicate better and provide residents more information. I understand representatives from the Michigan Department of Environmental Quality will be joining a public forum this week at City Hall. This engagement going forward is vital so thank you for supporting their efforts. I think this issue of transparency is important for communities all across the State. I recommend a review of the applicable laws and policies and, at a minimum, a new requirement that water testing data be reported publicly no less than quarterly by law in all Michigan communities in Flint's population category.

Thank you for the consideration Governor. There is nothing more important in Flint right now than fixing the water problems. We must work together to identify funds to repair and update the water treatment facilities and city-wide infrastructure and to help those persons without access to clean water so that the entire Flint community has sustainable, safe, secure and affordable water now and into the future. This is an important issue for the state of our State of Michigan and I urge you to work with us to implement solutions.

Sincerely,



Dayne Walling, Mayor  
City of Flint

CC: Flint City Council President Joshua Freeman; Congressman Dan Kildee; State Senator Jim Ananich; State Representative Sheldon Neeley; State Representative Phil Phelps; Flint Emergency Manager Jerry Ambrose

## **Pleyte, Beth (Treasury)**

---

**From:** Walsh, John (GOV)  
**Sent:** Monday, January 19, 2015 10:52 AM  
**To:** Muchmore, Dennis (GOV); Saxton, Thomas (Treasury)  
**Cc:** Workman, Wayne (TREASURY); Hollins, Harvey (GOV); Clement, Elizabeth (GOV)  
**Subject:** RE: Flint Water

While I am sure there is much history of which I am not aware, my relatively uninformed response is to question why the State has to intervene in their negotiations with DWSD. I certainly understand our responsibilities arising from the appointment of an EM and allowing them to "chase their tail", but when do they own the consequences of their decisions?

I would like to participate in the internal meeting prior the meeting on the 28<sup>th</sup>.

Thanks.

**From:** Muchmore, Dennis (GOV)  
**Sent:** Monday, January 19, 2015 10:45 AM  
**To:** Saxton, Thomas (Treasury)  
**Cc:** Workman, Wayne (TREASURY); Hollins, Harvey (GOV); Walsh, John (GOV); Clement, Elizabeth (GOV)  
**Subject:** RE: Flint Water

Yes, this would be pretty complicated to do now after we agreed to allow them to chase their tail on the Karegondi system. A lot of money has been invested to this point.

**From:** Saxton, Thomas (Treasury)  
**Sent:** Monday, January 19, 2015 10:30 AM  
**To:** Muchmore, Dennis (GOV)  
**Cc:** Workman, Wayne (TREASURY); Hollins, Harvey (GOV); Walsh, John (GOV); Clement, Elizabeth (GOV)  
**Subject:** RE: Flint Water

I assume you saw the attached. At this point we are trying to determine whether this (DWSD offer) makes economic sense. As you know the past discussions between the City & DWSD haven't been that productive.

Dick P. has also scheduled a mtg on the 28<sup>th</sup> with the Mayor, Jerry et al. I think you are scheduled to be in that. We should probably have an internal meeting just prior to that meeting.

Also, I haven't talked to DEQ/Dan W. since probably Nov. I will try to do that this week to get their perspective, etc.

**From:** Muchmore, Dennis (GOV)  
**Sent:** Monday, January 19, 2015 10:13 AM  
**To:** Saxton, Thomas (Treasury); Walsh, John (GOV); Hollins, Harvey (GOV)  
**Subject:** FW: Flint Water

Now what?

**From:** Dayne Walling [<mailto:dwalling@cityofflint.com>]  
**Sent:** Sunday, January 18, 2015 4:16 PM  
**To:** GovernorsOffice; Snyder, Rick (GOV)  
**Cc:** Joshua Freeman; [senjananich@senate.mi.gov](mailto:senjananich@senate.mi.gov); Hollins, Harvey (GOV); Muchmore, Dennis (GOV); Gerald Ambrose  
**Subject:** Flint Water

Dear Governor,

There is nothing more important in Flint right now than fixing the water problems. Attached is a letter outlining a plan with my request for your support. I urge you to work with all of us in the Flint community to implement solutions.

Sincerely,

Mayor Walling

--

Dayne Walling  
Mayor, City of Flint  
City Hall, 1101 S. Saginaw St.  
Flint, MI 48502  
810-766-7346  
[mayor@cityofflint.com](mailto:mayor@cityofflint.com)  
[www.cityofflint.com](http://www.cityofflint.com)  
follow me on twitter at <http://twitter.com/mayorwalling>

## **Byrne, Randall (Treasury)**

---

**From:** Byrne, Randall (Treasury)  
**Sent:** Wednesday, January 21, 2015 10:17 AM  
**To:** Cline, Richard (Treasury)  
**Subject:** FW: Conference Call Agenda for January 21, 2015  
**Attachments:** Agenda for Conference Call with Treasury 012115.pdf

Eric:

The attachments provide a lot of information on the water issue. Please review.

Thanks,  
Randy,

**From:** Maxine Murray [mailto:mmurray@cityofflint.com]  
**Sent:** Tuesday, January 20, 2015 3:06 PM  
**To:** Kapp, Gene (MSP); Muchmore, Dennis (GOV); Roberts, John (DTMB); Dempkowski, Angela (Treasury); Baird, Richard (GOV); Carter, Jerry (MSP); Deasy, Thomas (MSP); Koryzno, Edward (Treasury); Clement, Elizabeth (GOV); Elizabeth Murphy; Etue, Kriste (MSP); Hollins, Harvey (GOV); Hill, Darryl (MSP); James Tolbert; Jerry Ambrose; Klotz, Josephine (MSP); Lee, Nichole (MSP); McGowan, Emmitt (MSP); Smith, Paul (GOV); Byrne, Randall (Treasury); Sands, Thomas (MSP); Sipes, Stephen (MSP); O'Neill, Stephen (MSP); Saxton, Thomas (Treasury); Workman, Wayne (TREASURY); West, Samantha (GOV)  
**Subject:** Conference Call Agenda for January 21, 2015

Good afternoon,

Please find attached the agenda for the **Wednesday, January 21st, 9:00 am** conference call.

Thank you.

--

Maxine Murray  
Executive Assistant to  
Mayor Dayne Walling  
Gerald Ambrose, Emergency Manager  
1101 S. Saginaw Street  
Flint, MI 48502  
810.237.2035 Telephone  
810.766.7218 Fax

| <b>City of Flint Wednesday 9:00am Phone Conference Agenda</b><br>1-888-557-8511, Access code 3389106 |                                                                                                                                                                                                                                                                                                                                                                                                             |                  |
|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| January 21, 2015                                                                                     | Last Report                                                                                                                                                                                                                                                                                                                                                                                                 | Status           |
| 1) Public Safety Update –<br>FPD, MSP, (FFD, if needed)                                              | <p>a) FPD</p> <p>* The final reports for the evaluation of both the Police and the Fire Departments have been received. The study will be presented to City Council at the Public Safety Committee on January 22, 2015. MSP will attend as well.</p> <p>* SRMS MOA has been signed, project charter development is underway. Last item for which Flint needed to provide a sign-off has been completed.</p> | No Change        |
|                                                                                                      | b) FFD                                                                                                                                                                                                                                                                                                                                                                                                      | No Change        |
|                                                                                                      | c) Other update from<br>Chief Tolbert and MSP                                                                                                                                                                                                                                                                                                                                                               | No Action Needed |
| 2) Governor's Office<br>Update – R. Balrd, H. Hollins,<br>B. Clement                                 | a) District Court<br>Consolidation                                                                                                                                                                                                                                                                                                                                                                          | No Change        |
|                                                                                                      | b) Local Income Tax<br>Initiative                                                                                                                                                                                                                                                                                                                                                                           | No Change        |
|                                                                                                      | c) Other                                                                                                                                                                                                                                                                                                                                                                                                    | No Change        |

### 3) Finance and Administrative Update

| Last Report                 | Status                                                                                                                                                                                                                                                      |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a) Firefighters Contract    | City Council sent an alternative contract to the Emergency Loan Board on December 17, 2014. Emergency Loan Board decided in favor of the EM proposal. IAFF contract has been imposed.<br><br>UPDATE                                                         |
| b) Financial Ordinances     | City Council approved first reading of Fund Balance Policy, OPEB, BSF and strategic planning processes ordinances. Purchasing Ordinance still to be moved.<br><br>No Change                                                                                 |
| c) City Administrator Hired | Natasha Henderson was announced as new Flint City Administrator on December 22, 2014. Start date: Feb 23, 2015<br><br>No Change                                                                                                                             |
| d) Management Vacancies     | MML has been selected to recruit candidates for Treasurer, HR Director and Finance Director. Interim appointments have been made: DCA Tony Chubb handle HR and Al Mooney, former Treasurer of Grand Rapids, has started as Interim Treasurer.<br><br>Update |
| e) City Clerk Supervision   | Can EM establish supervisory oversight of the City Clerk; change priorities, activities of Clerk? Treasury advised that EM Order can be written for this. There is historical background with other Ems.<br><br>No Change                                   |
| 4) City Council Update      | a) Vacant Council Seats<br>Three candidates were sent to City Council for consideration for Ward 3 and Ward 6. Special meeting held Jan 5, 2015. Kerry Nelson and Herb Winfrey selected.<br><br>Complete                                                    |

| 5) Water Issues               | Last Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Status |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| a) MDEQ Violation Notice      | Violation notice received 12/16/14 maximum contaminant level for TTHM exceeded. Public notice required. Notices sent out Jan 5, 2015. Most recent readings in compliance except one location. This issue has become the largest current challenge. Actions: community meetings being held, RFP for river water treatment consulting firm due back 1/26/15, selected MSU water expert will attend 1/21/15 Water Forum. Maor sent a letter to Gov. and others with his Flint Water Improvement Plan which requests Federal and State assistance. See attached. | Update |
| b) Distressed Cities Grants   | Are the announcements of awards due soon? City of Flint submitted two grant requests: Leak Detection and Sewage sludge Load Out Facility.                                                                                                                                                                                                                                                                                                                                                                                                                    | New    |
| 6) 9-1-1 Reconsolidation Plan | a) Tower Transfer to Consortium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Update |
| 7) Transition Activities      | a) Strategic Planning Workshop                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Update |
|                               | Two off-site workshops are planned: For Dept. Heads and Core Team on Jan 26, 2015. Then, for Council, Dept. Heads and Core Team scheduled for Jan. 28, 2015. Future Council activities, strategic plan and budget prep will be main topics. Both will be facilitated by Dr. Scorsone.                                                                                                                                                                                                                                                                        |        |

|                                         | <b>Last Report</b>                                                                                                                                                                           | <b>Status</b> |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| b) Council Meeting Schedule             | Council President has asked to return to regular Council meeting schedule and committee meetings with new dates and fewer restrictions. This will be dependent upon need for Council action. | Update        |
| c) Council/Mayor Compensation           | What happens to salary for council and mayor when the EM leaves? As budgeted or back to old levels? Treasury: depends on final order, also a budget consideration.                           | Complete      |
| d) Update of Transition Management Plan | A planning calendar for the next three months is being developed.                                                                                                                            | NEW           |

Status

Last Report

8) Other Items

MDNR and Purchase of  
CSX rail area

Requesting DNR authorize full amount of appraised property value to be paid by DNR grant.

NEW

**Note from Planning and Development Director:** In brief, the City hired an appraiser for the Grand Traverse Greenway trail to complete acquisition of the CSX properties. We forwarded the appraisal of \$170,000 to the DNR for approval to proceed with negotiations with CSX. During our negotiations, CSX disputed the appraisal and submitted their own appraisal for the property of \$330,000. After reviewing the CSX appraisal, DNR told the City that they would be willing to increase the grant up to \$215,000 for acquisition, but the City would have to make up the difference. After doing additional research on similar properties including acquisition of the Genesee Valley Trail in the City of Flint, we realize that CSX offer is not unreasonable. We asked DNR to reconsider and allow us to have our appraisal amended so that we can fully use the DNR grant for the \$330,000 asking price. (Our DNR grant allocation is \$700,000 more than enough to cover the \$330,000 asking price. Thus far, DNR has been unwilling to provide the additional funding and suggested we talk to MDOT about making up the difference. I think the MDNR is concerned about setting precedent for future trail acquisition, but I don't think it matters if MDOT is routinely paying more.

Attachments:

EM Memo to City Council  
Mayor Walling's Letter on  
Water

## **Byrne, Randall (Treasury)**

---

**From:** Byrne, Randall (Treasury)  
**Sent:** Wednesday, January 21, 2015 7:51 AM  
**To:** Cline, Richard (Treasury)  
**Subject:** FW: Public Forum  
**Attachments:** Public Water Presentation 1.21.2015.pdf; Addressing Flint's Water Concerns.pdf

Eric:

Would you ask if Robert could attend this meeting in Flint tonight?

Thanks,  
Randy,

**From:** Shekter Smith, Liane (DEQ)  
**Sent:** Tuesday, January 20, 2015 3:13 PM  
**To:** Cline, Richard (Treasury); Byrne, Randall (Treasury)  
**Cc:** Benzie, Richard (DEQ)  
**Subject:** FW: Public Forum

FYI –

Liane J. Shekter Smith, P.E., Chief  
Office of Drinking Water and Municipal Assistance  
Michigan Department of Environmental Quality  
517-284-6543

**From:** Busch, Stephen (DEQ)  
**Sent:** Tuesday, January 20, 2015 3:12 PM  
**To:** Sygo, Jim (DEQ); Datema, Maggie (DEQ); Howes, Sarah (DEQ)  
**Cc:** Shekter Smith, Liane (DEQ); Wurfel, Brad (DEQ)  
**Subject:** FW: Public Forum

Attached is information regarding the public meeting in Flint tomorrow night (Wed. 1/21) regarding the City's drinking water violation.

Mike Prysby and I will be participating in a panel to answer questions. Brad has planned to attend to help address the media.

In addition to the media, local members of the Michigan Legislature are also planning to attend or have staff attend.

Stephen Busch, P.E.  
Lansing and Jackson District Supervisor  
Office of Drinking Water and Municipal Assistance  
MDEQ  
517-643-2314

**From:** Howard Croft [<mailto:hcroft@cityofflint.com>]

**Sent:** Friday, January 16, 2015 5:03 PM

**To:** [jimananich@house.mi.gov](mailto:jimananich@house.mi.gov); [repphelps@house.mi.gov](mailto:repphelps@house.mi.gov); Sheldon Neeley; Hovey, Amy

**Cc:** Tom Lenard; Bryanna McGarry; Sean Walser; Dickinson, Jordan; Flint Mayor; Prysby, Mike (DEQ); Busch, Stephen (DEQ); John O'Brien; [djansen@gcdcwws.com](mailto:djansen@gcdcwws.com); Green, Warren; Matta, Samir; Elizabeth Murphy; Gerald Ambrose; Brian Larkin

**Subject:** Public Forum

All,

The City of Flint is hosting a public forum next Wednesday January 21st in the dome at City Hall at 7:00 pm. The focus will be a presentation followed by a question and answer session about water. The panel will consist of two of our DEQ representatives, the lead engineer from LAN, the Genesee County Drain Commissioner Jeff Wright, and myself.

Please feel free to attend or recommend your constituency to attend, I am forwarding a copy of the press release along with our most recent communication's about the City of Flint water system.

I am looking to build a better communication network for sending out information from the City of Flint DPW Department to interested parties on a more frequent basis. I will inform everyone when that is formally established.

Please call me if you have any questions,

Thank you,

--

**Howard Croft**

Public Works Director

City of Flint

1101 S. Saginaw Street

Flint, MI 48502

PH# 810.766.7346 Ext.2043

[hcroft@cityofflint.com](mailto:hcroft@cityofflint.com)

**Gerald Ambrose**  
Emergency Manager



**Dayne Walling**  
Mayor

**Jason Lorenz**  
*Public Information Officer*  
(810) 237-2039  
jlorenz@cityofflint.com

**For Immediate Release**

**City of Flint Will Hold Public Water Presentation Wednesday, January 21, 2015 at 7:00pm in the City Hall Dome**

*Flint, Michigan – January 16, 2015* – The City of Flint will be hosting a water presentation on Wednesday, January 21, 2015 at 7pm. That presentation will be held in the City Hall Dome and will feature information detailing water treatment, water distribution and the steps being taken to ensure that citizens get water that meets all regulatory safety and quality standards. "We want the residents, businesses and visitors of Flint to know that the water in Flint is safe and that we are working every day to make improvements to our system to ensure that," said City DPW Director Howard Croft. "Our goal is make sure we get people the information on our efforts and assure them that we are on the right track with them."

DPW Director Croft and Utilities Administrator Daugherty Johnson will be joined on a panel by representatives from the Genesee County Drain Commissioner's office, the Michigan Department of Environmental Quality and LAN engineering. Written questions from the audience will be collected during the presentation and answered by the panel after the presentation.

**—END—**

## **Addressing Flint's Water Concerns**

Recent events have raised concerns among many as to the safety and quality of the water provided by the City's utility system. The City is and continues to be committed to assuring that residents and visitors know that the water is safe and that those responsible for providing water are working every day to improve the quality of the water. The quality of the water does need improvement, but that is not to be confused with safety of the water. The recent notice by MDEQ clearly stated that the water provided by the utility system is safe to drink, but cautioned that some vulnerable groups may want to consult with their health care provider if they have concerns. The City remains committed to their efforts to assure that the water is safe for everyone and that quality is both improved and improving.

To date, the City has taken the following actions:

- As an integral part of the transition to the Flint River on a temporary basis, the MDEQ was consulted about the City's plans, and ultimately issued necessary permits to proceed. The City also engaged the services of the LAN engineering firm to guide the city in installing the necessary equipment to treat the water on an ongoing basis. This resulted in the development of a comprehensive drinking water plan.
- The City monitors its water quality on a daily basis to assure that water quality remains within established guidelines. With the variances in water temperature and the leakage and infiltration problems arising as the result of failure of parts of the distribution system, water quality did exceed, for a time, some of the established guidelines. This resulted in the issuance of the recent notices to the public. Upon receipt of information that some guidelines were exceeded, the City's priority focus was to bring water quality back within guidelines. Efforts taken to address non-compliance included increasing water flow through valve replacements and hydrant flushing and optimizing treatment processes.
- The City has committed to increasing communication with the public in order to inform water users factually of the issues which have arisen, to alleviate unnecessary concern and to identify the steps being taken to address the issues. This is being implemented through detailed and easy to understand educational materials being made available both online and at City Hall, as well as through ongoing public informational meetings.
- Most recently, in light of recent concerns raised by resident groups over the quality and safety of water, Department of Public Works Director Howard Croft and his staff collected questions from citizens during a recent public meeting. After reviewing these questions, DPW Director Croft and his staff set out to answer them in concise detail; the result of that work is a full Water System Questions and Answers document is available online. Along with the detailed information within, the document also contains links to other source documents and regulatory statutes found online which were used as reference. **"We want the residents, businesses and visitors of Flint to know that the water in Flint is safe**

**and that we are working every day to make improvements to our system to ensure that,” said Croft. “Our goal is make sure we get people the information on our efforts and assure them that we are on the right track with them.”** More documentation, including regular water quality monitoring reports, will be made available.

- Additionally, a number of public meetings have and will continue to take place. Two of the most recent of these took place at the Antioch Baptist Church and the Mott Community College Regional Technology Center. These meetings were held by concerned neighborhood groups and were attended by Mayor Walling and DPW Director Croft. At both meetings, citizens voiced their concerns and asked questions about water quality and the recent violation notice. Director Croft offered detailed answers to common questions, but also offered to investigate specific water issues raised by residents in which the City could offer assistance. Those in attendance came away with a better understanding of the issues surrounding the drinking water in their community.
- **The City of Flint will be hosting a water presentation on Wednesday, January 21, 2015 at 7pm. That presentation will be held in the City Hall Dome** and will feature information detailing water treatment, water distribution and the steps being taken to ensure that citizens get water that meets all regulatory safety and quality standards. City DPW Director Howard Croft and Daugherty Johnson, Utilities Administrator, will be joined on a panel by representatives from the Genesee County Drain Commissioner’s office, the Michigan Department of Environmental Quality and LAN engineering. Written questions from the audience will be collected during the presentation and answered by the panel after the presentation.
- The City of Flint has also determined that in light of the serious concerns raised, it will secure the services of an external firm with expertise in managing drinking water quality to assess the steps that the city has taken, to make recommendations as to other steps to be taken, to oversee their implementation, and to monitor operations until the City’s water source becomes the KWA. A Request for Proposal was issued on January 15, 2015, with proposals due back on January 26.

#### **The DWSD Question:**

As a result of the concerns raised, several community members have suggested that the City reconnect to the Detroit Water and Sewer Department (DWSD). DWSD has advised that they would be willing to allow such a reconnection without a hook-up fee. However, the City would be obligated to pay a fixed monthly charge of \$846,700 plus the \$14.92/Mcf cost of water itself and agree to a long term arrangement. The City’s analysis of the DWSD proposal concludes that the City’s cost would increase by more than \$12 million per year at the proposed rates, and could increase even more as proposed rates are subject to change after July 1, 2015. This increase in costs would not be in the best interests of the City or its water users, as the City is committed to assuring safety and improving water quality by following its current plan, and reconnecting to DWSD would likely require deferment of existing capital improvements or an additional increase in rates.



## City of Flint

### Public Forum

Wednesday January 21, 2015  
7:00 pm City Hall Dome

### AGENDA

#### **Opening**      COF – DPW Director - Howard Croft

- Forum Ground Rules (disorderly conduct will not be tolerated)
- Overview of Format (each guest to speak for ~10 minutes with written questions afterward)
- Recognition of Officials
- Introduction of Guests

#### **1<sup>st</sup> Speaker**      DEQ – Local Representatives - Mike Prysby, Steve Busch

- Role of DEQ
- Explanation of TTHM violation —

#### **2<sup>nd</sup> Speaker**      LAN – Lead Engineer - Warren Green

- Discuss Engineering role
- Discuss Operational Evaluation Report

#### **3<sup>rd</sup> Speaker**      MSU Microbiologist – Dr. Joan Rose

- Risk Assessment (what do the numbers mean?)
- What to do if someone suspects they are at risk
- What about the elderly and those with a weak immune system
- What will the next violation mean (water is still safe)

#### **4<sup>th</sup> Speaker**      GCDC – Jeff Wright

- What to expect from KWA raw water as source
- Update on KWA timeline

#### **Final**      COF – DPW Director – Howard Croft

- Summary (Next Steps – Action Plans)
  - Hiring an industry expert
  - Tours of Treatment Plant
  - Continued communication
  - Planned steps (CIP built on , Water Reliability Study, Operational Evaluation Report)
  - Funding (researching all sources, state funding, federal opportunities)
  - Water & sewer rates (budgetary evaluation upcoming)
- Questions (Expected to have an hour of panel response time)
- Conclusion - Thank the panel, (Additional follow up at next Public Works Committee meeting)

## **Department of Environmental Quality (DEQ)**

**Michael Prysby, P.E.**  
District Engineer

**Stephen Busch, P.E.**  
Lansing and Jackson District Supervisor

## **Lockwood, Andrews, and Newnam (LAN)**

**J. Warren Green, PE**  
Senior Associate, Director of Engineering

Warren has more than 30 years of experience in engineering management and supervision of complex water treatment and transmission facilities projects. He has successfully guided water system improvements through all necessary phases including feasibility studies, pilot testing, design, financial evaluation, land acquisition, construction, start-up and operation. His expertise is in the areas of facilities design, construction management and contract administration.

He has worked with several municipal utility clients throughout Illinois, Mississippi, Michigan and Wisconsin. He worked with the Green Bay Water Utility in Green Bay, Wis., for 12 years, serving as a project manager for a number of design and contract administration tasks. These included the expansion of a 10-mgd raw water pumping station, construction of approximately 17 miles of 54-in. steel water transmission main, and expansion of its water treatment plant in 1997 and 2004. He also oversaw a \$376 million project in DuPage County, Ill., where he was responsible for contract administration and construction management of 140 miles of water transmission mains.

## **MSU Water Quality and Environmental Microbiology Laboratory**

**Dr. Joan B. Rose, Ph.D.**  
Laboratory Director/Principal Investigator  
Homer Nowlin Chair in Water Research  
Co-Director Center for Water Sciences  
Co-Director Center for Advancing Microbial Risk Assessment

Joan is an international expert in water microbiology, water quality and public health safety and is a member of the National Academy of Engineering. She has been involved in the investigation of numerous waterborne outbreaks world-wide. Her work addresses the use of new tools for surveying and mapping water pollution for recreational and drinking water; assessment of water treatment technology and use of risk assessment.

### **Degrees:**

- Bachelor's (1976) and Ph.D. (1985), microbiology, University of Arizona
- Master's (1980) microbiology, University of Wyoming

## **Genesee County Drain Commissioner**

**Jeff Wright**

Past positions include:

- Chief Executive Officer of Karegnondi Water Authority
- Legislative Committee and Executive Board of Michigan Association of County Drain Commissioners
- Northeast District Chairman – Michigan Association of County Drain Commissioners
- Former Secretary/Treasurer – Michigan Association of County Drain Commissioners

## FLINT WATER SUPPLY FUTURE

1. Based on all our analysis, KWA presents the best opportunity for Flint for the following reasons:
  - a. Because approximately 40% of Michigan's population is served by the Detroit Water and Sewer District (DWSD) system, it is in Flint's, as well as the State's, best interest for a second pipeline to be built.
  - b. It is the least expensive of the alternatives and provides for relatively fixed rates for water to the Flint citizens for the next 25 years. In the first year of operations (Fiscal Year 16), the City should be able to deliver water for about the same costs as today with annual increases of less than 3%.
  - c. Flint can use the Flint River for its backup and that cost is factored into the above projections.
  - d. It eliminates the need to update the dams at a substantial savings to the city. A Riverfront Restoration Plan exists which deals with the elimination/replacement of the dams.
2. Use of the Flint River while feasible is risky and very expensive
  - a. Significant upgrades would need to be made to the dams to insure adequate water levels during both high and low water events
  - b. The cost of treating river water is more expensive than treating lake water
  - c. In a study of the Flint River in 2011 it was estimated that the up front cost of Flint using the river would be \$61.5 million.
3. If Flint does not participate with Karegnondi Water Authority (KWA) it will be a hostage of Detroit or the Flint River for the next 40 years.
4. The estimated cost of continuing to use DWSD water would be \$19 million more than KWA over the next eight years conservatively. It is our belief that based on everything we read and hear about Detroit the rates will increase substantially more than our forecast.
5. Concerns
  - a. KWA would consist of five Incorporating Board Members
    - i. Genesee County
    - ii. City of Flint
    - iii. City of Lapeer
    - iv. Lapeer County
    - v. Sanilac County
  - b. Only two, possibly three, municipalities would sign capacity agreements to buy water, though all would have a vote.
  - c. In addition an additional ten board members will be appointed on the basis of water purchased.
  - d. It is concerning that members not purchasing water could make decisions affecting those that are paying the costs.

- e. In any event, Flint would be a minority voting member, with Genesee County having a majority. (The Five member incorporating board can override the decisions of the total board on some matters such as incurring debt and selling the system).
- f. In the event of cost overruns after contracts are signed, the Board could vote to incur additional debt even if Flint was opposed.
- g. Flint would have the option to opt out if the bids exceed the projected costs (\$355,000/unit per year).
- h. Based on cost estimates by KWA Flint would have to pay a one time fee of \$581,400 upon signing a capacity contract and then \$48,450 per month until the bonds have been sold. (Estimated to be 3 years) A total of \$2.3 million will be recovered in the first year of operations under KWA.
- i. At the end of the contract (40 years) KWA owns the system and has no obligation to deliver water to Flint.
- j. If construction costs exceeded projections by 15% and if constructions was to be delayed by one year and the city was obligated to make its first year debt service before KWA begins operations, the city's up front costs would exceed \$10 million. Given the City's precarious financial position it would be necessary to find a source of capital for this until operating savings covers it.

6. Funding sources for:

- a. \$2.3 million got up front operating costs.
- b. \$7,100,000 for upgrades to the water treatment plant.
- c. \$8.2 million additional up front cost if there are significant cost overruns and a one year delay in water supply delivery from KWA. (This would require an additional source of capital.)

7. Next steps

- a. Finalizing a contract with KWA
- b. Continue to explore options for the operation of the Flint Water System
  - i. \$25,000,000 in bond debt and high legacy costs limit options

## Byrne, Randall (Treasury)

---

**From:** Koryzno, Edward (Treasury)  
**Sent:** Wednesday, January 21, 2015 9:27 AM  
**To:** Byrne, Randall (Treasury); Cline, Richard (Treasury)  
**Subject:** RE: Flint Water Issue

Randy,

Wayne suggested referring to the attachment sent as part of today's Flint call when Eric prepares the summary of this issue for the Treasurer.

Ed



Edward B. Koryzno, Jr. | Director - Bureau of Local Government Services  
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922  
(517) 373-4415 | (517) 373-0633 (fax)  
[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)



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*Thank you*

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**From:** Byrne, Randall (Treasury)  
**Sent:** Wednesday, January 21, 2015 7:41 AM  
**To:** Cline, Richard (Treasury)  
**Cc:** Koryzno, Edward (Treasury)  
**Subject:** FW: Flint Water Issue  
**Importance:** High

Eric:

I would like you to prepare this paper on the Flint water issue. Please discuss ASAP with me.

Randy,

---

**From:** Koryzno, Edward (Treasury)  
**Sent:** Tuesday, January 20, 2015 4:09 PM  
**To:** Byrne, Randall (Treasury)  
**Cc:** Workman, Wayne (TREASURY); Dempkowski, Angela (Treasury)  
**Subject:** Flint Water Issue  
**Importance:** High

Randy,

The Governor's staff is meeting with Mayor Walling, Flint Legislators and others next week to discuss the water issue.

Tom Saxton needs the following by Thursday 1/22/15.:

1. Cost analysis of what Flint is paying for water now versus what they were paying DWSD (Is this what Sue McCormick is offering in the 1/12/15 letter?)
2. A summary of what is causing the problem and possible solutions. Contact LeAnn Sheckter-Smith to get details.

Additionally, he wants OFR staff to attend tomorrow's public meeting in Flint (Robert?) regarding the water issue.

Let me know if you have any questions.

Ed



Edward B. Koryzno, Jr. | Director – Bureau of Local Government Services  
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922  
(517) 373-4415 | (517) 373-0633 (fax)  
[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)



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Thank you

**Byrne, Randall (Treasury)**

---

**From:** Byrne, Randall (Treasury)  
**Sent:** Wednesday, January 21, 2015 7:47 AM  
**To:** Cline, Richard (Treasury)  
**Subject:** FW: per conversation  
**Attachments:** Addressing Flint's Water Concerns final.docx

Eric:

Jerry Ambrose indicated that there is additional water information on the website.

Tandy,

**From:** Gerald Ambrose [mailto:gambrose@cityofflint.com]  
**Sent:** Friday, January 16, 2015 3:17 PM  
**To:** Byrne, Randall (Treasury)  
**Subject:** per conversation

Randy,

There is also additional information on the City's web site..

Jerry

## Koryzno, Edward (Treasury)

---

**From:** Koryzno, Edward (Treasury)  
**Sent:** Wednesday, January 21, 2015 11:01 AM  
**To:** Byrne, Randall (Treasury)  
**Subject:** Flint Water Issue

Randy,

I spoke to Wayne more about the information Eric is preparing for the Tom Saxton. Wayne believes the document that Jerry sent with today's Flint agenda contains the relevant information. Wayne suggested that Eric prepare a 2 page summary to include the history, status and any other relevant information. Additionally, the cost comparison of using water from the Flint river versus the cost to purchase from DWSD should be included as a separate document. That comparison should also not the bonds sold to join KWA.

Let me know if you have any questions.

Remember this info needs to go to Tom by tomorrow.

Ed



Edward B. Koryzno, Jr. | Director - Bureau of Local Government Services  
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922  
(517) 373-4415 | (517) 373-0633 (fax)  
[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)



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Thank you

## **Stanton, Terry A. (Treasury)**

---

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Wednesday, January 21, 2015 11:27 AM  
**To:** Workman, Wayne (TREASURY)  
**Cc:** Koryzno, Edward (Treasury)  
**Subject:** FW: Flint Mayor request to Governor regarding Flint Water  
**Attachments:** Flint Mayor Letter to Governor.pdf

**Importance:** High

Wayne & Ed...

FYI—see attached and below.

My counterpart at the Department of Environmental Quality, Brad Wurfel, called this morning, to ask if I might help connect he and DEQ Director Dan Wyant ahead of tonight's public meeting re: water. I have reached out to Jerry.

Apparently some DEQ staffers are going to be at the meeting and they fear that Walling and co. are going to beat the stuffing out of JA (and thus the State & Governor) over the handling of the water issue.

Wanted to be sure you were aware...

**From:** Busch, Stephen (DEQ)  
**Sent:** Wednesday, January 21, 2015 10:50 AM  
**To:** Shekter Smith, Liane (DEQ); Wurfel, Brad (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)  
**Cc:** Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)  
**Subject:** RE: Flint Mayor request to Governor regarding Flint Water

Copy attached.

Stephen Busch, P.E.  
Lansing and Jackson District Supervisor  
Office of Drinking Water and Municipal Assistance  
MDEQ  
517-643-2314

**From:** Shekter Smith, Liane (DEQ)  
**Sent:** Wednesday, January 21, 2015 10:41 AM  
**To:** Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)  
**Cc:** Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)  
**Subject:** RE: Flint Mayor request to Governor regarding Flint Water

First I heard about the letter was on NPR this morning.

**From:** Wurfel, Brad (DEQ)  
**Sent:** Wednesday, January 21, 2015 10:39 AM  
**To:** Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)

**Cc:** Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)  
**Subject:** RE: Flint Mayor request to Governor regarding Flint Water

Ooops. Thanks.

Need a copy of the letter if we have it. Want to make sure the Governor's office knows to send calls about this to us, and give them a quick briefing on the situation.

Thanks.

b

**From:** Shekter Smith, Liane (DEQ)  
**Sent:** Wednesday, January 21, 2015 10:37 AM  
**To:** Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)  
**Cc:** Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)  
**Subject:** RE: Flint Mayor request to Governor regarding Flint Water

That is the first option listed.

Changes made to date have reduced the formation of DBPs; but because of the way the standard is calculated the violation is anticipated to remain until at least late summer. However, it is difficult to predict whether the operational changes will be effective enough to address seasonal water quality changes that occur during the summer. It is possible to have a spike in August that could cause the city additional problems. But for now, all indications are that DBP levels in the distribution system are within an acceptable range.

**From:** Wurfel, Brad (DEQ)  
**Sent:** Wednesday, January 21, 2015 10:31 AM  
**To:** Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)  
**Cc:** Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)  
**Subject:** RE: Flint Mayor request to Governor regarding Flint Water

Would a third option be to make adjustments to the plant that address the current water supply effectively?

**From:** Shekter Smith, Liane (DEQ)  
**Sent:** Wednesday, January 21, 2015 10:26 AM  
**To:** Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)  
**Cc:** Datema, Maggie (DEQ); Howes, Sarah (DEQ); Wurfel, Brad (DEQ); Sygo, Jim (DEQ)  
**Subject:** RE: Flint Mayor request to Governor regarding Flint Water

In light of the Mayor's letter, this could be quite uncomfortable for us tonight.

Our position has always been that we do not dictate which acceptable option(s) a water supply may choose. Our responsibility is to see that operations are managed properly, regulations are met, and safe water is delivered. For example, when Flint decided to leave Detroit and operate using the River, our role wasn't to tell them our opinion; only what steps would be necessary to make the switch.

Now that there is a violation of a drinking water standard, we have been treating Flint as we would any other supply. It is up to them to propose a solution/corrective action. Our role is to determine the reasonableness of that proposal. One option available to them is to continue to use the river until the KWA source is available as long as they implement operational changes to mitigate the formation of DBPs. Another acceptable option is to return to Detroit (GLWA) until the KWA source is available. And third option could certainly be returning to GLWA permanently.

The Mayor is saying that since there is an EM, the state (Governor) has responsibility for decisions being made (not our position). It will be very important for DEQ staff to limit our discussion to our role under the Safe Drinking Water Act. Hopefully, the EM will be prepared to respond if and when the conversation veers off into this other arena.

Liane J. Shekter Smith, P.E., Chief  
Office of Drinking Water and Municipal Assistance  
Michigan Department of Environmental Quality  
517-284-6543

**From:** Busch, Stephen (DEQ)  
**Sent:** Wednesday, January 21, 2015 8:41 AM  
**To:** Shekter Smith, Liane (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)  
**Cc:** Datema, Maggie (DEQ); Howes, Sarah (DEQ)  
**Subject:** Flint Mayor request to Governor regarding Flint Water

FYI. Please see the link below. The mayor of Flint has requested the state provide assistance through a number of specific initiatives.

[http://www.mlive.com/news/flint/index.ssf/2015/01/flint\\_mayor\\_asks\\_governor\\_for.html](http://www.mlive.com/news/flint/index.ssf/2015/01/flint_mayor_asks_governor_for.html)

As we are scheduled to participate in the meeting in Flint this evening please let me know if we need to further discuss these requests.

Stephen Busch, P.E.  
Lansing and Jackson District Supervisor  
Office of Drinking Water and Municipal Assistance  
MDEQ  
517-643-2314

**Stanton, Terry A. (Treasury)**

---

**From:** Wurfel, Brad (DEQ)  
**Sent:** Wednesday, January 21, 2015 4:37 PM  
**To:** Fonger, Ronald  
**Cc:** Prysby, Mike (DEQ); Busch, Stephen (DEQ)  
**Subject:** RE: a question about flint

The water is still pre-treated. I think you mean when the water was coming from DWSD, and the city was just in the water transmission business instead of the water treatment business. I believe the answer is no, they didn't have many violations, but I'd encourage you to put the question to Mike Prysby, who will be at the meeting. Understand that dozens and dozens of 'boil water' advisories are issued by municipalities around the state every year for various reasons – anything from an abnormal coliform count to broken water mains that expose water to outside influence ... and the advisory is not by itself a warning that folks drinking the water will become ill. It's representative of a comprehensive, conservative protection standard with ample public notification measures to ensure that water customers can make informed decisions.

All of that said, the two guys most likely to know the answer to your specific question will be in the room tonight. And I've copied them here to make them aware you've got questions.

b

**From:** Fonger, Ronald [mailto:RFONGER1@mlive.com]  
**Sent:** Wednesday, January 21, 2015 4:08 PM  
**To:** Wurfel, Brad (DEQ)  
**Subject:** a question about flint

Brad:

One thing I'd like to know is whether Flint has ever been in violation of the Safe Drinking Water Act previously – at least as far back as your records go.

I'm guessing we didn't have too many when the water was pre-treated.

Thanks,

**Ron Fonger**  
MLive Media Group  
Reporter

mobile 810.347.9963  
email [rfonger1@mlive.com](mailto:rfonger1@mlive.com)  
address 540 S. Saginaw St. #101, Flint MI 48502

**Stanton, Terry A. (Treasury)**

---

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Wednesday, January 21, 2015 4:56 PM  
**To:** Murray, David (GOV)  
**Subject:** RE: Flint

You are welcome, sir!!

**From:** Murray, David (GOV)  
**Sent:** Wednesday, January 21, 2015 4:48 PM  
**To:** Stanton, Terry A. (Treasury)  
**Subject:** RE: Flint

I think that's great! Ron Fonger was one reporter, and I'll send along the other.

Very much appreciate you grabbing this one!

Dave

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Wednesday, January 21, 2015 4:35 PM  
**To:** Murray, David (GOV)  
**Subject:** Flint

**Jerry Ambrose and his management team are working diligently to ensure Flint residents have access to clean, safe water. To that end, a consultant is being brought in to advise the city on appropriate next steps.**

**The city continues to work closely with staff from the Department of Environmental Quality (DEQ) to ensure water meets safety guidelines, that water operations are managed properly, and all regulations are met.**

**Treasury staff is also in regular contact with both the city and DEQ and will be providing support as appropriate.**

**Stanton, Terry A. (Treasury)**

---

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Wednesday, January 21, 2015 4:57 PM  
**To:** ammore@sbgvtv.com  
**Subject:** Flint

**Importance:** High

Drew...

Your inquiry to Governor Snyder's office was forwarded to me for response. Please see below, which you may attribute to me.

**"Jerry Ambrose and his management team are working diligently to ensure Flint residents have access to clean, safe water. To that end, a consultant is being brought in to advise the city on appropriate next steps.**

**The city continues to work closely with staff from the Department of Environmental Quality (DEQ) to ensure water meets safety guidelines, that water operations are managed properly, and all regulations are met.**

**Treasury staff is also in regular contact with both the city and DEQ and will be providing support as appropriate."**

*Terry Stanton, Administrator  
Communications Division  
MI Department of Treasury  
(517) 335-2167  
[stantont@michigan.gov](mailto:stantont@michigan.gov)*

## **Koryzno, Edward (Treasury)**

---

**From:** Byrne, Randall (Treasury)  
**Sent:** Thursday, January 22, 2015 10:36 AM  
**To:** Cline, Richard (Treasury)  
**Cc:** Koryzno, Edward (Treasury)  
**Subject:** FW: Flint Water Issue Report for Governor  
**Attachments:** Flint Water Issue Report for Governor.01-21-15.doc

**Importance:** High

Eric:

Thanks for the good work on this report. I don't have any further suggestions at this time.

Randy,

---

**From:** Cline, Richard (Treasury)  
**Sent:** Thursday, January 22, 2015 9:26 AM  
**To:** Koryzno, Edward (Treasury); Byrne, Randall (Treasury); Dempkowski, Angela (Treasury)  
**Subject:** Flint Water Issue Report for Governor  
**Importance:** High

Ed/Randy:

Attached is the Flint Water Report.

Given the volume of information, I have kept the report focused upon the issues germane to the DEQ violation notice and the offer from DWSD.

I have tried to keep technical jargon to a minimum, but some inclusion was necessary in order for some items to be clear.

I also went back into our records to see what rate projections were assumed to be in order to cross-compare the City's analysis of the DWSD proposal. However, I kept references to all of this at a minimum.

If there are any questions, let me know.

**Eric Cline | Department Manager**

State of Michigan | Michigan Department of Treasury | Office of Fiscal Responsibility  
430 W. Allegan Street, 3rd Floor | Lansing, MI 48922

Lansing Office (517) 335-2078 | Cell Phone (517) 243-8350 | Traverse City Office (231) 922-5228

E-mail [cliner1@michigan.gov](mailto:cliner1@michigan.gov)

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RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF TREASURY  
LANSING

R. KEVIN CLINTON  
STATE TREASURER

## **SUMMARY REPORT**

**TO:** Wayne Workman, Deputy State Treasurer  
**FROM:** Eric Cline, Department Manager; Office of Fiscal Responsibility  
**SUBJECT:** Summary of Flint Water System Issues  
**DATE:** January 22, 2015

---

### **Summary**

On December 16, 2014, the City of Flint received a violation notice from the Michigan Department of Environmental Quality (DEQ). This notice stated that the City water samples were in violation of Maximum Contaminant Levels (MCL), a violation of the Safe Drinking Water Act (PA 399 of 1976).

The DEQ considers the violation period to have begun December 1, 2014. The violation was triggered when water sample reports showed that the City's water quality, on average, exceed the total allowable level of *Disinfection Byproducts* during the first three quarters of 2014. Further, four of the City's eight water sample site locations individually exceeded allowable MCL levels during the same period of 2014.

These conditions are considered a Tier 2 violation and, as a result, the City was required to notify the public of these contamination levels by January 10, 2015 (which was done) and continue to notify them every three months until the violation is resolved.

The City must also update its Operational Evaluation Report, which is on-file with the DEQ, as to how it will correct this issue by March 1, 2015.

### **Causes & Possible Solutions**

According to information provided by the City, the high levels of *Disinfection Byproducts*, which resulted in the DEQ violation notice, can be caused by high levels of chlorine. The City is required to perform testing every three months and the yearly average exceeded allowable MCL levels.

Some of the potential causes for this high level of chlorine include:

- Inefficient ozone system operation.
- A sewer leak discovered upstream of the intake, resulting in the need to increase the chlorine feed.
- An improper softening process.
- Unlined cast iron pipes in the distribution system.
- Recirculating water in the distribution system due to poor configuration of two pump stations.
- Broken valves resulting in stagnant water.
- High chlorine demand in filters.

- High potential of impurities in the source water.
- Less than optimal removal of impurities.

The City outlined some potential remedies to this problem in its initial Operational Evaluation Report, dated November 26, 2014. These potential remedies are intended to be implemented in stages. Stage 1 consists of actions that can be implemented without any new construction within the distribution system and are due to be implemented by early March 2015.

Stage 1 actions include:

- Troubleshooting of the ozone system.
- Implementation of different testing methods.
- Operational changes at the Water Treatment Plant.
- Increase water main flushing efforts to minimize stagnant water.
- Identify areas with high water age and implement preemptive measures.

Stage 2 consists of long term actions that require major system construction and potentially include:

- Upgrades to the ozone system.
- Implement the use of polymer aids.
- Convert to lime and soda ash softening.
- Change the disinfectant process.
- Install a new feed at the intake to optimize disinfection.
- Implement advanced treatment for precursor removal.
- Increase main flushing based on water modeling results.
- Continue valve replacements.
- Emphasize cast iron pipes on water main replacement priority list.

The projected cost of these options is unavailable.

It should be noted that all of these potential remedies are intended to be utilized only until the KWA pipeline is operational in late 2016.

Further, the City will be providing additional potential solutions when it updates the Operational Evaluation Report, which must be submitted to the DEQ by March 1, 2015.

Also, the City's Emergency Manager has committed to hiring an independent external consultant to assess the steps that the City has taken, to make recommendations as to other steps that can be taken, to oversee implementation, and to monitor operations until KWA is online.

### **DWSD Situation**

Concurrent to the City addressing the aforementioned issues, on January 12, 2015, the Detroit Water and Sewer Department (DWSD) extended an offer to the City to reopen water connections that have been closed since May 2014 and resume supplying the City with drinking water.

DWSD has offered waiving a connection charge if the City will consider a long term agreement. DWSD has offered the City a fixed monthly rate of \$846,700/month (\$10,160,400/year) plus a commodity rate of \$14.92/Mcf. DWSD stated that these rates will be guaranteed until June 30, 2015. Any future rate increases beyond the June 30 date are not identified, however, prior projections indicated that DWSD rates would exceed \$16-million in 2015.

The City's analysis of this offer indicates that the total cost of purchasing water from DWSD would exceed \$12-million annually (before any rate increases beginning July 1, 2015). These costs are supported by projections utilized by the City when the original decision to switch to KWA was made.

The City's current water system expenditures are approximately \$11.7-million, with operations and capital upgrades currently running below projections. Therefore, the Emergency Manager has made the determination that the City will not be acting upon the offer extended by DWSD.

If further information on this issue is needed, please let me know.

**Copy:** Edward Koryzno, Director; Bureau of Local Government Services  
Randall Byrne, State Administrative Manager; Office of Fiscal Responsibility

\\ALGOV\OFR\Townships\Royal Oak Township\Consent Agreement\2015 Budget\State Treasurer Action Letter to Township.2015 Budget.v2.12-15-14.doc

## **Stanton, Terry A. (Treasury)**

---

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Thursday, January 22, 2015 11:15 AM  
**To:** Fonger, Ronald  
**Subject:** RE: Flint

Got your VM. I have no addition to yesterday's statement. Thanks.

**From:** Fonger, Ronald [mailto:RFONGER1@mlive.com]  
**Sent:** Thursday, January 22, 2015 9:32 AM  
**To:** Stanton, Terry A. (Treasury)  
**Subject:** RE: Flint

Thanks Terry:

Is there any response specific to the proposals Mayor Walling made in his letter to the governor?

**Ron Fonger**  
MLive Media Group  
Reporter

mobile 810.347.9963  
email [rfonger1@mlive.com](mailto:rfonger1@mlive.com)  
address 540 S. Saginaw St. #101, Flint MI 48502

**From:** Stanton, Terry A. (Treasury) [mailto:[StantonT@michigan.gov](mailto:StantonT@michigan.gov)]  
**Sent:** Wednesday, January 21, 2015 5:03 PM  
**To:** Fonger, Ronald  
**Subject:** Flint  
**Importance:** High

Hi Ron...

Your inquiry to Governor Snyder's office was forwarded to me. Please see below, which you may attribute to me.

**"Jerry Ambrose and his management team are working diligently to ensure Flint residents have access to clean, safe water. To that end, a consultant is being brought in to advise the city on appropriate next steps.**

**The city continues to work closely with staff from the Department of Environmental Quality (DEQ) to ensure water meets safety guidelines, that water operations are managed properly, and all regulations are met.**

**Treasury staff is also in regular contact with both the city and DEQ and will be providing support as appropriate."**

## **Koryzno, Edward (Treasury)**

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**From:** Widigan, Robert (TREASURY)  
**Sent:** Thursday, January 22, 2015 11:33 AM  
**To:** Porubsky, Carmen (TREASURY)  
**Cc:** Koryzno, Edward (Treasury); Byrne, Randall (Treasury); Cline, Richard (Treasury)  
**Subject:** City of Flint Call Notes

### **City of Flint Call Notes 01/21/15 9 AM**

**Treasury:** W. Workman, R. Byrne, R. Widigan

**GOV:** H. Hollins

**MSP:** G. Kapp, J. Carter, S. Sipes, S. O'Neill, T. Sands

**City:** J. Ambrose, Liz Murphy, Chief Tolbert

#### **1. Public Safety Update**

- FPD Chief Tolbert:
  - a. 4 Homicides for the year, up from 1 this time LY.
  - b. The final reports for the evaluation of both the Police and the Fire Departments have been received. The study will be presented to City Council at the Public Safety Committee on January 22, 2015. MSP will attend as well. R. Byrne to attend.
  - c. 118 officers & civilians total.
  - d. Performance measures for officers were implemented on January 1.
  - e. Chief Tolbert is hosting town hall meetings, working on community policing.
- FFD:
  - a. City applied for \$999,103 grant from the FEMA Assistance to Firefighters Grant Program to purchase a new aerial truck.

#### **2. Governor's Office Update**

- District Court Consolidation:
  - a. County Commissioners voted on 12/10/14 to approve "pursuant to the terms and conditions set forth in a MOU to be approved between City of Flint and Gen. County."
  - b. H. Hollins (GOV) stated J. Ambrose needs to issue an order that mirrors what the resolution passed by the County Commissioners – H. Hollins to speak to Judge Yuille.
- Local Income Tax Initiative:
  - a. H. Hollins (GOV) is trying to find a legislative sponsor.

#### **3. Finance and Administrative Update**

- Firefighters Contract:
  - a. City Council sent an alternative contract to the Emergency Loan Board on December 17, 2014. Emergency Loan Board decided in favor of the EM proposal. IAFF contract has been imposed.
- Financial Ordinances:
  - a. City Council approved first reading of Fund Balance Policy, OPEB, BSF and strategic planning processes ordinances. Purchasing Ordinance still to be moved.

#### **4. Water Issues**

- MDEQ Violation Notice:
  - a. Violation notice received 12/16/14 maximum contaminant level for TTHM exceeded. Public notice required. Notices sent out Jan 5, 2015. Most recent readings in compliance except one location. This issue has become the largest current challenge.

- b. Public Water Forum will be on 1/21/15 at City Hall. Panel will include City Officials, MDEQ, MSU Microbiologist, Genesee Co. Drain Commissioner.
- c. RFP for river water treatment consulting firm due back 1/26/15, selected MSU water expert will attend 1/21/15 Water Forum.
- d. Mayor sent a letter to Gov. and others with his Flint Water Improvement Plan which requests Federal and **State assistance**.
- e. KWA Project is on track and under budget. Expected completion is spring 2016.
- Distressed Cities Grants:
  - a. City of Flint submitted two grant requests: Leak Detection and Sewage sludge load out facility. Awards expected to be announced at the end of January.

## 5. 9-1-1 Reconsolidation Plan

- Tower Transfer to Consortium:
  - a. Tower built with C-GAP funds. Construction value exceeds \$50,000; the intent to transfer was included in the last two updates to the Financial and Operating Plan.

## 6. Transition Activities

- Strategic Planning Workshop:
  - a. Two off-site workshops are planned: For Dept. Heads and Core Team on Jan 26, 2015. Then, for Council, Dept. Heads and Core Team scheduled for Jan. 28, 2015. Future Council activities, strategic plan and budget prep will be main topics. Both will be facilitated by Dr. Scorsone.
  - b. Update of Transition Management Plan: A planning calendar for the next three months is being developed.

## 7. MDNR and Purchase of CSX Rail Area:

- The City is requesting DNR authorize full amount of appraised property value to be paid by DNR grant. R. Byrne will look into this further.
  - a. **Note from City's Planning and Development Director:** In brief, the City hired an appraiser for the Grand Traverse Greenway trail to complete acquisition of the CSX properties. We forwarded the appraisal of \$170,000 to the DNR for approval to proceed with negotiations with CSX. During our negotiations, CSX disputed the appraisal and submitted their own appraisal for the property of \$330,000. After reviewing the CSX appraisal, DNR told the City that they would be willing to increase the grant up to \$215,000 for acquisition, but the City would have to make up the difference. After doing additional research on similar properties including acquisition of the Genesee Valley Trail in the City of Flint, we realize that CSX offer is not unreasonable. We asked DNR to reconsider and allow us to have our appraisal amended so that we can fully use the DNR grant for the \$330,000 asking price. (Our DNR grant allocation is \$700,000 more than enough to cover the \$330,000 asking price. Thus far, DNR has been unwilling to provide the additional funding and suggested we talk to MDOT about making up the difference. I think the MDNR is concerned about setting precedent for future trail acquisition, but I don't think it matters if MDOT is routinely paying more.

## **Koryzno, Edward (Treasury)**

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**From:** Workman, Wayne (TREASURY)  
**Sent:** Thursday, January 22, 2015 12:54 PM  
**To:** Headen, Frederick (Treasury); Koryzno, Edward (Treasury); Byrne, Randall (Treasury)  
**Cc:** Saxton, Thomas (Treasury); Stanton, Terry A. (Treasury); Gelisse, Ashley (TREASURY); Stibitz, Brom (Treasury); Dempkowski, Angela (Treasury)  
**Subject:** RE: Fernanders v Wright, et al

Angela, please a call for us to discuss early next week. Thank you Fred

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**From:** Headen, Frederick (Treasury)  
**Sent:** Thursday, January 22, 2015 12:27 PM  
**To:** Workman, Wayne (TREASURY); Koryzno, Edward (Treasury); Byrne, Randall (Treasury)  
**Cc:** Saxton, Thomas (Treasury); Stanton, Terry A. (Treasury); Gelisse, Ashley (TREASURY); Stibitz, Brom (Treasury); Dempkowski, Angela (Treasury)  
**Subject:** RE: Fernanders v Wright, et al

Wayne:

I now have had an opportunity to review the complaint and attached exhibits. The complaint asserts that the City's drinking water is contaminated and seeks a temporary restraining order, although of what is not quite clear. The lack of clarity may be due in part to the plaintiff, who describes himself as indigent, acting *in pro per* (i.e., representing himself).

Also unclear is why Darnell was named as a defendant. There is in the complaint no mention of Act 436, nor any assertion that the plaintiff is aggrieved by any action, or inaction, on Darnell's part. However, because it appears Darnell was named in his official capacity as then Emergency Manager, it is likely the plaintiff will amend his complaint to substitute the current Emergency Manager, Jerry Ambrose, as a defendant.

Given the absence in the complaint of any reference to Act 436, or to any action, or inaction, under that Act, there does not appear to be, in a strictly statutory sense, any basis to request Attorney General representation for either Darnell or Jerry. I spoke with Pete and he concurred. However, he and I also decided to re-read the complaint to satisfy ourselves we have not missed anything upon this point.

The four corners of the Act notwithstanding, there may be prudential grounds for requesting involvement by the Attorney General's Office. However, because I think it advisable not to reduce those grounds to writing, I would prefer to discuss at your convenience.

I will forward a copy of the complaint to Darnell.

Fred

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**From:** Workman, Wayne (TREASURY)  
**Sent:** Thursday, January 22, 2015 10:28 AM  
**To:** Headen, Frederick (Treasury); Koryzno, Edward (Treasury); Byrne, Randall (Treasury)  
**Cc:** Saxton, Thomas (Treasury); Stanton, Terry A. (Treasury); Gelisse, Ashley (TREASURY); Stibitz, Brom (Treasury); Dempkowski, Angela (Treasury)  
**Subject:** RE: Fernanders v Wright, et al

Thank you.

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**From:** Headen, Frederick (Treasury)  
**Sent:** Thursday, January 22, 2015 10:25 AM  
**To:** Workman, Wayne (TREASURY); Koryzno, Edward (Treasury); Byrne, Randall (Treasury)  
**Cc:** Saxton, Thomas (Treasury); Stanton, Terry A. (Treasury); Gelisse, Ashley (TREASURY); Stibitz, Brom (Treasury); Dempkowski, Angela (Treasury)  
**Subject:** RE: Fernanders v Wright, et al

Wayne:

It depends upon the circumstance. Per the Act, the Attorney General's Office is required to defend any cause of action involving any of the following:

- (a) The validity of this act.
- (b) The authority of a state official or officer acting under this act.
- (c) The authority of an emergency manager if the emergency manager is or was acting within the scope of authority for an emergency manager under this act.

I will need to review the document that Pete forwarded to determine the nature of Darnell's involvement.

Fred

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**From:** Workman, Wayne (TREASURY)  
**Sent:** Thursday, January 22, 2015 10:17 AM  
**To:** Koryzno, Edward (Treasury); Headen, Frederick (Treasury); Byrne, Randall (Treasury)  
**Cc:** Saxton, Thomas (Treasury); Stanton, Terry A. (Treasury); Gelisse, Ashley (TREASURY); Stibitz, Brom (Treasury); Dempkowski, Angela (Treasury)  
**Subject:** FW: Fernanders v Wright, et al

Would the EM usually be defended by the AG or a SAAG?

**From:** Peter Bade [<mailto:pbade@cityofflint.com>]  
**Sent:** Thursday, January 22, 2015 9:20 AM  
**To:** Workman, Wayne (TREASURY); Headen, Frederick (Treasury); Byrne, Randall (Treasury); Gerald Ambrose; Flint Mayor  
**Subject:** Fernanders v Wright, et al

Gentlemen: I'm forwarding the attached motion for temporary restraining order that was filed in federal court. Darnell Earley is a named defendant. I am writing to seek guidance on whether the Attorney General will be representing him.

I do not have Darnell's new email address. I left a message on his cell phone this morning. I'm not sure if he's been served.

--

Peter M. Bade  
Chief Legal Officer  
City of Flint

**Stanton, Terry A. (Treasury)**

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**From:** Stanton, Terry A. (Treasury)  
**Sent:** Thursday, January 22, 2015 5:25 PM  
**To:** Gerald Ambrose  
**Cc:** Jason Lorenz; Elizabeth Murphy  
**Subject:** RE: Water issue

Thanks, Jerry.

**From:** Gerald Ambrose [mailto:gambrose@cityofflint.com]  
**Sent:** Thursday, January 22, 2015 5:23 PM  
**To:** Stanton, Terry A. (Treasury)  
**Cc:** Jason Lorenz; Elizabeth Murphy  
**Subject:** Re: Water issue

Terry,

This is the quickest response I can give you...you will see the water issue is important and we are working on it everyday. If you go to our web site, you will see additional information we are posting for the public. And we have an RFP out soliciting expert assistance to assure we are doing everything we need to be doing. Let me know if you need something else.

Additional item - we stand by the statement that going back to DWSD would add some \$1 million monthly to our expenses, and DWSD's "offer" makes reference to a "long term" commitment, which presumably could mean leaving KWA....

We are committed to addressing this problem and are pursuing our strategy.

J

On Thu, Jan 22, 2015 at 4:27 PM, Stanton, Terry A. (Treasury) <[StantonT@michigan.gov](mailto:StantonT@michigan.gov)> wrote:

Hello gentlemen...

I have been asked by the Governor's Communications Office if you might have any **talking points** on the water situation, ie, what's being done to address the situation, etc. Please forward if you do.

Sounds like the governor may be speaking with Flint media in the not-too-distant future, and I'd like to provide some background info, etc. for consistency of messaging.

Thanks, Terry

## **Stanton, Terry A. (Treasury)**

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**From:** Stanton, Terry A. (Treasury)  
**Sent:** Thursday, January 22, 2015 5:46 PM  
**To:** Murray, David (GOV)  
**Subject:** RE: Flint

Not a prob. Hope it works for you.

**From:** Murray, David (GOV)  
**Sent:** Thursday, January 22, 2015 5:45 PM  
**To:** Stanton, Terry A. (Treasury)  
**Subject:** RE: Flint

You are fantastic! Sorry I held you up. Thank you, Terry!

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Thursday, January 22, 2015 5:43 PM  
**To:** Murray, David (GOV)  
**Subject:** Flint  
**Importance:** High

Dave...

Please see the attached, which includes the info I shared yesterday. I have asked Brad at DEQ if he has anything more, as they have had more involvement on the water issue. I will forward anything he sends me. I believe there is a meeting next week with the G to discuss this issue, though clearly he may face media questions well before that occurs.

We suggest the G say the *residents deserve clean, safe water and EM Jerry Ambrose, his management team and the DEQ are working to ensure that...and that the State will be a resource where and when possible (as we have with other issues, ie, crime).*

I cannot speak to other "requests" in the Mayor's letter (dated 1-18), which seek waivers, Federal and State funding, etc.

As you will see in the document, the city is committed to addressing the issue and in fact, has taken numerous steps (with guidance and/or approval from DEQ) to date.

Hope this helps.

**Stanton, Terry A. (Treasury)**

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**From:** Stanton, Terry A. (Treasury)  
**Sent:** Thursday, January 22, 2015 5:45 PM  
**To:** Murray, David (GOV)  
**Subject:** Flint 2  
**Attachments:** Adressing Flint's Water Concerns final.docx

Sorry...meant to attach this to the prior e-mail.

This is a doc compiled by the city.

**Byrne, Randall (Treasury)**

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**From:** Jason Lorenz <jlorenz@cityofflint.com>  
**Sent:** Monday, January 26, 2015 9:53 AM  
**Subject:** PRESS RELEASE: Deadline Extended for RFP  
**Attachments:** Water Consultant RFP Deadline Extension.pdf

**For Immediate Release**

## **City of Flint Extends Submission Deadline for Water Quality Consultant Request for Proposals**

*Flint, Michigan – January 26, 2015* – The City of Flint has extended the deadline for its Water Quality Consultant Request for Proposal (RFP) to Thursday, January 29, 2015 by 12pm, in order to ensure that interested and qualified firms can submit comprehensive proposals. Proposals received by the deadline will undergo immediate review with a goal of finalists being selected by Monday, February 2, 2015. Final selection is anticipated by the week of February 9, 2015.

In the RFP, The City is seeking a consultant to review and evaluate the water treatment process and distribution system, provide recommendations to maintain compliance with both state and Federal agencies, and assist in implementing accepted recommendations. The City will have the selected vendor provide reports to reflect their findings and provide continual oversight in implementing any approved recommended practices to improve the quality of water until implementation of the KWA project. The RFP can be found on the City's website at <http://flintweb2.cityofflint.com/Purchasing/bids.asp>.

–END–

-Jason Lorenz  
Public Information Officer  
City of Flint  
(810) 237-2039  
[jlorenz@cityofflint.com](mailto:jlorenz@cityofflint.com)

## **Stanton, Terry A. (Treasury)**

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**From:** Chastity Pratt <cpratt@bridgemi.com>  
**Sent:** Monday, January 26, 2015 2:16 PM  
**To:** Stanton, Terry A. (Treasury)  
**Subject:** Re: Flint water - I hear YOU are the expert (deadline story)

Hi, Terry,

Yes, I contacted Ambrose's office and hope to hear from him soon. Thanks for the response!

-cpd

On Mon, Jan 26, 2015 at 1:57 PM, Stanton, Terry A. (Treasury) <[StantonT@michigan.gov](mailto:StantonT@michigan.gov)> wrote:  
Chastity...

If you haven't already, I would suggest you contact Jerry Ambrose, Flint's emergency manager. He could give you complete background on the situation, and update you on the steps the city has been taking...and plans to take...to address the situation.

As for the mayor's letter, much of the content is outside Treasury's oversight and/o authority. That said, below is some information (reaction) I shared with reporters earlier.

You may attribute the following to me.

**"Jerry Ambrose and his management team are working diligently to ensure Flint residents have access to clean, safe water. To that end, the city has an rfp out for a consultant to advise the city on appropriate next steps.**

**The city continues to work closely with staff from the Department of Environmental Quality (DEQ) to ensure water meets safety guidelines, that water operations are managed properly, and all regulations are met.**

**Treasury staff is also in regular contact with both the city and DEQ and will be providing support as appropriate."**

Terry Stanton  
Director of Communications  
MI Department of Treasury  
[\(517\) 335-2167](tel:5173352167)

On Jan 26, 2015, at 1:11 PM, Chastity Pratt <[cpratt@bridgemi.com](mailto:cpratt@bridgemi.com)> wrote:

Hi, Terry,

Can you please call me? I am working on a deadline story about Flint's water situation, the complaints, etc. Bridge Magazine is most interested in the policy implications.

The mayor sent a letter to the governor requesting/recommending that:

1. Water testing data be reported publicly no less than quarterly by law in all Michigan communities in Flint's population category
2. Federal and State partnerships be designed to establish new Drinking Water Emergency Assistance Fund for the elderly and vulnerable families
3. Water system improvements outlined in the City of Flint Capital Improvement Plan be accelerated through Federal and State Investments;
4. The state approves City of Flint's Distressed Cities Fund applications

What's your insight as to whether any of this is doable? Can you please call me? My story is due tomorrow and will highlight these recommendations/requests from the mayor.

--

Chastity Pratt Dawsey

Reporter

Bridge Magazine/The Center for Michigan

28 W. Adams Suite 330, Detroit, MI 48226

[www.bridgemi.com](http://www.bridgemi.com)

C: 313-[REDACTED]

--

Chastity Pratt Dawsey

Reporter

Bridge Magazine/The Center for Michigan

28 W. Adams Suite 330, Detroit, MI 48226

[www.bridgemi.com](http://www.bridgemi.com)

C: 313-[REDACTED]

## Stanton, Terry A. (Treasury)

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**From:** Murray, David (GOV)  
**Sent:** Monday, January 26, 2015 5:08 PM  
**To:** Stanton, Terry A. (Treasury)  
**Subject:** RE: Story on Flint drinking water

Thank you, Terry! The Flint Mayor has an oped for the Journal that is pretty much a full out attack on the governor, demanding that he come to Flint. We're asking for direction from Chief and Harvey about how much they want us to note the city's role in this – pre EMs.

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Monday, January 26, 2015 5:00 PM  
**To:** Murray, David (GOV)  
**Subject:** Re: Story on Flint drinking water

Not sure there is much more to say at this point.

TS

On Jan 26, 2015, at 4:42 PM, Murray, David (GOV) <[MurrayD1@michigan.gov](mailto:MurrayD1@michigan.gov)> wrote:

Hi Terry,

Thanks for your help on all this. I was planning to give Chastity a variation of the quote you gave me last week, unless you think we should take a different approach. Thanks for all your help on all this. Here was the quote from last week: -

Flint residents deserve clean, safe water. Flint Emergency Manager Jerry Ambrose, his management team and the state Department of Environmental Quality are working to ensure that. The state government will be a resource where and when possible, as it has been for other important issues affecting the city.

Thanks!

Dave

**From:** Chastity Pratt [<mailto:cpratt@bridgemi.com>]  
**Sent:** Monday, January 26, 2015 12:27 PM  
**To:** Murray, David (GOV)  
**Subject:** Re: Story on Flint drinking water

Gotcha. At the same time, could you also provide a comment since the letter was addressed to the governor?

My story will highlight that the mayor asked for some increased state involvement, investment and policy changes; specifically, he recommended/asked that:

1. Water testing data be reported publicly no less than quarterly by law in all Michigan communities in Flint's population category

2. Federal and State partnerships be designed to establish new Drinking Water Emergency Assistance Fund for the elderly and vulnerable families
3. Water systems improvements outlined in the City of Flint Capital Improvement Plan be accelerated through Federal and State Investments; State approves City of Flint's Distressed Cities Fund applications

Which of these is doable or under consideration?

On Mon, Jan 26, 2015 at 12:13 PM, Murray, David (GOV) <[MurrayD1@michigan.gov](mailto:MurrayD1@michigan.gov)> wrote:  
He's the expert on all things Flint water.

Sent from my iPad

**Stanton, Terry A. (Treasury)**

---

**From:** Wurfel, Brad (DEQ)  
**Sent:** Tuesday, January 27, 2015 2:03 PM  
**To:** Murray, David (GOV); Wurfel, Sara (GOV); Stanton, Terry A. (Treasury)  
**Cc:** Brown, Jessica (GOV)  
**Subject:** FW: Talked with Ambrose.  
**Attachments:** City of Flint VN - MCL TTHM 12\_16\_14.pdf; TTHM - OEL letter.pdf

**From:** Busch, Stephen (DEQ)  
**Sent:** Friday, January 23, 2015 9:31 AM  
**To:** Wurfel, Brad (DEQ)  
**Cc:** Prysby, Mike (DEQ)  
**Subject:** RE: Talked with Ambrose.

Brad,

Under the Act 399 Rules, the City is required to conduct an Operational Evaluation and make adjustments to their system to reduce TTHM levels. They have 90 days from the violation to complete the report (due date is March 1). This was outlined in the violation notice (attached).

When results from August continued to show high levels of TTHM and the likelihood that a violation of the standard would occur in the future, the City was asked to proactively complete an Operational Evaluation at that time to try and reduce levels (see attached September OEL compliance communication). The City did complete the evaluation, and this, in part, is why levels from November showed such a significant reduction. A copy of this Operational Evaluation can be provided.

It should also be noted that the Operational Evaluation from one monitoring period to another are separate required reports. An Operational Evaluation for a subsequent period can utilize information from a previous report, but can't be a resubmittal of the same report. It must take into account the most current data.

The City has contracted with LAN Engineering to conduct the Operational Evaluations and produce the reports.

It is the City's responsibility to evaluate their system and provide solutions.

Also keep in mind that the long term solution will continue to be connection to KWA. Such long term solutions have been acceptable for other communities to address this type of standard violation.

Stephen Busch, P.E.  
Lansing and Jackson District Supervisor  
Office of Drinking Water and Municipal Assistance  
MDEQ  
517-643-2314

**From:** Wurfel, Brad (DEQ)  
**Sent:** Thursday, January 22, 2015 9:49 PM  
**To:** Busch, Stephen (DEQ)  
**Subject:** Fwd: Talked with Ambrose.

Do we have a shareable briefing document?

Sent from my iPhone

Begin forwarded message:

**From:** "Stanton, Terry A. (Treasury)" <[StantonT@michigan.gov](mailto:StantonT@michigan.gov)>  
**Date:** January 22, 2015 at 5:00:19 PM EST  
**To:** "Wurfel, Brad (DEQ)" <[WurfelB@michigan.gov](mailto:WurfelB@michigan.gov)>  
**Subject:** RE: Talked with Ambrose.

Do you have any TPs, bullets, etc. on what's been done thus far in Flint to address the water issue...from DEQ perspective?

**From:** Wurfel, Brad (DEQ)  
**Sent:** Wednesday, January 21, 2015 11:46 AM  
**To:** Stanton, Terry A. (Treasury)  
**Subject:** Talked with Ambrose.

THAT's why his name is familiar. He's been down there for years!  
Turns out, he's got this thing handled. Just had a good conversation.  
Let me know if I can be of help. Two of our best guys will be there from the drinking water program.  
b

Brad Wurfel  
Communications Director  
Michigan Department of Environmental Quality  
517-284-6713  
517-230-8006 cell



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING DISTRICT OFFICE



DAN WYANT  
DIRECTOR

December 16, 2014

Mr. Brent Wright, Operation Supervisor  
City Of Flint - DPW  
Flint Water Plant  
4500 North Dort Highway  
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice – Maximum Contaminant Level for Total Trihalomethanes  
Operational Evaluation – Total Trihalomethanes  
4<sup>th</sup> Quarter 2014 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels (MCL) for disinfection byproducts*, of the 1979 Administrative Code.

In accordance with R.325.10610, *MCLs for disinfection byproducts*, of the 1979 Administrative Code, the MCL for disinfection byproduct total trihalomethanes (TTHM) is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City of Flint's highest TTHM locational running annual average (LRAA), based on the last three quarters, ending November 30, 2014, is 0.099 mg/l which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the department not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that TTHM operational evaluation levels for the City of Flint exceed 0.080 mg/L at four of the City's eight sample site locations.

| TTHM Results (mg/L)                          |         |         |          |       |       |
|----------------------------------------------|---------|---------|----------|-------|-------|
|                                              | 5/21/14 | 8/21/14 | 11/20/14 | LRAA  | OEL   |
| DBP1 McDonalds<br>3719 Davison               | 0.162   | 0.145   | 0.059    | 0.092 | 0.106 |
| DBP2 Liquor Palace<br>3302 S. Dort Highway   | 0.112   | 0.127   | 0.033    | 0.068 | 0.076 |
| DBP3 North Flint Auto<br>6204 N. Saginaw St. | 0.097   | 0.118   | 0.041    | 0.064 | 0.074 |
| DBP4 University Market<br>2501 Flushing Road | 0.106   | 0.196   | 0.094    | 0.099 | 0.122 |
| DBP5 Taco Bell<br>3606 Corunna Road          | 0.079   | 0.181   | 0.034    | 0.074 | 0.082 |
| DBP6 Rite-Aid Pharmacy<br>5018 Clio Road     | 0.088   | 0.144   | 0.054    | 0.072 | 0.085 |
| DBP7 Salem Housing<br>3216 MLK Boulevard     | 0.082   | 0.112   | 0.050    | 0.061 | 0.074 |
| DBP8 BP Gas Station<br>822 S. Dort Highway   | 0.075   | 0.112   | 0.036    | 0.056 | 0.065 |

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on December 1, 2014, and will continue until TTHM LRAA is below the MCL at all sample sites.

We acknowledge and appreciate the city's cooperation with our recommendation to preemptively conduct an Operational Evaluation following the City's second quarterly round of monitoring in August. That Operational Evaluation report has identified possible causes and corrective measures for the elevated TTHM levels which we encourage the City continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard.

Our office is continuing to review the Operational Evaluation report that was submitted on December 1, 2014, and will provide the City and their consultant comments as needed to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than March 1, 2015.**

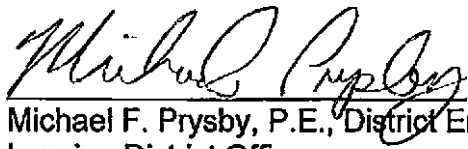
If you have any other factual information you would like us to consider regarding the violation identified in this Violation Notice (VN), please provide them in a written response by January 16, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery and by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN

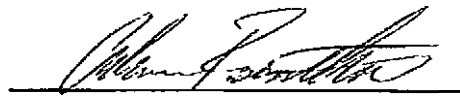
which contains the minimum required language. The City is encouraged to include additional information regarding its response to this violation. **Please notify your consumers by January 10, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2014 Consumer Confidence Report (CCR), due by July 1, 2015. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below.

Sincerely,



Michael F. Prysby, P.E., District Engineer  
Lansing District Office  
Office of Drinking Water & Municipal  
Assistance  
517-290-8817



Adam Rosenthal, EQA  
Lansing District Office  
Office of Drinking Water & Municipal  
Assistance  
517-284-6644

mfp/ar/jlr  
Enclosure

cc: Mr. Darnell Early, Emergency Manager, City of Flint  
Mr. Daughtry Johnson, City of Flint  
Mr. Howard Croft, City of Flint  
Mr. Robert Bincsik, City of Flint  
Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5  
Genesee County Health Department  
Ms. Liane Shekter Smith, P.E., DEQ  
Mr. Richard Benzie, P.E., DEQ  
Mr. Stephen Busch, P.E., DEQ

## IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

### City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, and November 20 of 2014). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 µg/L. The location reporting the highest TTHM level was 99 µg/L; thus, our water system exceeds the TTHM MCL.

#### What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

#### What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

*People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.*

#### What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem by 2015.

For more information, please contact Mr. Brent Wright at 517-787-6537 or the Flint Water Plant at 4500 North Dort Highway, Flint, MI 48505.

*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.*

This notice is being sent to you by the City of Flint.

---

#### CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

---

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING DISTRICT OFFICE



DAN WYANT  
DIRECTOR

September 10, 2014

Mr. Brent Wright  
City of Flint Water Treatment Plant  
4500 North Dort Highway  
Flint, Michigan 48505

SUBJECT: Compliance Communication  
Total Trihalomethane Operational Evaluation Requested

Under the Stage 2 Disinfectants and Disinfection Byproduct Rule, the City of Flint has been required to collect samples for the analysis of Total Trihalomethane (TTHM) and Haloacetic Acids (HAA5) at eight sites within the City's water distribution system. The City has completed two quarterly monitoring periods since changing its source water to the Flint River effective April 25, 2014.

Normally an Operational Evaluation Level (OEL) would be calculated in accordance with the Michigan Safe Drinking Water Act, Public Act 399, 1976, as amended, Administrative Rule 7196 (R 325.107196), each quarter once three quarters of results have been obtained and compared with the respective maximum contaminant level (MCL) for TTHM. Normally the calculation would be made as follows:

$(2 \times \text{current quarter} + \text{sum of 2 previous quarters}) \text{ divided by } 4$

As the City of Flint currently has only two quarters of data, the calculation has been modified as follows:

$(2 \times \text{current quarter} + \text{previous quarter}) \text{ divided by } 4$

The resulting OEL for each site is listed in the table below. All results are in parts per billion (ppb):

|                                               |         | TTHM    |          |         | HAA5    |          |
|-----------------------------------------------|---------|---------|----------|---------|---------|----------|
|                                               | 5/21/14 | 8/21/14 | Mod. OEL | 5/21/14 | 8/21/14 | Mod. OEL |
| DBP1 McDonalds<br>3719 Davison                | 162.4   | 145.3   | 113      | 64      | 43      | 38       |
| DBP2 Liquor Palace<br>822 S. Dort Highway     | 111.6   | 112     | 84       | 52      | 40      | 33       |
| DBP3 North Flint Auto<br>3302 S. Dort Highway | 96.5    | 127.2   | 88       | 48      | 31      | 28       |
| DBP4 University Market<br>3606 Corunna        | 106.4   | 181.3   | 117      | 55      | 24      | 26       |
| DBP5 B&P Gas Station<br>2501 Flushing         | 75.1    | 196.2   | 117      | 38      | 17      | 18       |
| DBP6 Salem Housing<br>3216 MLK Boulevard      | 82.2    | 112.4   | 77       | 41      | 25      | 23       |
| DBP7 Kroger<br>5018 Clio Road                 | 88.2    | 144.4   | 94       | 49      | 30      | 27       |
| DBP8 Taco Bell<br>6204 N. Saginaw             | 79.2    | 118.3   | 79       | 50      | 37      | 31       |

As shown in the table above, even with this less restrictive modified method, six of the City's eight sites already exceed the OEL limit of 80 ppb for TTHM. In addition, the City's two other sites are both more than 95% of the TTHM OEL limit.

The MCL for TTHM and HAA5 is based on a locational running annual average for each site, essentially the average at each site over the four previous quarterly monitoring periods. However, with TTHM levels of this magnitude, it is likely the MCL will be exceeded for at least one of these eight sites from just three quarters of monitoring results. For TTHM, four quarters at the MCL of 80 ppb (4 x 80) would provide 320 ppb allowable. As an example, site DBP1 through just two quarterly monitoring periods has a total of 307 ppb (162+145), leaving only 13 ppb over two more quarterly monitoring periods to maintain compliance with the MCL.

**Therefore, this office is requesting the City of Flint complete an Operational Evaluation in accordance with Administrative Rule 719I (R325.10179I). The Operational Evaluation Report shall be submitted to this office no later than November 28, 2014. The report shall not be limited in scope and shall include the following:**

**Examination of Treatment Operational Practices**

- Changes in source water quality
- Treatment changes
- Storage tank operations
- Excess storage capacity
- Treatment problems that contribute to TTHM formation

**Examination of Distribution Operational Practices**

- Storage tank operations
- Excess storage capacity
- Distribution system flushing

The report shall also include steps the City could consider to minimize future exceedances.

Additional guidance on completing the Operational Evaluation Report, including a number of forms that can be used to gather and evaluate water system information is provided in the United States Environmental Protection Agency's (U.S. EPA) Operational Evaluation Guidance Manual. This document is available on the U.S. EPA's website at the following link:

[http://www.epa.gov/ogwdw/disinfection/stage2/pdfs/draft\\_guide\\_stage2\\_operationalevaluation.pdf](http://www.epa.gov/ogwdw/disinfection/stage2/pdfs/draft_guide_stage2_operationalevaluation.pdf)

Be advised, failure to submit an Operational Evaluation Report by this deadline is a reporting violation subject to Tier 3 Public Notification.

The OEL is an indicator of operational performance. The water system must take proactive steps to be able to comply with the MCL's for TTHM and HAA5. While it is recognized that removal of Total Organic Carbon disinfection byproduct precursors as part of the treatment process has performed above minimum removal requirements under the treatment technique, around 4 parts per million of organic carbon are still present in the treated water and may be leading to additional TTHM formation in the City's distribution system.

While health effects associated with disinfection byproducts contaminants are based on chronic exposure, the City has available alternatives that must be considered to achieve compliance with this drinking water public health standard.

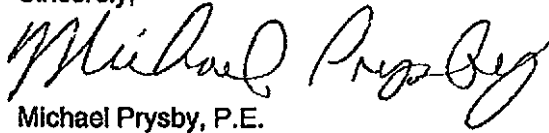
Mr. Brent Wright

3

September 10, 2014

If you have any questions regarding this information, please contact me at the number below.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Prysby". The signature is fluid and cursive, with the first name "Michael" being larger and more prominent than the last name "Prysby".

Michael Prysby, P.E.  
District Engineer  
Office of Drinking Water and  
Municipal Assistance  
Lansing District Office  
(517) 290-8817

cc: Mr. Darnell Early, City of Flint  
Mr. Daugherty Johnson III, City of Flint  
Mr. Howard Croft, City of Flint  
Mr. Robert Bincsik, City of Flint  
Ms. Liane Shekter Smith, P.E., DEQ  
Mr. Richard Benzle, P.E., DEQ  
Mr. Stephen Busch, P.E., DEQ  
Genesee Co. Health Dept.

**Stanton, Terry A. (Treasury)**

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**From:** Stanton, Terry A. (Treasury)  
**Sent:** Tuesday, January 27, 2015 2:28 PM  
**To:** Wurfel, Sara (GOV)  
**Subject:** Meeting tomorrow at 2

Wanted to be sure you were aware of this scheduled mtg (by DP) and expected attendees.

**Attending:**

Jerry Ambrose  
Mayor Walling  
Howard Croft, Director of the Department of Public Works  
Tom Saxton  
Dick Posthumus  
Dennis Muchmore  
Beth Clement  
Sen Ananich  
Andy Leavitt  
John Walsh  
Harvey Hollins

## **Stanton, Terry A. (Treasury)**

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**From:** Wurfel, Brad (DEQ)  
**Sent:** Tuesday, January 27, 2015 4:33 PM  
**To:** Stanton, Terry A. (Treasury); Brown, Jessica (GOV)  
**Subject:** RE: Flint Water Call

I will have documentation to more specifically articulate this tomorrow, but for the timeline, it goes like this:

Conversation one: Flint wants to join KWA and eventually gets approved.

Conversation two: Flint sees formation of the Regional water authority in Detroit and announces to DEQ they're getting off the bus, and going to use the local water supply.

Oh, and this got a new twist late today. I'll expand in another forum with each of you.

b

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Tuesday, January 27, 2015 12:52 PM  
**To:** Brown, Jessica (GOV); Wurfel, Brad (DEQ)  
**Subject:** RE: Flint Water Call

Works here.

**From:** Brown, Jessica (GOV)  
**Sent:** Tuesday, January 27, 2015 12:50 PM  
**To:** Stanton, Terry A. (Treasury); Wurfel, Brad (DEQ)  
**Subject:** RE: Flint Water Call

Any chance you can both do 1:30?

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Tuesday, January 27, 2015 12:22 PM  
**To:** Brown, Jessica (GOV); Wurfel, Brad (DEQ)  
**Subject:** RE: Flint Water Call

I will be at my desk between now and 1.

**From:** Brown, Jessica (GOV)  
**Sent:** Tuesday, January 27, 2015 12:13 PM  
**To:** Wurfel, Brad (DEQ); Stanton, Terry A. (Treasury)  
**Subject:** Flint Water Call  
**Importance:** High

Hi Brad and Terry –

Do you each have about 15 minutes available in the near/immediate future to hop on a quick call with Sara and Dave? Want to make sure all on same page for Flint water issue. If we could find a time window between now and 1 that would be ideal – otherwise Sara and Dave can do between 1:30-2:30.

Please let me know ASAP. Thanks much!

## **Stanton, Terry A. (Treasury)**

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**Subject:** FW: Mtg Flint Water Issues/other Concerns  
**Location:** Governor's Conference Room  
  
**Start:** Wed 1/28/2015 2:00 PM  
**End:** Wed 1/28/2015 3:00 PM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Accepted  
  
**Organizer:** Posthumus, Dick (GOV)

-----Original Appointment-----

**From:** Posthumus, Dick (GOV)  
**Sent:** Tuesday, January 13, 2015 3:33 PM  
**To:** Posthumus, Dick (GOV); Saxton, Thomas (Treasury); Pleyte, Beth (Treasury); Muchmore, Dennis (GOV); Wisniewski, Wendy (GOV); Clement, Elizabeth (GOV); Walsh, John (GOV); Hall, Jean (GOV); Hollins, Harvey (GOV); Clayton, Stacie (GOV)  
**Subject:** Mtg Flint Water Issues/other Concerns  
**When:** Wednesday, January 28, 2015 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** Governor's Conference Room

Attending:

Jerry Ambrose  
Mayor Walling  
Howard Croft, Director of the Department of Public Works  
Tom Saxton  
Dick Posthumus  
Dennis Muchmore  
Beth Clement  
Sen Ananich  
Andy Leavitt  
John Walsh  
Harvey Hollins

John will be late to meeting

## **Stanton, Terry A. (Treasury)**

---

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Tuesday, January 27, 2015 5:52 PM  
**To:** Wurfel, Brad (DEQ); Wurfel, Sara (GOV); Murray, David (GOV)  
**Cc:** Brown, Jessica (GOV); Stanton, Terry A. (Treasury); Sampson, Jeremy (TREASURY)  
**Subject:** Flint issue  
**Attachments:** Flint - KWA Approval.pdf; Dillon KWA.PDF; Flint\_KWA TPs.doc; Flint Water TPs.docx  
**Importance:** High

All,

Please see the attached TPs. I have also attached a couple pdfs noted in the TPs. They include the Treasurer's conditional approval of the eventual move to KWA and the EM's response to DWSD's "last, best offer."

Additionally, during my most recent interaction with Jerry Ambrose, he indicated that the water issue is critically important and that he and staff are working on it every day. They have posted a host of information for residents on the City's website (<http://cityofflint.com/?p=6251>). They have extended the deadline for the Water Quality Consultant RFP to this Thursday, to ensure interested and qualified firms can submit comprehensive proposals and assist the city.

I have also attached the earlier talking points I had shared with Dave.

Let me know if you need anything else in the meantime...or before we speak again...

Terry



**CITY OF FLINT  
OFFICE OF EMERGENCY MANAGER  
EDWARD J. KURTZ**

**ELECTRONIC LETTER**

April 16, 2013

Andy Dillon  
State Treasurer  
P. O. Box 30716  
Lansing, MI 48909

Dear Treasurer Dillon:

Flint, Genesee County and KWA received an eight page letter from Detroit Water and Sewerage Department (DWSD) offering a framework for a long-term agreement with our region. Two scenarios were presented;

**Scenario 1: Water from the Lake Huron Plant.**

This offer was dismissed immediately because Flint would still be responsible for their share of the KWA water pipeline delivery system estimated to be \$79 million. In addition Flint would not be able to operate the Flint Water Plant in which we have invested over \$40 million per MDEQ mandates over the past ten years. Finally, although DWSD shows this as an option and supplied a per month cost projection for the first year, no total costs over the life of the contract were provided.

**Scenario 2: "Full Service" Water Supply**

This offer was also rejected. DWSD would supply water to Flint/Genesee the same way they currently are today. They would change the method of calculating our bill. The offer would provide a \$1.00 per ccf reduction on our usage for the first year, providing a 30 year contract is signed.

After review of the offer, Flint/Genesee has the following concerns:

1. DWSD's offer is a framework subject to negotiations and is not a firm offer.
2. DWSD's offer is based on 40.6 mgd, the KWA plan is based on 60 mgd. Flint/Genesee last summer hit the peak of 40.6 mgd and this DWSD offer provides no room for growth. Growth would result in penalties or added cost.
3. DWSD's offer does not include a guaranteed rate for years two through thirty, nor does it provide a maximum annual increase.
4. DWSD's offer does not provide a redundant supply for GCDC.
5. DWSD's offer does not allow for the use of Flint's existing water plant.
6. The offer indicates that the total cost to Flint over the life of the contract would be \$587,990,665. No indication of what annual rate of increase was used in this projection. Flint can only assume it is 4.4% based on the Tucker Young report. It is also based on 40.6 mgds. KWA's proposal is for \$649,775,166 based on 60mgds (33% more). Based on 60 mgds DWSD's proposal would be \$868,950,738.

On a final note, Flint/Genesee has great concern over the accuracy of the figures provided by DWSD. Attachment 1 indicates that our joint annual cost to DWSD is \$50 million; actual cost is less than \$25 million. Attachment 2 indicates \$800 million in savings over the next 30 years. That is greater than the total cost we would pay DWSD.

Therefore, I will sign the resolution to join KWA at the close of business today.

Sincerely,



Edward J. Kurtz  
Emergency Manager



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF TREASURY  
LANSING

R KEVIN CLINTON  
STATE TREASURER

## **Flint Water/KWA Decision Points and Timeline**

In November 2012, all major stakeholders (city officials, EM Kurtz, county officials, DWSD, DEQ & Treasury) met to discuss a regional effort to build a new water pipeline from Lake Huron to Genesee County.

Flint and Genesee Co. had been getting water from DWSD under a 30-year contract that, at that time had expired.

Genesee Co. was planning to build a new pipeline from Lake Huron (Karegnondi Water Authority, KWA) and eventually provide service to the City of Lapeer, Lapeer County, and Sanilac County.

County officials believed that continuing to buy water from DWSD would cost the region more than \$2.1 billion over the next 25 years but that building a pipeline and developing the KWA would reduce regional cost by approximately \$200 million over that time.

Genesee County officials said it was cheaper to build their own system than to continue to pay more each year to the DWSD and the proposal was about delivering the best quality water to residents in the least expensive way.

EM Ed Kurtz had been exploring options for water since his appointment in August 2012 (to replace Mike Brown).

Mayor Walling and City Council were fully supportive of the move to KWA, though under the emergency manager Act, the State Treasurer had to approve deals >\$50,000.

Prior to the meeting, Treasury suggested a high-level response to media inquiries about the meeting:

*Treasury officials will be meeting with Genesee County and Detroit officials tomorrow to get the details of the proposed pipeline plan. Until the ultimate costs*

*are known and the various studies have been conducted, the benefits to the citizens of Flint and Genesee County cannot be determined.*

In December of 2012, then State Treasurer Andy Dillon requested an independent review of the KWA proposal. Consulting engineers Tucker, Young, Jackson, and Tull, Inc. conducted a review that supported the County and City preference to join KWA (I'M AWAITING A COPY OF THIS REPORT TO ENSURE ACCURACY ON THIS POINT).

In March of 2013, the City was pushing for a decision, given the need to hit tight construction season timelines/deadlines.

In late March, Kurtz submitted a resolution to join KWA to the State Treasurer. It was received on March 29, 2013. The Treasurer and DEQ staff thoroughly reviewed the resolution (Under PA 436, the Treasurer must approve contracts >\$50K that were not competitively bid).

DWSD was allowed an opportunity to make a "last, best offer" to keep Flint with the DWSD.

On April 11, 2013, the Treasurer sent his approval to Flint (attached). The effective date for the approval was April 16, 2013 as a condition of the approval was Mr. Kurtz's consideration of the final DWSD offer.

On April 16, 2013, Flint EM Kurtz sent a letter to the State Treasurer, indicating that the DWSD last best offer was not sufficient (attached).

Following Mr. Kurtz announcement of the City's decision to join KWA, Treasury worked from the following talking points.

- This is a decision made by the City of Flint and its elected leaders and is a local decision that affects the local water supply.
- Flint EM Ed Kurtz kept the city's elected officials involved throughout the decision-making process and all agree this is best for the citizens and businesses in Flint.
- The change is expected to save Flint ~\$100m over the next 25 years, and possibly as much as \$300m.
- The Departments of Treasury and Environmental Quality have approved the financial and environmental soundness of KWA's plan.
- Flint accounts for only 2% of DWSD's capacity.

### **Talking Points:**

**The City, in conjunction with the Dept. of Environmental Quality, is working diligently...every day...to ensure Flint residents have access to clean, safe water. To that end, the City has issued an RFP soliciting expert assistance to assure the City is doing everything it needs to be doing.**

**The city continues to work closely with staff from the Department of Environmental Quality (DEQ) to ensure water meets safety guidelines, that water operations are managed properly, and all regulations are met.**

**The city is committed to addressing the issue and continues to pursue its strategy.**

### **Background:**

**On December 16, 2014, the City of Flint received a violation notice from the Michigan Department of Environmental Quality (DEQ), stating the City water samples were in violation of Maximum Contaminant Levels (MCL), a violation of the Safe Drinking Water Act (PA 399 of 1976).**

**The DEQ considers the violation period to have begun December 1, 2014. The violation was triggered when water sample reports showed that the City's water quality, on average, exceed the total allowable level of *Disinfection Byproducts* during the first three quarters of 2014. Further, four of the City's eight water sample site locations individually exceeded allowable MCL levels during the same period of 2014.**

**These conditions are considered a Tier 2 violation and, as a result, the City was required to notify the public of these contamination levels by January 10, 2015 (which was done) and continue to notify them every three months until the violation is resolved.**

**The City outlined some potential remedies to the problem in its initial Operational Evaluation Report, dated November 26, 2014. These potential remedies are intended to be implemented in stages. Stage 1 consists of actions that can be implemented without any new construction within the distribution system and are due to be implemented by early March 2015.**

- **Troubleshooting of the ozone system.**
- **Implementation of different testing methods.**
- **Operational changes at the Water Treatment Plant.**
- **Increase water main flushing efforts to minimize stagnant water.**
- **Identify areas with high water age and implement preemptive measures.**

The City will be providing additional potential solutions when it updates the Operational Evaluation Report, which must be submitted to the DEQ by March 1, 2015.

To date, the City has taken the following actions:

As an integral part of the transition to the Flint River on a temporary basis, the MDEQ was consulted about the City's plans, and ultimately issued necessary permits to proceed. The City also engaged the services of the LAN engineering firm to guide the city in installing the necessary equipment to treat the water on an ongoing basis. This resulted in the development of a comprehensive drinking water plan.

The City monitors its water quality on a daily basis to assure that water quality remains within established guidelines. With the variances in water temperature and the leakage and infiltration problems arising as the result of failure of parts of the distribution system, water quality did exceed, for a time, some of the established guidelines. This resulted in the issuance of the recent notices to the public.

Efforts taken to address non-compliance included increasing water flow through valve replacements and hydrant flushing and optimizing treatment processes.

The City has committed to increasing communication with the public in order to inform water users factually of the issues which have arisen, to alleviate unnecessary concern and to identify steps being taken to address the issues. This is being implemented through detailed educational materials being made available both online and at City Hall, as well as through public informational meetings. Additionally, a full Water System Questions and Answers document is available online.

### **Additional information:**

State and city officials have said exposure to TTHM is a long-term concern for some if they drink water with elevated TTHM for several decades.

Notices indicated that Flint water is safe to drink but warns those with a "severely compromised immune systems or who are elderly" may be at increased risk and should seek advice about drinking water from your health care provider.

The city and county are partners in the Karegnondi Water Authority, which is building a pipeline to Lake Huron to bring lake water here for use by the end of 2016.

Returning to DWSD would add approximately \$1 million (monthly) to the City expenses.

## **Stanton, Terry A. (Treasury)**

---

**From:** Wurfel, Brad (DEQ)  
**Sent:** Wednesday, January 28, 2015 4:07 PM  
**To:** Stanton, Terry A. (Treasury); Wurfel, Sara (GOV); Murray, David (GOV)  
**Cc:** Silfven, Ken (GOV); Wyant, Dan (DEQ); Datema, Maggie (DEQ)  
**Subject:** DEQ Flint Backgrounder / talking points

Terry, all good and thanks for working these up. Been rebriefed by our staff, so let me throw in some things that are pertinent from that point.

Following the formal approval of Flint into the KWA, DWSD sent Flint a letter saying their contract was thereby terminated (early 2013).

According to our folks, Genesee County has been using DWSD water without a contract since May 2014. But Flint took the letter to imply a water cutoff, and promptly turned to DEQ with a proposal to use the Flint River (their historic backup system).

This proposed shift put the city in the business of water production, where they historically had been in the business of water transmission. DEQ approved the use of the river as a source, based on the treatment plant's past performance as a standby facility and the improvements needed prior to switchover. Several municipalities around the state use surface water supplies (rivers): Blissfield near Monroe, Manistique, and Alma to name a few.

The city completed the upgrades at the water plant the facility and DEQ approved it April 2014.

There were some initial hiccups. Last summer, there were a couple of 'boil water' notices issued. One for a water test that showed e. coli, one for a break in the water main.

The challenge to using the Flint River as a source is that the condition of the water is variable and changes with season and weather. It has substantially more organic matter than deep lake sources like Lake Huron. This organic matter is mobilized by high water events, and warm weather also can account for more organic material in the water.

The treatment of the organic matter is done with chlorine. One might conclude that the perennial answer is just to use more chlorine to achieve water safety. However, at some point on the continuum, the chlorine and organic matter create TTHM – total trihalomethanes – as a byproduct. When the standard for those is exceeded over several consecutive quarters of testing, the supply is required by law to issue public notice and submit an approved plan for addressing the situation.

You'll note that this regulatory approach means TTHM testing is done quarterly. That means people who use the system are exposed to TTHM for several months before the public notice is required. It's because TTHM is a chronic health threat. Over the long term (measured in decades), continued exposure can contribute to some known health problems. Put in context, the EPA (who established the standard and the rule) estimates this rule prevents an estimated 280 bladder cancer cases each year ... out of more than 330 million people who use public water supplies around the country.

It's not nothing. State and federal law requires quarterly testing for TTHM and that the public be informed of it when the annual average of four quarters' worth of consecutive testing shows TTHM levels exceeding 80 parts per billion. Flint's results managed to exceed the annual average in three quarters, and they must develop a plan to address it. But it's not like an eminent threat to public health. Unlike an e. Coli or even total coliform bacteria maximum contaminant level, which require immediate public notification and response and are part of daily / hourly testing of public water supplies, TTHMs pose a public health concern with chronic, long-term exposure.

It's clear the nature of the threat was communicated poorly. It's also clear that folks in Flint are concerned about other aspects of their water – taste, smell and color being among the top complaints.

The Safe Drinking Water Act requires public water supplies be tested for more than 90 regulated contaminants, including microbial contaminants. The act, and the program here in Michigan, work to ensure that water is safe to drink. The act does not regulate aesthetic values of water. Here are some factors affecting the aesthetics of water in Flint.

1. It's the Flint River. The water supplied by DWSD historically came from Lake Huron. It's softer. With hard water, you get a different flavor and feel. It's why General Motors suspended use of Flint Water – it was rusting their parts. Also, there's the 'organics' factor (discussed previously).
2. The system is old. Flint has more than 500 miles of water pipes. More than half of those pipe miles are more than 75 years old. Much of it is cast iron. Hard water can react with cast iron and exacerbates the rusty factor, which creates that brown water that angry residents were holding up in jugs for the media cameras last week. Valve failure has also been a key challenge. The system has an estimated 7,500+ valves. When they stick open or stick shut, it affects the hydraulics of the system and increase areas of stagnation. The city has a backlog of valves that need to be addressed. They've done half a dozen or so since November.

3. Flint is old. Many of the homes served by the system are old. Brown water complaints may also be attributable to cast iron pipes in customers' service connection to the city lines. The DEQ has been encouraging people with water coloration concerns to contact the city and see whether it is the service line or the City's line causing the issue. Again, discoloration is not an indicator of water quality or water safety, but we recognize that nobody likes it.

In summary, the City of Flint has tremendous need to address its water delivery system. We are not aware that they have any Capital Improvement funds for preventative maintenance in place, much less line replacement project monies that will require hundreds of millions. The City was approved for a Revolving Fund loan in 2008 or 2009. As a Distressed Community, they qualified for flexible terms and 2 percent interest rate Revolving Fund Loan. After they were notified they were approved for the loan, they declined it. Previous SRF loans from the state to Flint bear an outstanding balance of \$20.7 million today.

The DEQ continues working with the city to address the TTHM issue. They can take interim steps – from scrubbing the insides of transmission lines to carefully monitoring the hydraulic challenges in their system – to address customers' aesthetic concerns. Their TTHM numbers already are showing dramatic improvement; the November testing showed only one of seven sample points exceeding the standard. The key now is that the standard is an average of three quarters' worth of results. It will be some time before they are officially "not in violation." However, depending on weather in 2015, it's not unforeseeable that we will be having this conversation again by next Christmas.

The key to the conversation is that TTHM is not a top health concern. That's key because residents need to understand TTHM in context, and it is key because it appears the mayor has seized on the public panic (sparked, frankly, by their poor communication of the violation notice) to ask the state for loan forgiveness and more money for their infrastructure improvement.

Another key thing to remember is that once the city connects to the new KWA system in 2016, this issue will fade in the rearview.

Until then, our top messages:

1. The DEQ Drinking Water program works with communities around the state to ensure that municipalities provide customers with clean, safe drinking water.
2. Municipal water supplies are tested rigorously and regularly for more than 90 regulated contaminants, including microbial contaminants that pose an immediate public health concern.
3. Flint's exceedance of the TTHM standard should reassure residents that the testing program is effective.

4. TTHM is not an immediate health threat. It is a chronic concern, one that can be problematic over the course of several decades of exposure. The public was notified because the law requires the city to make public notification, so that everyone can make informed decisions. This is particularly true for people with infants or those with compromised immune systems.
5. The DEQ is working with the City to address the situation. Recent tests show the TTHM numbers dropping rapidly. The department will continue working with the city in the months ahead, and residents should feel confident that their water is safe to drink unless the DEQ or City notifies them otherwise.
6. The discoloration and odor issues some Flint residents are experiencing are separate issues from the TTHM issue. TTHM is odorless, colorless and measured in parts per billion.
7. Flint water customers who have questions or concerns about their water should first contact the city to get answers and help. They also can contact the Michigan DEQ at \*\*\*\*\* (web or phone address?)

Brad Wurfel  
Communications Director  
Michigan Department of Environmental Quality  
517-284-6713  
517-230-8006 cell

## **INVITATION TO BID**

### **OWNER:**

THE CITY OF FLINT  
DEPARTMENT OF PURCHASES AND SUPPLIES  
1101 S. SAGINAW ST., 3RD FLOOR  
FLINT, MI 48502

**PROPOSAL NO.:** 15-573

### **SCOPE OF WORK:**

The City of Flint (The City), Department of Purchases & Supplies, is soliciting sealed proposals for the following:

#### **Water Quality Consultant**

per the attached specification.

If your firm is interested in providing the requested services, please submit 1 original and 2 copies of your detailed proposal to the City of Flint, Department of Purchases and Supplies, 1101 S. Saginaw St. Rm. 304, Third Floor, Flint, MI, 48502, by **Monday, January 26, 2015 @ 12:00 PM (EST)**. Please note: all detailed proposals received after 12:00 PM (EST) will not be considered. Faxed proposals into the Purchasing Department are not accepted.

The City of Flint may hold proposals for a period of 120 days from opening, for the purpose of reviewing the results and investigating the qualifications of proposals prior to making an award. The City of Flint reserves the right to waive any irregularities and accept or reject any or all proposals submitted. Vendors located within the corporate city limits of Flint, Michigan may be given a seven percent (7%) competitive price advantage. Additionally, if the lowest responsible bidder is not located within the limits of the City of Flint, but is located within the county of Genesee, and said Genesee County responsible bidder does not exceed the bid of the lowest non-local bidder by more than three and one-half percent (3 ½ %), the County vendor may have a competitive advantage.

The City reserves the right to waive any irregularities and accept or reject any or all

proposals submitted.

The City is an equal opportunity employer.

The successful bidder must comply with all requirements and pay prevailing wages and fringe benefits on this project per the City's Resolution R-12 adopted 4/8/91.

Pursuant to the requirements of 1976 P.A. 453 (Michigan Civil Rights Act) and 1976 P.A. 220 (Michigan Handicapped Rights Act), the local unit and its agent agree not to discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of race, color, religion, national origin, age, sex, height, weight, marital status or because of a handicap that is unrelated to the person's ability to perform the duties of nondiscrimination provision identical to this provision and binding upon any and all contractors and subcontractors. A breach of this covenant shall be regarded as a material breach of this contract.

All materials furnished must be new, of latest model and standard first grade quality, or best workmanship and design, unless otherwise expressly specified. Bidder, if required, must furnish satisfactory evidence of quality materials, offers of experimental or unproven equipment may be disregarded.

Bidder shall protect against expense of any nature, shall bear costs of any suits which arise, and shall pay all damages which may be awarded against the City for the use, under this specification, of any patented device, process, apparatus, material or invention.

Bidder is not permitted to take advantage of any obvious errors or omissions in specifications.

The City reserves the right to reject any or all bids, or split awards by items, unless otherwise stipulated, or to accept any bid which will best serve its interests.

The Director shall not knowingly accept a proposal from a vendor /contractor who is in default on the payment of taxes, licenses, fees or other monies due the City. Purchase agreements with bidders who are found to have been in default at the time of award of such agreement shall be voided.

The bidder acknowledges that by signing this document that he/she is duly authorized to make said offer on behalf of the company he/she represents and that said proposal is genuine and not sham or collusive and not made in the interests or on behalf of any person not therein named, and that he/she and said bidder have not directly induced or solicited any other person(s) or corporation to refrain from responding to this solicitation and that he/she and said bidder have not in any manner sought by collusion to secure to himself/herself and said bidder any advantage over any other bidder.

Any questions regarding this proposal should be submitted by either fax (810-766-7240) or e-mail [djones@cityofflint.com](mailto:djones@cityofflint.com) by Tuesday, January 20, 2015 by 5:00 PM. Responses to any questions will be posted to the City's website under this project number no later Wednesday, January 21, 2015.

Sincerely,

Derrick F. Jones  
Department of Purchases & Supplies

Enclosure

**All additional proposal documents, requirements, addendums, specifications and plans/drawings (if utilized) are available on the Purchasing page of the City of Flint's web site at "[http://cityofflint.spudsoftware.com/?page\\_id=4694](http://cityofflint.spudsoftware.com/?page_id=4694)" under "open bids" and the specific bid or proposal number assigned to this notice.**

## **Background Information**

On May 1, 2014 the City of Flint (the City) completed a transition to using water provided by Detroit Water and Sewer Department to drawing water from the Flint River and utilizing our plant to treat and distribute the water. In the subsequent months, many of the eight testing sites around the City were returning low chlorine residual levels and several of those sites developed into positive tests for total coliform and resulted in the issuance of boil water notices for precautionary measures. Numerous valve replacements and additional chlorination resulted in more consistent chlorine residuals throughout the system.

Quarterly reporting to the Michigan Department of Environmental Quality (MDEQ) of Disinfectant Byproduct Levels resulted in trihalomethane levels above the maximum contaminant level (MCL). Seven of eight test sites are currently below the MCL but the annual average has triggered a violation notice from the MDEQ dated December 16, 2014. The City has worked with an engineering team to develop an Operational Evaluation Report (see Exhibit A) as required by the violation and has submitted that report to the MDEQ. The next testing period is scheduled for the middle of February 2015 and an updated Operational Evaluation report which incorporates the results of that test is due to the MDEQ no later than March 1, 2015.

The City is anticipating during the middle of 2016 to begin receiving and treating raw water from Lake Huron via the Karegnondi Water Authority (KWA). The City's Water Plant will still be capable of drawing water from the Flint River and will need to be proficient in treating both bodies of water. It is planned that the Flint River will be a permanent back-up source in providing water to the citizens of Flint.

## **Scope of Services**

The City is seeking a consultant to review and evaluate the water treatment process and distribution system, provide recommendations to maintain compliance with both state and federal agencies, and assist in implementing accepted recommendations. The City will have the selected vendor provide reports to reflect their findings and provide continual oversight in implementing any approved recommended practices to improve the quality of water until implementation of the KWA project.

### **Deliverables**

The City is requesting that the selected vendor provide the following reports in their order of appearance:

- Evaluation of the City's processes and procedures to maintain and improve water quality;
- Report that outlines recommendations that will improve the water treatment and distribution system.

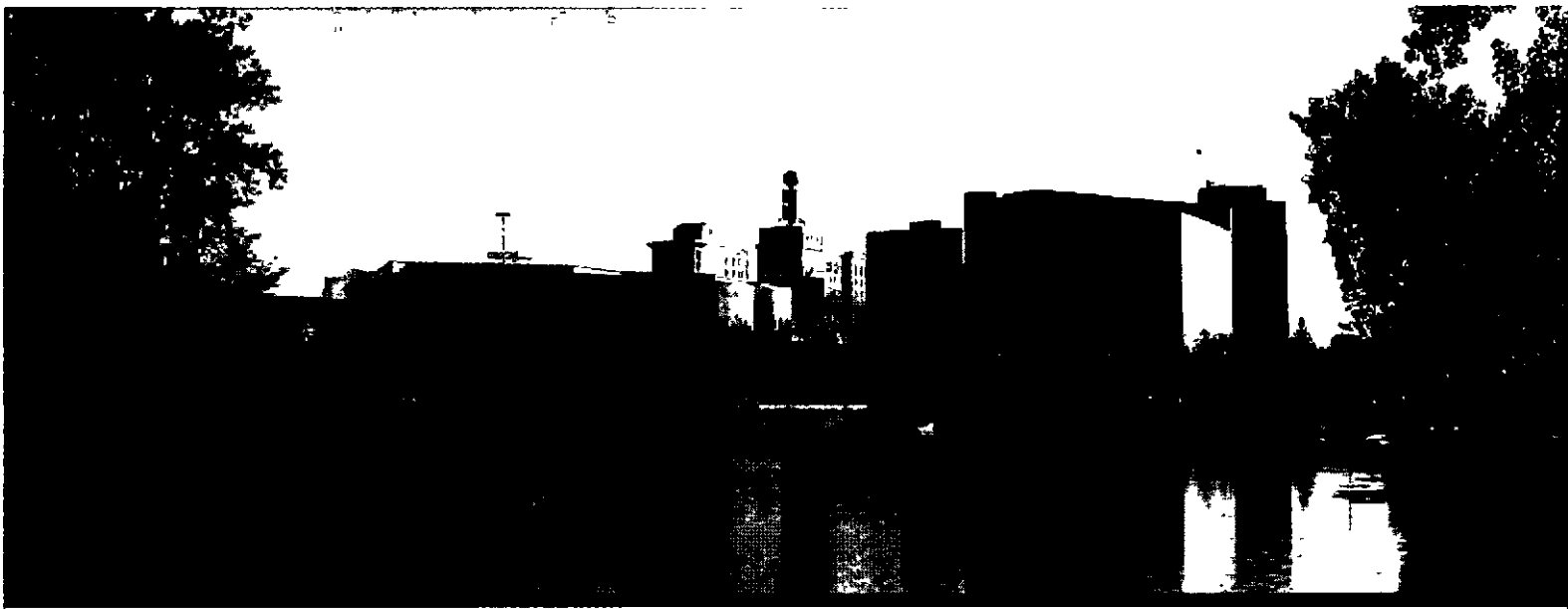
The City is requesting that the selected vendor provide coordination in implementing any selected recommendations that will result in improving the overall process of treating and distributing water until such time that the City is receiving and successfully treating Lake Huron water.

### **Information Required to Submit Proposal**

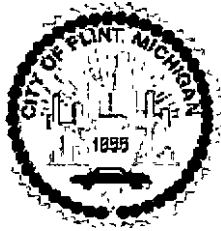
The City has deemed this project a priority and will be requesting the selected firm to produce the requested information in an expedient manner. Firms interested in submitting a proposal based on the information requested in this document must submit the following information:

- **Company's Information**-The proposal shall list the legal name of the firm, its address and phone number, and firm's history.
- **Firm Qualifications, Experiences and References**-The proposal should state the size of the firm, personnel that will be assigned to this project, and other significant projects performed in the past five years that are similar to this request for proposal. Indicate the scope of work provided and the name and telephone number of the client.
- **Staff Experience**-The proposal should provide information on each staff member to include experience, relevant education, degrees, certifications and any other pertinent information or a resume.
- **Project Scope** – Provide a statement discussing the firm's understanding of the requested services, potential obstacles that may occur during this project, and a work plan and timeline in preparing and submitting the requested deliverables.
- **Price for Services**-Vendor is to provide a pricing schedule to perform the requested services. Pricing should include a lump sum to provide the requested reports, an hourly rate schedule of personnel that will be utilized to perform the requested services, and a detail timeline that articulate the completion of the requested reports.
- **Other**-Please include any other information that you think would be helpful in allowing the

City to make an informed decision in the selection process.



**Submitted to:**



**City of Flint, Michigan  
Department of Purchases & Supplies**

**Response to  
Invitation to Bid  
Water Quality Consultant  
Proposal No.: 15-573**

**January 29, 2015**

The information contained on each page of this document which has been stamped with the legend "Company Confidential - Trade Secret and Proprietary Information - Veolia" is confidential and proprietary information which constitutes a trade secret of Veolia Water North America Operating Services, LLC (Veolia). Veolia asserts a business confidentiality claim covering all data and information contained on each page of this document bearing this legend. The information contained on the pages in this document marked with the confidentiality statement shall not be duplicated, used in whole or in part for any purpose other than to provide information and data to City for the purposes set forth herein. Further, Veolia acknowledges that the documents identified in the Invitations to Bid as the contract documents are confidential information intended for the sole use of the City, and that Contractor (Veolia) will not disclose any such information, or in any other way make such documents public, without the express written approval of the City or the order of the court of appropriate jurisdiction or as required by the laws of the State of Michigan.





January 29, 2015

Mr. Derrick F. Jones  
Purchasing Manager  
City of Flint  
Department of Purchases and Supplies  
1101 S. Saginaw Street, Room 304, Third Floor  
Flint, Michigan 48502

**Subject: Response to Invitation to Bid – Proposal No.: 15-573**  
**Water Quality Consultant**

Dear Mr. Jones:

In response to your Request for Bid/Proposal (RFP), **Veolia Water North America Operating Services, LLC** (Veolia) is pleased to have the opportunity to provide this letter submittal. We have prepared a response that is focused on providing the **City of Flint** with a complete solution to address the immediate reliability and operational needs of your water system throughout your continuous operations – whether under the current draw from Flint River or future draw from Lake Huron.

In reviewing the challenges that the City of Flint is facing, we present a longer-term approach for the Operational Evaluation Report, which involves implementation and monitoring through 2016 and the transition to Lake Huron supply. Our commitment to the City of Flint is to make sure the utility can identify the immediate issues through the proposed report, and also secure its future by addressing and fixing these issues identified in the report, build capacity for the future, and better manage the change in water sources in 2016.

Depending on the City's preference, Veolia's expertise to reinforce operations is available to Flint through performance advisory services using our innovative Peer Performance Solutions (PPS), or through longer-term contract operation and maintenance (O&M) type services. Both approaches are designed to help the City of Flint benefit from operational reliability and utility-wide efficiencies.

With the PPS approach, Veolia addresses fundamental issues from the ground-up to deliver improved reliability, compliance and efficiencies for major water and wastewater agencies. Under this model, our Subject Matter Experts (SMEs) would work in collaboration with the City's management team, your line managers and your operators to develop the path forward that suits your needs – both now and into the future. Over the course of this process the City remains in control of all levels of management at all times and benefits from Veolia's expertise through the support of a small team of on-site experts, who in turn can access the rest of our company's worldwide resources.

Veolia's PPS approach is highly data-driven to identify and implement cost savings and deliver utility optimization and organizational best practices. One key example of this model at work is in our ongoing contract with the Pittsburgh Water & Sewer Authority (PWSA). That partnership began in 2012 and was just (this past month) extended for a new term. Working with PWSA, Veolia is implementing a long-term strategy to improve water quality and customer service, increase efficiency, and overcome financial challenges.

PWSA serves the needs of more than 310,000 people in the greater Pittsburgh area, and Veolia assisted them in realizing more than \$5.5 million annually in recurring revenue and efficiencies. This involved working with PWSA to establish a Distribution System Optimization Plan with the State of Pennsylvania, to implement a Process Control Management Plan at their water treatment plant, to identify early warnings for non-compliance trends, to update their laboratory Quality Control/Quality Assurance (QA/QC) program, to initiate performance monitoring methods, and to initiate the use of compliance metrics in order to improve relationships with regulatory agencies. We also implemented a Community Outreach Program to improve the public's perception of PWSA and create positive media attention for the agency.

Veolia is also applying the PPS model for New York City's water and wastewater operations. Under a contract that began in 2011, Veolia has reviewed all aspects of that utility's practices to assess potential improvements. Working collaboratively with the City's water and wastewater operators and managers, Veolia focused on areas including: chemical use and pricing; labor productivity; inventory management; sludge process optimization; and overall O&M activities. Under this approach, our firm identified opportunities that are expected to yield annual recurring financial benefits of more than \$100 million by 2016 -- to date, more than \$90 million in savings and revenue enhancements have been reported by New York City.

The highly collaborative PPS partnership model evolved as an alternative to Veolia's traditional O&M services delivery approach, an approach that our firm first applied over 42 years ago under the first municipal contract operations partnership in the U.S. -- an ongoing partnership with the City of Burlingame, California. Today, our firm continues to use this model to provide water and wastewater services to over 160 municipal clients. To demonstrate the depth of our firm's award-winning experience in the operation of surface water plants we have included a list of Veolia-operated plants as an attachment to this letter. Veolia's contract operations services are also available to Flint, as an alternative to PPS.

In the remainder of this letter, we outline our approach to: providing immediate assistance related to the review and evaluation of the water treatment process and distribution system; development of recommendations and a report for maintaining compliance with both State of Michigan and federal agencies; and assistance in implementing accepted recommendations from the report. The report that Veolia would develop for the City would outline findings and provide recommendations for continual oversight of the approved recommended practices to improve the quality of water until the implementation of the Karegnondi Water Authority (KWA) project.

### **Veolia's Understanding and Proposed Approach to Providing the Water Quality Consultant Scope**

Our longer-term approach would begin by addressing the immediate assistance outlined in your RFP, and then service beyond that scope. Under this expanded scope, Veolia would help with the transition from the Flint River source to Lake Huron water to avoid a repeat of this scenario. That transition is expected to be in place in 2016 and will complete the City's transition from using water provided by the Detroit Water and Sewerage Department (DWSD) to drawing water from the Flint River, using the City-owned water plant.

With a Notice of Proceed issued, Veolia would mobilize a team of experts, including our two prominent water SMEs, from our corporate Technical Services Group (an in-house team of technical and management experts that support the company's projects and operations throughout North America). These experts would include:

- **Marvin Gnagy, P.E. - Water Process and Quality Manager** -- He has more than 37 years of water quality management experience, and is a certified Water Operator in Ohio and a registered Professional Engineer. Mr. Gnagy has completed projects that have involved the set of tasks that the City as defined under this contract, and was most recently engaged as a part of a Veolia team of experts that worked with DWSD and the City of Detroit on a program to evaluate their water and wastewater operations and proposed solutions. This included conducting an intensive due diligence examination of Detroit's water and wastewater facilities and operations, and the development of two reports, a Peer Review Report, which looked at the current operations with a focus on identifying immediate and long term needs, and a Transition Plan: Retail Services for the City of Detroit, which outlined the issues facing the DWSD and the City as the water and wastewater operations changed under a new regionalization approach. Through that work, Mr. Gnagy understands the City of Flint's drivers for this new project, and will be able to use the work that Veolia has done to date for the DWSD to aid in identifying the optimal solution for your water system and the transition from DWSD to your own operations.

Mr. Gnagy's background and key experience that relates directly to the work scope outlined for Water Quality Consultant tasks includes:

- River Water & Groundwater Treatment and Disinfection Byproducts (DBP) Reduction -- Mr. Gnagy has very broad experience with both river water and groundwater treatment on project work involving unit process design and operations to meet drinking water standards and water quality goals. Indeed, he has

conducted numerous studies involving DBP (particularly THM) reduction to meet drinking water standards, establishing treatment alternatives and process targets for THM compliance solutions.

- **Master Plan Development and Unit Process Improvements** – Mr. Gnagy prepared the master plan and performed plant evaluations for unit process improvements to meet future drinking water standards for the City of Adrian, Michigan's 10-MGD water treatment plant. That plan discussed multiple options for process improvements and chemical feed adjustments, specifically targeted for THM control treatment. Jar testing was used to define the chemical dosing and treatment scheme that resulted in the most effective THM reduction solution for the city. He also served as Project Manager for a DBP Reduction Study for the City of Akron, Ohio's 67-MGD water supply plant. That study reviewed jar testing evaluations and historical monitoring records to develop the necessary treatment process adjustments to effectively reduce THMs in the drinking water. Computer models were developed using the data obtained to predict the chemical treatment needs based on source water quality, and to predict THM concentrations following treatment adjustments using the chemical treatments selected. Recommendations included chemical feed adjustments and further study related to advanced treatment technologies.

Other work in this area included serving as the Project Manager for an optimization study for the Village of Blissfield, Michigan's 2.2-MGD water treatment plant to determine needs for improved turbidity and THM concentrations. All major unit processes and chemical feed systems were evaluated for optimal treatment needs. Jar testing and plant operating adjustments were made weekly to improve water quality and process control. Implementation of organics control treatment was accomplished that successfully achieved compliance with both the turbidity and THM compliance requirements.

Mr. Gnagy also conducted plant reviews, performed process design changes, designed new flocculation equipment replacements, and designed and started-up new washwater handling operations for several of DWSD's water treatment plants. That work involved three plants, the Southwest, Lake Huron and Springwells water plants, and focused on improving operations and to meet drinking water compliance.

A full resume for Mr. Gnagy is provided as an attachment at the end of this letter.

- **Theping Chen, P.E. - Process and Operations Optimization Manager** - He has close to 30 years of water engineering, operations and research experience, and he spent 15 years as a water consulting engineer in Michigan and is a registered Professional Engineer in the State of Michigan. Mr. Chen's experience includes working with DWSD on various projects related to master plan, source water protection, water quality management, treatment process optimizations including PAC and ozone design criteria development, taste and odor control, residual management and capital improvement program development. He has also worked extensively with the Michigan Department of Environmental Quality (MDEQ) on compliance issues with focus on water quality compliance, and is a well-published author at the national and state level conferences.

With Veolia, Mr. Chen has been engaged in supporting the ongoing operations and management contract for the City of Buffalo, New York's water operations, and in providing technical support for Veolia's water plant operations at the cities of Gloucester and Brockton, Massachusetts; with that work including jar testing evaluation and compliance strategies development for DBPs.

Mr. Chen's background and key experience that relates directly to the work scope outlined for Water Quality Consultant tasks includes:

- **River Water and Groundwater Treatment** – Mr. Chen has broad experience with both river water and groundwater softening treatment on projects including: on-call engineering, comprehensive needs assessment, filter and chemical system rehabilitation projects for the City of Marion, Ohio's 9.1-MGD water treatment plant (treating combined groundwater and river source water), under a scope of work that involved investigating DBP control strategies and conceptual design of a UV treatment system; a comprehensive regulatory review and capacity evaluation for the City of Dayton, Ohio's two groundwater water treatment plants (96-MGD each); and a comprehensive disinfection and DBPs compliance strategy review for the City of Ann Arbor, Michigan's water treatment plant (a combined surface and groundwater softening plant with at rated capacity of 27-MGD) as part of an overall Water Master Plan project.

- Ozone and Disinfection Technologies - His experience in this area included completing ozone system study, design, construction management and optimization projects for more than 10 municipal water treatment plants.
- DBP Compliance – Mr. Chen's experience in this area includes: optimizing and upgrading ozone systems, and proposing the use of biological filtration to enhance the TOC removal to control DBPs for the City of Shreveport, Louisiana's water treatment plant; optimizing chlorination application, conducting a review of contact time calculation to minimize DBP formation, and proposing UV system upgrades for the City of Marion, Ohio's water treatment plant; evaluating a commercial (self-fabricated) aeration system for installation in elevated and ground-level water storage tanks to reduce the hot spots in Northern Kentucky water treatment plant's water distribution system; and development of tracer test program to calibrate the water quality model for the City of Akron, Ohio.

A full resume for Mr. Chen is provided as an attachment to this letter.

These staff will be responsible for delivering on the immediate tasks that the City has defined:

- Reviewing and evaluating the City's water treatment process and distribution system. This will include evaluating the City's processes and procedures to maintain and improve water quality.
- Developing a report on the finding of the evaluation, with specific recommendations to maintain compliance with both State of Michigan and federal agencies. This will include outlining recommendations that will improve the water treatment and distribution system.
- Assisting the City in implementing accepted recommendations. This will include providing continual oversight and support for the implementation of any approved recommended practices. Recommendations will focus on those areas that will improve the overall process of treating and distributing water, including improvements to water quality until the implementation of the KWA project (anticipated to be by mid-2016) under which the City will be receiving and treating Lake Huron water.

In addition to Mr. Gnagy and Mr. Chen, our core staff group, would be assisted by other technical, operations, management and communications experts from Veolia to proceed promptly into implementation simultaneously.

We believe that addressing the fundamental issues concerning water quality compliance and operational reliability is much more complex than the recommendations study and advisory services approach outlined in your RFP.

We want to ensure that the utility can fix these immediate issues effectively and without delays, while at the same helping the City to begin to build capacity for the future and better manage the 2016 water source change in a systematic way – with all the relevant stakeholders engaged along the way.

In undertaking these tasks, Veolia understands that in 2014 the City completed the transition from using water provided by DWSD to drawing water from the Flint River – utilizing your own water plant to treat and distribute water to those served by your system. Since that transition process was completed, it was found that many of the City's eight water quality testing sites exhibited low chlorine residual levels, and several of those sites developed had positive tests for total coliform, which resulted in issuance of boil water notices for precautionary measures. To address this, the City implemented valve replacements and additional chlorination that yielded consistent chlorine residuals throughout the system. However, quarterly reporting to the MDEQ of Disinfectant Byproduct Levels resulted in trihalomethane levels above the maximum contaminant level (MCL), with an annual average level that triggered a violation notice from the MDEQ.

To date the City, working with an outside engineering team, developed and submitted to the MDEQ an Operational Evaluation Report. The next testing period is scheduled for the middle of February and an update to this report will be required by March 1, 2015. That update will incorporate the results of the tests required by the MDEQ.

The City is expecting to work with the selected Water Quality Consultant to complete the required testing and prepare the updated Operational Evaluation Report. As a secondary element of this task, the City is seeking to retain the selected Consultant to aid in the implementation of these suggestions.

Veolia excels at the day-to-day operation issues and understands how to fix them using diverse and subject matter expertise in a structured, bottom-up type, staff engagement process. That is why we designed the PPS approach to help convert the report findings into actionable items for the City of Flint's staff and then help them implement those changes. This would involve making sure that your staff understand why changes are being made, ensuring that they have the training necessary to make the changes, and then following up to be certain what is planned works or if not then provide help making adjustments. This will involve also a monitoring process to make certain the changes are on track for management and the public.

All of this can then be used to help the City to be prepared to begin receiving and treating raw water from Lake Huron through the KWA. The end goal of this process will be to develop within the City's staff a better understanding and capability to handle the changes in water, whether drawing water from the City of Flint's or the new KWA supply sources.

### Veolia's Anticipated Level of Effort

In order to respond to the immediate needs of your defined scope of work, we anticipate mobilizing a team of technical, operations, maintenance and communications SMEs to: calibrate daily water quality samples with the City's hydraulic model; refine the operational strategies for the plant and distribution system; coordinate daily efforts across plant, operations and maintenance staff; and to alleviate continued concerns from the public through a public communications process. The elements of this approach would be delivered under a management and staffing approach which allows for collaboration between the City and Veolia's technical and management team.

For purposes of the scope of services outlined in the City's RFP, Veolia's core staff would be charged at a common rate of \$225/hour, plus expenses.

For the longer-term type of approach, Veolia would set a single lump sum price for the study, implementation and long term services after review and discussion with the City on selecting your preferred approach – the PPS approach or the contract O&M approach. At that time, we can also explore an incentive-based (risk/reward) type of approach, one which is common under PPS contracts, where Veolia's fee is based on achieving performance targets that we would mutually agree upon. As demonstrated in our work with water and wastewater clients, Veolia's PPS model has provided great insight into working with large utility staffs to change the culture and ensure implementation of ideas that improve the utility's performance.

The methodology for implementing a PPS approach, as outlined on Figure 1 (below), includes each of the following steps:

- Preparation – This stage involves the mobilization of resources (Veolia and the City), a joint project kickoff meeting (Veolia and the City), development and implementation of a communications plan (Veolia and the

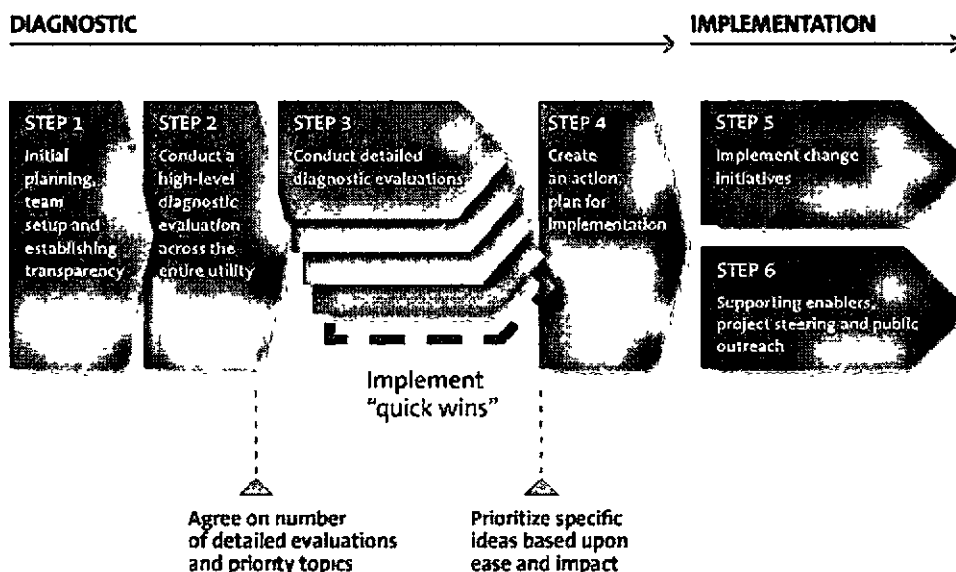


Figure 1.  
Veolia  
Peer Performance  
Solutions (PPS) –  
Service Delivery Model

City), and data collection (Veolia). The City and its consultants have already done a lot of work on the problem and are achieving some success.

- **Top-down Analysis** – This stage involves data analysis, benchmarking, field observations, interviews and idea generation workshops. This would be done to assure how effective current changes have been and if there are any additional actions to be taken.
- **Bottom-up Analysis** – This stage involves detailed analysis and modeling of the available options, working in collaboration with the City's management team and staff.
- **Action Plan** – This stage involves defining specific steps for a recommendation based on the actual, current state and desired state performance of an asset.
- **Plan and Report** – This stage involves the final development and delivery of a written report summarizing findings and presenting analyses and recommendations

These actions are what we would provide during the study phase of the project, and the following actions are what we would do to implement study recommendations

- **Implementation** – Putting plans into action. This involves working with O&M and management staff to carry out the proposed plan. This effort I focused on building capacity and confidence within the staff to solve the problem.
- **Monitoring and Repeat** – Monitoring the process and then repeating it, digging even deeper into the organization for additional savings and improvements.

Using this type of plan and approach, Veolia can address the immediate scope/needs defined for the Water Quality Consultant task, and work with the City of Flint to provide a long-term and sustainable approach for the needs of your water treatment and supply system.

### Addressing the Requirements of the Invitation for Bid

Veolia recognizes that we are submitting this Proposal as an alternative approach for the City of Flint to consider within the procurement process that you have defined, and in that regard we are providing the other specific information that your have requested as part of the formal RFP response, including:

- **Company's Information** – Veolia Water North America Operating Services, LLC is the respondent, and the contact information for our firm is as follows: Veolia - 101 West Washington Street, Suite 1400 East, Indianapolis, IN 46204 - **Telephone:** 317/917-3700
- **Firm Background and History** – Veolia is a company that traces our history in providing operations and related services to municipal clients back more than 42 years. Today our firm ranks as the leader in the delivery of O&M and related services, including those under the PPS model. This include serving as the operator and manager of over 180 municipal wastewater systems (processing over 1.66 billion gallons a day of flow) and some 90 municipal water systems (providing over 715 million gallons a day of water).

Today, Veolia ranks grown as the leading water services provider in North American market, with more projects, operations, resources, expertise and demonstrated success than any other services provider. This record of performance and market leadership is affirmed in the most recent survey from the publication **Public Works Financing** (opposite), which shows Veolia's better than 40% market share, with revenues and a renewal rate that lead the industry. What these market leading indicators serve to show is that we can meet the standards of experience and capabilities that the City of Flint is requiring under this new contract.

**Water operators ranked by 2013 revenues**  
O&M and DBO market share reported by Public Works Financing (PWF) | March 2014

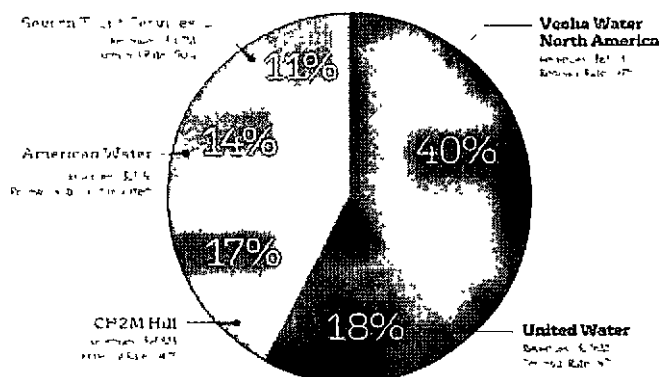


Figure 2. Veolia Service Delivery Models and Experience

| Veolia Example →<br>Options →<br>Criteria ↓              | NYC | Buffalo                      | Milwaukee                 | Indian-<br>apolis | Baltimore<br>Compost | Rialto<br>California | Franklin<br>Ohio   |
|----------------------------------------------------------|-----|------------------------------|---------------------------|-------------------|----------------------|----------------------|--------------------|
|                                                          | PPS | Delegated<br>Manage-<br>ment | Single<br>Activity<br>O&M | Full O&M          | DBO or T             | Concession           | Privatiza-<br>tion |
| Ease of Procurement                                      | ●   | ●                            | ●                         | ○                 | ●                    | ●                    | ●                  |
| Agreeable to Employees                                   | ●   | ●                            | ●                         | ●                 | ●                    | ●                    | ●                  |
| Ease of Cancellation                                     | ●   | ●                            | ○                         | ○                 | ○                    | ●                    | ●                  |
| Public Rate Control                                      | ○   | ○                            | ○                         | ○                 | ○                    | ●                    | ●                  |
| Speed of Implementation                                  | ○   | ○                            | ○                         | ○                 | ●                    | ●                    | ●                  |
| Ease of Permitting                                       | ●   | ○                            | ○                         | ○                 | ●                    | ●                    | ●                  |
| Ease of Continued Use of<br>Alternative Project Delivery | ○   | ○                            | ○                         | ○                 | ●                    | ●                    | ●                  |
| Ease of Acceptance by<br>Other Stakeholders              | ○   | ○                            | ○                         | ○                 | ●                    | ●                    | ●                  |

- **Firm Qualifications, Experiences and References** - Like the City of Flint, we are at our core utility managers and service providers, and Veolia understands the need for high quality, efficient service and dependable reliability. We also work with communities like yours to deliver services under a variety of contract models, each focused on providing our municipal partners with the best value under a long-term and sustainable approach and customized to their objectives. Figure 2, above, outlines our experience with various service delivery models, each of which involves working with clients to develop a customized approach to meet their particular needs and objectives. This table also shows the key advantages of each type of service delivery approach, with green being optimal in terms of ease of execution and delivery and red being the most challenging and complicated in terms of delivery. This table also highlights example projects where our firm has successfully delivered each of these approaches (and many of those are highlighted under the reference projects section of this letter). What this table also shows is that Veolia can offer alternative transaction structures, including long-term lease, concession arrangement or sale/purchase.

As we discussed above, Veolia currently operates and manages 90 municipal water systems (providing over 715 million gallons a day of water); at the end of this letter we have provided a summary table of this experience.

Following here we provide some of the specific clients/projects as the core references that we are submitting for the City of Flint's consideration:

- **Pittsburgh Water and Sewer Authority (PWSA), Pittsburgh, Pennsylvania** - The PWSA's Board of Directors unanimously selected Veolia in 2011 to deliver an innovative approach to managing the system, provide measurable results to customers and demonstrate an ability to quickly and easily collaborate with employees. In 2014, this management assistance/PPS contract was extended for a new term, recognizing the success of the effort to date.

Since the beginning of this partnership, Veolia has assisted the PWSA in realizing more than \$5.5 million in annually recurring revenue and efficiencies.

PWSA provides water and sewer services to 310,000 people in the City of Pittsburgh and surrounding areas. The agency hired Veolia to: 1) provide interim executive management services, leading 270 public employees in the delivery of water and wastewater services in the greater Pittsburgh area; and, 2) conduct a study to identify ways to cut costs and improve service. Under a management assistance scope, Veolia has worked with the PWSA to establish financial controls that limit spending and increase accountability, foster competition among companies seeking to do business with and on behalf of the PWSA, and identify opportunities for operational efficiencies having a direct impact on the utility's bottom line.

Under this contract, Veolia's management team is integrated into PWSA's organization to manage the agency's staff at their offices and operations sites, while another team of experts jointly identifies and evaluates improvement opportunities. This joint effort aims to help the PWSA improve the utility's customer service and performance levels.

The study phase of this project (Phase 1) was completed, and that work effort helped PWSA improve the customer service and performance levels by utilizing in-depth diagnostics of current operations. Veolia also developed recommendations for improvement that were approved by the PWSA board, and we are now supporting PWSA employees in implementing initiatives aimed at reaching new performance metrics. The Phase 1 report identified measures that will lead to annually recurring savings. During the partnership's first year, a team of water and wastewater experts from Veolia helped PWSA improve the utility's customer service and performance levels by

conducting in-depth diagnostics of current operations, developing recommendations for improvement and supporting PWSA employees in implementing initiatives aimed at reaching new performance metrics. The analysis and resulting operational changes helped PWSA reduce its cost of operations and increase the utility's revenue by, among other things, re-securing a large commercial customer. The total impact of these changes has allowed the PWSA to approve an annual budget without a water rate increase.

Early quick-wins under Phase 1 work for this project involved optimizing water production run-times at the membrane plant, which will reduce chemical costs by \$350,000 annually, and implementing enhancements at the customer service call center that slashed the call-abandonment rate almost immediately and reduced customer call waiting time by half. A key focus of the work is on identifying efficiencies in O&M practices for over \$3 billion in above- and below-ground infrastructure that serves the water and sewer conveyance needs of customers across 54 square miles. The initial tasks in this area involved working with the PWSA's managers and staff to meet Consent Decree (CD) obligations to state and county regulators. Under this initiative, Veolia's management and support teams worked to organize the department and create a culture of responsibility and accountability for the success or failure of projects. Veolia also worked with the PWSA's local and national engineering consultants and contractors to get them back on schedule, clearing a backlog of potentially litigious disputes, which allowed projects to move forward. Other tasks included working on the feasibility of creating a stormwater authority to better assess stormwater usage and create additional revenue for increased levels of service. Additionally, Veolia assisted with the planning for a more than \$150 million Capital Improvement Program (CIP) covering three years. This initial program addressed the PWSA's most critical infrastructure needs. The underground (water and sewer) pipelines in Pittsburgh are 80 to 100 years old and winter line breaks are a constant occurrence, so the PWSA is continually replacing underground assets.

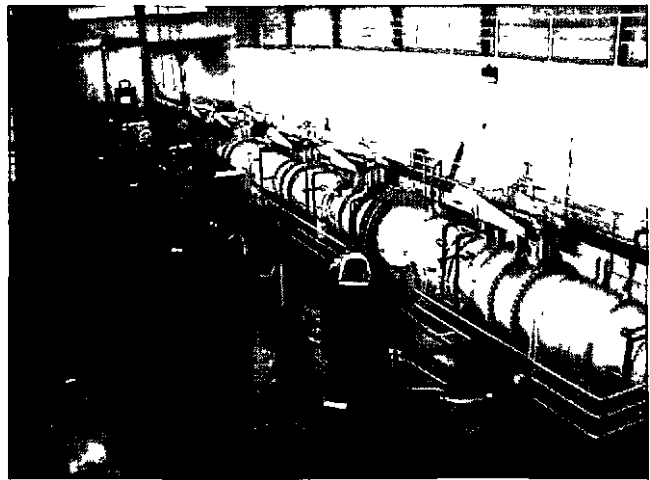
Throughout these efforts, Veolia's Pittsburgh-based team worked side-by-side with the PWSA's staff, helping them execute the utility-approved initiatives and training them to sustain the work after the work of this partnership is complete.

- Client Reference: Alex Thomson, Chairman of the Board, PWSA c/o Houston Harbaugh, P.C. - Three Gateway Center, 401 Liberty Avenue, 22nd Floor, Pittsburgh, PA 15222
- Telephone: 412/281-5060 - Email: athomson@hh-law.com

#### Veolia in North America – Experience Profile

- 188 Municipal and Commercial Clients
  - 90 Municipal Water Treatment Facilities
    - 2,952 Miles of Distribution System Lines
    - 87 Water Pump Stations
    - 171 Water Wells
  - 183 Municipal Wastewater Treatment Facilities
    - 5,286 Miles of Collection System Lines
    - 1,158 Wastewater Pump Stations
    - 31 Industrial Pretreatment Programs
  - 13 Billing/Collection Operations
  - 23 Meter Reading Operations - 147,399 Meters Read
  - 4 Public Works Operations (other than Water/Wastewater)
  - 6 Operations Assistance/Peer Performance Solutions Projects
  - 53 Energy Installations (owned/operated/managed)
    - 631.6 MW of Energy Generation/Supply Capacity
    - 290,394 tons per day of Chilled Water Capacity
    - 443 MMBTU/hour Total Hot Water Capacity
    - 13.2 million pounds/hour of Total Steam Capacity
- 95 Industrial Clients
  - 60 Industrial Wastewater Treatment Facilities
  - 23 Industrial Water Treatment Facilities
  - 913.3 Million Gallons Water Treated Daily
  - 1.7 Billion Gallons Wastewater Treated Daily
  - 293,089 Dry Tons of Biosolids Processed/Year
  - 19.2 Million+ Population Served Daily

- **City of Buffalo, New York** - In 2010, Veolia began a 10-year partnership with the City for O&M of their water supply system which serves more than 77,000 customer accounts. This is the largest water system under contract O&M in New York State, with facilities and operations that include: a 160-MGD surface water treatment plant; 814 miles of water distribution system, customer service management (meter reading, billing and collections); capital program management; and underground asset management (UGAM) and above-ground asset management programs.



In addition, Buffalo was one of the first cities in the U.S. to use the Veolia North American Meter Testing Facility. Under that approach, some 400 meters from the City have been sent to the facility on an annual basis for accuracy testing and evaluation of remaining life. On average, Veolia repairs/replaces more than 3,400 meters annually in Buffalo, and customer service metrics involve answering up to 7,000 calls a month in one minute or less and collecting 96% of meter revenue. Some 96% of all meters in the City are true-read type, with only 4% being estimated, and over 3,000 commercial and industrial accounts in Buffalo are now on mobile-read AMR systems.

"The Buffalo Water Board... is confident that we have selected the best operator for our system ... Veolia Water's demonstrated focus on service has convinced us that our long-term partnership will result in notable advances ... We expect Veolia Water to move us forward through the next decade with marked efficiency improvements and technological advances while maintaining our exceptional water quality."

— Oluwale McFoy, Chairperson, Buffalo Water Board  
*Speaking at the start of the contract in 2010.*

Veolia transitioned the City's water operations to our firm under a delegated management type of contract, with the O&M staff remaining direct City employees working under supervision of Veolia's management team. Under this arrangement, Veolia has worked with the City and the staff to establish new work disciplines and procedures and to drive performance and enhance the quality of service. A core part of this effort involved establishing some 20 performance metrics to track and determine performance and accountability under this partnership.

In the area of customer service, Veolia implemented new customer service phone/information systems and partnered with the Water Authority service center staff to implement a process of a customer service cultural change that have enhanced performance and provided a better customer experience.

- **Client Reference:** O.J. McFoy, Water Board Chairperson, City of Buffalo, City Hall, 65 Niagara Street, Rm. 1101, Buffalo, NY 14202 - Telephone: 716/851-4333 - Email: omcfoy@sa.ci.buffalo.ny.us
- **Tampa Bay Water, Florida** - Veolia has worked with this agency since 2000 under multiple contracts that have focused on water treatment, storage and supply.

Tampa Bay Water, a regional water authority, serves the needs of over 2.5 million people in the communities of Tampa and St. Petersburg, and this agency ranks as the largest wholesale treated water supplier in Florida.

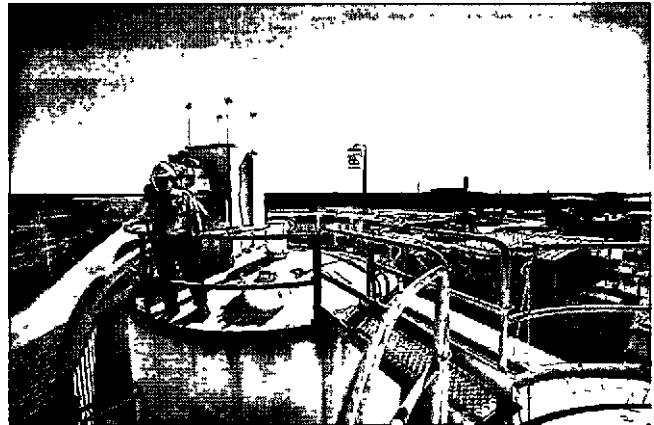
Veolia's initial project with Tampa Bay Water began in April 2000 when, following a year-long selection process among four competitive teams, they awarded our company a \$135 million, 15-year (with a 5-year option) contract to design, build and then operate a new 60-MGD Regional Surface Water Treatment Facility.

Since that time, the Tampa Bay Water-Veolia Water Public-Private Partnership has constantly expanded over the years – a testament to the quality of our work and our client's trust and satisfaction.

Veolia's initial design-build-operated (DBO) contract was for a 66-MGD surface water treatment plant, and that was followed by additional service agreements for the maintenance of a 30-MGD groundwater treatment facility, O&M of a 15-billion reservoir, and an engineering-procurement-construction management (EPCM) type contract for a new 45-MGD hydrogen sulfide treatment plant and 20-MGD high-lift pumping station.

Tampa Bay Water also awarded Veolia Water a second DBO contract to expand (nearly doubling the size) the original surface water plant from 66-MGD to 120-MGD.

Today the Public-Private Partnership between Tampa Bay Water and Veolia Water is the largest in Florida, and the surface water treatment plant is among the most technologically sophisticated in the world.



The Public-Private Partnership between Tampa Bay Water and Veolia Water, which began in 2000 and now encompasses multiple projects for the water treatment and supply, ranks as the largest and most successful of its type in the State of Florida. The project has been recognized with numerous awards, including the 2013 Plant Operations Excellence Award from the Florida Department of Environmental Protection.

- **Client Reference:** Mr. Matt Jordan, General Manager, Tampa Bay Water - 2575 Enterprise Road, Clearwater, FL 33763 - **Telephone:** 727/796-2355 - **Email:** mjordan@tampabaywater.org.
- **DeKalb County Department of Watershed Management (DWM), Georgia** - DeKalb County is Georgia's third-largest county, with more than 700,000 residents. The DWM hired Veolia in 2014 to assist in identifying cost savings and customer service improvement, and work completed to date has involved conducting a comprehensive and independent review of their water and wastewater operations.

DWM's operations include: a 140-MGD water treatment plant; 65 pump stations; two wastewater treatment plants (20-MGD and 36-MGD in capacity); more than 5,000 miles of water and sewer pipe; and a customer service operation that provides services to 700,000 residents in the Atlanta metropolitan region.

The County and Veolia estimate that this review could produce as much as \$8 million in savings annually for DeKalb ratepayers, reducing costs and helping mitigate rate increases.

After a thorough analysis of existing operations, Veolia has presented a proposal to transform the entire customer service organization and leverage existing technological solutions to reduce wait times and increase satisfaction for customers. In addition to customer service, Veolia will support implementation of best practices across the utility's administration, planning, operations, maintenance and capital programs, and billing and collections.

In tandem with the assessment, Veolia is working with the DWM to implement County-approved operations and management initiatives focused on achieving measurable operational, revenue and organizational enhancements to ultimately reduce operating costs and improve service levels, allowing DWM to provide more efficient and sustainable services.

Some of the early wins under this contract have included: construction and maintenance wrench-time findings that offer the potential for more than \$1 million in annual impacts; efficiency studies of field operations crews at the wastewater plant that identified more than \$1 million in annual savings through in-sourcing current contractor spend; and more than \$500,000 in annual savings identified in the areas of chemicals and power at the water treatment plant. Veolia continues to work with the County as we focus on shaping a long-term approach to meeting their needs.

- **Client Reference:** Dr. James M. Chansler, P.E., Director DWM, DeKalb County - 1580 Roadhaven Drive, Stone Mountain, GA 30083 - **Telephone:** 770/621-7234 - **Email:** jmchansler@dekalbcountyga.gov

- **New York City, Department of Environmental Protection (DEP), New York** - Veolia began working with the DEP in 2011 to optimize their operations and help implement savings initiatives. New York City's water and wastewater operations that serve over 9 million people daily, delivering over 1 billion gallons of clean water and treating more than 1.3 billion gallons of wastewater per day. These operations include: 13 wastewater treatment plants; a new 290-MGD water treatment plant; 6,000 miles of sewers; and 7,400 miles of distribution lines.

The primary scope of this PPS program involved reviewing all aspects of this utility's operations to assess potential improvements in areas including: chemical use and pricing; labor productivity; inventory management; sludge process optimization; and overall O&M. Additionally, the project identified such enabling steps as public outreach, legislative initiatives and other processes for the implementation of recommendations.

Veolia's final report for the Phase 1 work ultimately identified over 100 implementable measures for the City's consideration. Throughout the first phase of this innovative partnership, the City's employees worked alongside our project team under a joint management and governance structure to identify operational and organizational efficiencies. In order to capture "quick wins," our joint team identified and implemented several cost-saving initiatives within the first three months: chemical procurement modifications, for example, yielded million dollars in annual recurring savings.

Under this approach, Veolia has identified opportunities that are expected to yield annually recurring financial benefits of more than \$100 million by 2016, and, to date, over \$90 million in savings and revenue enhancements have been reported by New York City's DEP. These benefits represented between 9% and 11% of the agency's \$1.2 billion fiscal year 2012 budget.

In June 2012, Veolia received notice to proceed with the official implementation phase, Phase 2, which involves implementing the approved recommendations of the assessment phase (Phase 1) under a four-year contract. To implement this phase of the project, we mobilized a world-class team to work with the City's staff in their offices and at their water and wastewater operations locations.

Veolia's unique partnership, New York City's Operational Excellence (OpX) program, is focused on enhancing water and wastewater services, streamlining workflows, boosting efficiency and continuously identifying opportunities for improvements that will allow DEP to maintain its high level of customer service, safety and productivity while minimizing rate increases for its roughly 836,000 ratepayers. To achieve this, DEP set an ambitious goal for the OpX program right from the start – to achieve significant operating benefits by 2016. The program goes beyond individual projects and encompasses transformational initiatives, including enhancing performance management, strengthening core capabilities in human resources and procurement and fostering an organizational culture focused on performance and continual improvement. To reach these goals, the Veolia-led team worked with DEP to:

- Review current O&M practices for potential improvements in terms of energy usage and production opportunities, chemical usage and pricing, labor productivity, inventory management and optimal sludge processes.
- Recommend implementable measures to improve and/or streamline operations and maintenance, increase efficiencies, enhance productivity and reduce costs.
- Support public outreach, legislative initiatives, and other processes required to implement recommendations.
- Work with DEP staff to implement the recommended initiatives.

During the top-down and bottom-up analysis work conducted in Phase 1, which continues in the Phase 2 work, the Veolia team identified current strengths within DEP's operation and noted five key areas where improvements will have significant financial benefits for the agency: efficient and sustainable use of resources and materials; enhanced workforce effectiveness; improved revenue collection; development of a metrics-based performance culture; and strengthening DEP's support services. The OpX program confirmed that DEP is a world leader in meeting drinking water and wastewater compliance, performing

well above the average of similar utilities. In the first six months of the OpX program, 100+ individual improvement ideas were identified and evaluated.

- **Client Reference:** Mr. Steve Lawitts, Chief Financial Officer, New York City DEP - 59-17 Junction Boulevard, 8th Floor, Flushing, NY 11373 - **Telephone:** 718/595-6576 - **Email:** slawitts@dep.nyc.gov.gov
- **City of Indianapolis, Indiana** - From 2002 to August 2011 (when the City completed the sale of its water system assets to a quasi-governmental utility services provider), Veolia operated what was (at the time) the largest water system O&M contract in the U.S. The Indianapolis water system is a regional operation, serving the needs of almost one million people in central Indiana, and included: four surface water treatment plants, ranging in size from 16-MGD to 96-MGD; five groundwater treatment plants, ranging in size from 2-MGD to 24-MGD; a 4,300-mile water distribution system; and pumps, storage tanks and reservoirs. The City's water system includes 38,000 fire hydrants, 300,000+ customer accounts, meter reading (310,000 meters – residential, commercial and fire), meter replacement program, and billing & collection (600,000 accounts). A key element of the project focused on customer service improvements, and over the nine years of work in managing this system (prior to the sale of the utility by the City), Veolia achieved a customer satisfaction rate of at least 90% (independent survey) and answering 88% of 70,000 monthly calls within 30 seconds. Improvements that were implemented by Veolia in the area of customer service includes empowering customer service employees to resolve most issues on the first call ("One and Done"); responding to 99% of emergency calls within 60 minutes; maintaining the operations ranking in the top quartile for performance in billing accuracy, customer complaints and O&M (AWWA benchmarking survey); ensuring customers were not without water for more than 12 hours; providing customers with 24-hour access to their billing and account information.

Over the course of this nine-year contract, Veolia stopped a trend of substantial annual customer rate increases and had achieved a cumulative \$83.1 million in savings at contract completion in 2011. At the end of the contract, our annual operating costs were some \$2 million less than the previous management's had been when we started in 2002. We also improved the quality of operations by simultaneously achieving ISO 9001 and 14001 certifications, making the City the only major U.S. city to achieve both certifications.

Veolia also worked with this client to establish a set of key performance indicators (KPIs) that formed the basis for the award of a portion of our fee. Under the incentive plan, a portion of our fees were paid only if we met specified customer service, water quality, operations and other performance measures. By directly linking performance to compensation, this partnership established a new model in the water outsourcing industry. Over the nine-year life of this agreement, Veolia achieved over 90% of incentive payment fees.

- **Client Reference:** Mr. Sam Odle, Past Chairman, Board of Waterworks - City of Indianapolis, 3939 Priority Way S. Drive, #400, Indianapolis, IN 46220 - **Telephone:** 317/706-6349 - **Email:** samuallodle@gmail.com
- **Atlanta/Fulton County, Georgia** - Veolia, in a 50-50 joint venture with a minority-owned business enterprise, began operating the Atlanta-Fulton County Treatment Plant (which opened in November 1990). Over the term of this contract, Veolia has worked with the facility owner, the Atlanta/Fulton County Water Resources Commission (AFCWRC), to triple the capacity of this water treatment plant using a variety of process improvement and capital improvement approaches.

The scope of work for this project has involved all aspects of facility O&M, as well as working with the AFCWRC for facility expansion and upgrade. Over the past decade, Veolia implemented a pilot program to increase the plant's 30-MGD production capability to meet its rated flow of 45-MGD (as rated by the Georgia Environmental Protection Division, GEPD), with no capital expenditures. Subsequent efforts increased the plant's rated capacity to 56-MGD; with an ultimate treatment capacity of 135-MGD. Water demand is so great that the AFCWRC began Phase II earlier than planned to upgrade the plant to 90 MGD. The plant has been running at this new flow capacity since March 1998.

Veolia's O&M program has also reduced the power, chemicals, and overall operations costs, with savings passed on 100% to the AFCWRC. In addition, we have had no change orders to the contract even though the plant capacity expanded to 90 MGD under our current agreement.

The project also includes O&M responsibility for a 200-MGD raw water pumping station, dual 54-inch raw water pipe, more than 800 million gallons of reservoir capacity, and the treatment plant. The raw water pumping station—located on the Chattahoochee River—and raw water mains connect it to the surface water treatment plant. Major process equipment at the plant includes raw water traveling screens, grit removers, pumps, chemical addition/feed systems, meters, rapid-mix and flocculation chambers, declining-rate filters, clearwell storage, and finished-water pumps.

The success of the water operations project also led to a new contract with Fulton County for the O&M of their regional wastewater facilities, as highlighted above, and in 2014 Veolia was again selected for the renewal of the water operation contract under a competitive renewal process.

- **Client Reference:** Ms. Kathy Crews, General Manager - Atlanta-Fulton County Water Resources Commission - 9750 Spruill Road, Alpharetta, GA 30202 - **Telephone:** 678/942-2790  
- **Email:** kcrews@afcwrc.com
- **District of Columbia Water and Sewer Authority (DC Water), Washington, DC** - DC Water is the largest wholesale customer of the Washington Aqueduct (Aqueduct), a federally-owned public water supplier operated by the U.S. Army Corps of Engineers. Veolia was retained to conduct a comprehensive evaluation of the Washington Aqueduct operations and related organization processes, and then recommend improvements that will add value to the delivery of services to its wholesale customers.

Working in collaboration with Aqueduct staff, Veolia brought in experts to complete the evaluation phase (Phase 1), focused on identifying ways to ensure that DC Water is receiving reliable, quality drinking water at efficient production cost. More than 25 individual improvement ideas were identified and thoroughly evaluated during the four-month study phase, and up to 15% in savings were identified by the Veolia at the Aqueduct. The cumulative annual impact of successfully transforming operations is projected to be between \$8 million and \$12 million total (OPEX and CAPEX) recurring yearly saving.

Veolia worked to review every aspect of the Aqueduct's operations, including the treatment process, maintenance and support functions. This review included the Aqueduct's capital program and also included an assessment of the key financial metrics and a high-level asset valuation.

Additionally, our team worked to benchmark the Aqueduct operations against some of Veolia's own operations, as well as other publicly operated utilities in order to identify gaps in performance and efficiency. This comprehensive analysis work involved site visits to the treatment facilities, discussions with staff, hands-on observations of the work performed, and in-depth review and analysis of all of the documentation provided. For example, the maintenance assessment involved over 100 hours of wrench-time observations, and for the procurement scope, we reviewed all of the contract specifications, terms and conditions. As part of this work, our teams conducted over a dozen one-on-one discussions and workshops with leadership and staff.

Veolia's team also analyzed data available across the organization and built new databases where necessary to generate insight. For instance, we used the CMMS data to develop the Pareto analysis in the maintenance section of the final report. To recommend implementable measures, Veolia facilitated workshops to generate, prioritize and refine initiatives across the different scope areas of the assessment. Most of the prioritization took place during the Steering Committee meetings, which included both Washington Aqueduct and DC Water participation and input. The Wholesale Customer Board was also involved in the review process through a presentation in September 2013 that summarized the primary findings and recommendations of the study. Working with the Washington Aqueduct and DC Water, Veolia identified approximately 10 improvement initiatives for maintenance, six initiatives in capital planning, five initiatives for water treatment, three initiatives for operations and two initiatives for support functions, including procurement. All of these more than 25 initiatives are supported by proposed enhancements in communications, training and performance management. These activities are often referred to as "enablers," which help organizations get the most out of their initiatives by properly supporting them with investments in these three overlapping activities.

Veolia has been selected to continue into Phase 2, Implementation, and that work (which will begin in 2015) will involve advising Aqueduct management and staff, coaching them on how to perform the recommended enhancements, measuring progress and refining approaches. The focus of this approach will be on ensuring that the staff can carry on this work and that the Washington Aqueduct can continue to benefit from our expertise long after our contract concludes.

- Client Reference: Thomas P. Jacobus, General Manager - Washington Aqueduct, Baltimore District, U.S. Army Corps of Engineers, 10 South Howard Street, Baltimore, MD 21201  
- Telephone: 202/764-0031 - Email: thomas.p.jacobus@usace.army.mil
- Staff Experience – Veolia has provided resumes for the two core staff proposed for this project as an attachment to this letter. These resumes provide the requested information on each staff member, including experience, relevant education, degrees, certifications and any other pertinent information related to the base of experience they bring to this partnership with the City of Flint.
- Project Scope – At the start of this letter we provided a statement discussing our firm's understanding of the requested services and our approach to providing the services requested.
- Price for Services – With our proposed approach, presented earlier in this letter, Veolia provide a pricing schedule (hourly rates for key staff) to perform the requested services.
- Affidavit – Veolia has completed the required Affidavit and it is provided as part of our submittal (as an attachment to this letter).

Finally, as we discussed at the start of this letter, Veolia is offering this as an Alternative Bid/Proposal, which is being submitted to you in the requested form and format – an executed original and two copies of our letter proposal submittal – and remains a valid offer for 120 days from the date of submittal. Further, our Bid/Proposal is based on the City's RFP and other documents and information provided as part of the procurement process, as well as on the contractual concepts under which Veolia normally provides the services outlined in this letter. Veolia's Bid/Proposal also assumes the negotiation and execution of a mutually acceptable contract consistent with those concepts. We would note that contractual provisions that often require discussion and further agreement include, among other provisions, warranties, indemnities, casualty risks, insurance, environmental liability, ownership of wastes, consequential damages, contractual limits of liability and remedies for breach or default and termination. We do not believe that these matters should present any serious obstacles to the negotiation of a contract, and we are prepared to meet with you to discuss them at your convenience.

As the Veolia Executive Sponsor for this proposed work with the City of Flint, I will be the key contact as we move forward with this process. Further, as we discussed in our meetings with you, my background for this key role includes a combination of utility management experience, as well as experience in leading Veolia's PPS work with other major communities and water utility operations in the U.S.

I am also the former President and Manager of the water system for the City of Indianapolis, which Veolia operated and managed for over nine years. Under that O&M contract, our firm achieved an industry-first in performance standards and quality management.

My contact information for the purposes of this Proposal is as follows:

Mr. David Gadis – Senior Vice President – Sales – Municipal and Commercial Development  
Veolia Water North America Operating Services, LLC  
101 West Washington Street, Suite 1400 East, Indianapolis, Indiana 46204  
Telephone: 317/716-5683 – Fax: 317/917-3718 – Email: david.gadis@veolia.com

I invite you to contact me should you have any questions with regard to our Bid/Proposal, or if you need any additional information.

Mr. Derrick F. Jones, Purchasing Manager  
City of Flint, MI

Page 15  
January 29, 2015

We very much look forward to your review of this submittal and the next steps in this procurement process for this proposed new partnership.

Sincerely yours,



David Gadis  
Senior Vice President  
Veolia Water North America Operating Services, LLC

Attachments:

- 1 - Resumes for Key Staff
- 2 - Experience Summary Table
- 3 - Affidavit for Corporation

**Attachment 1**  
**Resumes for Key Staff**



**Education:**

BS, Chemical and  
Environmental  
Engineering,  
University of Toledo

**Registrations/  
Certifications:**

F-1 Waterworks  
Operator,  
Michigan  
  
Registered  
Professional Engineer,  
Ohio  
  
Class IV,  
Water Supply  
Operator,  
Ohio  
  
Class III,  
Wastewater Operator,  
Ohio

**Memberships/  
Affiliations:**

American Water  
Works Association  
  
Operator Training  
Committee of Ohio  
(OTCO)

**Background:**

Mr. Gnagy is the Water Process Manager with the Engineering and Optimization group of Veolia Environnement North America (Veolia)'s Municipal and Commercial Technical Support Group. In this role he provides support for Veolia's design/build, design/build/operate (DBO) and operations, maintenance and management (O&M) projects in the U.S. and Canada. This includes providing technical and capital project support to municipal, commercial and other projects in the water and energy business lines.

Mr. Gnagy joined Veolia in 2010, and prior to his current role he worked as the Municipal Water Technical Manager with Veolia Water North America Operating Services, LLC (Veolia Water)'s Technical Direction Group. In these technical leadership roles, he has provided engineering and operational expertise to projects related to troubleshooting process and equipment problems, achieving water quality goals, maintaining regulatory compliance, optimizing treatment and chemical processes, maintaining system water quality and participating in the development of new projects throughout North America.

Mr. Gnagy has also worked as part of the teams engaged in the delivery of projects under Veolia Water's Peer Performance Solutions (PPS) project approach. This new approach involves working with large water and wastewater utilities in to conduct detailed operations evaluations that lead to operations efficiencies and cost saving for their operations. In this work, Mr. Gnagy has provided support for some of the largest water and wastewater utility operations in the U.S., including that for New York City, New York.

Mr. Gnagy has over 33 years of experience in management, operation, maintenance, design and construction of water treatment systems. He is experienced with chemical treatment operations and troubleshooting for the optimization of treatment processes and operational sequencing.

Mr. Gnagy also has experience in conventional and advanced treatment technologies, and has been involved with solving treatment issues and providing regulatory compliance. His experience includes: water supply development and monitoring; chemical treatment; mixing applications; taste and odor control; oxidation and coagulation treatment; chemical softening; ion exchange softening; clarification; filtration techniques; membrane filtration and membrane softening; disinfection methods; pumping operations; bench-scale, pilot testing and demonstration studies; high-rate treatment technologies; dewatering and solids handling; and process monitoring and optimization. His design experience has provided operator-friendly solutions to solve both regulatory and operational issues for a number of water treatment systems in the U.S.

In addition, Mr. Gnagy has specific knowledge of regulatory drivers and compliance in multiple state, and he has been involved with the development of site-specific operating strategies that help treatment plants achieve water quality goals and regulatory standards.

### **Work History:**

- **2013-Present: Water Process Manager – Engineering and Optimization Group – Municipal and Commercial Technical Support Group – Veolia Environnement North America**
  - Works as part of an in-house specialty team that provides technical and management support for new and ongoing projects with municipal and commercial clients. This involves supporting projects under the water treatment and supply, wastewater collection and treatment, and energy utility operations and management business lines.
  - Served as Subject Matter Expert in the area of water operations for a contract with the Detroit Water and Sewerage Authority (DWSD) and the City of Detroit to evaluate their water and wastewater operations and proposed solutions. This includes an intensive due diligence examination of the facilities and operations and development of two reports, a Peer Review Report, which looked at the current operations with a focus on identifying immediate and long term needs for the DWSD, and a Transition Plan: Retail Services Report for the City. These reports outlined the issues facing the DWSD and the City as the water and wastewater operations changed under a new regionalization approach.
- **2010-2013: Municipal Water Technical Manager – Technical Direction Group - Veolia Water North America Operating Services, LLC**
  - Worked as part of the Veolia Water PPS team in New York City (operations evaluation and identification of improvements for the City's water supply systems), as well as the team involved in implementing a PPS project with DC Water and Sewer Authority (DC Water), Washington, DC. The DC Water project involved conducting an independent comprehensive review of the operations and management of the Washington Aqueduct (WAD). The focus of this work was on examining WAD's operations, considering: overall operational efficiency; reliability and security of supply; and total water quality management. The project with New York City involved operations efficiency studies that identified utility-approved opportunities expected to save the City \$108–\$130 million per year; Veolia Water is currently engaged in the implementation phase (Phase 2), which will cover the next five years.
  - Responsible for providing technical and operational expertise to current and ongoing Veolia Water projects. Participated in the development of new projects throughout North America.
  - Provided technical consultation and process troubleshooting for water treatment plant operations throughout the U.S., including a variety of conventional and advanced water treatment processes and the specialized equipment they employ.
- **2009-2010: Water Resources Manager - Brown and Caldwell**
- **2005-2009: Water Resources Manager/Operations Manager - URS Corporation**
- **1996-2005: Operations Specialist/Senior Design Engineer - Arcadis**
- **1989-1996: Operations Specialist - Jones & Henry Engineers**
- **1986-1989: Superintendent of Water - City of Defiance, Ohio**
- **1979-1986: Superintendent of Water - City of Berea, Ohio**
- **1977-1979: Water and Wastewater Operator - Village of LaGrange, Ohio**

### **Other Key Experience:**

- Involved with the testing design and optimization of treatment processes including: source water characterization and oxidative organics fractioning; carbon adsorption; enhanced coagulation techniques; effective mixing applications; high-rate clarification processes; solids contact clarification; high pressure and low pressure membrane technologies including ultrafiltration (UF) and nanofiltration (NF); TOC removal and DBP control; enhanced softening techniques; anion exchange processes; chlorine and chlorine dioxide disinfection; chloramination; precipitative
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softening and recarbonation; tube and plate settlers; sludge management (pumping and processing, gravity thickening, lagoon storage and dewatering, land application, filter press dewatering and centrifuge dewatering); and laboratory analyses and operations.

- Significant experience in distribution system operations, including pumping operations, booster disinfection techniques, water quality monitoring, taste and odor investigations, iron and manganese related issues, unidirectional flushing programs, cross connection control, and repair and maintenance of piping systems.
  - Served as Project Manager for a number of water treatment plant design projects related to implementation of chemical and treatment process improvements aimed at achieving compliance with drinking water standards, and improving plant operations and water quality. Provided construction oversight for the projects once construction of the improvements began.
  - Provided chemical and process optimization services for a number of water treatment plants across the U.S. defining needed upgrades in operating practices and/or process equipment to enhance water quality and reduce operating costs.
  - Conducted a number of bench-scale, pilot-scale, and full-scale process investigations related to identification of operating strategies and advanced treatment technologies to meet more stringent drinking water standards and developed recommendations for process treatments and equipment necessary to achieve regulatory compliance.
  - Designed and equipped municipal drinking water laboratories for process monitoring, bacteriological analyses, algae identification and speciation, and advanced instrumentation and analyses.
  - Prepared site-specific water and wastewater treatment plant operations and maintenance manuals for more than 120 systems across the U.S. outlining operating strategies, equipment descriptions, process control techniques, instrumentation and control systems, troubleshooting, and maintenance activities.
  - Developed operating standards and training manuals related to jar testing and coagulation operations, mixing applications, solids contact clarification, water and wastewater disinfection, lime-soda softening and recarbonation techniques, filter inspection techniques, formation and control of DBPs, and an overview of the Stage 2 D/DBP and LT2 ESWT Rules. Also served as principle instructor for these courses since their development.
  - Instructor for basic and advanced water treatment courses for the Operator Training Committee of Ohio; and instructor for basic math, basic chemistry, and basic hydraulics for the Michigan Department of Environmental Quality.
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**Education:**

BS, Environmental Engineering,  
East China University of Chemical Technology, 1985  
MS, Environmental Engineering,  
University of North Carolina at Chapel Hill, 1991

**Registration:**

Registered Professional Engineer,  
Michigan

**Additional Training and Certification:**

Construction Documentation Technologist

**Memberships/Affiliations:**

American Water Works Association  
(Past National committee members on Source Water Protection, Taste & Odor, and Organic Contaminant Control)  
Water Environment Federation  
International Ozone Association  
(Current PAG board of directors, and past conference planning committee),  
International UV Association

**Background:**

Mr. Chen is a Process and Operations Optimization Manager with the Engineering and Optimization group of Veolia Environnement North America (Veolia)'s Municipal and Commercial Technical Support Group. In this role he provides support for Veolia's design/build, design/build/operate (DBO) and operations, maintenance and management (O&M) projects in the U.S. and Canada. This includes providing technical and capital project support to municipal, commercial and other projects in the water and energy business lines.

Mr. Chen has almost 30 years of water system engineering, operations and research experience. He joined Veolia in 2014 and has been engaged in supporting the delivery of projects under O&M and Peer Performance Solutions (PPS) project approaches. The PPS approach involves working with large water and wastewater utilities in to conduct detailed operations evaluations that lead to operations efficiencies and cost saving for their operations. In this work, Mr. Chen has provided support for some of the largest water and wastewater utility operations in the U.S., including that for New York City, New York, and Washington, DC. Most recently he was part of the Veolia team that worked with the Detroit Water & Sewerage Authority in conducting an operations assessment, which yielded a comprehensive due diligence report and a second future planning/operations report for a regional approach for the water and wastewater operations.

Mr. Chen's experience includes working as a Senior Technical Specialist, Senior Project Manager, Technical Manager, as well as Research and Development (R&D) Specialist. He has extensive experience in water, wastewater treatment and water quality, and has worked on numerous study, planning, design, and services during construction projects. This work has included master planning, water and wastewater treatment, taste and odor control, asset management, biosolids management, residual management, and water quality.

**Work History:**

- **2014-Present: Process and Operations Optimization Manager – Engineering and Optimization Group – Municipal and Commercial Technical Support Group – Veolia Environnement North America**
  - Works as part of an in-house specialty team that provides technical and management support for new and ongoing projects with municipal and commercial clients. This involves supporting projects under the water treatment and supply, wastewater collection and treatment, and energy utility operations and management.
  - Served as a Technical Support Manager for PPS and O&M project sites, including:
    - DC Water and Sewer Authority (DC Water), Washington, DC. - Project involved conducting an independent comprehensive review of the operations and management of the Washington Aqueduct (WAD). The focus of this work was on examining WAD's operations, considering: overall operational efficiency; reliability and security of supply; and total water quality management.

Under the DC Water PPS project task, a key work task included: conducting a workshop evaluating the induction mixer to improve rapid mixing, review of water quality and chemical dosages, alternatives for controlling algae in the two water treatment plants) for the Washington Aqueduct McMillan Water Treatment Plant.

- Pittsburgh Water & Sewer Authority (PWSA), Pennsylvania – This PPS project has involved evaluating the operations of this agency's water and wastewater operations. This utility serves more than 300,000 people in the greater Pittsburgh area. A main area of focus for the work was on the development of Key Performance Indicators (KPIs) that were used to drive system improvements for the PWSA. Work tasks engaged in under this contract involved evaluating the algacide alternative, and CAL-FLO replacing lime.
- Detroit Water & Sewerage Department, Michigan – Served as part of a team that worked with the DWSD along with Counties in the greater Detroit area in shaping comprehensive water and wastewater solutions considering the needs of the City and those of customers in the surrounding County areas. The work involved developing a comprehensive Peer Review Report, along with a second report (Retail Report) that discussed issues surrounding the formation of the Great Lakes Water Authority and the impact of that on operations of the DWSD and the City of Detroit. These reports involved performing extensive due diligence of the City's water and wastewater assets, preparing reports documents and supporting materials, and then presentations to multiple parties, including state level and judicial, City and County managers. Work tasks under that contract included conducting a process review for the DWSD's five water treatment plants.
- City of Buffalo, New York – This is an O&M contract that began in 2010 for operations and management of a water system serving a population of 280,000, with facilities and operations that include: a 160-MGD surface water treatment plant; 814 miles of water distribution system, customer service management (meter reading, billing and collections); capital program management; and underground asset management (UGAM) and above-ground asset management programs. Involved in supporting this operation in soliciting bids for an induction mixer and streaming current monitor, and alternative evaluations for these systems.
- City of Brockton, Massachusetts – This is an O&M contract that began in 1988 and includes: water operations for a 1.3-MGD and a 24-MGD surface water treatment plant, two raw water pump stations (40-MGD capacity), and two ground storage tanks (11.4 million gallons capacity); and wastewater operations for a 20.49-MGD tertiary wastewater treatment plant, three pump stations, and an 18 dry ton per day multiple-hearth sludge incinerator. Served as the Lead Technical Support Specialist for the conduct of a comprehensive water quality and water treatment plant review. This included evaluating alternatives for algae control, TOC and manganese removal, and evaluating manganese removal and short filter runtime, as well as backwash pump cavitation issues.
- Owned and Managed Energy Operations – Conducted a comprehensive system operation and optimization review for two Veolia energy makeup water treatment plants, including: Kendall Station Cogeneration in Cambridge, Massachusetts and the Grays Ferry Cogeneration Plant in Philadelphia, Pennsylvania. This included performing a review of river source water pretreatment alternatives, and identifying optimization opportunities of the ultrapure water treatment processes.
- 2013-2014: Independent Water Consultant – Solon, Ohio
- 2012-2013: Project Principal - ARCADIS US Water – Cleveland, Ohio
  - Served as Task Lead for softening water treatment plant upgrade and expansion evaluation for:
    - Dayton and Montgomery County Water Efficiency Master Plan, Ohio- Worked as the senior consultant and lead author of the three tasks reports, including: Task 5 - Water Treatment Plant Capacity Evaluation and Assessment for two 96-MGD softening water treatment plants; Task 6

- Regulatory Review and Compliance Assessment; and Task 9 – Evaluation of Groundwater Wells Reclassification's Impact on Water Treatment.
  - Delaware County Water System Master Plan, Ohio – Served as the Task Lead for water treatment. The work involved evaluating the historical water productions and forecasted the future water production profile. Evaluated the treatment plant expansion and upgrade needs for four surface water and groundwater softening plants to best utilize the available source of supply to meet the future water supply needs. Provided recommended scope of work, process schematic and opinion of cost for upgrading and expanding the water treatment plants.
  - Northeast Ohio Regional Sewer District (NEORS) - Cleveland, Ohio – Worked as a Technical Consultant/ O&M Manual Task Process Engineer for the NEORS's Southerly Wastewater Treatment Plant's biosolids handling facility. Responsible for preparing an O&M manual for the centrifuge dewatering system.
  - Eureka Resources, Pennsylvania - Served as Process Mechanical Design Task Leader for a new frac wastewater treatment plant. The process included: oil/water separators; primary clarifiers; pH adjustment units; membrane biological reactors; crystallizer; sludge thickening and dewatering units; and various raw wastewater and treated wastewater storage tanks. Lead the design documentation preparations and coordinated and reviewed the P&ID drawing development.
  - New York City, Department of Environmental Protection, New York - Performed a quality assurance and quality control (QA/QC) role for the NYDEP's Groundwater Treatment BOD report. Reviewed basis of design report for treatment of three well sites which uses treatment processes such as air stripping with and without vapor GAC adsorption, liquid GAC adsorption, and chemical oxidation followed by filtration for iron and manganese removal.
  - City of Monroe, Michigan – Served as the Technical Lead for the City's Water Treatment Plant Ozone System Improvement Study. Assessed the current conditions of the existing system, evaluated different generator and ozone contactor improvement alternatives, and made recommendations and provided opinion of cost for each alternative.
  - Other Work - Supported winning proposals for Akron Water Quality Modeling, Alliance Joint Dewatering System, and Minneapolis Water Pool of Consultants. Served as: Technical Knowledge and Innovation and Technical Community of Practice member; Client Account Manager for Aqua Ohio and Pennsylvania American Water; and manager and support specialist for business development efforts, including pursuits with DWSD, NEORS, the Louisville Water Company, the City of St. Louis, the MSD, the City of Toronto's wastewater treatment plant, the City of Ann Arbor's water treatment plant, the City of Toledo's water treatment, and the Warren County water treatment plant.
  - **2012: Technical Director and Technical Practice Network Leader, Water and Urban Development - AECOM Asia - Hong Kong/Shanghai China**
    - Served as the Technical Practice Network Leader and the Team Leader for: Asian Development Bank/JiangXi Government Boyang Lake Water Resource Management project; Project Manager of Shanghai Wastewater Treatment Plant Sludge Management Strategy Optimization Study; and Process Lead for the 50-MGD first membrane filtration plant feasibility study, and first 37-MGD sea water desalination plant feasibility study proposal in Hong Kong.
  - **2010-2012: Regional Director, Water and Urban Development - AECOM China – Shanghai**
    - Served as the Regional Director for Water and Urban Development in China with responsibility for: operation, strategic plan development, client management, business development and project delivery and staffing management of PRC WUD business line; leading the team winning record numbers of ADB and WB funded PPTA, ADTA and loan implementation projects (over \$10M USD) in 12 months; conducting high profile national strategy and policy projects in China on Boyang Lake
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Water Resource Management (largest fresh water lake in PRC), National Stormwater Management and Water Logging Prevention Policy Study, and National Wastewater Treatment Plant Sludge and Wastewater Reuse Technology and Policy Study for PRC; consulting on wastewater treatment plant sludge management technical route studies for Beijing and Shanghai, two largest municipalities in PRC, including two of world's largest wastewater treatment plants: the Beijing GaoBeiDian plant and the Shanghai BeiLongGang plant; and serving as Process Manager for the Hong Kong Shatin Water Treatment Plant reprovisioning (expansion from 90-MGD to 145-MGD) with ozone and two-stage filtration (one biological) treatment processes.

- **2010: Senior Project Manager/Senior Technical Specialist - AECOM - San Francisco, California**
  - Worked as Senior Project Manager supporting AECOM Water operations and projects in North America. This included:
    - Project Manager and Lead Process Engineer on the Groundwater Reuse project for NASA Ames Research Center in Moffat Field, California. Upgraded the collection system from three pump-and-treat groundwater treatment systems, conducted hydraulic analysis and designed the pump and control upgrades. Designed the modifications of converting the existing 240,000 gallon tank into a RO permeate storage tank. Lead the alternative evaluation, and design services for treating the three different sources of pump-and-treated groundwater. Prepared the D/B contract for construction of a new 850,000 gallon tank. Designed the upgrade to the RO pretreatment system including the installation of dual media filter, UV reactor, and chemical feed system. Designed the refurbishment of the RO system including the new pumps, sensors, and RO membrane elements. Designed the new CIP system, and CIP waste neutralization and disposal system and piping, RO concentrate disposal system and piping. Designed and upgraded the control system for the RO permeate distribution system, provided the constant pressure in the system that allows the auto-source switching in the event the distribution system loss of pressure.
    - Engineering Manager for a multi-year, as-needed, system-wide zebra mussel study and control project with the California Department of Water Resource.
    - Senior Technical Consultant on the City of Portland, Oregon's, 225-MGD Bull Run Water Treatment Plant Chlorination Alternative Study. Evaluated bulk hypochlorite storage and feed, low strength (0.8% wt.) onsite generation of hypochlorite, high strength (12% wt.) onsite generation of hypochlorite, and onsite gas chlorine generation technologies. Conducted the conceptual design, including sizing, layout, list of equipment, construction and O&M cost estimate. Conducted the market research on installations, operation experience and cost.
- **2006-2009: Global Drinking Water Oxidation & Disinfection Technical Practice Workgroup Leader, Project Manager and Senior Technical Specialist – Metcalf & Eddy, Inc. (later acquired by AECOM) – Cleveland, Ohio**
  - Served in multiple roles for an engineering and operations company, including serving as: Global Drinking Water Oxidation and Disinfection Technical Workgroup Leader; International Ozone Association Champion; Ohio American Water Company (OAWC) Client Coordinator; Senior Technical Specialist; and Project Manager.
  - Key project work and accomplishments included: developing the company's first project for from both Ohio American Water and Pennsylvania American Water, and then managing the treatment plant projects with these two clients; developed the \$25 million Ashtabula Water Treatment Plant design/build project with the OAWC; organized the workshop for IO<sub>3</sub>A and IUVA/IO<sub>3</sub>A conferences; served as Project Manager and Lead Process Engineer for the OAWC Marion Water Treatment Plant chemical and filter systems improvements project; served as Project Manager for the OAWC Marion Water Treatment Plant needs assessment study, and on-call engineering services for both water and wastewater systems; served as Project Manager for the Elyria Water Treatment Plant intake study and preliminary design project; served as the Lead Technical

Engineer on the Shreveport ozone system improvement study and preliminary design project; served as the Lead Technical Engineer on Miami-Dade County Water and Sewer Department's Hialeah Water Treatment Plant filter backwash improvement alternative evaluations; served as the Project Manager and Lead Process Engineer for the Pennsylvania New Castle water treatment plant filter-to-waste addition project; and Project Engineer for the Northeast Ohio Regional Sewer District's ECT-4 Baffled Drop CSO Shaft Physical Model Study.

- **2001-2006: Multiple Technical and Management Roles - CH2M HILL – Detroit, Michigan**
  - Worked in multiple roles, including: Northeast Regional Water Process Practice Leader; Northeast Regional Water Treatment Technology Leader; member of the Detroit Client Service Management Team; Member of the Northeast Regional Water Service Team; Technical Director of China Water Business Group; and Project Manager.
  - Responsibilities in these roles included: contributing to developing strategic business plan for local, and region-wide markets; maintaining client contact and involvement in business development efforts for strategic water projects; and contributing to business development for water projects in Ann Arbor, Louisville, Cincinnati and other communities in the Mid-West.
  - Worked on multiple projects with the DWSD, including:
    - Task Manager for DWSD's 50-year Comprehensive Water Master Plan. This work involved: evaluation of capacity development; analysis and projection of significant industrial flows and loadings; and projected flows from significant industrial users (SIU) and quality in the next 50 years by decade, industrial category, and geographic areas, within DWSD's service area.
    - Task Project Manager for the summary and evaluation of Detroit wastewater treatment plant capacity and performance, as part of the development of a comprehensive wastewater master plan for the DWSD. The plant has a rated secondary treatment capacity of 890-MGD, and primary treatment capacity of 1,700-MGD. Summarized the design criteria; assessed the existing and near-term capacity under the comprehensive treatment plant renovation project for both liquid and solids processing streams; conducted water quality and compliance status analysis; and discussed the suitability of the plant to meet future expansion and treatment needs including the proposed additional dewatering from CSO basins.
    - Project Manager and Lead Process Engineer for improvements to two wastewater treatment plant pump stations, including pickle liquor buildings, the polymer utilization building, and main plant influent building rehabilitation for DWSD. The wastewater treatment plant has a secondary treatment capacity of 890-MGD. Replaced all polymer delivery pumps, pickle liquor feed and transfer pumps, and influent sampling pumps. Managed the selection and sizing of various chemical and wastewater transfer pumps, with specific consideration of handling chemicals and high solids applications, and designed the new piping layout and control system. Assisted in preparing the specifications for various pumps and pipes and oversaw the design and specification of the basket strainers. Prepared construction documents and provided services during construction.
    - Managed an evaluation of long-term solids disposal alternatives as part of the development of a comprehensive wastewater master plan for DWSD. The plant has a rated secondary treatment capacity of 890-MGD. Conducted a thorough review of the current solids production and handling practices at the plant; reviewed the applicable treatment technologies and current and future regulations; and developed various alternatives and implementation plans as well as a scoring system to rank and select the recommended alternatives. Also developed capital and operations cost estimates for each alternative.
    - Project Manager and Lead Engineer for field sampling activities review and pre-audit service for the DWSD. Reviewed program documents and QA/QC procedures as well as the standard operating procedures. Audited the field sampling safety issues, reviewed EPA auditing reports

and pertinent federal regulations and EPA guidelines, and recommended areas that needed improvement.

- Manage and Lead Engineer for the preparation of a low-interest loan application for the Drinking Water State Revolving Fund for the DWSD. Prepared an overview project plan for the 2004-2008 loan programs, successfully securing \$30M per year in low-interest loans from the Michigan DWSRF.
  - Task Manager for a source water protection project for DWSD. Summarized the pertinent federal and state regulations and international charters and agreements related to the Great Lakes and reviewed the associated watershed initiatives, trends, and programs, as well as the current and future monitoring technologies. Investigated the existing spill notification system and procedures and conducted a national survey on the early-warning monitoring and source water protection programs. Developed the framework for establishing a source water protection program. Made recommendations for short-, intermediate-, and long-term improvement and proposed the scope and estimated cost of the near-term capital improvement project needs of this first source water protection plan for a surface water utility in Michigan.
  - Task Manager for the development of a water quality management and treatment plant capital improvement plan for DWSD, covering their five water treatment plants (with a combined capacity of over 1.7 billion gallons per day). Reviewed the past and ongoing projects, reviewed the short-term and long-term water quality regulations. Developed short- and long-term water quality goals. Conducted a thorough assessment and evaluation of the current treatment process for capacity, technology and performance. Selected future treatment technologies and prepared the conceptual preliminary design and cost estimate for each plant, including ozone and UV installations. Coordinated ongoing plant improvement projects and developed a capital improvement plan for plants that would meet both system growth and water quality needs while maintaining a limited increase (6-7 percent) of water rate to DWSD customers in the future.
  - Task Manager for the development of DWSD's Wastewater Master Plan, which addressed: Significant Industrial Flows, Capacity and Performance Evaluation of the Detroit Wastewater Treatment Plant, Wholesale User Survey, and Long Term Solids Disposal Plan tasks.
  - Managed the development of a customer survey and service plan for the DWSD. Designed the survey form and managed the design and distribution of the survey questionnaires.
  - Project Engineer for the update of DWSD's Industrial pretreatment program local limits database, including modification of the program and local limits calculation.
  - Project Engineer for Phase I and project manager for Phase II of an atmospheric deposition study for the DWSD, addressing the air deposition addition of mercury, cadmium, and PCBs loads to the headworks of a wastewater treatment system. Developed a quality assurance project performance plan and field sampling standard operating procedures, and coordinated the lab SOPs. Managed the water-phase sampling and led data analysis. Interfaced with subcontractors and labs; conducted detailed chronicle and statistical data analysis of pollutant concentrations, fluxes, or loadings for dry deposition, wet deposition, runoff, ambient, and treatment plant influent and effluent. Developed several approaches in estimating the quantitative relationships between the air deposition and runoff, air deposition and the plant headworks loadings of PCBs, mercury, and cadmium. Prepared responses to the steering committee's review comments. Conducted all data treatment and prepared the final study report, providing the crucial information for the state to establish the regulatory policies toward these chemicals.
  - Served as Senior Technical Consultant and Lead Engineer for a brackish groundwater treatment pilot study and preliminary design of the reverse osmosis water treatment plant at Moron Air Force Base in Spain. Led the technical evaluation and process design for providing portable water
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to the base by evaluating, piloting, and designing a 1-mgd groundwater treatment facility. Conducted the desktop evaluation for alternative technologies to remove hardness, nitrate, TCE, and salinity from the groundwater sources. Developed the test plan and conducted the pilot tests on GAC, ion-exchange demineralizer, and reverse osmosis processes. Provided air-stripping unit troubleshooting, scale control evaluation, and preliminary design. Evaluated concentrate disposal alternatives and developed the construction cost estimate.

- Served as the Project Manager and Lead Process Engineer for the evaluation and design of an ozone system to remove geosmin-caused drinking water tastes and odors from the Lucerne Water Treatment Plant for the California-American Water Company. Evaluated the bench treatability data, designed the ozone and ozone/H<sub>2</sub>O<sub>2</sub> application dose, and established the remaining ozone system design criteria, including a construction cost estimate. Prepared preliminary design of the system and evaluated different types of ozone generators, ozone dissolution methods, and ozone contactors. Determined final design, which included a LOX-feed ozone generator with side-stream injection skid and a pipeline contactor with the options of using an ozone contactor for disinfection (ozone alone) and taste and odor removal (ozone/H<sub>2</sub>O<sub>2</sub>) or T&O removal only.
  - Served as the Lead Process Engineer for construction and start-up of the 17-MGD Windsor Water Treatment Plant's new ozone system. The scope includes the construction management, start-up of the ozone system, optimization of the ozone residual analyzer layout and design and upgrade of the ozone-quenching agent with calcium thiosulfate to increase quenching capacity and safety. Participated in the resizing of the tanks and redesign of the layout and spill containment area. Participated in process and start-up troubleshooting, including how to achieve the desired log inactivation of *Cryptosporidium* and residual quenching during winter season.
  - Served as a Senior Consultant for ozonation design for the 167-MGD Tacoma, Washington, water treatment plant. Developed design criteria and evaluated bench testing results on geosmin and MIB removals. Employed the experimental design approach. Conducted statistical analysis of the experimental data, summarized the findings and conclusions of the tests, and prepared the study report.
  - Served as Senior Consultant for an algal toxin removal project for the American Water Works Research Foundation (AWWARF). Prepared the testing plan using statistical experimental design methodology for ozone oxidation, UV/H<sub>2</sub>O<sub>2</sub> oxidation, and PAC adsorption of the microcystin-LR. Conducted a statistical analysis on the testing results and prepared the study reports.
  - Managed and served as Lead Technologist for a filter backwash and recycle stream evaluation and improvement study for the 27-MGD water treatment plant in the City of Ann Arbor, Michigan. Investigated the filter backwash and other recycle stream practices, as well as the average and peak instantaneous flow of each stream, and evaluated the potential hydraulic and water quality impact to the treatment process. Facilitated a plant staff workshop to develop operational and process improvements. Prepared report to submit to the Michigan Department of Environmental Quality.
  - Served as Process Engineer for the development of a master water plan for the City of Ann Arbor, Michigan. Led a water treatment plant process criteria evaluation and evaluations of the treatment of 1,4-dioxane from the groundwater.
  - **1992-2001: Multiple Technical and Management Roles - TETRA TECH MPS - Detroit and Ann Arbor, Michigan**
    - Worked as Project Manager, Senior Project Engineer, Project Engineer; and Water/Wastewater Technology Council Member.
    - Served as Process and Project Engineer for the Baby Creek combined sewer overflow control study for DWSD. Conducted a literature review, provided dry and wet weather multi-stage sampling of the CSO events, and performed bench-scale evaluations of various disinfection options, including UV, ozone, sodium hypochlorite, peracetic acids, and sodium bromide with sodium hypochlorite.
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Proposed recommendations and disinfection design criteria. Prepared the disinfection study report and reviewed the final design study report.

- Served as Lead Engineer for a drinking water taste-and-odor study for DWSD, which received the 1998 Research and Technical Practices Award from the Michigan Section of the AWWA and required the development of monitoring and experimental plans and analytical standard operating procedures. Trained senior chemists to become flavor panelists, coordinated the monitoring efforts and flavor profile analysis, interfaced with clients, and conducted comprehensive powdered activated carbon and ozonation treatability studies to remove the taste-and odor-causing compounds from the water. Investigated a broad range of operational parameters and identified their impact to the odorant removals. Developed mathematical models for quantitative assessment of operational parameters and performance prediction.
  - Served as Project Manager and Lead Engineer in the development of ozonation design criteria for taste and odor control and Cryptosporidium inactivation for DWSD. Conducted an ozone demand and decay study, and developed the design criteria for meeting the requirement of disinfecting Giardia and Cryptosporidium. Assessed the impact of the proposed treatment technologies on the current operation. Prepared the progress and final study reports and made presentations to the client.
  - Served as Lead Engineer examining powdered activated carbon and chlorine interaction impact on T&O compound removal and contact time value for DWSD. Performed CT calculations under various conditions for four water treatment plants and made design and operational recommendations.
  - Served as Process Engineer for an implementation assessment of PAC storage, dosing, and delivery facilities at four water treatment plants for DWSD. Developed the design criteria for upgrading the powdered activated carbon dosing systems and reviewed the conceptual design and cost estimate of the PAC feeding system. Also provided an engineering feasibility valuation of building centralized PAC storage and dosing facilities. Reviewed the contact time calculations under various PAC addition points for the four plants and developed design criteria for alternative PAC dosing systems.
  - Served as Process Engineer for a backwash and residual management improvement project for DWSD. Developed the treatment process basis of design criteria and conceptual design for handling the backwash water and plant treatment residual for four water treatment plants with a combined capacity over 1,600-MGD. Conducted the historical data analysis and scenario analysis for determining the optimum equalization volume and treatment process design capacities.
  - Served as a Co-principal Investigator which involved conducting an investigation for a taste-and-odor materials evaluation workshop for the American Water Works Research Foundation. Convened an international expert panel to develop a new AWWA drinking water standard for testing materials from taste and odor perspectives. Organized a workshop, managed literature review, and prepared the final standard and project report.
  - Served as Resident Project Engineer for a seven-month pilot study to treat the low-strength, organics-containing cooling water for the Upjohn Company in Kalamazoo, Michigan. Participated in the planning, initiation, and operation of a 30-gpm carbon fluidized bed biological reactor. Coordinated with the client, vendor, and project manager and prepared weekly and final project reports.
  - Served as Field Project Engineer for a three-month feasibility study for the Kellogg Company of Battle Creek, Michigan, for the treatment of high-strength BOD/COD cereal-production wastewater using a pilot upflow anaerobic sludge blanket bioreactor. Obtained optimum operation and design conditions and addressed typical operation interference such as shock loads of BOD and TSS.
-

- Served as Project Engineer for Michigan's Rouge River CSO control study for a national wet weather demonstration project. Trained the sampling crew, developed the field sampling SOPs, and coordinated with the weather service. Conducted detailed data analyses, such as concentration and load profiles for different pollutants, removal efficiencies, and overflow discharge quality. Drafted final report and provided recommendations for sampling and design of the future CSO basins.
- Served as Project Engineer for Michigan's Rouge River settling column study, as part of a CSO control study for a national wet weather demonstration project. Developed the experimental and sampling plans, trained technicians, performed data analysis, and drafted the report.
- Assisted in the evaluation of CSO control technologies and performance of retention basins in the Rouge River watershed. Assisted in evaluating the retention basin's effectiveness in disinfecting and removing numerous pollutants. Reviewed existing column testing protocol and proposed new protocol using modified columns and Imhoff cones. Developed a protocol for evaluating disinfection and the standard data analysis procedures to be used at all basins within the Rouge watersheds. Reviewed the mathematical models (steady-state settling model, statistical models, and dynamic models) available for predicting the basin long-term performance and individual event performance and assessed their advantages and limitations. Worked with modeling experts to develop new dynamic models for the project and developed the protocol for disinfection evaluation.
- 1991-1992: Process and Environmental Engineer (Biotech scale-up and Groundwater remediation projects) - ARCTECH, Inc. - Alexandria, Virginia
- 1988-1991: Research Assistant and Graduate Student (Thesis: Enzymatic Oxidation of Phenolic Pollutants) – University of North Carolina at Chapel Hill, Department of Environmental Engineering – Chapel Hill, North Carolina
- 1985-1988: Research & Design Engineer (industrial wastewater treatment) and Teaching Assistant – East China University of Chemical Technology, Department of Environmental Engineering and Institute of Chemical Environmental Engineering

**Publications:**

- Completed numerous technical articles, reports and other publications on topics related to water and wastewater treatment, water quality and research and development related topics.
-

**Education:**

BA, Marketing/  
Communications,  
Southern Methodist  
University (1984)

**Memberships/  
Affiliations:**

Indianapolis Urban  
League  
  
Indianapolis Sports  
Corporation  
President's Council  
  
Indiana Business  
Diversity Council  
  
Purdue University  
Science Bound  
  
St. Mary's Child  
Development Center  
  
Big Ten Basketball  
Tournament  
Committee  
  
American Water  
Works Association  
(AWWA)

**Awards:**

Indiana Basketball  
Hall of Fame  
  
2005 Achievement in  
Business Award,  
Center for Leadership  
and Development  
  
2006 Sam Jones  
Award, Indianapolis  
Black Chamber of  
Commerce

**Background:**

Mr. Gadis is Vice President and Manager for Sales with the Municipal and Commercial Group of Veolia in North America. In this role he leads a team that is responsible for new project development and the support of ongoing projects and client relationships. This work has included supporting alternative project delivery approaches to municipal clients in the North American market. His recent work has focused on working with Veolia's team at the City of Detroit, Michigan, to support the identification of utility needs and solutions/approaches to address the City's water and wastewater utility.

Mr. Gadis was also a part of the Veolia team that working with the New York City Water Board and New York City Department of Environmental Protection (DEP) under the Operational Excellence (OpX) program. This team is charged with examining water and wastewater operations in the City with the goal of developing recommendations to streamline workflows, boost productivity, identify opportunities for efficiency gains, and keep future water rate increases as low as possible.

Prior to his current role, Mr. Gadis was the President of Veolia Water Indianapolis, LLC, the company that was charged with managing the water system providing service to almost a million in Central Indiana. The scope of this contract involved operating, maintaining and managing a water treatment, storage and supply system, a customer service organization responsible for meter reading for some 310,000 connections for the City of Indianapolis and an additional 15,000 connections through contracts with surrounding communities, as well as billing and revenue collection for 600,000 accounts. The contract also included a capital project component, and Veolia Water managed and implemented in excess of \$200 million in capital work to improve the City's aging water infrastructure.

Prior to that, Mr. Gadis managed the procurement and operations of the Indianapolis Water operations, with responsibility for administering the Veolia Water Indianapolis minority-owned (MBE), woman-owned (WBE) and other locally-owned business involvement efforts. The success of this was demonstrated in the company's unmatched success in achieving local involvement in all aspects of the project work at levels that well exceeded all of the City's goals and expectations-- keeping 92% of the dollars spent in the local economy and maintaining a 35% M/WBE participation level. He also provided leadership for Veolia Water's local involvement program in Indianapolis, with involvement in numerous community service organizations in the community. Additionally, Mr. Gadis has played a key role in shaping Veolia Water's national program for MBE/WBE recruitment and involvement in governmental and industrial projects at sites across North America.

Mr. Gadis has over 23 years of overall business experience, with more than 14 years of management experience, and his involvement with the Indianapolis water facilities began back in 1998, working as the Director of Procurement for Indianapolis Water Company. He joined Veolia Water Indianapolis in 2002 on the transition of the water facilities.

**Key Experience:**

- **2013-President: Vice President and Manager – Sales – Municipal & Commercial Group - Veolia North America – Indianapolis, Indiana**
    - Provides leadership for a Sale team and new project development for Veolia's water and energy utility services line in North America.
    - Work has included the development and support for projects under Veolia's Peer Performance Solutions (PPS) approach, including a new project with the DeKalb County, Georgia, Department of Watershed Management (DWM). This work is focused on helping the County identify cost savings and help improve customer service by conducting a comprehensive and independent review of their water and wastewater operations. DWM provides services to 700,000 residents in the Atlanta metropolitan region through its system of water treatment and distribution, customer service, and wastewater collection and treatment.
  - **2010-2013: Vice President – Municipal Sales Group – Veolia Water North America Operating Services, LLC – Indianapolis, Indiana**
    - Provided leadership for the company's sales and development program that has focused on identifying and developing innovative utility operations solutions for major cities in the U.S.
    - Worked as a part of the Veolia Water team for the Operational Excellence (OpX) program with New York City. The work is divided into two phases, with the Veolia Water Team first conducting an initial evaluation and recommendation phase that will result in a final report in 2012 of recommendations on how DEP can improve productivity and reduce costs. Based on that report, DEP has the ability to accept or reject any of the proposed operational changes and cost-saving measures. Improvements that DEP chooses will be implemented over a four-year period.
  - **2008-2010: President – Veolia Water Indianapolis, LLC - Indianapolis, Indiana**
    - Served as the Executive officer for Veolia Water's operations of the City's water systems, under a project that was completed in 2011.
    - Served as a part of the transition management team responsible for managing the transfer of the water operations (owned by the City) to a new owner and operator. The sale of the City's water treatment and supply assets, which serve almost 1 million people in the region, was completed in 2010, and the transition of services was completed in August 2011. The key challenges of that process involved maintaining the levels of service and quality for the customers that rely on the water system, and providing ongoing operations, maintenance and management services as the new owner is allowed to implement its own operations and management approach.
  - **2003-2008: Vice President and Chief Operating Officer – Veolia Water Indianapolis, LLC - Indianapolis, Indiana**
    - Responsible for day-to-day operations of the company, including field services, production, engineering, construction, procurement, risk management, asset management, laboratory services, health and safety, security, IOS9001 and 14001, as well as the company's MBE/WBE program.
  - **2002-2003: Vice President of Shared Services – Veolia Water Indianapolis, LLC - Indianapolis, Indiana**
    - Responsible for procurement, fleet, risk management, warehousing, health and safety, security, and M/WBE development.
  - **2000-2002: Vice President – Water Materials Unlimited (Indianapolis Water Company subsidiary) – Indianapolis, Indiana**
  - **1998-2000: Director of Procurement - Indianapolis Water Company - Indianapolis, Indiana**
-

- Acted as Director of Supply Chain Management, with responsibility for a \$15 million budget, \$8 million in sales, non-regulated business development, and \$7.5 million minority vendor program.
- Responsible for liability and property insurance claims, developing and administering the company's risk goals and objectives, and overseeing the procurement of goods and services.
- **1995-1998: Vice President – Monroe Guaranty Insurance – Indianapolis, Indiana**
  - Responsible for claims management, including \$125 million of claims expenses.
- **1989-1995: Midwest Regional Manager – USF&G Insurance Company – Indianapolis, Indiana**
  - Managed 16 branch office operations, 120 employees and \$200 million in written premiums. Responsible for re-engineering efforts in the company.
- **1984-19889: Senior Claims Adjuster – USF&G Insurance Company – Indianapolis, Indiana**
  - Responsible for handling general liability, auto and property claims, and special investigations.

**Attachment 2**

**Summary Table –**

**Water Treatment Plant O&M Experience**



**Attachment 2. Veolia - Water Treatment Plant O&M Experience Summary**

| <b>Client/Location</b>                                 | <b>Flow</b> | <b>Scope</b>                                                     | <b>Major Process(es)</b>                                                 | <b>Dates</b> |
|--------------------------------------------------------|-------------|------------------------------------------------------------------|--------------------------------------------------------------------------|--------------|
| Ashburnham-Winchendon Joint Water Authority, MA        | 2 MGD       | O&M of Surface Water Treatment Plant                             | Trident Filtration, Microfloc Microfiltration                            | 2001-Ongoing |
| Blackwell, OK                                          | 1.55 MGD    | O&M of Groundwater Treatment Plant                               | Conventional Treatment with Filtration                                   | 2001-Ongoing |
| Brockton, MA                                           | 24 MGD      | O&M of Surface Water Treatment Plants                            | Conventional and GAC Filtration                                          | 1988-Ongoing |
|                                                        | 1.3 MGD     |                                                                  | Upflow Clarification, Direct Filtration, Microfloc Microfiltration       |              |
| Gloucester, MA                                         | 10 MGD      | O&M of (two 5-MGD) Surface Water Treatment Plants                | Conventional Treatment, Rapid Mix, Rapid Sand Filtration                 | 2009-Ongoing |
| Heavener, OK                                           | 3 MGD       | O&M of Surface Water Treatment Plant                             | Clarification, Filtration and Disinfection                               | 1996-Ongoing |
| Latimer County, OK                                     | 0.23 MGD    | O&M of Surface Water Treatment Plant                             | Surface Water Treatment Plant                                            | 2007-2017    |
| Lynn, MA                                               | 15 MGD      | O&M of Surface Water Treatment Plant                             | Rapid Mix Direct Filtration                                              | 1987-Ongoing |
| Leominster, MA                                         | 4 MGD       | Design/Build and O&M for Multiple Surface Water Treatment Plants | Multi-Media Direct Filtration                                            | 1988-Ongoing |
|                                                        | 2 MGD       |                                                                  | GAC Filtration                                                           |              |
|                                                        | 1.2 MGD     |                                                                  | Conventional (Rapid Mix, Upflow Pulsating Clarification, GAC Filtration) |              |
| Sturbridge, MA                                         | 1.6 MGD     | O&M of Groundwater Treatment Plant                               | Iron Removal Plant with Pressure, Greensand, Mixed-Media Filtration      | 1989-Ongoing |
| Westborough, MA                                        | 3.5 MGD     | O&M of Surface and Groundwater Treatment Plants                  | Conventional Treatment, Multi-Media Filtration                           | 1996-Ongoing |
|                                                        | 2 MGD       |                                                                  | Greensand Iron/ Manganese Removal                                        |              |
| City of Atlanta/ Fulton County, GA                     | 90 MGD      | O&M of Surface Water Treatment Plant                             | Conventional Treatment, Declining-Rate Filters                           | 1991-Ongoing |
| Boonville, IN                                          | 2.9 MGD     | O&M of Groundwater Treatment Plants                              | Iron/Manganese Oxidation, Dual-Media Greensand Pressure Filtration       | 1995-Ongoing |
|                                                        | 1.9 MGD     |                                                                  |                                                                          |              |
| Buffalo, NY                                            | 160 MGD     | O&M of Surface Water Treatment Plant                             | Conventional Treatment, Rapid Sand Filtration                            | 2010-Ongoing |
| Canby Utility, OR                                      | 8 MGD       | O&M of Surface Water Treatment Plant                             | Flocculation, Upflow Clarification, Filtration, UV Disinfection          | 2006-2016    |
| Chattahoochee Valley Water Supply District, Lanett, AL | 8 MGD       | O&M of Surface Water Treatment Plant                             | Conventional Treatment, High-Rate, Multi-Media Filtration                | 1994-Ongoing |

**Attachment 2. Veolia - Water Treatment Plant O&M Experience Summary**

| <b>Client/Location</b>                                         | <b>Flow</b> | <b>Scope</b>                                                                  | <b>Major Process(es)</b>                                                                       | <b>Dates</b> |
|----------------------------------------------------------------|-------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------|
| Discovery Bay, CA                                              | 8.21<br>MGD | O&M of<br>Groundwater Treatment Plants                                        | Iron Removal with Sand Filtration                                                              | 2009-Ongoing |
| Edwardsville, IL                                               | 7.78<br>MGD | O&M of<br>Groundwater Treatment Plants                                        | Greensand Filtration and Zeolite Softening                                                     | 1987-Ongoing |
| Hardinsburg, KY                                                | 2<br>MGD    | O&M of<br>Groundwater Treatment Plant<br>and Surface Water Treatment<br>Plant | Reverse Osmosis Filtration of<br>Groundwater                                                   | 1995-Ongoing |
|                                                                | 1.2<br>MGD  |                                                                               | Conventional Treatment, Surface<br>Water Dual-Media Filtration with<br>ClariCone Clarification |              |
| Junction City, KS                                              | 10<br>MGD   | O&M of<br>Groundwater Treatment Plant                                         | Aeration, Lime Softening                                                                       | 1989-Ongoing |
| Matewan, WV                                                    | 0.05<br>MGD | O&M of<br>Surface Water Treatment Plant                                       | Conventional Filtration                                                                        | 2001-Ongoing |
| New London, CT                                                 | 9<br>MGD    | O&M of<br>Surface Water Treatment Plant                                       | Conventional Filtration                                                                        | 2008-Ongoing |
| National Park Service,<br>Elwha River WTP,<br>Port Angeles, WA | 53<br>MGD   | O&M of<br>Surface Water Treatment Plant                                       | Coagulation, Sedimentation                                                                     | 2009-Ongoing |
| Smugglers Notch, VT                                            | 0.15<br>MGD | O&M of<br>Groundwater Treatment Plant                                         | Pressure Vessel Filtration                                                                     | 1985-Ongoing |
| Springboro, OH                                                 | 7<br>MGD    | O&M of<br>Groundwater Treatment Plant                                         | Anthracite Multi-Media Filtration                                                              | 1990-Ongoing |
| Tampa Bay Water, FL                                            | 120<br>MGD  | DBO for Surface Water<br>Treatment Plant (new plant and<br>expansion)         | ACTIFLO Flocculation, Ozonation,<br>Carbon Filtration                                          | 2000-Ongoing |
|                                                                | 30<br>MGD   | O&M of<br>Groundwater Treatment Plant                                         | Hydrogen Sulfide Stripping via<br>Aeration Towers and Scrubbers                                |              |
| Tupelo, MS                                                     | 12<br>MGD   | O&M of<br>Surface Water Treatment Plant                                       | Infilco Filtration Systems                                                                     | 1991-Ongoing |
| Williamson, WV                                                 | 4.2<br>MGD  | O&M of<br>Surface Water Treatment Plant                                       | Direct Filtration & Conventional<br>Filtration (GAC and Multi-Media)                           | 1999-Ongoing |
| Wilsonville, OR                                                | 15<br>MGD   | O&M of<br>Surface Water Treatment Plant                                       | ACTIFLO Flocculation,<br>GAC Filtration Ozonation                                              | 2001-Ongoing |
| Yukon, OK                                                      | 3<br>MGD    | O&M of<br>Groundwater Treatment Plant                                         | Groundwater Treatment Plant                                                                    | 1991-Ongoing |

**Attachment 3**

**Affidavit for Corporate  
Veolia Water North America Operating Services, LLC**



CITY OF FLINT, MICHIGAN

AFFIDAVIT

AFFIDAVIT FOR INDIVIDUAL

STATE OF .....

S.S.

COUNTY OF .....

.....being duly sworn, deposes and says that he is the person making the above bid; and that said bid is genuine and not sham or collusive, and is not made in the interest of or on behalf of any person not therein named, and that he has not directly or indirectly induced or solicited any bidder to put in a sham bid; that he has not directly or indirectly induced or solicited any other person or corporation to refrain from bidding, and that he has not in any manner sought by collusion to secure to himself any advantage over other bidders.

Subscribed and sworn to before me at ....., in said County and State,  
this ..... day of ....., A. D. 20.....,

My Commission expires ....., 20.....  
\*Notary Public, ..... County,.....

FOR CORPORATION \* (Limited Liability Company, LLC)

STATE OF Indiana .....

S.S.

COUNTY OF Marion .....

David M. Gadis ..... being duly sworn, deposes and says  
that he is Senior Vice President of Veolia Water North America Operating Services, LLC  
(Official Title) (Name of Corporation) \*

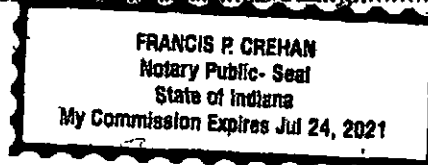
a corporation\* duly organized and doing business under the laws of the State of Delaware (LLC) .....  
the corporation\* making the within and foregoing bid; that he executed said bid in behalf of said corporation\* by authority of its Board of Directors; that said bid is genuine and not sham or collusive and is not made in the interests of or on behalf of any person not herein named, and that he has not and said bidder has not directly or indirectly induced or solicited any bidder to put in a sham bid; that he has not and said bidder has not directly or indirectly induced or solicited any other person or corporation to refrain from bidding; that he has not and said bidder has not in any manner sought by collusion to secure to himself or to said corporation\* an advantage over other bidders.

(Signature)

Subscribed and sworn to before me at Indianapolis ....., in said County and State,  
this 27th ..... day of January ....., A. D. 20 15 .....

\*Notary Public State of Indiana County of Marion

My Commission expires July 24, 2021



**Stanton, Terry A. (Treasury)**

---

**From:** Wurfel, Brad (DEQ)  
**Sent:** Thursday, January 29, 2015 3:15 PM  
**To:** Stanton, Terry A. (Treasury); Murray, David (GOV); Wurfel, Sara (GOV)  
**Cc:** Silfven, Ken; Brown, Jessica (GOV)  
**Subject:** Flint water piece.

In case you guys missed Chastity Pratt's piece today in Bridge...

<http://bridgemi.com/2015/01/cringe-over-troubled-water-flints-smelly-dilemma/>

I've drafted this response. Would like to send it to her yet today. Would like to make sure it doesn't cause any of us undue heartburn. Please review and call me? Thanks!

b

Hi, Chastity. Apologies we did not get to connect as you were preparing your story on Flint water. I understand DEQ staff were able to provide some data.

Overall, well done from a factual perspective. If you decide to revisit the issue, keep me in mind. I'd much like to offer some broader DEQ perspective on our drinking water program and this situation in particular. Some key pieces that folks should know include these:

1. The decision to leave Detroit as a water supplier and use the Flint River was developed and pushed by Flint's local elected officials – over the concerns of state officials. Ultimately, the state signed off on the project (as required because of the EFM) – but consider that Genesee County still gets water from Detroit today, without a contract. This switch wasn't mandated by Detroit, or the state, or anyone but the leadership in Flint, and was proposed as a money saver until the KWA system comes online.
2. The idea that the state owns Flint's water woes outright because of the presence of an EFM ignores that much of this problem is the result of decades of the city failing to perform upkeep on their system. Someone might even argue that the absence of a maintenance fund for infrastructure is just one more symptom of a broader problem that resulted in an EFM assigned to keep the city from financial crash. It's worth noting that the city was approved for a DEQ revolving fund loan in 2009, and DEQ sent a letter congratulating them, only to have the city decline the funding. Seen in that light, the city's proposed solution of state forgiveness on the \$20.7 million it presently owes to the State Revolving Fund and an infusion of new, no-strings money for maintenance and line repairs looks, arguably, different.
3. The heart of the problem isn't just because Flint's leaders decided to use the Flint River as a source. It's true that the river water varies in quality, and requires a flexible

treatment strategy to address seasonal fluctuations, but the water aesthetics concerning residents in Flint are compounded by the fact that the system is old and has not been kept up. Flint's water system consists of more than 500 miles of pipes, and more than half of those pipe miles are more than 75 years old. Much of it is cast iron (hence the color issues). The hardness of the water from the river certainly appears to be exacerbating the (rusting) discoloration. It's why GM pulled off Flint's water.

4. The Safe Drinking Water Act, and Michigan's drinking water program, regularly and rigorously reviews municipal water supplies for more than 90 different toxins, including microbial ones. The objective is comprehensive screening that keeps water quality up and mandatory reporting to help customers make informed health decisions when there's an issue, whether that's an immediate health threat (like e. coli or total coliform) or a long-term potential threat like TTHM. But it is the Safe Drinking Water Act, not the Clear Drinking Water Act. The program does not regulate water for aesthetics like color or smell.
5. We empathize with Flint residents who are unhappy with their water. They pay a lot for it, and in some cases it is not the clear, tasteless product one might anticipate. But our goal at DEQ is to make sure the system operators are testing the water according to state and federal law, and that it meets safety standards. Recent testing indicates that the TTHM levels are dropping rapidly, and we will continue to work with the city to protect water customers in the days, months and years ahead.

Thanks,  
b

Brad Wurfel  
Communications Director  
Michigan Department of Environmental Quality  
517-284-6713  
517-230-8006 cell

## Koryzno, Edward (Treasury)

---

**From:** Koryzno, Edward (Treasury)  
**Sent:** Thursday, January 29, 2015 4:33 PM  
**To:** Dempkowski, Angela (Treasury)  
**Subject:** FW: Call with Jerry Ambrose

Please schedule a meeting with Jerry for tomorrow afternoon.



Edward B. Koryzno, Jr. | Director - Bureau of Local Government Services  
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922  
(517) 373-4415 | (517) 373-0633 (fax)  
[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)



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*Thank you*

---

**From:** Byrne, Randall (Treasury)  
**Sent:** Thursday, January 29, 2015 3:57 PM  
**To:** Koryzno, Edward (Treasury)  
**Subject:** Call with Jerry Ambrose

Ed:

I have some time tomorrow afternoon for a call with you and Jerry on the Flint water situation, if you would have Angela schedule it.

Thanks,  
Randy,



Randall Byrne | State Administrative Manager  
Local Government Services - Office of Fiscal Responsibility  
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922  
(517) 335-2521 | (517) 373-0633 (fax) | [ByrneR1@michigan.gov](mailto:ByrneR1@michigan.gov)

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## Koryzno, Edward (Treasury)

---

**From:** Byrne, Randall (Treasury)  
**Sent:** Friday, January 30, 2015 11:08 AM  
**To:** Koryzno, Edward (Treasury)  
**Cc:** Workman, Wayne (TREASURY)  
**Subject:** FW: Independent Water Analysis  
**Attachments:** Independent Water Analysis.PDF

Ed:

We should have an interesting conversation with Jerry today. I am curious about this lab's technical expertise.

Randy,

**From:** Maxine Murray [<mailto:mmurray@cityofflint.com>]  
**Sent:** Friday, January 30, 2015 9:34 AM  
**To:** Koryzno, Edward (Treasury); Byrne, Randall (Treasury)  
**Cc:** Jerry Ambrose; Dempkowski, Angela (Treasury)  
**Subject:** Independent Water Analysis

Good morning,

Emergency Manager Ambrose requested I send the attached information.

Thank you.

--

Maxine Murray  
Executive Assistant to  
Mayor Dayne Walling  
Gerald Ambrose, Emergency Manager  
1101 S. Saginaw Street  
Flint, MI 48502  
810.237.2035 Telephone  
810.766.7218 Fax

**Stanton, Terry A. (Treasury)**

---

**From:** Stanton, Terry A. (Treasury)  
**Sent:** Friday, January 30, 2015 11:09 AM  
**To:** Wurfel, Sara (GOV); Murray, David (GOV); Wurfel, Brad (DEQ)  
**Cc:** Brown, Jessica (GOV); Silfven, Ken (GOV); Sampson, Jeremy (TREASURY)  
**Subject:** FW: Independent Water Analysis  
**Attachments:** Independent Water Analysis.PDF  
  
**Importance:** High

Please see the attached. Not entirely sure how useful this could be overall, but at the very least it can be shared with others as an FYI—from an apparent independent perspective.

**From:** Maxine Murray [<mailto:mmurray@cityofflint.com>]  
**Sent:** Friday, January 30, 2015 9:34 AM  
**To:** Koryzno, Edward (Treasury); Byrne, Randall (Treasury)  
**Cc:** Jerry Ambrose; Dempkowski, Angela (Treasury)  
**Subject:** Independent Water Analysis

Good morning,

Emergency Manager Ambrose requested I send the attached information.

Thank you.

--

Maxine Murray  
Executive Assistant to  
Mayor Dayne Walling  
Gerald Ambrose, Emergency Manager

## Cline, Richard (Treasury)

---

**From:** Workman, Wayne (TREASURY)  
**Sent:** Friday, January 30, 2015 11:31 AM  
**To:** Byrne, Randall (Treasury); Cline, Richard (Treasury)  
**Subject:** FW: Independent Water Analysis  
**Attachments:** Independent Water Analysis.PDF

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**From:** Koryzno, Edward (Treasury)  
**Sent:** Friday, January 30, 2015 9:58 AM  
**To:** Workman, Wayne (TREASURY)  
**Cc:** Dempkowski, Angela (Treasury)  
**Subject:** FW: Independent Water Analysis

Good news, but unfortunately perception is reality.



Edward B. Koryzno, Jr. | Director - Bureau of Local Government Services  
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922  
(517) 373-4415 | (517) 373-0633 (fax)  
[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)



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*Thank you*

**From:** Maxine Murray [<mailto:mmurray@cityofflint.com>]  
**Sent:** Friday, January 30, 2015 9:34 AM  
**To:** Koryzno, Edward (Treasury); Byrne, Randall (Treasury)  
**Cc:** Jerry Ambrose; Dempkowski, Angela (Treasury)  
**Subject:** Independent Water Analysis

Good morning,

Emergency Manager Ambrose requested I send the attached information.

Thank you.

---

Maxine Murray

**Koryzno, Edward (Treasury)**

---

**From:** Gerald Ambrose <gambrose@cityofflint.com>  
**Sent:** Friday, January 30, 2015 4:39 PM  
**To:** Byrne, Randall (Treasury); Koryzno, Edward (Treasury); Workman, Wayne (TREASURY)  
**Subject:** Fwd: Independent Water Analysis  
**Attachments:** Independent Water Analysis.PDF

----- Forwarded message -----

**From:** Gerald Ambrose <gambrose@cityofflint.com>  
**Date:** Fri, Jan 30, 2015 at 9:38 AM  
**Subject:** Fwd: Independent Water Analysis  
**To:** Kelly Rossman-McKinney <krossman@truscottrossman.com>

Channel 12 story....

----- Forwarded message -----

**From:** "Maxine Murray" <mmurray@cityofflint.com>  
**Date:** Jan 30, 2015 9:27 AM  
**Subject:** Independent Water Analysis  
**To:** "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>  
**Cc:** "Jerry Ambrose" <gambrose@cityofflint.com>, "Stacie (GOV) Clayton" <claytons3@michigan.gov>

Good morning Mr. Hollins:

Emergency Manager Ambrose asked me to send the attached information.

Thank you.

--

Maxine Murray  
Executive Assistant to  
Mayor Dayne Walling  
Gerald Ambrose, Emergency Manager  
1101 S. Saginaw Street  
Flint, MI 48502  
810.237.2035 Telephone  
810.766.7218 Fax



## Waste Water Flow Device

Hand Held Industrial Measurement With Clamp-On Sensors & Switches



### ABC12 Investigates: What's in your water?

Posted: Jan 29, 2015 3:38 PM EST

Updated: Jan 29, 2015 11:54 PM EST

By Larry Elliott **CONNECT**

**FLINT (WJRT) - (01/29/15) -** The results are in and we now have a completely independent look at what's in Flint's water supply.

For months, since Flint switched from a Detroit water supply to the Flint River as its water source, Flint water customers have complained of smelly, cloudy, bad tasting water and blame it for a variety of health problems.

Complaints exploded earlier this month when Flint notified its water customers that a group of chemicals known as TTHM were at much higher average levels than allowed by law.

With so many questions and distrust of the answers, ABC12's Larry Elliott investigates - What's in your Water?

It seems no matter who you ask in the Flint area, there's an opinion about the city's water. Most of the issues center on the quality of the water and whether it's safe to drink.

"Right now it smells," said Flint resident Lee Miller. "We're getting water out of our own back yard now and it's costing me double what it was coming from Detroit."

"It has a funny taste to it," said Flint resident Milton Alexander.

"It could be dangerous to us, actually I don't know how dangerous it is," said Flint resident Sharika Sanders.

"I'm no cheerleader for the water department here, I think we've got a lot of issues to work on," Ken VanWagoner, of Good Beans Cafe - Flint.

Most of the issues center on the quality of the water and whether it's safe to drink, but concern over its safety reached a new high earlier this month when the city was required by the state Department of Environmental Quality to notify residents that the water had exceeded the allowable limit of a group of chemicals known as TTHM.

TTHM is in most municipal water systems and is thought by some to be a possible carcinogen in long term exposure.

It's a byproduct of chlorination, which is commonly used to help purify water. Last August, as Flint's water treatment plant worked to purify the water it was drawing from the Flint River, levels of TTHM grew to well over the EPA allowed maximum.

August test results provided by the DEQ to ABC12 show all of the eight testing sites around Flint had TTHM levels well above the legal limit.

The lowest level among the eight sites was 40 percent above the legal limit. The highest was 145 percent

more than allowed.

DEQ rules only require the city to report higher than allowed levels to the public once a year, and only if the average of quarterly tests is higher than the legal limit.

That notification went out to residents on Jan. 5. Since then, many residents have refused to believe assurances from the DEQ and the city that the water is now safe to drink.

So, we set out to do complete and independent testing to find out for ourselves exactly what's in your water.

It took a bit of research, but we finally found Water Tech, in Howell, a testing lab with absolutely no ties to Flint, just to make sure there are no questions about the test results.

After having Water Tech train ABC12's Larry Elliott on the proper methods for collecting water samples, we set out last week to randomly test five sites in Flint.

#### 1. Downtown.

"I'm excited to see this done because this is an independent way to find out that everything's just fine," VanWagoner said.

#### 2. The north side.

"We'd like to do kind of a whole battery of tests of your water. Oh yeah," Alexander said.

#### 3. The west side.

"It could be dangerous to us. How about if we help you find out what's in it right now?" Sanders said.

#### 4. The east side.

"I'm hoping for a good test and put my family at ease," Miller said.

#### 5. Our main studio, on the south side.

We also wanted to compare whatever we're to find with Detroit supplied water, so we took a sample from the Burton water system.

Since next year Flint will connect to the new KWA pipeline, getting its water from Lake Huron, we took a comparison sample from the Saginaw-Midland water system, which currently uses Lake Huron water.

We tested all the sites for levels of TTHM. We also tested how much residual chlorine was in the Flint and Burton water supply and more importantly, we tested at two of our Flint sites for a number of other hazardous chemicals that could cause skin or other health problems.

Tests for those other chemicals are not required for public water systems, but we decided to run those tests anyway.

Here's what our independent testing shows:

All sites tested, including the Saginaw-Midland water system and the Burton system, using Detroit water, contained TTHM - but all of them were well below the EPA allowed maximum.

Saginaw-Midland water had less than a third of the maximum TTHM allowed, the Burton system had only about 25 percent of the maximum and the highest level found of all of our Flint tests showed just over 65 percent of what's allowed, all below EPA limits.

A similar byproduct of chlorination, haloacetic acids, was also well below EPA maximums in Flint's water.

We tested Flint's north and east water samples for many other hazardous chemicals that a doctor told us could cause skin or other health problems, and on both tests, not a single one of those chemicals was detected.

Since most often any smell to the water would be caused by levels of total residual chlorine, we tested that too, in both our Flint and Burton samples.

The legal limit is 4 milligrams per liter. The average of our Flint samples shows a level of about a half milligram per liter. Our test in Burton actually shows 22 percent more residual chlorine than Flint.

Our Flint sample also showed no Coliform bacteria.

We asked Chris McCarthy, of Water Tech, a few questions.

Q: How would you describe these test results?

A: "Well, for the samples received, the tests we performed, everything is within EPA guidelines for safe drinking water."

Q: Is there anything in these results that raises a red flag for you?

A: "For water quality or water safety, No."

We then asked residents if these results change their opinion of what they'll do with their water now.

"To be honest, no," Alexander said.

"It will make me feel a lot more comfortable about bathing and brushing my teeth in it, but I'm still not going to drink it and I'm not gonna give it to my kids or my dog," Sanders said.

"It makes me feel a lot more safer, a lot more comfortable knowing that it's safe to drink now, you know. I'll tell you a load lifted off my shoulders. When the kids take baths, when my wife takes a shower, you know, I know now we're safe," Miller said.

So what about those who've stood before Flint City Council with jugs of discolored water?

While Genesee County Drain Commissioner Jeff Wright points out he has no jurisdiction over Flint's water system, he says in general, discolored water like this is nearly always the result of water main breaks or repairs, and Flint has more than its share because of its aging system.

Wright also says the KWA pipeline won't change that. It will take better management of repairs and money - lots of it - to replace Flint's aging water mains.

Unfortunately for the city of Flint, those very high levels of TTHM recorded last August in Flint water tests are still required by the DEQ to be included in the next report calculating average TTHM levels.

The next test will be done next week, and city Public Works Director Howard Croft tells ABC12, because of the high levels last August, the city will again be found in violation and will be required by the DEQ to send out another TTHM notice of violation to all Flint water customers in early March, even if all new tests show levels under the legal limit.

To view the TTHM testing results from the Michigan DEQ, click [HERE](#).

To view the results of ABC12's water tests, click on the location you'd like to see results for below:

[Flint Center](#)

[Flint North](#)

[Flint East](#)

[Flint South](#)

[Flint West](#)

[Burton](#)

[Saginaw-Midland](#)

To view the Michigan DEQ results for South Flint, click [HERE](#).

## Lamphier, Wendy (Treasury)

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**From:** Gelisse, Ashley (TREASURY)  
**Sent:** Friday, January 30, 2015 11:44 AM  
**To:** Workman, Wayne (TREASURY)  
**Subject:** RE: Independent Water Analysis

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Thanks for sending, this is a great article. I agree that we should send this out ... just so I'm clear, are you asking Tom or I to handle the transmittal? Happy to do so, just let me know who would be the best contact in the G's office (Dennis?). Maybe Howard/Paul can send to the legislators.

Just making sure we're on the same page for next steps. Thanks.

Ashley

---

**From:** Workman, Wayne (TREASURY)  
**Sent:** Friday, January 30, 2015 10:46 AM  
**To:** Saxton, Thomas (Treasury); Gelisse, Ashley (TREASURY); Stanton, Terry A. (Treasury)  
**Cc:** Koryzno, Edward (Treasury)  
**Subject:** FW: Independent Water Analysis

This should get to the Gov's office and Flint legislators. It is a breath independent logic

---

**From:** Koryzno, Edward (Treasury)  
**Sent:** Friday, January 30, 2015 9:58 AM  
**To:** Workman, Wayne (TREASURY)  
**Cc:** Dempkowski, Angela (Treasury)  
**Subject:** FW: Independent Water Analysis

Good news, but unfortunately perception is reality.



Edward B. Koryzno, Jr. | Director - Bureau of Local Government Services  
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922  
(517) 373-4415 | (517) 373-0633 (fax)  
[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)



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Thank you

**From:** Maxine Murray [<mailto:mmurray@cityofflint.com>]  
**Sent:** Friday, January 30, 2015 9:34 AM  
**To:** Koryzno, Edward (Treasury); Byrne, Randall (Treasury)

## **Koryzno, Edward (Treasury)**

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**From:** Workman, Wayne (TREASURY)  
**Sent:** Friday, January 30, 2015 5:00 PM  
**To:** Byrne, Randall (Treasury); Cline, Richard (Treasury); Koryzno, Edward (Treasury)  
**Subject:** Fwd: Veolia Proposal to City of Flint - Invitation to Bid - Proposal No.: 15-573  
**Attachments:** Veolia-RESPONSE-ITB-PROPOSAL-Flint--1-29-2015.pdf; ATT00001.htm

Can you figure cost and scope of work from all this?

Sent from my iPad

Begin forwarded message:

**From:** "Gerald Ambrose" <[gambrose@cityofflint.com](mailto:gambrose@cityofflint.com)>  
**To:** "Byrne, Randall (Treasury)" <[ByrneR1@michigan.gov](mailto:ByrneR1@michigan.gov)>, "Koryzno, Edward (Treasury)" <[KoryznoE@michigan.gov](mailto:KoryznoE@michigan.gov)>, "Workman, Wayne (TREASURY)" <[WorkmanW@michigan.gov](mailto:WorkmanW@michigan.gov)>  
**Subject:** Fwd: Veolia Proposal to City of Flint - Invitation to Bid - Proposal No.: 15-573

Veolia

----- Forwarded message -----

**From:** Elizabeth Murphy <[emurphy@cityofflint.com](mailto:emurphy@cityofflint.com)<<mailto:emurphy@cityofflint.com>>>  
**Date:** Fri, Jan 30, 2015 at 4:34 PM  
**Subject:** Fwd: Veolia Proposal to City of Flint - Invitation to Bid - Proposal No.: 15-573  
**To:** Gerald Ambrose <[gambrose@cityofflint.com](mailto:gambrose@cityofflint.com)<<mailto:gambrose@cityofflint.com>>>

Attached to this thread is the Veolia Proposal for Flint.

LIZ

----- Forwarded message -----

**From:** Derrick Jones <[djones@cityofflint.com](mailto:djones@cityofflint.com)<<mailto:djones@cityofflint.com>>>  
**Date:** Thu, Jan 29, 2015 at 3:35 PM  
**Subject:** Fwd: Veolia Proposal to City of Flint - Invitation to Bid - Proposal No.: 15-573  
**To:** Elizabeth Murphy <[emurphy@cityofflint.com](mailto:emurphy@cityofflint.com)<<mailto:emurphy@cityofflint.com>>>

Please find attached an electronic version of the proposal from Veolia that was requested. Please disseminate to the appropriate parties. Thanks.

----- Forwarded message -----

**From:** Crehan, Frank <[frank.crehan@veolia.com](mailto:frank.crehan@veolia.com)<<mailto:frank.crehan@veolia.com>>>  
**Date:** Thu, Jan 29, 2015 at 3:32 PM  
**Subject:** Veolia Proposal to City of Flint - Invitation to Bid - Proposal No.: 15-573  
**To:** [djones@cityofflint.com](mailto:djones@cityofflint.com)<<mailto:djones@cityofflint.com>>  
**Cc:** David Gadis <[david.gadis@veolia.com](mailto:david.gadis@veolia.com)<<mailto:david.gadis@veolia.com>>>, Jonathan Carpenter <[jonathan.carpenter@veolia.com](mailto:jonathan.carpenter@veolia.com)<<mailto:jonathan.carpenter@veolia.com>>>

Mr. Jones:

Thank you for your call today regarding our Proposal response.

Attached please find the requested PDF (digital) copy of our complete Proposal that was delivered to you in hard copy form yesterday.

If you need anything else in this regard, or require any additional information, you may contact me or Mr. Gadis.

Mr. Gadis can be reached as follows:

- \* Telephone: 317/716-5863
- \* Email: [david.gadis@veolia.com](mailto:david.gadis@veolia.com)<<mailto:david.gadis@veolia.com>>

My contact information is provide below.

Regards,

--

Francis P. Crehan  
Vice President - Proposal Development  
Veolia North America Operating Services, LLC  
101 West Washington Street, Suite 1400 East  
Indianapolis, Indiana 46204

E-Mail: [frank.crehan@veolia.com](mailto:frank.crehan@veolia.com)<<mailto:frank.crehan@veolia.com>>  
Telephone: 317-917-3718  
Fax: 317-686-9519 (Or same as phone number - 317-917-3718)  
Cell: [REDACTED]

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Derrick Jones,  
Purchasing Manager  
City of Flint  
1101 S. Saginaw St., Rm. 304  
Flint, MI 48502  
Ph: 810-766-7340 #2  
Fax: 810-766-7240

--

Liz Murphy  
Assistant to the Emergency Manager

**Stanton, Terry A. (Treasury)**

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**From:** Stanton, Terry A. (Treasury)  
**Sent:** Friday, January 30, 2015 5:25 PM  
**To:** Wurfel, Brad (DEQ)  
**Subject:** Re: Finalized working Backgrounder on Flint

Hey big shooter...

Can you call me when you have a moment?

[REDACTED]

Thx

TS

On Jan 30, 2015, at 2:48 PM, Wurfel, Brad (DEQ) <[WurfelB@michigan.gov](mailto:WurfelB@michigan.gov)> wrote:

In case either of you needs to know what DEQ is saying about the TTHM situation and overall Flint water issues.

b

Brad Wurfel  
Communications Director  
Michigan Department of Environmental Quality  
517-284-6713  
517-230-8006 cell

<Flint water backgrounder.docx>

## **Stanton, Terry A. (Treasury)**

---

**From:** Murray, David (GOV)  
**Sent:** Friday, January 30, 2015 6:05 PM  
**To:** Muchmore, Dennis (GOV); Clement, Elizabeth (GOV); Stanton, Terry A. (Treasury); Saxton, Thomas (Treasury); Walsh, John (GOV); Brownfield, Michael (GOV); Allard, Claire (GOV); Wurfel, Brad (DEQ); Posthumus, Dick (GOV); Hollins, Harvey (GOV); Clayton, Stacie (GOV); Agen, Jarrod (GOV); Wurfel, Sara (GOV); Biehl, Laura (GOV)  
**Cc:** Wisniewski, Wendy (GOV); Rospond, Laurie (GOV)  
**Subject:** Backgrounder on Tuesday Flint water event  
**Attachments:** Briefing Flint grant announcement.docx

Team,

Here is background on the planned Tuesday event in Flint regarding the \$2 million Distressed Cities grant and other issues connected to the water issue.

There are plans for two press releases on Tuesday. The first will detail the two Flint grants and will be released by the governor's communications office. The other release, which would detail the other grants, would follow from Treasury with a quote from the governor.

Mayor Walling has agreed to speak at the event, with Harvey Hollins and Dan Wyant representing the governor's office. Sen. Ananich has asked to speak, and it has been suggested that Rep. Neeley would speak and it might be better to add him to the program. Others, such as Deputy Director Workman and Emergency Manager Ambrose, would be present and available.

The attached document includes details about the planned event, as well as background on the grants from Treasury and on the entire water issue from DEQ as well as Mayor Walling's Facebook post about the governor and links to the stories in the media about the issue.

We have a room reserved and are working with the communications team in Flint to have microphones and other items needed for the event.

Please let me know if there is any information you think should also be included, or anything that should be changed. Once everyone has had the opportunity to review, we can forward to the governor.

Thank you, everyone, for your assistance. I know there are lots of moving pieces and many people involved.

Dave

**Dave Murray**

Deputy Press Secretary | Executive Office of Governor Rick Snyder

[MurrayD1@michigan.gov](mailto:MurrayD1@michigan.gov)

517-335-6397, office

██████████ mobile

Twitter: @michigandmurray

## **Briefing: Grant announcement in Flint**

Tuesday, Feb. 3, 2015, 3-4 p.m.

Haskell Community Center, 2201 Forest Hills Ave. Flint

Governor's communications: Dave Murray, [murrayd1@michigan.gov](mailto:murrayd1@michigan.gov), 517-██████████

DEQ communications: Brad Wurfel, [wurfelb@michigan.gov](mailto:wurfelb@michigan.gov), 517-██████████

Treasury communications: Terry Stanton, [stantont@michigan.gov](mailto:stantont@michigan.gov), 517-██████████

### **Purpose**

The state government is providing support for the Flint government as it addresses issues with its water system. The state on Tuesday is announcing that Flint is receiving two grants totaling \$2 million related to water system improvements through the Financially Distressed Cities, Villages and Townships grant program. DEQ Director Dan Wyant will address ongoing efforts with his agency to test Flint water and explain why the city is facing some of its problems. Senate Minority Leader Jim Ananich, D-Flint, will discuss his appreciation for the ongoing support for the city and its residents.

### **Attending**

- Harvey Hollins, director of the Michigan Office of Urban Initiatives
- Dan Wyant, director of the Michigan Department of Environmental Quality
- Wayne Workman, deputy treasurer, Michigan Department of Treasury
- Jerry Ambrose, Flint emergency manager
- Dayne Walling, Flint mayor
- State Sen. Jim Ananich
- State Rep. Sheldon Neeley
- State Rep. Phil Phelps

### **Agenda**

- |                    |                                                                                                                                                      |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3:00 PM – 3:05 PM: | Harvey Hollins announces that Flint has received two grants totaling \$2 million.                                                                    |
| 3:05 PM – 3:10 PM: | Dan Wyant discusses the state's ongoing role in monitoring Flint's water and any assistance that has been provided and will continue to be provided. |
| 3:10 PM – 3:15 PM: | Mayor Dayne Walling remarks about appreciation for state assistance.                                                                                 |
| 3:15 PM – 3:20 PM: | Sen. Jim Ananich remarks about appreciation for state assistance.                                                                                    |
| 3:20 PM – 3:25 PM: |                                                                                                                                                      |
| 3:25 PM – 3:35 PM: | Harvey Hollins closing remarks, opens floor to media questions.                                                                                      |
| 3:35 PM            | Event ends, though this might be optimistic.                                                                                                         |

### **Background**

- The quality of Flint water has been a high-profile concern in recent weeks, with residents complaining about the color, taste and smell of tap water since a switch to Flint River water as a temporary source as a pipeline is built to Lake Huron as a water source starting in 2016.
  - Residents have attended meetings with jugs of brownish water.
  - U.S. Kildee has worked with labor and community groups to distribute bottled water.

- Mayor Walling has issued a letter (included below) calling for state and federal assistance for the city, including forgiveness of some \$20 million in debt through the Drinking Water Revolving Loan Fund and calling for the governor to come to Flint personally.
  - Walling also submitted a guest column to the Flint Journal with similar requests.
    - He said the loan forgiveness is needed for the city to upgrade its water treatment process.
  - Governor and Mayor Walling had a telephone conversation on Friday, and the mayor has pledged to work together on solutions.
  
- Rep. Sheldon Neeley also has sent the governor a letter, saying that his constituents “are on the verge of civil unrest.”
  
- The Department of Environmental Quality has been monitoring the water situation, with a detailed backgrounder and talking points attached below.
  
- The Treasury Department is announcing Tuesday that Flint is among the cities receiving a combined \$8 million the Financially Distressed Cities, Villages and Townships grant program.
  - The announcement of the other grants will follow the Flint announcement.
    - The Flint grants are \$1.1 million to allow the city to replace the functions of the old incinerator with new water pollution control facility allowing for the disposal of waste to landfills.
    - The other is \$900,000 to allow the city to hire a contractor to perform a leak detection survey, which will lead to prioritizing repairs.
  - A breakdown of the grants is included below.

#### **Treasury breakdown of Flint grants**

Flint Incinerator: The grant project entails shutting down the current Water Pollution Control Facility Incinerator (due to the incinerator not being up to new EPA standards). In order to meet EPA standards, it would cost roughly \$8.8M in upgrades to the current incinerator. The grant funding will allow them to replace the functions of the old incinerator by constructing new facilities which will allow for the disposal of waste to landfills.

#### **Budget Breakdown**

|                         |                 |
|-------------------------|-----------------|
| Construction Contractor | \$1,050,000     |
| Project Management      | <u>\$50,000</u> |
| Total                   | \$1,100,000     |

Flint Leak Detection: The grant project will allow the city to hire a contractor to perform a leak detection survey of the city water lines. The city will receive a map of leak locations and an assessment of leak severity. This data will allow the city to prioritize leak repair. The project also covers the expense of conducting a water pipe line wall thickness condition assessment on a portion of the city’s pipes. The assessment will guide the city’s water main replacement program.

#### **Budget Breakdown**

|                               |           |
|-------------------------------|-----------|
| Project Planning              | \$90,000  |
| Mobilization of Crew to Site  | \$27,000  |
| Leak Detection < 16” diameter | \$378,000 |

|                                  |                  |
|----------------------------------|------------------|
| Leak Detection 16" diameter or > | \$270,000        |
| Pipe Condition Assessments       | <u>\$135,000</u> |
| Total                            | \$900,000        |

#### **DEQ backgrounder on Flint water**

Following the formal approval of Flint into the KWA in 2012, DWSD sent Flint a letter saying their contract was thereby terminated (by early 2013).

Genesee County has been using DWSD water without a contract since May 2014. But Flint took the letter to imply a water cutoff, and promptly turned to DEQ with a proposal to use the Flint River (their historic backup system).

This proposed shift was pitched primarily as a money saver. But it put the city in the business of water production, where they historically had been in the business of water transmission. DEQ approved the use of the river as a source, based on the treatment plant's past performance as a standby facility and the improvements we outlined prior to a switchover.

Several municipalities around the state use surface water supplies (rivers): Blissfield near Monroe, Manistique, and Alma to name a few.

The city completed the upgrades at the water plant the facility and DEQ approved it April 2014.

There were some initial hiccups. Last summer, there were a couple of 'boil water' notices issued. One for a water test that showed e. coli, one for a break in the water main.

The challenge to using the Flint River as a source is that the condition of the water is variable and changes with season and weather. It has substantially more organic matter than deep lake sources like Lake Huron. This organic matter is mobilized by high water events, and warm weather also can account for more organic material in the water.

The treatment of the organic matter is done with chlorine. One might conclude that the continual answer is just to use more chlorine to achieve water safety. However, at some point on the continuum, the chlorine and organic matter create TTHM – total trihalomethanes – as a byproduct. When the standard for those is exceeded over several consecutive quarters of testing, the supply is required by law to issue public notice and submit an approved plan for addressing the situation.

You'll note that this regulatory approach means TTHM testing is done quarterly. That means people who use the system are exposed to TTHM for several months before the public notice is required. It's because TTHM is a chronic health threat. Over the long term (measured in decades), continued exposure can contribute to some known health problems. If this were an immediate health threat, customers would receive immediate notification to boil their water or not use it.

Put in context, the EPA (which established the standard and the rule) estimates the existence of the TTHM standard prevents an estimated 280 bladder cancer cases each year ... out of more than 330 million people who use public water supplies around the country.

It's not "nothing." State and federal law requires quarterly testing for TTHM and that the public be informed of it when the annual average of four quarters' worth of consecutive testing shows TTHM

levels exceeding 80 parts per billion. Flint's results managed to exceed the annual average in three quarters, and they must develop a plan to address it.

But it's not like an eminent threat to public health. Unlike an e. Coli or even total coliform bacteria maximum contaminant level, which require immediate public notification and response and are part of daily / hourly testing of public water supplies, TTHMs pose a public health concern with chronic, long-term exposure.

It's clear the nature of the threat was communicated poorly. It's also clear that folks in Flint are concerned about other aspects of their water – taste, smell and color being among the top complaints.

The Safe Drinking Water Act requires public water supplies be tested for more than 90 regulated contaminants, including microbial contaminants. The act, and the program here in Michigan, work to ensure that water is safe to drink. The act does not regulate aesthetic values of water. Here are some factors affecting the aesthetics of water in Flint.

1. It's the Flint River. The water supplied by DWSD historically came from Lake Huron. It's softer. With hard water, you get a different flavor and feel. It's why General Motors suspended use of Flint Water – it was rusting their parts. Also, there's the 'organics' factor (discussed previously).
2. The system is old. Flint has more than 500 miles of water pipes. More than half of those pipe miles are more than 75 years old. Much of it is cast iron. Hard water can react with cast iron and exacerbates the rusty factor, which creates that brown water that angry residents were holding up in jugs for the media cameras last week. Valve failure has also been a key challenge. The system has an estimated 7,500+ valves. When they stick open or stick shut, it affects the hydraulics of the system and increase areas of stagnation. The city has a backlog of valves that need to be addressed. They've done half a dozen or so since November.
3. Flint is old. Many of the homes served by the system are old. Brown water complaints may also be attributable to cast iron pipes in customers' service connection to the city lines. The DEQ has been encouraging people with water coloration concerns to contact the city and see whether it is the service line or the City's line causing the issue. Again, discoloration is not an indicator of water quality or water safety, but we recognize that nobody likes it.

**In summary**, the City of Flint has tremendous need to address its water delivery system. We are not aware that they have any capital improvement funds for preventative maintenance in place, much less line replacement project monies that will require hundreds of millions.

The City was approved for a Revolving Fund loan in 2008 or 2009. As a Distressed Community, they qualified for flexible terms and 2 percent interest rate Revolving Fund Loan. After they were notified they were approved for the loan, they declined it. Previous SRF loans from the state to Flint bear an outstanding balance of \$20.7 million today.

The DEQ continues working with the city to address the TTHM issue. They can take interim steps – from scrubbing the insides of transmission lines to carefully monitoring the hydraulic challenges in their system – to address customers' aesthetic concerns. Their TTHM numbers already are showing dramatic improvement; the November testing showed only one of seven sample points exceeding the standard.

The key now is that the standard is an average of three quarters' worth of results. It will be some time before they are officially "not in violation." However, depending on weather in 2015, it's not unforeseeable that we will be having this conversation again by next Christmas.

The key to the conversation is that TTHM is not a top health concern. That's key because residents need to understand TTHM in context, and it is key because it appears the mayor has seized on the public panic (sparked, frankly, by their poor communication of the violation notice) to ask the state for loan forgiveness and more money for their infrastructure improvement.

Another key thing to remember is that once the city connects to the new KWA system in 2016, this issue will fade in the rearview.

**Key messages:**

1. The DEQ Drinking Water program works with communities around the state to ensure that municipalities provide customers with clean, safe drinking water.
2. Municipal water supplies are tested rigorously and regularly for more than 90 regulated contaminants, including microbial contaminants that pose an immediate public health concern.
3. Flint's exceedance of the TTHM standard should reassure residents that the testing program is effective.
4. TTHM is not an immediate health threat. It is a chronic concern, one that can be problematic over the course of several decades of exposure. The public was notified because the law requires the city to make public notification, so that everyone can make informed decisions. This is particularly true for people with infants or those with compromised immune systems.
5. The DEQ is working with the City to address the situation. Recent tests show the TTHM numbers dropping rapidly. The department will continue working with the city in the months ahead, and residents should feel confident that their water is safe to drink unless the DEQ or City notifies them otherwise.
6. The discoloration and odor issues some Flint residents are experiencing are separate issues from the TTHM issue. TTHM is odorless, colorless and measured in parts per billion.
7. Flint water customers who have questions or concerns about their water should first contact the city to get answers and help. They also can contact the Michigan DEQ.

**Mayor Walling's Facebook post**

Friend,

Access to clean, safe, affordable water is a basic human right.

That's why I just sent Gov. Snyder my Flint Water Improvement Plan. It focuses on the areas of safety, quality, access, investment and education. My letter urges the governor to quickly implement these ideas so that Flint's water is 100% safe.

Please contact Gov. Snyder by calling (517) 335-6397 (or by clicking [here](#)) and ask him to take action immediately to implement my plan and ensure Flint's water is safe.

My plan offers new ideas and also builds on successful models of utility, energy and assistance programs at the state and federal levels. Here is my plan:

**Safety & Quality**

- 100% Safety is the standard

- City of Flint releases testing data to assure safety and expands testing to households with support from the Michigan Department of Environmental Quality
- Support alternatives for those advised not to drink the water by their doctors through the Michigan Health Endowment Fund and community partners to protect the vulnerable like seniors and infants
- Bring on experienced river water treatment operational management in the City of Flint
- Require water testing data to be released quarterly by law in all Michigan communities

#### Access

- Announce an amnesty program for turn-ons and reduce the turn-on cost in Flint
- Develop a revised payment plan policy to allow customers to come back on to the Flint system
- New Federal and State partnership to establish new Drinking Water Emergency Assistance Fund for customers (modeled on Federal and State energy utility programs: Low Income Home Energy Assistance Program; Michigan Energy Assistance Program; State Emergency Relief)

#### Investment

- Accelerate water system improvements outlined in the City of Flint Capital Improvement Plan through Federal and State Investments
- State approves City of Flint's Distressed Cities Fund applications
- Federal and State forgiveness of payment to Drinking Water Revolving Loan Fund
- Federal and State financing for future improvements
- City Water Department implements budgeted FY15 projects including leak detection, valve repairs, new pipes and meter replacements

#### Education

- Develop a community partnership to provide household and business customers with information on testing and conservation
- Ongoing partnership with Michigan Department of Human Services, United Way, Salvation Army and community organizations to provide information on water assistance
- Expand youth energy initiative to assist households with conservation and efficiency (piloted in summer 2014 with Northwestern High School students, EcoWorks and Consumers Energy)

The struggle with our water has gone on for too long. The state must take action and do its part. Please ask Gov. Snyder to take action immediately to implement my plan and ensure Flint's water is safe. Thank you for your ongoing support.

#### Links to coverage

- [Mayor, governor have 'long, productive' talk about Flint's water problems](#), Jan. 30
- [2,000 more gallons of water headed to Flint for giveaway](#), Jan. 30, 2015
- [Flint emergency manager says there are two big reasons not to reconnect Detroit water](#), Jan. 29
- [Flint Democracy Defense League plans four meetings on city's water problems](#), Jan. 29
- [Environmentalism sends out new warnings about Flint water](#), NBC, Jan. 27
- [Erin Brockovich says on Facebook she's prepared to come to Flint](#), MLive, Jan. 27
- [Mott Community College not waiting for Flint to ensure safe water](#), MLive, Jan. 26
- [Detroit water chief says she's willing to sell emergency water to Flint -- no strings attached](#), Jan. 26
- [Mayor says governor needs to visit Flint to see water crisis first hand](#), MLive, Jan. 26
- [Need water? Flint groups collect 600 cases, plan distribution this week](#), MLive, Jan. 26

- Incoming Flint water expert would have 'continual oversight' until new pipeline connected, Jan. 25
- Looking back at Flint's water problems (photo gallery), MLive, Jan. 25
- Flint water problems: Switch aimed to save \$5 million -- but at what cost?, MLive, Jan. 23
- State says its already 'working diligently' on Flint's water problems, MLive, Jan. 22
- Officials say Flint water is getting better, but many residents unsatisfied, MLive, Jan. 21

## CITY of FLINT WATER TREATMENT PLANT MONTHLY OPERATION REPORT

SUPPLY NAME: CITY of FLINT WATER PLANT  
 WSSN: 2310

Michael Glasgow  
 Operator-in-Charge

January 2015  
 Month/Year

F-1R, F-2  
 Certification of Operator-in-Charge

F-1  
 Water Plant Classification

Michael Glasgow  
 Signature of Operator-in-Charge

Genesee  
 County

## Treatment Rate and Filter Data

|                         |             |                                                 |
|-------------------------|-------------|-------------------------------------------------|
| Maximum Treatment Rate  | <u>19.3</u> | Million Gallons per Day                         |
| Rated Plant Capacity:   | <u>36</u>   | Million Gallons per Day                         |
| Average Filter Run      | <u>76</u>   | Hours                                           |
| Average Head Loss:      | <u>n/a</u>  | Feet *(filter head loss meters not operational) |
| Average Filtration Rate | <u>2.1</u>  | Gallons Per Square Feet per Minute              |
| Maximum Filtration Rate | <u>3.6</u>  | Gallons Per Square Feet per Minute              |
| Average Wash Water Use: | <u>3.2%</u> | Percent of Treated Water                        |

## Chemical Data

|                                              |                |         |             |           |      |
|----------------------------------------------|----------------|---------|-------------|-----------|------|
| Chlorine on hand:                            | <u>12,000</u>  | lb.     | Est. supply | <u>18</u> | days |
| Primary Coagulant (Ferric Chloride) on hand: | <u>110,000</u> | lb.     | Est. supply | <u>10</u> | days |
| Lime (CaO) on hand:                          | <u>257</u>     | tons    | Est. supply | <u>22</u> | days |
| Fluoride on Hand                             | <u>16,630</u>  | lb.     | Est. supply | <u>42</u> | days |
| Cost of All Chemicals per Million Gallons    | <u>n/a</u>     | dollars |             |           |      |
| Total Power Cost per Million Gallons         | <u>n/a</u>     | dollars |             |           |      |

## Remarks

## Confluence Point # 1 (N)

## Confluence Point # 2 (S)

Number of filter confluence samples > 0.3 NTU:

0

0

Number of filter confluence samples collected:

244

242

Percent of filter confluence samples > 0.3 NTU:

0.0%

0.0%

Number of filter confluence samples > 1 NTU

0

0

## Did any individual filter exceed:

1.0 NTU in two consecutive measurements taken 15 minutes apart?

NO

If yes, attach specific filter(s) information and indicate required follow-up status.

0.5 NTU in two consecutive measurements taken 15 minutes apart after 4 hours of operation?

NO

If yes, attach specific filter(s) information and indicate required follow-up status

1.0 NTU in two consecutive measurements taken 15 minutes apart for 3 consecutive months?

NO

If yes, attach specific filter(s) information and indicate required follow-up status

2.0 NTU in two consecutive measurements taken 15 minutes apart for 2 consecutive months?

NO

If yes, attach specific filter(s) information and indicate required follow-up status

Was continuous (every 15 minutes) filter monitoring equipment off-line during the month?

NO

If yes, indicate date(s), duration, and individual filter grab sampling frequency on a separate sheet.

Did POE disinfectant residual fall below 0.2 ppm during the month?

NO

If yes, indicate date(s) and duration on a separate sheet.

Was minimum C\*T credit achieved for the entire month?

YES

If no, indicate on a separate sheet the date(s) not achieved

Was continuous POE chlorine residual monitoring equipment off-line during the month?

NO

If yes, indicate date(s) and duration on a separate sheet.

[illegible]

| Date | Turbidity, Units                 |      |      |                                 |                                          |                         |                                  |      |      |                                 |                                          |                         | Point of Entry |
|------|----------------------------------|------|------|---------------------------------|------------------------------------------|-------------------------|----------------------------------|------|------|---------------------------------|------------------------------------------|-------------------------|----------------|
|      | Confluence Point, No.1 (N) North |      |      |                                 |                                          |                         | Confluence Point, No.2 (S) South |      |      |                                 |                                          |                         |                |
|      | Number of Samples                | Avg. | Max  | No. of 4 Hr. Compliance periods | No. of 4 Hr. Compliance periods >0.3 NTU | No. of Samples >0.3 NTU | Number of Samples                | Avg. | Max  | No. of 4 Hr. Compliance periods | No. of 4 Hr. Compliance periods >0.3 NTU | No. of Samples >0.3 NTU |                |
| 1    | 8                                | 0.07 | 0.08 | 6                               | 0                                        | 0                       | 8                                | 0.06 | 0.09 | 6                               | 0                                        | 0                       | 0.08           |
| 2    | 7                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 7                                | 0.06 | 0.07 | 6                               | 0                                        | 0                       | 0.07           |
| 3    | 8                                | 0.06 | 0.08 | 6                               | 0                                        | 0                       | 8                                | 0.06 | 0.07 | 6                               | 0                                        | 0                       | 0.08           |
| 4    | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.11 | 6                               | 0                                        | 0                       | 0.07           |
| 5    | 8                                | 0.06 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.06 | 0.09 | 6                               | 0                                        | 0                       | 0.07           |
| 6    | 8                                | 0.08 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.10 | 6                               | 0                                        | 0                       | 0.07           |
| 7    | 8                                | 0.09 | 0.15 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 0.08           |
| 8    | 8                                | 0.08 | 0.10 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.11 | 6                               | 0                                        | 0                       | 0.08           |
| 9    | 8                                | 0.06 | 0.08 | 6                               | 0                                        | 0                       | 8                                | 0.06 | 0.07 | 6                               | 0                                        | 0                       | 0.07           |
| 10   | 8                                | 0.06 | 0.08 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 0.07           |
| 11   | 8                                | 0.06 | 0.08 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 0.07           |
| 12   | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.10 | 6                               | 0                                        | 0                       | 0.09           |
| 13   | 8                                | 0.06 | 0.12 | 6                               | 0                                        | 0                       | 8                                | 0.05 | 0.07 | 6                               | 0                                        | 0                       | 0.06           |
| 14   | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.06 | 0.09 | 6                               | 0                                        | 0                       | 0.07           |
| 15   | 8                                | 0.06 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 0.07           |
| 16   | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.10 | 6                               | 0                                        | 0                       | 0.09           |
| 17   | 8                                | 0.07 | 0.08 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.10 | 6                               | 0                                        | 0                       | 0.07           |
| 18   | 8                                | 0.08 | 0.11 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.08 | 6                               | 0                                        | 0                       | 0.07           |
| 19   | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.11 | 6                               | 0                                        | 0                       | 0.07           |
| 20   | 8                                | 0.07 | 0.08 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.10 | 6                               | 0                                        | 0                       | 0.11           |
| 21   | 8                                | 0.08 | 0.11 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.08 | 6                               | 0                                        | 0                       | 0.09           |
| 22   | 8                                | 0.09 | 0.11 | 6                               | 0                                        | 0                       | 8                                | 0.08 | 0.09 | 6                               | 0                                        | 0                       | 0.09           |
| 23   | 7                                | 0.08 | 0.10 | 6                               | 0                                        | 0                       | 7                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 0.08           |
| 24   | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.06 | 0.10 | 6                               | 0                                        | 0                       | 0.07           |
| 25   | 8                                | 0.06 | 0.07 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 0.07           |
| 26   | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 6                                | 0.08 | 0.10 | 6                               | 0                                        | 0                       | 0.07           |
| 27   | 7                                | 0.08 | 0.11 | 6                               | 0                                        | 0                       | 7                                | 0.07 | 0.10 | 6                               | 0                                        | 0                       | 0.08           |
| 28   | 7                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 7                                | 0.07 | 0.10 | 6                               | 0                                        | 0                       | 0.07           |
| 29   | 7                                | 0.07 | 0.10 | 6                               | 0                                        | 0                       | 7                                | 0.07 | 0.08 | 6                               | 0                                        | 0                       | 0.07           |
| 30   | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.08 | 6                               | 0                                        | 0                       | 0.08           |
| 31   | 8                                | 0.06 | 0.10 | 6                               | 0                                        | 0                       | 8                                | 0.06 | 0.08 | 6                               | 0                                        | 0                       | 0.07           |
| Avg. | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       | 8                                | 0.07 | 0.09 | 6                               | 0                                        | 0                       |                |
| Max. | 8                                | 0.09 | 0.15 | 6                               | 0                                        | 0                       | 8                                | 0.08 | 0.11 | 6                               | 0                                        | 0                       | 0.11           |
| Min. | 7                                | 0.06 | 0.07 | 6                               | 0                                        | 0                       | 6                                | 0.05 | 0.07 | 6                               | 0                                        | 0                       |                |

| Date | Fluoride<br>Applied<br>as F-<br>mg/L | Fluoride Analysis (mg/L) |      |       | Chlorine Application (mg/L) |                  |                   | Chlorine Residual (mg/L) |       |           |       |      |       |
|------|--------------------------------------|--------------------------|------|-------|-----------------------------|------------------|-------------------|--------------------------|-------|-----------|-------|------|-------|
|      |                                      |                          |      |       | Intermediate<br>Chlorine    | Post<br>Chlorine | Total<br>Chlorine | Filtered                 |       | 3 MG Well |       | Tap  |       |
|      |                                      | Raw                      | Tap  | Dist. |                             |                  |                   | Free                     | Total | Free      | Total | Free | Total |
| 1    | 0.4                                  | 0.24                     | 0.70 |       | 1.3                         | 3.5              | 4.8               | 0.6                      | 0.9   | 2.7       | 3.0   | 2.1  | 2.4   |
| 2    | 0.4                                  | 0.21                     | 0.62 |       | 1.4                         | 3.5              | 4.9               | 0.6                      | 0.8   | 2.6       | 3.1   | 2.2  | 2.6   |
| 3    | 0.3                                  | 0.22                     | 0.55 |       | 1.8                         | 2.6              | 4.4               | 0.5                      | 0.7   | 2.7       | 3.3   | 2.8  | 3.2   |
| 4    | 0.4                                  | 0.20                     | 0.60 |       | 1.8                         | 2.5              | 4.3               | 0.8                      | 1.0   | 2.8       | 3.0   | 2.9  | 3.2   |
| 5    | 0.4                                  | 0.19                     | 0.23 |       | 1.9                         | 2.5              | 4.4               | 0.7                      | 1.0   | 2.8       | 3.0   | 2.7  | 3.0   |
| 6    | 0.3                                  | 0.19                     | 0.49 | 0.39  | 1.9                         | 2.7              | 4.6               | 0.6                      | 0.9   | 2.7       | 3.2   | 2.5  | 3.2   |
| 7    | 0.3                                  | 0.23                     | 0.61 |       | 1.9                         | 2.6              | 4.5               | 0.7                      | 0.9   | 2.7       | 3.0   | 2.2  | 2.7   |
| 8    | 0.3                                  | 0.19                     | 0.51 |       | 1.9                         | 2.6              | 4.5               | 0.6                      | 0.9   | 2.4       | 3.1   | 2.1  | 2.6   |
| 9    | 0.0                                  | 0.19                     | 0.51 |       | 2.0                         | 3.2              | 5.2               | 0.4                      | 0.7   | 2.8       | 3.1   | 2.3  | 2.8   |
| 10   | 0.0                                  | 0.22                     | 0.44 |       | 1.8                         | 3.1              | 4.9               | 0.4                      | 0.4   | 2.4       | 2.9   | 1.8  | 2.3   |
| 11   | 0.0                                  | 0.20                     | 0.22 |       | 1.8                         | 3.0              | 4.8               | 0.8                      | 1.1   | 2.7       | 3.1   | 2.5  | 2.9   |
| 12   | 0.0                                  | 0.21                     | 0.21 |       | 1.6                         | 3.2              | 4.8               | 0.5                      | 0.8   | 2.8       | 3.1   | 2.4  | 2.8   |
| 13   | 0.0                                  | 0.19                     | 0.19 | 0.35  | 1.7                         | 3.1              | 4.8               | 0.8                      | 1.2   | 2.8       | 3.1   | 2.2  | 2.6   |
| 14   | 0.0                                  | 0.21                     | 0.21 |       | 1.8                         | 3.0              | 4.6               | 0.4                      | 0.6   | 2.8       | 3.1   | 2.3  | 2.8   |
| 15   | 0.0                                  | 0.22                     | 0.24 |       | 1.6                         | 3.0              | 4.6               | 0.5                      | 0.9   | 2.7       | 3.1   | 2.0  | 2.3   |
| 16   | 0.1                                  | 0.20                     | 0.20 |       | 1.6                         | 3.0              | 4.6               | 0.5                      | 0.9   | 2.3       | 3.0   | 2.0  | 2.5   |
| 17   | 0.3                                  | 0.22                     | 0.23 |       | 1.7                         | 3.0              | 4.7               | 0.4                      | 0.6   | 2.5       | 3.0   | 1.8  | 2.3   |
| 18   | 0.4                                  | 0.19                     | 0.55 |       | 1.8                         | 3.2              | 5.0               | 0.5                      | 0.8   | 2.7       | 3.0   | 2.5  | 2.9   |
| 19   | 0.4                                  | 0.20                     | 0.64 |       | 1.9                         | 3.2              | 5.1               | 0.4                      | 0.6   | 2.8       | 3.2   | 2.2  | 2.6   |
| 20   | 0.0                                  | 0.22                     | 0.45 | 0.31  | 2.0                         | 3.0              | 5.0               | 0.5                      | 0.9   | 2.9       | 3.4   | 2.1  | 2.7   |
| 21   | 0.2                                  | 0.21                     | 0.31 |       | 1.9                         | 2.8              | 4.7               | 0.5                      | 0.8   | 2.6       | 3.0   | 2.2  | 2.5   |
| 22   | 0.4                                  | 0.20                     | 0.67 |       | 1.9                         | 2.9              | 4.8               | 0.4                      | 0.7   | 2.8       | 3.2   | 1.9  | 2.2   |
| 23   | 0.4                                  | 0.22                     | 0.41 |       | 2.0                         | 3.1              | 5.1               | 0.4                      | 0.8   | 2.6       | 3.0   | 1.5  | 1.8   |
| 24   | 0.4                                  | 0.21                     | 0.67 |       | 2.0                         | 3.2              | 5.2               | 0.7                      | 0.9   | 2.8       | 3.0   | 2.7  | 3.0   |
| 25   | 0.4                                  | 0.23                     | 0.59 |       | 2.1                         | 3.1              | 5.2               | 0.5                      | 0.8   | 2.9       | 3.4   | 2.4  | 2.7   |
| 26   | 0.4                                  | 0.21                     | 0.57 |       | 2.0                         | 3.0              | 5.0               | 0.4                      | 0.7   | 2.7       | 3.1   | 2.4  | 2.7   |
| 27   | 0.4                                  | 0.23                     | 0.54 | 0.55  | 2.1                         | 3.1              | 5.2               | 0.4                      | 0.6   | 2.7       | 3.0   | 2.2  | 2.5   |
| 28   | 0.4                                  | 0.22                     | 0.59 |       | 2.0                         | 2.9              | 4.9               | 0.8                      | 1.0   | 2.4       | 2.7   | 1.9  | 2.3   |
| 29   | 0.4                                  | 0.25                     | 0.62 |       | 2.0                         | 2.9              | 4.9               | 0.7                      | 0.9   | 2.8       | 3.2   | 2.2  | 2.5   |
| 30   | 0.4                                  | 0.22                     | 0.63 |       | 2.0                         | 3.0              | 5.0               | 0.7                      | 0.8   | 2.5       | 2.9   | 2.0  | 2.5   |
| 31   | 0.3                                  | 0.19                     | 0.52 |       | 1.9                         | 3.0              | 4.9               | 0.6                      | 0.8   | 2.8       | 3.2   | 2.8  | 3.2   |
| Avg. | 0.26                                 | 0.21                     | 0.47 | 0.40  | 1.8                         | 3.0              | 4.8               | 0.6                      | 0.8   | 2.7       | 3.1   | 2.3  | 2.7   |
| Max. | 0.40                                 | 0.25                     | 0.70 | 0.55  | 2.1                         | 3.5              | 5.2               | 0.8                      | 1.2   | 2.9       | 3.4   | 2.9  | 3.2   |
| Min. | 0.00                                 | 0.19                     | 0.19 | 0.31  | 1.3                         | 2.5              | 4.3               | 0.4                      | 0.4   | 2.3       | 2.7   | 1.5  | 1.8   |

| Date | pH (S.U.) |      | Total Hardness as CaCO <sub>3</sub> (mg/L) |     | Total Alkalinity as CaCO <sub>3</sub> (mg/L) |     | Non-Carbonate Hardness as CaCO <sub>3</sub> (mg/L) |     | Calcium as Ca <sup>2+</sup> (mg/L) |      | Magnesium as Mg <sup>2+</sup> (mg/L) |      | Chloride as Cl <sup>-</sup> (mg/L) |     |
|------|-----------|------|--------------------------------------------|-----|----------------------------------------------|-----|----------------------------------------------------|-----|------------------------------------|------|--------------------------------------|------|------------------------------------|-----|
|      | Raw       | Tap  | Raw                                        | Tap | Raw                                          | Tap | Raw                                                | Tap | Raw                                | Tap  | Raw                                  | Tap  | Raw                                | Tap |
| 1    | 8.23      | 7.65 | 323                                        | 185 | 264                                          | 65  | 59                                                 | 120 | 108.2                              | 55.3 | 13.6                                 | 11.7 | 47                                 | 85  |
| 2    | 7.84      | 7.31 | 324                                        | 193 | 258                                          | 76  | 66                                                 | 117 | 121.0                              | 65.7 | 6.3                                  | 4.9  | 47                                 | 87  |
| 3    | 7.77      | 7.38 | 323                                        | 212 | 257                                          | 98  | 66                                                 | 114 | 120.0                              | 77.0 | 5.8                                  | 4.9  | 48                                 | 87  |
| 4    | 8.15      | 7.86 | 325                                        | 218 | 251                                          | 96  | 64                                                 | 122 | 105.8                              | 64.9 | 14.6                                 | 13.1 | 48                                 | 88  |
| 5    | 8.31      | 7.80 | 318                                        | 206 | 262                                          | 94  | 56                                                 | 112 | 103.4                              | 60.9 | 14.6                                 | 13.6 | 45                                 | 78  |
| 6    | 8.09      | 7.97 | 320                                        | 208 | 256                                          | 95  | 64                                                 | 113 | 121.0                              | 69.7 | 4.9                                  | 8.7  | 48                                 | 86  |
| 7    | 8.04      | 7.91 | 313                                        | 194 | 256                                          | 97  | 57                                                 | 97  | 101.8                              | 61.7 | 15.6                                 | 10.7 | 43                                 | 82  |
| 8    | 8.19      | 8.04 | 313                                        | 202 | 251                                          | 87  | 62                                                 | 115 | 121.0                              | 72.9 | 2.9                                  | 3.9  | 48                                 | 83  |
| 9    | 8.08      | 7.96 | 311                                        | 205 | 248                                          | 93  | 63                                                 | 112 | 115.4                              | 70.5 | 5.8                                  | 6.3  | 47                                 | 84  |
| 10   | 7.98      | 7.75 | 316                                        | 181 | 255                                          | 73  | 61                                                 | 108 | 114.6                              | 64.1 | 6.8                                  | 3.4  | 47                                 | 88  |
| 11   | 8.01      | 8.24 | 321                                        | 174 | 256                                          | 63  | 65                                                 | 111 | 100.2                              | 44.9 | 17.5                                 | 14.6 | 44                                 | 80  |
| 12   | 8.09      | 7.68 | 318                                        | 177 | 250                                          | 57  | 68                                                 | 120 | 101.0                              | 46.5 | 16.0                                 | 14.6 | 49                                 | 81  |
| 13   | 7.94      | 7.69 | 320                                        | 165 | 245                                          | 46  | 75                                                 | 119 | 105.8                              | 44.1 | 14.1                                 | 13.1 | 47                                 | 87  |
| 14   | 7.80      | 7.52 | 321                                        | 172 | 252                                          | 58  | 69                                                 | 114 | 115.4                              | 56.9 | 7.8                                  | 6.8  | 48                                 | 88  |
| 15   | 7.96      | 7.64 | 323                                        | 173 | 258                                          | 48  | 65                                                 | 125 | 105.8                              | 48.9 | 14.1                                 | 13.1 | 45                                 | 91  |
| 16   | 7.94      | 7.47 | 324                                        | 172 | 257                                          | 44  | 67                                                 | 128 | 117.8                              | 58.5 | 6.8                                  | 6.8  | 47                                 | 88  |
| 17   | 7.82      | 7.95 | 320                                        | 174 | 252                                          | 54  | 68                                                 | 120 | 119.4                              | 58.5 | 4.9                                  | 5.3  | 46                                 | 89  |
| 18   | 8.02      | 7.72 | 322                                        | 185 | 258                                          | 69  | 64                                                 | 116 | 104.2                              | 55.3 | 15.1                                 | 11.2 | 48                                 | 83  |
| 19   | 8.03      | 7.62 | 321                                        | 184 | 255                                          | 59  | 66                                                 | 125 | 102.6                              | 54.5 | 16.0                                 | 11.7 | 48                                 | 86  |
| 20   | 7.89      | 7.59 | 321                                        | 184 | 255                                          | 67  | 66                                                 | 117 | 116.2                              | 64.9 | 7.8                                  | 4.9  | 49                                 | 91  |
| 21   | 7.86      | 7.79 | 324                                        | 183 | 257                                          | 72  | 67                                                 | 111 | 105.0                              | 51.3 | 15.1                                 | 13.1 | 50                                 | 83  |
| 22   | 7.59      | 7.42 | 325                                        | 193 | 262                                          | 81  | 63                                                 | 112 | 116.2                              | 68.9 | 8.3                                  | 4.9  | 49                                 | 84  |
| 23   | 7.70      | 7.44 | 344                                        | 186 | 256                                          | 78  | 88                                                 | 108 | 112.2                              | 59.3 | 15.6                                 | 9.2  | 52                                 | 87  |
| 24   | 7.91      | 7.51 | 327                                        | 187 | 259                                          | 72  | 68                                                 | 115 | 101.0                              | 48.1 | 18.5                                 | 16.0 | 48                                 | 85  |
| 25   | 7.93      | 7.71 | 326                                        | 188 | 260                                          | 75  | 66                                                 | 113 | 100.2                              | 50.5 | 18.5                                 | 14.6 | 47                                 | 85  |
| 26   | 7.95      | 7.82 | 328                                        | 194 | 259                                          | 71  | 69                                                 | 123 | 105.8                              | 54.5 | 15.6                                 | 13.6 | 51                                 | 88  |
| 27   | 7.77      | 7.99 | 332                                        | 191 | 266                                          | 68  | 66                                                 | 123 | 111.4                              | 60.1 | 13.1                                 | 9.2  | 51                                 | 89  |
| 28   | 7.99      | 7.98 | 334                                        | 188 | 264                                          | 76  | 70                                                 | 112 | 107.4                              | 51.3 | 16.0                                 | 14.6 | 48                                 | 85  |
| 29   | 7.80      | 7.83 | 334                                        | 196 | 268                                          | 76  | 66                                                 | 120 | 106.6                              | 57.7 | 16.5                                 | 12.6 | 55                                 | 86  |
| 30   | 7.84      | 7.78 | 331                                        | 193 | 272                                          | 78  | 59                                                 | 115 | 113.0                              | 59.3 | 13.1                                 | 10.7 | 55                                 | 90  |
| 31   | 7.96      | 7.91 | 335                                        | 197 | 267                                          | 69  | 68                                                 | 128 | 108.2                              | 56.1 | 15.6                                 | 13.6 | 51                                 | 92  |
| Avg. | 7.95      | 7.74 | 324                                        | 189 | 258                                          | 73  | 66                                                 | 116 | 109.9                              | 58.5 | 12.2                                 | 10.2 | 48                                 | 86  |
| Max. | 8.31      | 8.24 | 344                                        | 218 | 272                                          | 98  | 88                                                 | 128 | 121.0                              | 77   | 18.5                                 | 16.0 | 55                                 | 92  |
| Min. | 7.59      | 7.31 | 311                                        | 165 | 245                                          | 44  | 56                                                 | 97  | 100.2                              | 44.1 | 2.9                                  | 3.4  | 43                                 | 78  |

| Date | Total Coliform     |       |                            |       |           |       | Standard Plate Count<br>(Simplate MPN) |     | Conductivity<br>(mS) | Temp. C | Color |     | Odor |     |
|------|--------------------|-------|----------------------------|-------|-----------|-------|----------------------------------------|-----|----------------------|---------|-------|-----|------|-----|
|      | Raw (Colliert MPN) |       | Filter Confluence<br>(N&S) |       | Plant Tap |       |                                        |     |                      |         |       |     |      |     |
|      | # Samples          | Count | # Samples                  | # pos | # Samples | # pos | Raw                                    | Tap |                      |         | Tap   | Raw | Raw  | Tap |
| 1    | 1                  | 2592  | 12                         | 0     | 1         | 0     | 800                                    | < 2 | 0.37                 | 5.6     |       |     |      |     |
| 2    | 1                  | 1684  | 12                         | 0     | 1         | 0     | 600                                    | < 2 | 0.36                 | 4.5     |       |     |      |     |
| 3    | 1                  | 960   | 12                         | 0     | 1         | 0     | 2400                                   | < 2 | 0.42                 | 4.0     |       |     |      |     |
| 4    | 1                  | 718   | 12                         | 0     | 1         | 0     | 200                                    | < 2 | 0.44                 | 3.8     |       |     |      |     |
| 5    | 1                  | 1732  | 12                         | 0     | 1         | 0     | 5980                                   | < 2 | 0.41                 | 3.0     |       |     |      |     |
| 6    | 1                  | 874   | 12                         | 0     | 1         | 0     | 200                                    | < 2 | 0.41                 | 4.5     |       |     |      |     |
| 7    | 1                  | 2086  | 12                         | 0     | 1         | 0     | 200                                    | < 2 | 0.39                 | 4.2     |       |     |      |     |
| 8    | 1                  | 960   | 12                         | 0     | 1         | 0     | 120                                    | < 2 | 0.39                 | 5.5     |       |     |      |     |
| 9    | 1                  | 1146  | 12                         | 0     | 1         | 0     | 420                                    | < 2 | 0.40                 | 2.6     |       |     |      |     |
| 10   | 1                  | 2994  | 12                         | 0     | 1         | 0     | 760                                    | 38  | 0.31                 | 2.6     |       |     |      |     |
| 11   | 1                  | 978   | 12                         | 0     | 1         | 0     | 520                                    | 10  | 0.36                 | 2.1     |       |     |      |     |
| 12   | 1                  | 1042  | 12                         | 0     | 1         | 0     | 600                                    | < 2 | 0.36                 | 1.9     |       |     |      |     |
| 13   | 1                  | 862   | 12                         | 0     | 1         | 0     | 340                                    | < 2 | 0.37                 | 1.4     |       |     |      |     |
| 14   | 1                  | 646   | 12                         | 0     | 1         | 0     | 200                                    | < 2 | 0.36                 | 1.9     |       |     |      |     |
| 15   | 1                  | 736   | 12                         | 0     | 1         | 0     | 300                                    | < 2 | 0.36                 | 3.5     |       |     |      |     |
| 16   | 1                  | 2224  | 12                         | 0     | 1         | 0     | 200                                    | < 2 | 0.37                 | 1.9     |       |     |      |     |
| 17   | 1                  | 320   | 12                         | 0     | 1         | 0     | 200                                    | < 2 | 0.36                 | 4.9     |       |     |      |     |
| 18   | 1                  | 40    | 12                         | 0     | 1         | 0     | 200                                    | 2   | 0.38                 | 4.9     |       |     |      |     |
| 19   | 1                  | 148   | 12                         | 0     | 1         | 0     | 120                                    | < 2 | 0.40                 | 5.2     |       |     |      |     |
| 20   | 1                  | 770   | 12                         | 0     | 1         | 0     | 146                                    | < 2 | 0.38                 | 4.9     |       |     |      |     |
| 21   | 1                  | 148   | 12                         | 0     | 1         | 0     | 80                                     | < 2 | 0.37                 | 5.9     |       |     |      |     |
| 22   | 1                  | 201   | 12                         | 0     | 1         | 0     | 190                                    | < 2 | 0.39                 | 5.8     |       |     |      |     |
| 23   | 1                  | 345   | 12                         | 0     | 1         | 0     | 120                                    | < 2 |                      | 4.9     |       |     |      |     |
| 24   | 1                  | 97    | 12                         | 0     | 1         | 0     | 150                                    | < 2 | 0.38                 | 6.4     |       |     |      |     |
| 25   | 1                  | 146   | 12                         | 0     | 1         | 0     | 60                                     | < 2 | 0.39                 | 4.4     |       |     |      |     |
| 26   | 1                  | 181   | 12                         | 0     | 1         | 0     | 230                                    | < 2 | 0.40                 | 3.8     |       |     |      |     |
| 27   | 1                  | 146   | 12                         | 0     | 1         | 0     | 120                                    | < 2 | 0.38                 | 4.9     |       |     |      |     |
| 28   | 1                  | 172   | 12                         | 0     | 1         | 0     | 128                                    | < 2 | 0.38                 | 4.3     |       |     |      |     |
| 29   | 1                  | 261   | 12                         | 0     | 1         | 0     | 137                                    | < 2 | 0.49                 | 4.2     |       |     |      |     |
| 30   | 1                  | 155   | 12                         | 0     | 1         | 0     | 93                                     | < 2 | 0.43                 | 4.0     |       |     |      |     |
| 31   | 1                  | 41    | 12                         | 0     | 1         | 0     | 60                                     | < 2 | 0.53                 | 4.0     |       |     |      |     |

|      |  |  |  |  |  |  |      |    |      |     |  |  |  |  |
|------|--|--|--|--|--|--|------|----|------|-----|--|--|--|--|
| Avg. |  |  |  |  |  |  |      |    | 0.39 | 4.0 |  |  |  |  |
| Max. |  |  |  |  |  |  | 5980 | 38 | 0.53 | 6.4 |  |  |  |  |
| Min. |  |  |  |  |  |  |      |    | 0.31 | 1.4 |  |  |  |  |

| Date | Free Chlorine Residual at Bacteriological Monitoring Stations mg/l |     |     |     |     |     |     |     |     |     |                   |
|------|--------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|
|      | 1                                                                  | 2   | 3   | 4   | 5   | 6   | 7   | 8   | CS  | WS  | Number of Samples |
| 1    | 0.7                                                                | 0.1 | 1.3 | 1.6 | 0.7 | 0.2 | 0.2 |     | 1.5 | 1.4 | 9                 |
| 2    |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 3    |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 4    |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 5    |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 6    | 0.6                                                                | 0.7 | 1.5 | 2.0 | 0.8 | 0.1 | 1.4 | 1.8 | 1.8 | 1.8 | 10                |
| 7    | 0.6                                                                | 0.7 | 1.7 | 1.5 | 0.7 | 0.2 | 1.1 | 2.0 | 0.8 | 1.7 | 10                |
| 8    | 0.8                                                                | 0.3 | 1.0 | 1.3 | 0.8 | 0.1 | 1.4 | 1.8 | 0.8 | 1.7 | 10                |
| 9    |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 10   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 11   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 12   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 13   | 0.4                                                                | 1.0 | 1.7 | 1.4 | 0.7 | 0.2 | 1.4 | 1.7 | 0.4 | 1.7 | 10                |
| 14   | 0.2                                                                | 0.5 | 1.8 | 1.6 | 0.5 | 0.1 | 2.1 | 2.2 | 0.4 | 2.0 | 10                |
| 15   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 16   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 17   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 18   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 19   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 20   | 0.1                                                                | 1.6 | 1.7 | 1.4 | 0.9 | 0.3 | 1.9 | 2.0 | 1.3 | 1.8 | 10                |
| 21   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 22   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 23   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 24   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 25   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 26   |                                                                    |     |     |     |     |     |     |     | 1.6 | 1.8 | 2                 |
| 27   | 0.9                                                                | 1.3 | 1.2 | 1.7 | 0.7 | 0.2 | 1.3 | 1.8 | 1.4 | 0.8 | 10                |
| 28   | 0.8                                                                | 0.5 | 1.4 | 1.5 | 0.8 | 0.2 | 1.8 | 1.8 | 1.5 | 1.8 | 10                |
| 29   | 0.9                                                                | 1.7 | 1.6 | 1.7 | 1.0 | 0.1 | 2.0 | 1.9 | 0.9 | 2.0 | 10                |
| 30   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |
| 31   |                                                                    |     |     |     |     |     |     |     |     |     | 0                 |

## Distribution Sample Summary

|                                                  |     |
|--------------------------------------------------|-----|
| Total # of routine distribution samples analyzed | 101 |
| Total # of routine distribution samples required | 100 |

## Distribution Bacteriological Summary

|                                                  |    |
|--------------------------------------------------|----|
| Total # of positive routine distribution samples | 0  |
| Percent of routine distribution samples positive | 0% |

See page 9 for positive sample information.

## Distribution Disinfectant Total Residual Summary

|                                                               |      |
|---------------------------------------------------------------|------|
| Percentage of samples with a detectable disinfectant residual | 100% |
| Average disinfectant residual this month                      | 1.15 |

| Date | Total Chlorine Residual at Bacteriological Monitoring Stations mg/l |     |     |     |     |     |     |     |     |     | Number of Samples |
|------|---------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|
|      | 1                                                                   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | CS  | WS  |                   |
| 1    | 0.8                                                                 | 0.2 | 1.5 | 1.8 | 0.9 | 0.3 | 0.3 |     | 1.7 | 1.5 | 9                 |
| 2    |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 3    |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 4    |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 5    |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 6    | 0.9                                                                 | 0.9 | 1.4 | 2.3 | 1.0 | 0.2 | 1.6 | 2.1 | 2.2 | 2.1 | 10                |
| 7    | 0.8                                                                 | 0.9 | 1.9 | 1.8 | 1.0 | 0.2 | 1.3 | 2.2 | 1.0 | 2.0 | 10                |
| 8    | 1.0                                                                 | 0.5 | 1.2 | 1.5 | 1.1 | 0.3 | 1.6 | 2.0 | 1.0 | 2.0 | 10                |
| 9    |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 10   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 11   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 12   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 13   | 0.7                                                                 | 1.5 | 2.0 | 1.7 | 0.9 | 0.2 | 1.7 | 2.3 | 0.6 | 2.1 | 10                |
| 14   | 0.4                                                                 | 1.8 | 2.1 | 1.8 | 0.8 | 0.3 | 2.4 | 2.5 | 0.5 | 2.3 | 10                |
| 15   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 16   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 17   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 18   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 19   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 20   | 0.3                                                                 | 1.9 | 2.0 | 1.6 | 1.2 | 0.6 | 2.2 | 2.3 | 1.5 | 2.2 | 10                |
| 21   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 22   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 23   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 24   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 25   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 26   |                                                                     |     |     |     |     |     |     |     | 1.9 | 2.2 | 2                 |
| 27   | 1.3                                                                 | 1.9 | 1.7 | 2.1 | 0.9 | 0.4 | 1.7 | 2.0 | 1.8 | 1.0 | 10                |
| 28   | 1.2                                                                 | 0.8 | 1.7 | 1.8 | 1.2 | 0.4 | 2.1 | 2.3 | 1.9 | 2.2 | 10                |
| 29   | 1.2                                                                 | 2.0 | 1.9 | 1.9 | 1.3 | 0.2 | 2.3 | 2.3 | 1.1 | 2.3 | 10                |
| 30   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |
| 31   |                                                                     |     |     |     |     |     |     |     |     |     | 0                 |

| Distribution Disinfectant Total Residual Summary        |      |
|---------------------------------------------------------|------|
| Percent samples with a detectable disinfectant residual | 100% |
| Average disinfectant residual this month                | 1.4  |