



# City of Appleton

100 North Appleton Street  
Appleton, WI 54911-4799  
[www.appleton.org](http://www.appleton.org)

## Meeting Agenda - Final Utilities Committee

---

Tuesday, February 8, 2022

5:00 PM

Council Chambers, 6th Floor

---

1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

[22-0037](#) Approval of the January 11, 2022 Utilities Committee Meeting Minutes.

**Attachments:** [January 11, 2022 Utilities Committee Meeting Minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

[22-0039](#) Request from Abby Ellenbecker for a credit adjustment for water use between May 29, 2021 and June 11, 2021 of \$65.98 for 2518 S. Kernan Avenue.

**Attachments:** [Timeline for Committee.pdf](#)

[Water Leak Policy 2020.pdf](#)

[Water Usage Monitoring Procedure.pdf](#)

[22-0086](#) Approve Sole Source Engineering Services Contract to McMahon as part of 2022 AWWTP Preliminary Heat Exchanger and Blended Sludge Piping Replacement Project in the amount of \$26,300 with a 10% contingency of \$2,630 for a project total not to exceed \$28,930.

**Attachments:** [UC Sole Source Memo 2022 AWWTP Prelim HEX and Blended Sludge Piping](#)

[22-0110](#) Approve contract amendment with Arcadis to provide public outreach and communication materials to meet the Lead and Copper Rule Revisions in an amount not to exceed \$22,400.

**Attachments:** [2022-02-03 Appleton LCRR Public Outreach Materials Scope.pdf](#)

6. **Information Items**

- [22-0111](#) Change Orders #1 and #2 to Sabel Mechanical contract as part of the 2021 Secondary Clarifier Drive Removal, Rebuild, and Reinstallation Project totaling \$12,724 resulting in a decrease in contingency from \$26,145 to \$13,421.
- Attachments:** [220128 UC Memo SecondaryClariferDrive Sabel Change Orders No1-2.pdf](#)
- [22-0087](#) 2021 Northeast Wisconsin Stormwater Consortium 2021 Annual Report
- Attachments:** [2021 NEWSOC Annual Report.pdf](#)
- [22-0088](#) Mapping link for private side water service material.
- [22-0041](#) Discussion of 2019 Water System Master Plan.
- Attachments:** [Water System Master Plan attachment \(002\).pdf](#)
- [22-0042](#) AquaDuoscope Measuring Method Program.
- Attachments:** [AquaDuoscope attachment.pdf](#)
- [22-0040](#) WPPI Capacity Agreement Revenue Review
- Attachments:** [Revenue Summary WPPI Lease.pdf](#)
- [22-0043](#) Monthly Reports for October, November, and December 2021:
- Wastewater Treatment Plant Synopsis and Receiving Station Revenue Report
  - Water Treatment Facility Synopsis
  - Water Distribution and Meter Team Monthly Report - December
- Attachments:** [2021 Q4 Wastewater Synopsis.pdf](#)  
[Receiving Station Revenue Report.pdf](#)  
[2021 Q4 Water Synopsis.pdf](#)  
[Water Main Breaks December.pdf](#)

## 7. Adjournment

*Notice is hereby given that a quorum of the Common Council may be present during this meeting, although no Council action will be taken.*

*Reasonable Accommodations for Persons with Disabilities will be made upon Request and if Feasible.*

*For questions on the agenda, contact Chris Shaw at 920-832-5945 or Paula Vandehey at 920-832-6474.*



# City of Appleton

100 North Appleton Street  
Appleton, WI 54911-4799  
www.appleton.org

## Meeting Minutes - Final Utilities Committee

---

Tuesday, January 11, 2022

5:00 PM

Council Chambers, 6th Floor

---

1. Call meeting to order

*Vice Chairperson Smith called the Utilities Committee meeting to order at 5:00 p.m.*

2. Roll call of membership

**Present:** 4 - Meltzer, Smith, Doran and Thao

**Excused:** 1 - Martin

3. Approval of minutes from previous meeting

[21-1782](#)

Approval of the December 7, 2021 Utilities Committee Meeting Minutes.

**Attachments:** [120721.pdf](#)

**Thao moved, seconded by Doran, that the Minutes be approved. Roll Call.  
Motion carried by the following vote:**

**Aye:** 4 - Meltzer, Smith, Doran and Thao

**Excused:** 1 - Martin

4. Public Hearings/Appearances

5. Action Items

[21-1783](#)

Approve 2022 Private Lead / Galvanized Service Replacement Program.

**Attachments:** [2022 Private Lead Galvanized Service Replacement Program.pdf](#)

**Meltzer moved, seconded by Doran, that the Report Action Item be recommended for approval. Roll Call. Motion carried by the following vote:**

**Aye:** 4 - Meltzer, Smith, Doran and Thao

**Excused:** 1 - Martin

[21-1784](#)

Award Contract Amendment 3 to Jacobs Engineering for the Water Treatment Facility Optimized Corrosion Control Treatment (OCCT) Studies in the amount of \$31,740 and a total revised contract of \$190,790.

**Attachments:** [OCCT Project 01-05-21.pdf](#)

Doran moved, seconded by Thao, that the Report Action Item be recommended for approval. Roll Call. Motion carried by the following vote:

**Aye:** 4 - Meltzer, Smith, Doran and Thao

**Excused:** 1 - Martin

## 6. Information Items

[21-1785](#)

Monthly Reports for November 2021:  
- Water Distribution and Meter Team Monthly Report

**Attachments:** [Water Main Breaks November 2021.pdf](#)

*This item was discussed.*

[21-1786](#)

Appleton's Water Main Break History

**Attachments:** [Water Main Breaks History.pdf](#)

*This item was discussed.*

## 7. Adjournment

Thao moved, seconded by Doran, that the Utilities Committee meeting be adjourned at 5:17 p.m.. Roll Call. Motion carried by the following vote:

**Aye:** 4 - Meltzer, Smith, Doran and Thao

**Excused:** 1 - Martin



## **331-126-100 – 2518 S Kernan Ave – Timeline of account activity**

8/1/20 – Meter Reading 522.0 – quarterly consumption 6,300 gallons, bill for \$162.77 sent 8/31/2021.

11/1/20 – Meter Reading 576.0 – quarterly consumption 5,400 gallons, bill for \$157.30 sent 11/30/2021.

2/1/21 – Meter Reading 763.0 – quarterly consumption 18,700 gallons, bill for \$287.03 sent 2/28/2021.

5/1/21 – Meter Reading 1331.0 – quarterly consumption 56,800 gallons, bill for \$664.44 sent 5/31/2021

6/3/21 – Letter Sent for high use, water running at over 50 gallons per hour.

6/16/21 – Consumption history provided to Abby Ellenbecker by e-mail. A note also provided details of the infrequency of the continuous use and why the high use notification did not trigger until early June.

6/18/21 – Information for water use monitoring procedure was provided by e-mail the Abby Ellenbecker.

6/18/21 – Abby Ellenbecker submitted water credit policy review, however e-mail spelling delayed receipt of request until 8/3/21.

8/3/21 Meter Reading 2439.0 – quarterly consumption 110,800 gallons, bill for \$1,660.00 (included current charges of \$982.21 and past due charges of \$677.79) was sent 8/10/2021.

8/3/21 – Request to review for the water loss credit policy adjustment was received from Abby Ellenbecker.

8/11/21 – Letter sent to Abby Ellenbecker with information on review of water credit. Credit was denied as no Aquahawk account was established for the account at the time the leak started and was discovered.

9/30/21 – Payment plan was established for Abby Ellenbecker to extend payment of the account balance until 8/22/2022. All lates fess are waived during payment plan contract.

1/11/2022 – Request for Utility Committee review.



“...meeting community needs...enhancing quality of life.”

**DEPARTMENT OF PUBLIC WORKS**

**Engineering Division  
100 North Appleton Street  
Appleton, WI 54911  
(920) 832-6474  
FAX (920) 832-6489**

Revised Date: **September 17, 2020**

## **WATER LEAK POLICY**

### **BEFORE THE METER**

It is the sole responsibility of the property owner to maintain their water service and to ensure it is in proper working order and free of leaks. Water losses (leaks) that occur between the City connection (curb stop) and the water meter shall be the responsibility of the customer or the owner of the property.

Once a leak has been identified, the Water Utility will issue the property owner a 30 day notice to repair the water service unless the leak presents a risk to the public's health, safety or welfare. If the service is not repaired within the 30 days, the property owner will receive a 10 day final notice to repair the water service. If the service has not been repaired after the 10 days, the water service will be disconnected per Wisconsin Public Service Commission (PSC) Code 185.37 until the proper repairs have been made. The Water Utility may grant an extension for good cause provided the leak does not pose a risk to the public's health, safety or welfare. Private lead **and galvanized** service lines shall be fully replaced and not just repaired.

Water loss incurred after expiration of the 30 day notice may be subject to water loss charges. The charges will be determined based on an estimated water loss calculation performed by the Water Utility and will be billed at the current filed rates.

### **AFTER THE METER**

Water losses (leaks) that occur on the premises, which are registered by the water meter, shall be the responsibility of the customer or the owner of the property. It is the sole responsibility of the customer to monitor their metered water and prevent leakage in all piping and fixtures on the premises at and beyond the metering point. The Utility shall inform each customer once per year

of this responsibility and to inform them that any leaks or other losses of water registered by the meter will be billed at the filed rates.

Prior to requesting a bill adjustment for consideration, the following conditions shall be met:

1. Property shall be a residential property with 3 living units or less (100# accounts).
2. Customer had an active water customer portal account prior to the leak event.
3. Customer shall contact the Water Utility to schedule a one (1) hour appointment for a water meter technician to help identify or verify the possible leak(s). This will include an in-house inspection as well as reviewing the consumption history for the property.
4. The meter shall be tested by Water Utility personnel and witnessed by the customer at the Water Utility test lab.
5. The excess water volume for the billing period shall be at least three (3) times the average usage over the previous four quarters, but not less than a 10,000 gallon increase.
6. Customer may be required to submit the claim of loss and/or damage to the customer's property insurer e.g. homeowner's insurance and, if denied, provide the City written evidence of the denial.
7. Customer shall provide documentation that plumbing or appliance at point of water leak has been repaired.
8. Customer shall provide a written request to the Water Utility for a bill adjustment, explaining the details of the loss, justification for the water bill adjustment and the date the property was last occupied or inspected by the owner. Written request shall be received by the Water Utility within 120 days of the bill date in question.

If all of the above conditions have been met, the Public Works and Finance Director, or their designee, will jointly determine if a bill adjustment is appropriate.

Since any credit(s) issued will directly impact all of the Water Utility customers, consideration may be based on whether or not the leak may have resulted from the neglect or carelessness of the owner, agent or tenant. Any credit(s) issued will be per PSC Regulations.

# WATER USAGE MONITORING PROCEDURE

Updated March 9, 2017

The Public Service Commission (PSC) does not require a Utility to monitor or notify for high water usage or significant changes in consumption. Therefore, it is the sole responsibility of each customer to monitor their metered water on their premises, at and beyond the metering point.

The Appleton Water Utility values the importance of providing good customer service and may assist with monitoring for significant increases in consumption and large leaks that have potential to present a risk to the public's health, safety or welfare. Monitoring and notification of customer usage by the Utility is not guaranteed and is dependent upon several factors including, but not limited to, availability of staff, equipment and technology.

The Utility may monitor for significant increases in consumption utilizing available meter technology. The following parameters are recommended guidelines when monitoring for abnormally high consumption:

- #100 accounts (residential) - 30 gallons/hour for at least 120 consecutive hours
- #200 accounts (commercial) – 100 gallons/hour for at least 168 consecutive hours
- #300 accounts (industrial) – not monitored
- #400 accounts (public authority) – 100 gallons/hour for at least 168 consecutive hours
- #600 accounts (apartment bldgs.) - 100 gallons/hour for at least 168 consecutive hours

If a significant change in consumption has been identified by the Utility, the following process may be followed:

- Mail, email or text a high consumption notice to the customer to notify them of the increased water usage.
  - Utility may assist the customer in identifying the source of the increased water usage. This may include a phone conversation or up to a one (1) hour appointment at their property.
- Utility may visit the property if the leak is substantial and staff determines there may be the potential to present a risk to the public's health, safety or welfare (over 250 gal/hour).
  - If the Utility is not able to make contact with the customer, staff will leave a notice at the property advising the customer of the detected high consumption and asking for them to contact the Utility.
    - If no response within 48 hours, the Utility may turn the water off at the curb box until the customer requests the water to be turned back on.

This procedure is intended only to provide guidelines regarding the Utility's monitoring of, and response to, increased water usage. This procedure shall not be construed as making any promises, warranties, representations or the like to any property owner regarding the monitoring of water usage, nor is it intended in any way to relieve property owners of the ultimate responsibility to monitor water use on their property.



"...meeting community needs...enhancing quality of life."

---

Department of Utilities  
Wastewater Treatment Plant  
2006 E Newberry Street  
Appleton, WI 54915  
920-832-5945 tel.  
920-832-5949 fax

**TO:** Chairperson Vered Meltzer and Members of the Utilities Committee

**FROM:** Chris Stempa, Utilities Deputy Director

**DATE:** January 26, 2022

**RE:** *Approve: Sole Source Engineering Services Contract to McMahon as part of 2022 AWWTP Preliminary Heat Exchanger and Blended Sludge Piping Replacement Project in the amount of \$26,300 with a 10% contingency of \$2,630 for a Project Total not to exceed \$28,930*

---

#### **BACKGROUND:**

McMahon provided an engineering services proposal for the 2022 Appleton Wastewater Treatment Plant (AWWTP) Preliminary Heat Exchanger and Blended Sludge Piping Replacement Project. The staff rationale for soliciting a proposal was founded on the work McMahon had and continues to perform as part of the 2019 AWWTP Improvements Project. The following is a list of the individual rehabilitation and replacement projects within the 2019 AWWTP Improvements Project engineering services umbrella.

1. Biogas Waste Gas System Rehabilitation
2. Filtrate Pipe Modifications
3. Filtrate Storage Tank Repairs
4. Outside Chemical Offload Secondary Containment Repairs
5. Return Activated Sludge (RAS) pump replacement
6. Blended Sludge Piping Replacement
7. Plant Effluent Pumping Station #2 Pump Replacement (2020 CIP)
8. Primary Clarifier #5 and #6 Drive Replacement (2020 CIP)

A few months in advance of the public bid advertisement staff observed multiple leaks along the blended sludge pipe extending from the MK-Tunnel down the vertical elevator chase of K-Building to the basement level below. The risk of failure within the nearly 30-year-old pipe which was affected by chloride and microbiologically influenced corrosion (MIC) necessitated that the blended sludge pipe be replaced as part of the 2019 AWWTP Improvements Project. That decision required the AWWTP staff to remove the blended sludge Preliminary Heat Exchanger (HEX) replacement which was originally intended to be part of the 2019 AWWTP Improvements Project bid documents because of limited budgetary funding. Although the HEX was removed, the intent was to complete the work as soon as possible.

The preliminary HEX is comprised of eight (8) 32.5-foot lengths of concentric, tube-in-tube carbon steel pipe with long sweeping 180-degree uninsulated return elbows that transfer the sludge from one length of the HEX to the other. The preliminary HEX is used to preheat blended sludge (e.g. raw primary sludge, thickened waste activated sludge, primary scum and hauled-in high-strength industrial waste) from the Raw Sludge Blending Tank before being pumped to primary digestion. Each 2.2-million-gallon anaerobic digester has its own HEX system to maintain the 95°F sludge operating temperature target required for mesophilic bacteria.

The preliminary HEX was shut down in 2019 and remains offline due to deterioration noted previously with other sections of blended sludge pipe. Even without the preliminary HEX, the primary digesters are still capable of consistently achieving the 95°F target since they are supported by independent HEXs. However, the ability to reach the target temperature would be severely jeopardized if one of the two primary digester HEXs were to fail in conjunction with the offline preliminary HEX. Hence, the motivation to advance the work as part of the 2022 capital improvements project (CIP).

## **PROPOSAL**

The sole source contract proposal provided by McMahon takes advantage of engineering design work and bidding documentation already completed on the preliminary HEX and blended sludge pipe replacement as part of the 2019 AWWTP Improvements Project. McMahon identified a corrosion resistant coating for the blended sludge pipe and is sensitive to the challenges the replacement work presents to sustaining uninterrupted treatment operations. McMahon's prior work and familiarity with this scope is highlighted in their proposed fee (summarized below) for design, bidding, and construction management services which is about 50% of what was allocated in the CIP budget (i.e., 12.5% of estimated construction costs based on project complexity).

### **2022 AWWTP Blended Sludge Piping Replacement Project Fee**

<b>Service</b>	<b>Fee</b>
Design	\$12,900
Bidding Phase	\$2,900
Construction Management	\$10,500

**Total \$26,300**

## **RECOMMENDATION**

Approval of a sole source Engineering contract for 2022 Preliminary Heat Exchanger and Blended Sludge Piping Replacement Project to McMahon in the amount of \$26,300 with a 10% contingency of \$2,630 for a Project Total not to exceed \$28,930

If you have any questions or require additional information regarding this project, please contact Chris Stempa at 920-832-5945.



Paula Vandehey, PE  
Director of Public Works  
City of Appleton  
100 N. Appleton Street  
Appleton, WI 54911

Arcadis U.S., Inc.  
126 North Jefferson  
Street  
Suite 400  
Milwaukee  
Wisconsin 53202  
Phone: 414 276 7742  
Fax: 414 276 7603  
[www.arcadis.com](http://www.arcadis.com)

Date: February 3, 2022  
Our Ref: 30087404  
Subject: LCRR Compliance, Public Outreach Materials

Dear Ms. Vandehey,

As part of the ongoing effort to develop the City of Appleton's Lead Service Line Replacement (LSLR) Plan, Arcadis completed a review of the City's current public outreach / notification practices and materials related to the Lead and Copper Rule Revisions (LCRR). The City has several important public outreach goals for the Program including:

- Educating the public on lead risk and lead service line ownership, and identifying actions being taken by the City as well as actions that can be taken by property owners.
- Developing and implementing a communication program that promotes customer participation in LSLR and related service line material investigations.
- Creating project transparency through honest and open dialogue.

In order to accomplish these goals and meet the requirements of the LCRR, additional outreach activities and methods are required above and beyond the City's current practices. These additional efforts were documented in the Lead Service Line Replacement (LSLR) Plan and are summarized in Table 1, LSLR Program Outreach and Notification Activities and Methods, which is attached to this letter for your reference. Additional materials requiring development include but are not limited to letters, emails, fact sheets, and door hangers. The City of Appleton has requested Arcadis' assistance in the development of additional required materials and communications plans. Our proposed services are outlined below.

### **Scope**

This program is critical for the overall success of the City's Lead Service Replacement Goals. The City has requested professional services to assist with proactively positioning the City and its residents to be in compliance with the upcoming requirements of the LCRR. This section outlines specific tasks that need to be addressed as part of the program.

### **Task 1. Planning Workshop**

Arcadis will conduct a public outreach planning workshop with key City staff to share example outreach materials and lessons learned from other projects, identify key messages and engagement strategies, brainstorm audiences and potential partners, and discuss utility preferences, delivery methods, and resources. Based on the outcome of this workshop, public outreach content will be created under Task 2. A review of the City's current outreach and notification materials will also be completed as part of the preparation for the meeting. Arcadis will

Ms. Vandehey  
City of Appleton  
February 3, 2022

update the attached Table 1 and develop a brief written summary of the engagement strategy, purpose, outcomes, and process (POP).

**Activities:**

- Planning Workshop (virtual)
- Evaluate current communications materials on lead and copper and compliance with LCRR
- Updates to Table 1 and POP Summary

**Deliverables:**

- Updated Table 1
- POP Summary
- Workshop agenda and action items

**Task 2. Develop Public Outreach and Notification**

Following the Planning Workshop in Task 1 and the completion of the review of the City's existing outreach and educational materials pertaining to lead, Arcadis will develop the proposed content and associated graphics for the public outreach and notification materials shaded in yellow in Table 1. Creation of materials will initially focus on those most critical for the 2022 LSLR Program including the first letter to inform impacted homeowners about the City's replacement program and provide an avenue for enrollment. Additional materials required for replacement activities will be prepared ahead of anticipated construction beginning in June/July 2022. While any content will be specific to the 2022 Program, it will be developed with the intention of use in following years with minor revisions as needed.

A second meeting is included in this task to review comments on the draft materials and associated responsibilities with the City. Arcadis will develop and provide all materials to the City in English; the City will be responsible for translating materials into other languages as required by the community. Specific activities and deliverables are summarized below.

**Activities:**

- Develop content and graphics for select customer outreach and communications materials in support of the LSLR program.
- Participate in up to two (2) one-hour task progress meetings via conference call, if required.
- Host a virtual review workshop (one hour) to collect feedback from the City and review associated outreach responsibilities with key staff.

**Deliverables:**

- Education and communication materials as highlighted in yellow in Table 1 (attached) and described below
- Workshop agenda and action items

**Assumptions:**

- All content will be delivered in an electronic format (i.e., PDF, Word, JPEG, etc.). The City of Appleton is responsible for any production and distribution of these materials, including posting to the City's website.
- The City of Appleton will be responsible for translating all content into other languages.



Ms. Vandehey  
City of Appleton  
February 3, 2022

- Includes content for up to three (3) fact sheets, four (4) door hangers, and six (6) letters.

**Schedule**

The above tasks will be completed within six months of the notice to proceed.

**Budget**

The above activities will be completed as an amendment to the current Arcadis contract as indicated below:

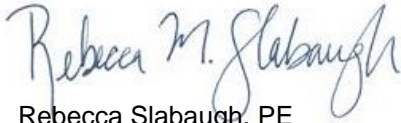
Contract name: Lead Service Line Replacement Plan  
Contract date: June 24, 2021

Compensation for services performed in accordance with this agreement will be completed on a time and materials basis for a total fee not to exceed the total indicated in the table below. Budgets for the tasks are also shown in the table.

Task	Description	Budget			
		Hours	Labor	Expenses	Total
1	Planning Workshop	32	\$5,600	\$0	\$5,600
2	Public Outreach & Notification Materials	94	\$16,800	\$0	\$16,800
Total			\$22,400	\$0	\$22,400

Ms. Vandehey  
City of Appleton  
February 3, 2022

Sincerely,  
Arcadis U.S., Inc.



Rebecca Slabaugh, PE  
Associate Vice President

Email: [Rebecca.slabaugh@arcadis.com](mailto:Rebecca.slabaugh@arcadis.com)  
Direct Line: 317.236.2841

CC. Amy Smitley, PE  
Hannah Rockwell, PE

Enclosures:  
Table 1 - LSLR Program Outreach and Notification Activities and Methods

*This proposal and its contents shall not be duplicated, used or disclosed — in whole or in part — for any purpose other than to evaluate the proposal. This proposal is not intended to be binding or form the terms of a contract. The scope and price of this proposal will be superseded by the contract. If this proposal is accepted and a contract is awarded to Arcadis as a result of — or in connection with — the submission of this proposal, Arcadis and/or the client shall have the right to make appropriate revisions of its terms, including scope and price, for purposes of the contract. Further, client shall have the right to duplicate, use or disclose the data contained in this proposal only to the extent provided in the resulting contract.*

Table 1. LSLR Program Outreach and Notification Activities and Methods

Timing	Activity	Communication Tool					
		Letters	Email	Fact Sheets	Doorhangers/ postcards	Website/ Dedicated Webpage	Public Information Meetings
Pre-Replacement	Dangers of lead	✓		X		X	
	At-risk homes	✓		X			
	Lead exposure reduction	✓		X			
	Service line ownership			X		X	
	Service line investigation	✓				X	
	LSLR Program	X				X	
	Mandatory ordinance	X				X	
	Program contact information					X	
	Notification of Work and Reminders	X			X		
	Application for LSLR <sup>2</sup>	X				X	
	Permitting <sup>3</sup>	X				X	
	Funding and Financing	X				X	
	Coordination / Scheduling for LSLR	X				X	
	Service line material confirmation (non-lead only)				X		
	Instructions and distribution of pitcher filters	X		X			
HVF flushing and aerator removal			X	X			
Post- Replacement	Daily flushing and lead reduction practices	X		X	X	X	
	Reminder for follow-up sampling	X	X				
	Notification of sampling result	X	X	X			

Notes:

1. Check mark indicates public outreach materials already in use by the City. Arcadis will review these under Task 1.
2. The Application for LSLR will be combined with the LSLR Program and Mandatory Ordinance letter mailed to the first 100 participants in the 2022 Program.
3. Not a part of replacement program or utility projects



“Meeting community needs...enhancing quality of life.”

Department of Utilities  
Wastewater Treatment Plant  
2006 E Newberry Street  
Appleton, WI 54915-3128  
920-832-5945 tel.  
920-832-5949 fax

**To:** Chairperson Vered Meltzer and Members of the Utilities Committee

**From:** Chris Stempa, Utilities Deputy Director

**CC:** Chris Shaw, Utilities Director  
Kelli Rindt, Enterprise Fund Accounting Manager

**Date:** January 28, 2022

**Re: Informational Item: *Change Orders #1 and #2 to Sabel Mechanical contract as part of the 2021 Secondary Clarifier Drive Removal, Rebuild, and Reinstallation Project totaling \$12,724 resulting in a decrease in contingency from \$26,145 to \$13,421***

On June 2, 2021 Common Council approved contract for the 2021 Secondary Clarifier Drive Removal, Rebuild, and Reinstallation Project in the amount of \$174,302 with 15% contingency of \$26,145 for a project total not to exceed \$200,447. The tasks within Change Orders #1 and #2 represents work that will be added to the original contract scope of work (per Section IV P of the Procurement and Contract Management Policy) or deleted from, which alters the original contract amount and/or completion date. The tasks associated with these change orders are summarized below.

CO#	Cost	Date	Description
CO#1	\$8,146	10/18/2021	Replace all 12 aluminum skimmer assemblies with 304SS
CO#2	\$4,578	11/8/2021	Raise #6 tow-bro manifold to the gasket as it has become worn and install ring.

TOTAL \$12,724

If you have any questions regarding the project or the associated change order please contact Chris Stempa at 832-2353.



## 2021 Annual Report

### NEWSC Mission:

To facilitate efficient implementation of stormwater programs locally and regionally that will meet DNR and EPA regulatory requirements and maximize the benefit of stormwater activities to the watershed by:

- **Fostering partnerships**
- **Sharing Information**
- **Seeking Administrative Efficiency**
- **Pooling Financial Resources**

The Northeast Wisconsin Stormwater Consortium was formed in 2005 as a subsidiary of the Fox-Wolf Watershed Alliance. The consortium is a collaborative of members with leadership elected annually from within its membership.

### 2021 NEWSC Members:

[Brown County](#)  
[Calumet County](#)  
[Fond du Lac County](#)  
[Outagamie County](#)  
[Winnebago County](#)  
[City of Appleton](#)  
[City of De Pere](#)  
[City of Fond du Lac](#)  
[City of Green Bay](#)  
[City of Kaukauna](#)  
[City of Manitowoc](#)  
[City of Marinette](#)  
[City of Menasha](#)  
[City of Neenah](#)  
[City of Oshkosh](#)  
[City of Two Rivers](#)

[Town of Algoma](#)  
[Town of Black Wolf](#)  
[Town of Buchanan](#)  
[Town of Clayton](#)  
[Town of Fond du Lac](#)  
[Town of Friendship](#)  
[Town of Grand Chute](#)  
[Town of Lawrence](#)  
[Town of Ledgeview](#)  
[Town of Neenah](#)  
[Town of Scott](#)  
[Town of Taycheedah](#)  
[Town of Vinland](#)  
[University of WI – Oshkosh](#)  
[Village of Allouez](#)  
[Village of Ashwaubenon](#)

[Village of Bellevue](#)  
[Village of Combined Locks](#)  
[Village of Eden](#)  
[Village of Fox Crossing](#)  
[Village of Greenville](#)  
[Village of Harrison](#)  
[Village of Hobart](#)  
[Village of Howard](#)  
[Village of Kimberly](#)  
[Village of Little Chute](#)  
[Village of N. Fond du Lac](#)  
[Village of Sherwood](#)  
[Village of Suamico](#)  
[AECOM](#)  
[Ayres Associates](#)  
[Brown & Caldwell](#)

[Cedar Corporation](#)  
[Contech Construction](#)  
[County Materials](#)  
[Davel Engineering](#)  
[Graef, USA](#)  
[Mach IV Engineering & Surveying](#)  
[Martenson & Eisele](#)  
[Mau & Associates](#)  
[McMAHON Group](#)  
[Mead & Hunt](#)  
[MSA Professional Services](#)  
[raSmith](#)  
[Robert E. Lee Associates](#)  
[Ruekert & Mielke](#)  
[Westwood Professional Services](#)

### Northeast Wisconsin Stormwater Consortium

Fostering Partnerships • Sharing Information • Administrative Efficiency • Pooling Financial Resources



**NEWSC Resources Available to Members:**

\*If Members utilized these resources to provide education to their residents, elected officials or staff, members should include details of how they were used in their individual annual reports.

\*For outreach efforts conducted by NEWSC that members can enter directly into their individual annual report, look for your community name in each section.

**MCM #2 Public Education & Outreach**

**Topic #1: Illicit Discharge Detection & Elimination**

The resources below were created by NEWSC and are available for NEWSC members to print and mail out to local businesses, share on social media or have available to residents by printing and displayed at the office or other public venue.

If used in the in the manner above: Delivery Mechanism would be passive.

Carpet Cleaning Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2015/04/Professional-Carpet-Cleaning.pdf">http://www.renewourwaters.org/wp-content/uploads/2015/04/Professional-Carpet-Cleaning.pdf</a>
Greenhouses, Garden Centers & Nurseries Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2015/04/Garden-Centers.pdf">http://www.renewourwaters.org/wp-content/uploads/2015/04/Garden-Centers.pdf</a>
Professional Power Washing Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2015/04/Power-washing-for-the-professional-washer.pdf">http://www.renewourwaters.org/wp-content/uploads/2015/04/Power-washing-for-the-professional-washer.pdf</a>
Concrete Washout Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2015/04/Concrete-Washout.pdf">http://www.renewourwaters.org/wp-content/uploads/2015/04/Concrete-Washout.pdf</a>
Construction Site Erosion & Sediment Control	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Construction-BMPs-Erosion-Sediment-Control.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Construction-BMPs-Erosion-Sediment-Control.pdf</a>
Dumpster Management Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2015/04/Dumpster-Management-bilingual-pamphlet.pdf">http://www.renewourwaters.org/wp-content/uploads/2015/04/Dumpster-Management-bilingual-pamphlet.pdf</a>
Dumpster Management Poster	<a href="https://drive.google.com/file/d/1736Sg155_XWFND0kH4nHq1MQowgiuD8_/view?usp=sharing">https://drive.google.com/file/d/1736Sg155_XWFND0kH4nHq1MQowgiuD8_/view?usp=sharing</a>
Parking Lot Maintenance Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2015/04/Parking-Lot-BMP.pdf">http://www.renewourwaters.org/wp-content/uploads/2015/04/Parking-Lot-BMP.pdf</a>
Winter Parking Lot Maintenance Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/11/Parking-Lot-Maintenance-Winter-BMPs.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/11/Parking-Lot-Maintenance-Winter-BMPs.pdf</a>

**\*Did you have inspectors in your community stop by businesses this year? Did they do illicit discharge inspections and meet with area businesses about illicit discharge? If so, you can record those interactions as active outreach.**



**NEWSC Active Delivery on Behalf of Members: Volunteer Event - Annual Watershed Cleanup**

Fox-Wolf Watershed Alliance continues to add sites every year. If your community would like a site added for 2022, contact Kelly ([Kelly@fwwa.org](mailto:Kelly@fwwa.org)). Sites should have public access. Communities are asked to provide a site leader for the 1<sup>st</sup> year.

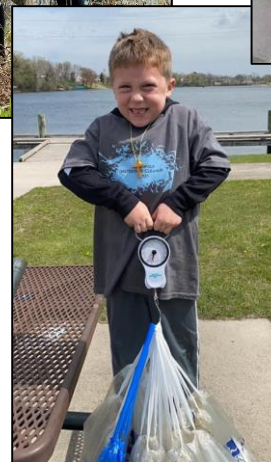
Municipality	Number of Volunteers
Allouez	78
Appleton	196
Calumet County	94
De Pere	37
Eureka	20
Fond du Lac	45
Grand Chute	9
Green Bay	179
Hortonville	17
Kaukauna	78
Ledgeview	24
Little Chute	56
Menasha	92
Neenah	52
New London	48
Oshkosh	292
Outagamie County	26
Shawano	29
Waukau	11
Waupaca	23
Winneconne	48

**Totals:**

**Volunteers: 1,577 | Trash Bags: 873 | Tires: 26 | Electronics: 33**

**Plastic bags: 2,375 | Face Masks: 472 | Straws: 1,763 | Recycle bags: 151**

**Total Weight: 7,234 pounds**







**2.1.1**

**Topic #2: Household Hazardous Waste Disposal/Pet Waste Management/Vehicle Washing**

The resources below were created by NEWSC and are available for NEWSC members to print and mail out to local businesses, share on social media or have available to residents by printing and displayed at the office or other public venue.

If used in the in the manner above: Delivery Mechanism would be passive.

Household Hazardous Waste Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Household-Hazardous-Waste.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Household-Hazardous-Waste.pdf</a>
Carpet Cleaning Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/carpet-cleaning.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/carpet-cleaning.pdf</a>
Kids Can Help Too Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Kids-can-help-too.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Kids-can-help-too.pdf</a>
Good Dog, Good Owner Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Good-Dog-Good-Owner.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Good-Dog-Good-Owner.pdf</a>
Power Washing Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Power-Washing-Home.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Power-Washing-Home.pdf</a>
Fish Don't Swim in Chlorine Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Pool-Spa-Discharge.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Pool-Spa-Discharge.pdf</a>
Vehicle Maintenance Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Vehicle-Maintenance.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Vehicle-Maintenance.pdf</a>
Vehicle Maintenance Webpage	<a href="http://www.renewourwaters.org/vehicle-maintenance-2/">http://www.renewourwaters.org/vehicle-maintenance-2/</a>
Kids Can Help Too Webpage	<a href="http://www.renewourwaters.org/kids-can-help-too-3/">http://www.renewourwaters.org/kids-can-help-too-3/</a>
Household Hazardous Waste Webpage	<a href="http://www.renewourwaters.org/household-hazardous-waste-3/">http://www.renewourwaters.org/household-hazardous-waste-3/</a>
Power Washing Webpage	<a href="http://www.renewourwaters.org/power-washing/">http://www.renewourwaters.org/power-washing/</a>
Fish Don't Swim in Chlorine Webpage	<a href="http://www.renewourwaters.org/pools-and-spas/">http://www.renewourwaters.org/pools-and-spas/</a>
Carpet Cleaning Webpage	<a href="http://www.renewourwaters.org/carpet-cleaning-2/">http://www.renewourwaters.org/carpet-cleaning-2/</a>
Good Dog, Good Owner Webpage	<a href="http://www.renewourwaters.com/our-pets-our-waters/">http://www.renewourwaters.com/our-pets-our-waters/</a>
Good Dog, Good Owner Infographic	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Good-Dog-Good-Owner-Web-Ready.png">http://www.renewourwaters.org/wp-content/uploads/2019/07/Good-Dog-Good-Owner-Web-Ready.png</a>
Car Washing Infographic	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Car-on-GrassSM.jpg">http://www.renewourwaters.org/wp-content/uploads/2019/07/Car-on-GrassSM.jpg</a>

**\*Did you exhibit or do any community presentations that hit on these topics? If so, you can record those interactions as active outreach.**

NEWSC Passive and Active Delivery for this topic can be found at the end of the report.





2.1.1

**Topic #3: Yard Waste Management/Pesticide and Fertilizer Application**

The resources below were created by NEWSC and are available for NEWSC members to print and mail out to local businesses, share on social media or have available to residents by printing and displayed at the office or other public venue.

If used in the in the manner above: Delivery Mechanism would be passive.

Leave Your Leaves on Land Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Leave-Your-Leaves-on-Land.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Leave-Your-Leaves-on-Land.pdf</a>
The Perfect Lawn Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/The-Perfect-Lawn.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/The-Perfect-Lawn.pdf</a>
Perfect Landscape Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/The-Pefect-Landscape-7.9.19.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/The-Pefect-Landscape-7.9.19.pdf</a>
Ice & Snow Control flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Leave-Your-Leaves-on-Land.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Leave-Your-Leaves-on-Land.pdf</a>
Kids Can Help Too Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Kids-can-help-too.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Kids-can-help-too.pdf</a>
Leave Your Leaves on Land Webpage	<a href="http://www.renewourwaters.org/leave-your-leaves-on-land/">http://www.renewourwaters.org/leave-your-leaves-on-land/</a>
The Perfect Lawn Webpage	<a href="http://www.renewourwaters.org/the-perfect-lawn-3/">http://www.renewourwaters.org/the-perfect-lawn-3/</a>
Perfect Landscape Webpage	<a href="http://www.renewourwaters.org/the-perfect-landscape/">http://www.renewourwaters.org/the-perfect-landscape/</a>
Ice & Snow Control Webpage	<a href="http://www.renewourwaters.org/ice-and-snow-control-3/">http://www.renewourwaters.org/ice-and-snow-control-3/</a>
Kids Can Help Too Webpage	<a href="http://www.renewourwaters.org/kids-can-help-too-3/">http://www.renewourwaters.org/kids-can-help-too-3/</a>
Ice & Snow Control Infographic	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Ice-and-snow-removal-photo.jpg">http://www.renewourwaters.org/wp-content/uploads/2019/07/Ice-and-snow-removal-photo.jpg</a>
Leave Your Leaves on Land Infographic	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/leaf-collection.jpg">http://www.renewourwaters.org/wp-content/uploads/2019/07/leaf-collection.jpg</a>
Sweep Grass Clippings Infographic	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/grassclippingsROW.jpg">http://www.renewourwaters.org/wp-content/uploads/2019/07/grassclippingsROW.jpg</a>

**\*Did you exhibit or do any community presentations that hit on these topics? If so, you can record those interactions as active outreach.**

NEWSC Passive and Active Delivery for this topic can be found at the end of this report.

2.1.1

**Topic #4: Stream and Shoreline Management**

The resources below were created by NEWSC and are available for NEWSC members to print and mail out to local businesses, share on social media or have available to residents by printing and displayed at the office or other public venue.

If used in the in the manner above: Delivery Mechanism would be passive.

Restore Your Shore Flyer	<a href="https://drive.google.com/file/d/1lqu6TR_8_pEv6axAyxMWz2di_eOiR4Zo/view?usp=sharing">https://drive.google.com/file/d/1lqu6TR_8_pEv6axAyxMWz2di_eOiR4Zo/view?usp=sharing</a>
--------------------------	---

**\*Did you meet with homeowners in 2021 to educate them on streambank erosion and BMPs to reduce erosion? You can record these discussions as active outreach.**



2.1.1

**Topic #5: Residential Infiltration**

The resources below were created by NEWSC and are available for NEWSC members to print and mail out to local businesses, share on social media or have available to residents by printing and displayed at the office or other public venue.

If used in the in the manner above: Delivery Mechanism would be passive.

Rain Barrel Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/04/Rain-Barrels-Handout.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/04/Rain-Barrels-Handout.pdf</a>
The Perfect Landscape Flyer	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/The-Pefect-Landscape-7.9.19.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/The-Pefect-Landscape-7.9.19.pdf</a>
The Perfect Landscape Webpage	<a href="http://www.renewourwaters.org/the-perfect-landscape/">http://www.renewourwaters.org/the-perfect-landscape/</a>
Rain Barrel Webpage	<a href="http://www.renewourwaters.org/rain-barrels/">http://www.renewourwaters.org/rain-barrels/</a>
Grass Clippings Infographic	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/grassclippingsROW.jpg">http://www.renewourwaters.org/wp-content/uploads/2019/07/grassclippingsROW.jpg</a>

**\*Did you host rain barrel workshop? If so, claim active outreach for this topic.**

2.1.1

**Topic #6: Construction Sites/Post Construction Stormwater Management**

The resources below were created by NEWSC and are available for NEWSC members to print and mail out to local businesses, share on social media or have available to residents by printing and displayed at the office or other public venue.

If used in the in the manner above: Delivery Mechanism would be passive.

Stormwater & the Construction Industry Poster	<a href="http://www.renewourwaters.org/wp-content/uploads/2019/07/Construction-BMPs-Erosion-Sediment-Control.pdf">http://www.renewourwaters.org/wp-content/uploads/2019/07/Construction-BMPs-Erosion-Sediment-Control.pdf</a>
Erosion & Sediment Control Pocket Field Guide	<a href="https://fwwa.sharepoint.com/:b:/s/NEWSC2/EdPUndRD7MRKv0zfhIEnploBchXb5kenGX0HmZR5nlhwgA?e=vTY8kg">https://fwwa.sharepoint.com/:b:/s/NEWSC2/EdPUndRD7MRKv0zfhIEnploBchXb5kenGX0HmZR5nlhwgA?e=vTY8kg</a>

**\*Did you have active discussions regarding construction site erosion control? If you used these materials or other educational materials and had meetings/trainings (even 1 on 1 meetings with builders/contractors/inspectors) then you can record that interaction as an active outreach. These training may have included the NEWSC Excal Video below.**

Excal Visual Videos on Pollution Prevention available for member checkout in 2021:

<p><b>“Ground Control” – Stormwater for Construction BMPs</b></p> <p>This employee training kit is designed to show employees how erosion, sediments and other potential surface water pollutants are controlled at construction sites. The program focuses on Best Management Practices (BMPs) that are widely used at most construction sites including: silt fence, stabilized entrances/exits, drop inlet protectors and others. The program illustrates how these BMPs work and how they can fail. (14 minutes)</p>
--



Click here to preview from Excal Visual's site:

<https://www.excalvisual.com/ground-control-extended-preview>

**BMP Master List**

The purpose of the Stormwater Quality Management BMP master list is to allow MS4 and Public Works managers to easily search available stormwater and erosion control BMPs based on target pollutants, WDNR Technical Standards, and keywords. The master list provides insight into the benefits and limitations of each BMP, allowing the user to have a brief understanding of each device to help guide decision making when implementing or reviewing projects. The spreadsheet can be found on the NEWSC member resources page on newsc.org and [HERE](#).

**Model Ordinance Reference Guides Updated**

NEWSC's Construction Site Erosion Control Reference Guide and Post-Construction Pollution Control Reference Guide – the companion documents to NEWSC's model ordinances – have been updated and are available for member use. The documents can be found on the NEWSC member resources page on newsc.org.

**2.1.1**

**Topic #7: Pollution Prevention**

The resources below were created by NEWSC and are available for NEWSC members to print and post by time clocks for training municipal staff.

If used in the in the manner above: Delivery Mechanism would be passive.

Fleet Maintenance	<a href="https://drive.google.com/file/d/1fIRY40S5nhHZU_7clwGTHtDfwglt7wbu/view?usp=sharing">https://drive.google.com/file/d/1fIRY40S5nhHZU_7clwGTHtDfwglt7wbu/view?usp=sharing</a>
Land Disturbances	<a href="https://drive.google.com/file/d/1VujZccTojAWZhjVcp4e6A9HyWjVAkGu/view?usp=sharing">https://drive.google.com/file/d/1VujZccTojAWZhjVcp4e6A9HyWjVAkGu/view?usp=sharing</a>
Materials Storage and Spill Cleanup	<a href="https://drive.google.com/file/d/1J_2_SuMYXwmOsqdpsdIINR_0klJ3qKMU/view?usp=sharing">https://drive.google.com/file/d/1J_2_SuMYXwmOsqdpsdIINR_0klJ3qKMU/view?usp=sharing</a>
Parks and Ground Maintenance	<a href="https://drive.google.com/file/d/14r436EKrJM44x_iPgioWXFrspmqbTVAg/view?usp=sharing">https://drive.google.com/file/d/14r436EKrJM44x_iPgioWXFrspmqbTVAg/view?usp=sharing</a>
Soil Waste Operations	<a href="https://drive.google.com/file/d/1r2gimtAsRanIpxSCevFntWMJwl5Z5tMS/view?usp=sharing">https://drive.google.com/file/d/1r2gimtAsRanIpxSCevFntWMJwl5Z5tMS/view?usp=sharing</a>
Streets and Drainage Maintenance	<a href="https://drive.google.com/file/d/1KtikoiyMCIPVBhv5VOhYERUIrH52NFxo/view?usp=sharing">https://drive.google.com/file/d/1KtikoiyMCIPVBhv5VOhYERUIrH52NFxo/view?usp=sharing</a>

**\*Did you have active pollution prevention trainings? If you used these materials or other educational materials and had meetings/trainings, then you can record that interaction as an active outreach. These training may have included the NEWSC Excal Videos below.**

Excal Visual Videos on Pollution Prevention available for member checkout in 2021:

<p><b>"Rain Check" - Stormwater Pollution Prevention for MS4s</b> Regulated municipalities and other municipal separate storm sewer system (MS4) operators must prevent pollutants from entering their storm drainage</p>	<p><b>"Storm Warnings" - Stormwater Pollution Prevention</b> This training kit is designed to provide general awareness training to employees and contractors about stormwater pollution prevention. It describes</p>
---	---



systems. One element of this requirement is preventing stormwater pollution by municipal facilities such as fleet maintenance shops, bus barns, sanitation facilities, parks and street sweeping operations. This program shows employees how to practice good housekeeping, spill response, materials management, vehicle fueling and washing and the other BMPs profiled in the "National Menu". (Program versions run between: 19 -and up to- 31 minutes)  
Click here to preview from Excal Visual's site:  
<https://www.excalvisual.com/swrc-extended-preview>

Best Management Practices (BMPs) that are useful and important at a wide range of regulated facilities. It covers good housekeeping and other BMPs that help protect stormwater run-off. The kit includes a template to guide the trainer through creating site specific training to use in addition to the general training in the video. (18 minutes)  
Click here to preview from Excal Visual's site:  
<https://www.excalvisual.com/storm-warning-extended-preview>

### 2.1.1

#### Topic #8: Green Infrastructure/Low Impact Development

NEWSC will be gathering resources for members to use going forward in 2022.

**\*Did you have active discussions with elected officials or developers about low impact residential design? If you had meetings/trainings or provided presentations on the topic, then you can record that interaction as an active outreach.**

### 2021 Workshops, Trainings, and Presentations

#### Outreach Plan Development Training

The NEWSC Outreach Plan development tool is available online to help NEWSC members put together an outreach plan that meets WDNR requirements and provides communities a way to track progress towards meeting requirements through the year. A folder that contains the planning template, and a few other useful resources can be found here: [https://drive.google.com/drive/folders/1Hbnx7wINIA\\_Q0I7Kcn5fA0bbP7K9uFa7?usp=sharing](https://drive.google.com/drive/folders/1Hbnx7wINIA_Q0I7Kcn5fA0bbP7K9uFa7?usp=sharing)

#### League of Wisconsin Municipalities Annual Conference Presentation

NEWSC gave a presentation about TMDL implementation at the League of Wisconsin Municipalities 2021 Annual Conference. The session had approximately 35 attendees, of which the majority were elected officials. A slideshow of the presentation is available on the NEWSC member resources page on [newsc.org](http://newsc.org) and [HERE](#).



**Stormwater Pond Dredging Workshop**

The Municipal Committee developed and hosted a comprehensive workshop on the process of stormwater pond dredging. The full-day hybrid workshop received approximately 45 in-person attendees and 25 virtual attendees, with more than a quarter of the attendees being from outside of the NEWSC membership region. We are working to gather recorded versions of all presentations to make available for members.

**2021 NEWSC SCHOOL PRESENTATIONS**

The following presentations were provided in classrooms or virtually in NEWSC communities throughout the Fox-Wolf River Basin in 2021. These lessons covered watershed basics, how we use water, water quality, stormwater runoff pollution, floodplains, water quantity issues, green infrastructure, and tips for students and parents for reducing and preventing polluted stormwater runoff. Tools used for providing this education include: EnviroScape model, Ward’s Floodplain model, stormwater find-it jars, stormwater runoff plinko, and templates for designing storm drain murals.

Stormwater Topic:	Discussed?	Stormwater Topic:	Discussed?
Illicit Discharge Detection & Elimination	YES	Residential Infiltration	YES
Household Hazardous Waste Disposal/Pet Waste Management/Vehicle Washing	YES	Construction sites and Post Construction Stormwater Management	YES
Yard Waste Management/Pesticide and Fertilizer Application	YES	Pollution Prevention	YES
Stream and Shoreline Management	YES	Green Infrastructure/Low Impact Development	NO

**\*If your community had school presentations in 2021, we recommend tying the school presentation in your annual report to a topic identified as discussed in the table above that you did not conduct outreach on in another way. These presentations are considered active outreach.**

NEWSC provides school presentation upon request by teachers. If your school district did not have presentations in 2021 and you would like NEWSC to present in your community, please reach out to your school district and share the School Presentation flyer:

<https://drive.google.com/file/d/1fgeOMD2Zqd5yASOiPU7GdvD6lbMhgXo7/view?usp=sharing>





**Green Bay**

- 02/02/2021 - virtual presentation for NEW Scholars students grades 6<sup>th</sup>-8<sup>th</sup>, approx. reach 65

**De Pere**

- 02/22/2021 - virtual presentation for various majors at St. Norbert College, approx. reach 18

**Appleton**

- 04/05/2021 - virtual presentation for Girl Scouts and parents, approx. reach 25
- 11/30/2021 – 12/01/2021 - 7 presentations for Wilson Middle School, approx. reach 160
- 12/09/2021 - presentation for Xavier High School, approx. reach 30
- 12/16/2021 - 4 presentations for Foster Elementary School, approx. reach 96 students
- 12/17/2021 - presentation for Columbus Elementary School, approx. reach 25



**Kaukauna**

- 04/13/2021 - presentation for Girl Scouts, approx. reach 15

**Oshkosh**

- 9/15/2021 - presentation for Oshkosh North High School 9<sup>th</sup> – 12<sup>th</sup> graders, approx. reach 45



**Allouez**

- 12/21/2021 - 2 presentations for Doty Elementary School, approx. reach 25

**Basin-Wide**

- 10/12/2021 - virtual presentation for Girl Scouts of the Northwestern Great Lakes, approx. reach 40





**2021 NEWSC EXHIBITING**

The following exhibits were coordinated at events in NEWSC communities throughout the Fox-Wolf River Basin. These educational exhibits provided information on watershed basics, water quality, stormwater runoff pollution, floodplains, water quantity issues, green infrastructure, and tips and advice for area residents for reducing and preventing polluted stormwater runoff. Tools used for providing this education include: Ward's Floodplain model, wheel of pollution, stormwater find-it jars, stormwater runoff plinko, the digital and paper watershed pledge, and educational flyers.

Stormwater Topic:	Discussed?	Stormwater Topic:	Discussed?
Illicit Discharge Detection & Elimination	YES	Residential Infiltration	YES
Household Hazardous Waste Disposal/Pet Waste Management/Vehicle Washing	YES	Construction sites and Post Construction Stormwater Management	NO
Yard Waste Management/Pesticide and Fertilizer Application	YES	Pollution Prevention	YES
Stream and Shoreline Management	YES	Green Infrastructure/Low Impact Development	NO

**\*If your community had exhibitions in 2021, we recommend tying the exhibiting event in your annual report to a topic identified as discussed in the table above that you did not conduct outreach on in another way. Exhibiting is considered active outreach.**

**Town of Black Wolf**

- 05/15/2021 - Household Hazardous Waste & E-recycling event, approx. reach 42

**Village of Harrison**

- 06/09/2021 - Kiwanis Ice Cream, approx. reach 62

**City of Appleton**

- 07/18/2021 - Appleton Old Card Show & Swap Meet, approx. reach 20





**Village of Bellevue**

- 10/16/2021 - Trick or Treat Trail, approx. reach 1400

**Town of Fond du Lac**

- 10/16/2021 - Fire Department Open House, approx. reach 50

**Storm Drain Makeovers (Active Participation)**

- 05/22/2021 – **Howard**, Volunteer: Jacob Vandallwyk



**Watershed Pledges (Active Participation):**

**Appleton – 54911**

- Cindy Carter, age 50+

**Appleton – 54915**

- Michelle Wright, age 21-49

**Cascade – 53011**

- Rhonda Bohrmueller, age 50+

**Chilton – 53014**

- Sue Vanne, age 50+

**Green Bay – 54304**

- Leigha Broeren, age 21-49

**Hilbert – 54129**

- Judy Hartl, age 50+

**Kaukauna – 54130**

- Steve Bartsch, age 50+
- Tara Erickson-Bartsch, age 50+
- April Spykerman, age 21-49
- Hannah W., age 21-49

**Kiel – 53042**

- Josh Torrison, age 21-49

**Little Chute – 54130**

- Emma Bartsch, age 21-49

**Neenah – 54956**

- Sandy Campbell, age 21-49

**Sherwood – 54109**

- Jacob Meyer, age 21-49



[LINK TO THE WATERSHED PLEDGE ON FWWA.ORG WEBSITE](https://www.fwwa.org)





**Community Presentations (Active Participation):**

**Basin-Wide**

- 03/04/2021 - Fox-Wolf Watershed Conference (chloride monitoring and MS4 reporting)

**Brown County**

- 03/10/2021 - Volunteer Center of Brown County Workplace Volunteer Council, approx. reach 12

**Basin-Wide**

- 04/20/2021 - Associated Bank Lunch & Learn virtual presentation (various basin locations), approx. reach 37

**Neenah**

- 04/22/2021 - Volunteer Fox Cities Mini Cleanup with volunteers in Neenah, approx. reach 25

**Winnebago Region**

- 04/22/2021 - Brothertown Presentation, Winnebago System, approx. reach 13

**Menasha**

- 07/15/2021 - Menasha Public Library virtual presentation, approx. reach 8

**Appleton**

- 09/15/2021 - Community Foundation for the Fox Valley Region in Appleton, approx. reach 20

**Kaukauna**

- 09/21/2021 - Salt Paddle in Kaukauna (chloride monitoring/runoff issues) approx. reach 8

**Oshkosh**

- 10/12/2021 - Salt Paddle in Oshkosh (chloride monitoring /runoff issues) approx. reach 12

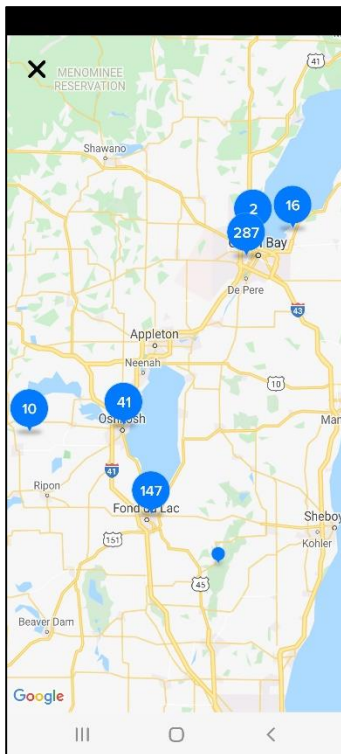


**Mini Cleanups**

- 4/22/2021 Earth Day Cleanup at Washington Park in **Neenah**, approx. reach 30 volunteers
- 9/10/2021 **Oshkosh** North High School Communities Classes Day of Service Cleanup, approx. reach 38 volunteers
- 9/18/2021 Rock the Block Cleanup in **New London**, approx. reach 14 volunteers
- 10/20/2021 Company cleanup with Michaels Corp in **Neenah, Menasha, Fox Crossing**, approx. reach 20 volunteers

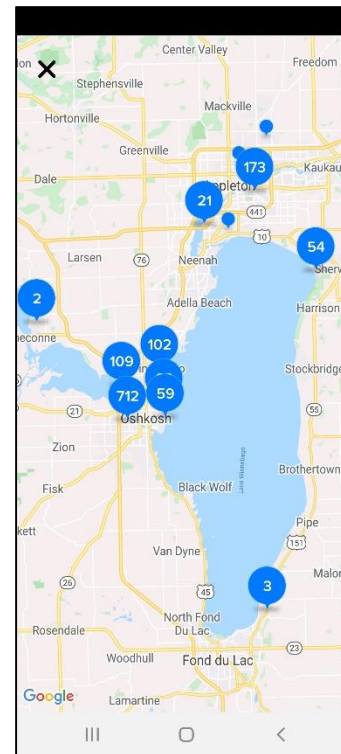
**Litterati Cleanup Challenges (Active Participation)**

- Spring 2021



- Oshkosh: 41 pieces
- Taycheedah: 38 pieces
- North Fond du Lac: 5 pieces
- Fond du Lac: 82 pieces
- Berlin: 10 pieces
- Town of Scott: 16 pieces
- Howard: 2 pieces
- Hobart: 47 pieces
- De Pere: 59 pieces
- Allouez: 16 pieces
- Green Bay: 211

- Summer 2021



- Oshkosh: 1,044 pieces
- Taychedah: 3 pieces
- Winneconne: 2 pieces
- Sherwood: 54 pieces
- Menasha: 21 pieces
- Appleton: 173 pieces



**Chloride Monitoring (Active Participation, with Documentation):**

- 01/06/2021 **Fox Crossing**, 203ppm Cl-
- 01/07/2021 **Fond du Lac River**, 43ppm Cl-
- 01/08/2021 **Menasha** (Oneida St.) 245ppm Cl-
- 01/15/2021 **Menasha** (Oneida St.) 893ppm Cl-
- 01/15/2021 **Menasha** (Lopas Creek), 15ppm Cl-
- 01/21/2021 **Ashwaubenon**, 108ppm Cl-
- 02/26/2021 **Kimberly**, 465ppm Cl-
- 02/26/2021 **Combined Locks**, 465ppm Cl-
- 03/03/2021 **Oshkosh** (Sawyer Creek), 425ppm Cl-
- 03/03/2021 **Oshkosh** (Campbell Creek), 157ppm Cl-

**Fall/Winter 2021 Chloride Monitoring: Data and photos can be found on the [Google Map](#)**

- **Village of Eden**
  - 2 readings
- **City of Fond du Lac**
  - 2 readings
- **City of Oshkosh**
  - 3 readings
- **Town of Algoma**
  - 2 readings
- **Village of Winneconne**
  - 2 readings
- **City of Neenah**
  - 2 readings
- **City of Menasha**
  - 4 readings
- **Village of Fox Crossing**
  - 2 readings
- **Town of Grand Chute**
  - 3 readings
- **City of Appleton**
  - 6 readings
- **Village of Combined Locks**
  - 1 reading
- **City of Kaukauna**
  - 1 reading
- **Village of Wrightstown**
  - 2 readings
- **Village of Ashwaubenon**
  - 1 reading
- **Village of Allouez**
  - 1 reading
- **City of Green Bay**
  - 3 readings
- **Village of Hobart**
  - 2 readings
- **Village of Sherwood**
  - 1 reading
- **Village of Hilbert**
  - 1 readings
- **Town of Center**
  - 1 reading
- **Village of Hortonville**
  - 4 readings



**NEWSC 5 Year Exhibiting Plan**

Each year NEWSC will commit to exhibiting at an event on behalf of 20% of our membership, ensuring we exhibit in each member community once during a 5 year permit cycle. *The communities assigned in a given year will be guaranteed a NEWSC presence at a community event during that year, given that the NEWSC member work with the Outreach Coordinator to get the event on the exhibiting calendar by March 30 and work to coordinate with the event host.*

2022	2023	2024
City of Kaukauna	City of Marinette	City of Fond du Lac
Winnebago County	Brown County	City of Two Rivers
Village of Allouez	Village of Ashwaubenon	Outagamie County
Village of Eden	Village of Fox Crossing	City of De Pere
Village of Howard	Village of Kimberly	City of Manitowoc
Village of Sherwood	Village of Suamico	City of Neenah
Town of Buchanan	Town of Clayton	
Town of Friendship	Town of Grand Chute	
Village of Greenville	Town of Ledgeview	
Town of Taycheedah	Village of Combined Locks	
Village of Hobart	Village of Little Chute	
Calumet County	UW Oshkosh	
City of Menasha		

**To ensure your space is reserved NEWSC members must:**

1. **Contact the Outreach Coordinator by March 30** of the year you are scheduled with the name of event, date of the event and contact information for the event organizer that you would like the Outreach Coordinator to be a part of.
2. Work with the Outreach Coordinator and the event organizer to ensure acceptance of NEWSC participation at the event. Pay any exhibiting fees (if any) for the event. For most community events, NEWSC members are able to coordinate with event host free exhibit space, if the event chosen does not waive exhibit fees for the community, those fees are the responsibility of the NEWSC member.

If communities do not schedule the Outreach Coordinator to participate by March 30, invitations to the Outreach Coordinator from other communities for events will be entertained and all invites will be accepted as time is available on a first come first serve basis. If the Outreach Coordinator is unable to exhibit in your community due to workload or date of event, NEWSC members may check out exhibiting materials from NEWSC. Promotional materials will be provided as part of the exhibiting display if NEWSC has promotional items to hand out.



**Thank You, 2021 Leadership Council Members!**

<b>CHAIR</b> Eric Rakers (2020-2021) City of DePere	<b>VICE-CHAIR</b> Heath Kummerow (2020-2021) City of Neenah	<b>SECRETARY/TREASURER</b> Brent Jalonon (2020 - 2021) Calumet County	<b>PAST-CHAIR</b> Danielle Santry (2020-2021) Calumet County
<b>MUNICIPAL COMMITTEE</b> James Rabe (2019 – 2021) City of Oshkosh	<b>GENERAL PUBLIC COMMITTEE</b> Chris Pagels (2019 – 2021) Town of Greenville	<b>BUILDING &amp; DEVELOPMENT COMMITTEE</b> Brad Hartjes (2021-2023) raSmith	<b>STORMWATER QUALITY MANAGEMENT COMMITTEE</b> Chris Murawski (2020-2022) Village of Little Chute
<b>MEMBER-AT-LARGE</b> John Neumeier (2020-2022) City of Kaukauna	<b>MEMBER-AT-LARGE</b> George Dearborn (2020-2022) Village of Fox-Crossing	<b>MEMBER-AT-LARGE</b> Karen Heyrman (2018 – 2021) Town of Grand Chute	

**Thank You, 2021 Committee Members!**

<b>General Public Committee</b> Chris Pagels – Town of Greenville Dani Santry – Calumet County Andy Maracini – Winnebago County George Dearborn – Village of Fox Crossing Sue Olson – City of Appleton Brian Wayner – Westwood Professional Services	<b>Municipal Committee</b> James Rabe – City of Oshkosh Karen Heyrman – Town of Grand Chute Jeff Mazanec – raSmith Scott Ahl – Town of Two Rivers John Neumeier – City of Kaukauna Sue Olson – City of Appleton	<b>Stormwater Quality Management Committee</b> Chris Murawski – Village of Little Chute George Dearborn – Village of Fox Crossing Paul Willis – Mead & Hunt Abby Maslanka – Martenson & Eisele Justin Keen – Cedar Corporation Rich Heath – Town of Algoma	<b>Building &amp; Development Committee</b> Brad Hartjes – raSmith Nick Waldschmidt – City of Fond du Lac Brent Jalonon – Calumet County Patrick Kuehl – Robert E. Lee Chad VandenLangenberg – Outagamie County Katie Buchalski – Ruckert-Mielke
--	---	--	--



TABLE 10-1: SUMMARY OF WATER SYSTEM EVALUATION

Water System Pressures					
Pressure Zone	Pressure Range		Average Pressure		Notes
	Average Day	Peak Hour	Average Day	Peak Hour	
Main Pressure Zone	~ 30 to 90 psi (day) ~ 35 to 95 psi (night)	~ 30 to 86 psi	~54 psi (day) ~59 psi (night)	~53 psi	~ 35 psi near Lake Park Road and Midway Road ~ 30-35 psi near Northland Avenue and Richmond Street (near pressure zone boundary) ~ 30-35 psi on 16-inch supply line to Lindbergh Standpipe (has customer services) ~10 psi on Ballard Road to North Reservoir (~50 psi at last customer service) ~ 65-90 psi near the Fox River
Ridgeway Pressure Zone	~ 40 to 70 psi	~ <40 to 68 psi	~55 psi	~50 psi	
North Pressure Zone	~ <35 to 90 psi	~ <35 to 86 psi	~65 psi	~60 psi	~90 psi on Apple Creek Road
Per NR 811, the minimum and maximum normal static pressure in the distribution system shall be 35 psi and 100 psi, respectively. The system pressure shall be maintained at a minimum of 20 psi under emergency conditions.					
Available Fire Flows					
Pressure Zone	Percent of Hydrants Providing Required Fire Flow While Maintaining 20 psi		Notes		
Main Pressure Zone	95 percent		Deficiencies due to small diameter/older main including some 4-inch mains, dead ends.		
Ridgeway Pressure Zone	94 percent		Deficiencies due to dead ends at pressure zone boundary, small diameter/older mains.		
North Pressure Zone	99 percent				
Hydraulic Capacity (Headloss/Velocity)					
<ul style="list-style-type: none"> <li>No water mains have higher than recommended velocities or headlosses.</li> </ul>					
<b>Guidelines</b> <ul style="list-style-type: none"> <li>AWWA Manual M32 recommends that all pipe velocities should be less than 4 to 6 feet per second (fps) during normal operation.</li> <li>AWWA Manual M32 recommends headlosses in pipes less than 16-inches in diameter should be less than 5 to 7 feet per 1,000 feet of pipe during normal operating conditions. The recommended headloss limit for larger pipes in AWWA Manual M32 is 2 to 3 feet per 1,000 feet of pipe during normal operating conditions.</li> </ul>					
Water Age (Water Quality)					
<ul style="list-style-type: none"> <li>Water age in Main Pressure Zone ranges typically from 1-5 days, with water age greater than 5 days at extremities/dead ends.</li> <li>Water age in North Pressure Zone and Ridgeway Pressure zone typically 5 to 8 days, with greater than 8 days at extremities/dead ends.</li> </ul>					
<ul style="list-style-type: none"> <li>Chlorine levels measured indicate that chlorine residuals are maintained within the system</li> </ul>					
Supply					
<ul style="list-style-type: none"> <li>Adequate reliable supply (22 MGD hydraulic capacity of high lift pumps) to meet existing (14.9 MGD) and projected (17.7 MGD) maximum day demands.</li> <li>Adequate reliable capacity to supply the Ridgeway Pressures Zone and the North Pressure Zone under existing and projected 2040 demand conditions.</li> </ul>					
Storage					
<ul style="list-style-type: none"> <li>The Main Pressure Zone had adequate total available effective storage to meet existing and projection demand conditions; however, has a deficiency in operational storage that is projected to grow to approximately 0.43 MG by 2040. The deficiency in operational storage can be offset with excess reliable supply capacity.</li> <li>The Ridgeway Pressure Zone has a storage deficiency of approximately 0.68 MG; however, it can be offset with excess reliable pumping capacity and the ability to transfer water from the North Pressure Zone via 47 Valve Station.</li> <li>The North Pressure Zone has a storage deficiency which is projected to grow to approximately 0.38 MG based on projected 2040 projections. The deficiency can be offset with excess pumping capacity under existing conditions; however, is projected to be slightly deficient (approximately 50,000 gallons) by 2040 with the additional demands and the increase in fire storage requirement (assuming industrial development).</li> </ul>					
System Reliability					
<ul style="list-style-type: none"> <li>The raw water lake intake and transmission from the Raw Water Pump Station to the WTP have no redundancy to ensure a reliable supply of water to the WTP.</li> <li>Appleton can maintain water supply provided with auxiliary sources of power in the event of a power emergency or interruption. Appleton has standby power on site at the WTP and the North Booster Station, and a transfer switch at the Lindbergh Booster Station for a portable generator.</li> </ul>					
Water Loss Evaluation – Performance Indicators			Leak/Break Frequency		
Real Losses: 301 MG/year, 29 gallons per service connection per day Infrastructure Leakage Index (ILI): 1.9 Financial: <ul style="list-style-type: none"> <li>Non-revenue water as percent by volume of water supplied: 17.9% (has ranged from 13.7 percent to 17.9 percent in the past 5 years)</li> <li>Non-revenue water as percent of cost of operating system: 1.2%</li> </ul>			<ul style="list-style-type: none"> <li>Average number of leaks/breaks per 100 miles per year 22 leaks/breaks per 100 miles per year (10 years) 25 leaks/breaks per 100 miles per year (5 years)</li> <li>Optimized distribution system failure frequency identified in WRF Water Loss Report: ~15 failures per 100 miles per year</li> <li>Aggregate North American failure frequencies identified in WRF Water Loss Report: ~25 failures per 100 miles per year.</li> </ul>		
Water Main Reinvestment Level (KANEW Analysis)			Water Main Risk Analysis (Risk – Consequence of Failure x Probability of Failure)		
<ul style="list-style-type: none"> <li>The City's water distribution system is an "average aged" water system; approximately 30 percent of the water mains are over 50 years old and approximately 10 percent of the water mains are over 70 years old.</li> <li>Based on the long and short life expectancies in the KANEW analysis, the total recommended replacement lengths in the first 10 years of replacement are approximately 80 miles (21 percent) and 104 miles (28 percent), respectively.</li> <li>Based on the long and short life expectancies in the KANEW analysis, the total replacement lengths over the 20 year period of replacement are approximately 103 miles (27 percent) and 128 miles (34 percent), respectively.</li> </ul>					
Note: AWWA Research Foundation developed KANEW software to be used to perform replacement rate analysis for water system based on water main inventory.			High POF/COF (red) – Make a plan for replacement in short – term, Moderate/Low POF, High COF (orange) – Monitor and proactively inspect/evaluate alternatives. High POF, Moderate/Low COF (yellow) – Include in proactive replacement plan. Low POF/COF (green) – Normal O&M		





TABLE 10-6: SUMMARY DISTRIBUTION SYSTEM IMPROVEMENTS

Location	Diameter	Length	Description
1	8-inch	3,300 feet	Replace old 8-inch mains on East Florida Ave and Durkee Street between Capitol Drive and Meade Street.
2	8-inch	2,100 feet	Replace old 6-inch mains on North Appleton Street and West Weiland Avenue between West Marquette Street and North Division Street.
3	8-inch	1,450 feet	Replace old 8-inch mains on North Lawe Street between East Hancock Street and East Wisconsin Avenue.
4	8-inch	750 feet	Replace old 6-inch and 8-inch mains on North Meade Street between East Hancock Street and East Commercial Street. This location was identified in the previous Water System Master Plan as part of Segment H.
5	8-inch	2,200 feet	Replace old 4-inch, 6-inch, and 8-inch mains on North Rankin Street between East Atlantic Street and Nawada Court. This location was identified in the previous Water System Master Plan as part of Segment H.
6	8-inch	6,000 feet	Replace water main new the wastewater plant. A multitude of hydrants currently exist at this location, consider which should be used for fire protection purposes and strengthen water flow to that area with new 8-inch water main.
7	8-inch	2,300 feet	Replace old 4-inch and 6-inch water main on East Lawrence Street, South Oneida Street, and South Durkee Street between East College Avenue and South Appleton Street.
8	8-inch	3,250 feet	Replace old 6-inch water main on North Appleton Street between West Pacific Street and West Franklin Street, West Harris Street between North Appleton Street and North Oneida Street, Franklin Street between North Appleton Street and North Morrison Street, North Oneida Street between East Washington Street and West Packard Street.
9	8-inch	1,200 feet	Replace old 6-inch water main on North Superior Street between West Franklin Street and West Pacific Street. This location was identified in the previous Water System Master Plan as part of Segment D.
10	8-inch	2,600 feet	Replace old 4-inch and 6-inch water main on West Elsie Street between North Mason Street and North Richmond Street.
11	8-inch	700 feet	Replace old 6-inch on South Summit Street between West Prospect Avenue and West Fourth Street.
12	8-inch	700 feet	Replace old 6-inch on South Fairview Street between West Prospect Avenue and West Fourth Street.
13	8-inch	600 feet	Replace old 8-inch on West Fourth Street between South Douglas Street and South Outagamie Street.
14	12-inch	360 feet	New 12-inch water main between West Haskel Street and West Civic Street.
15	12-inch	1,050 feet	Replace old 8-inch on South Lyndale Drive extending south from the intersection with West Leonard Street.
16	8-inch	1,350 feet	Replace old 6-inch on Fairway Court between East Shaw Street and South Lawe Street.
17	8-inch	2,050 feet	Replace old 6-inch on South Walden Avenue between East Fremont Street and East Calumet Street.
18	8-inch	1,250 feet	Replace old 6-inch on South Walden Avenue between East Coolidge Avenue and East Taft Avenue.
19	8-inch	1,250 feet	Replace old 6-inch on South Fountain Avenue between East Coolidge Avenue and East Taft Avenue
20	12-inch	1,200 feet	Replace old 8-inch on West Second Street between South Lilas Drive and South Lynndale.
	8-inch	900 feet	Replace old 6-inch on South Westhaven Place between West Second Street and West Fourth Street.



TABLE 11-4: CAPITAL IMPROVEMENT PLAN

Short-Term Improvements (5 Years)	Estimated Cost	Long-Term Improvements (10-20 Years)	Estimated Cost
42-inch Raw Water Main to WTP for Reliability (approximately 7,500 feet) <sup>1</sup>	\$7,500,000	Transmission Mains for Development (approximately 6.2 miles)	\$4,400,000
Raw Water Intake Main at Raw Water Pump Station <sup>1</sup>	\$9,000,000	Water Main Replacement- Year 11: ~3.8 miles <sup>3</sup>	\$2,700,000
		Water Main Replacement- Year 12: ~3.8 miles <sup>3</sup>	\$2,700,000
Improvements & Modifications to Existing Lake Pump Station & Existing Lake Intake System <sup>1</sup>	\$3,600,000	Water Main Replacement- Year 13: ~3.8 miles <sup>3</sup>	\$2,700,000
		Water Main Replacement- Year 14: ~3.8 miles <sup>3</sup>	\$2,700,000
Water Main Replacement to Address Fire Deficiencies (~ 7 miles, ~1.4 miles annually) <sup>2</sup>	\$5,500,000	Water Main Replacement- Year 15: ~3.8 miles <sup>3</sup>	\$2,700,000
		Water Main Replacement- Year 16: ~3.8 miles <sup>3</sup>	\$2,700,000
Water Main Replacement - Year 1: ~6.6 miles <sup>3</sup>	\$4,600,000	Water Main Replacement- Year 17: ~3.8 miles <sup>3</sup>	\$2,700,000
Water Main Replacement - Year 2: ~6.6 miles <sup>3</sup>	\$4,600,000	Water Main Replacement- Year 18: ~3.8 miles <sup>3</sup>	\$2,700,000
Water Main Replacement - Year 3: ~6.6 miles <sup>3</sup>	\$4,600,000	Water Main Replacement - Year 19: ~3.8 miles <sup>3</sup>	\$2,700,000
Water Main Replacement - Year 4: ~6.6 miles <sup>3</sup>	\$4,600,000	Water Main Replacement -Year 20: ~3.8 miles <sup>3</sup>	\$2,700,000
Water Main Replacement - Year 5: 6.6 miles <sup>3</sup>	\$4,600,000	Demolish Matthias Tower	\$180,000
<b>Subtotal</b>	<b>\$47,900,000</b>	<b>Subtotal</b>	<b>\$31,580,000</b>
Engineering and Contingencies <sup>4</sup>	\$19,160,000	Engineering and Contingencies <sup>4</sup>	\$12,632,000
<b>Total</b>	<b>\$67,060,000</b>	<b>Total</b>	<b>\$44,212,000</b>
Mid-Term Improvements (5-10 Years)	Estimated Cost	<b>Grand Total</b>	
		<b>\$180,006,000</b>	
Transmission Mains for Development (approximately 6.2 miles)	\$4,400,000	<b>Footnotes:</b> <ol style="list-style-type: none"> <li>Estimated cost from Appleton Public Works Department, November 2018.</li> <li>Replacement cost provided by Appleton Department of Public Works at \$130 per foot for 8-inch water main, and \$150 per foot for 12-inch water main replacement.</li> <li>Replacement rates based on KANEW analysis with first 5 years lowered to include recommended water main replacements for fire flow deficiencies. Replacement cost provided by Appleton Department of Public Works at \$130 per foot for 8-inch water main</li> <li>Assumed 15 percent for engineering and 25 percent for contingencies.</li> </ol> <b>Notes:</b> <ul style="list-style-type: none"> <li>Estimates do not include land purchase, if necessary.</li> <li>The Engineer's Estimate is only an estimate of possible construction costs for budgeting purposes. This estimate is limited to the conditions existing at its issuance and is not a guaranty of actual price or cost. Uncertain market conditions such as, but not limited to: local labor or contractor availability, wages, other work, material market fluctuations, price escalations, force majeure events, and developing bidding conditions, etc. may affect the accuracy of this estimate. AECOM is not responsible for any variance from this estimate or actual prices and conditions obtained.</li> <li>This estimate is an AACE Class 4 Order of Magnitude cost estimate.</li> <li>Estimates are 2019 dollars unless otherwise noted.</li> </ul>	
Water Main Replacement - Year 6: ~8.0 miles <sup>3</sup>	\$5,500,000		
Water Main Replacement - Year 7: ~ 8.0 miles <sup>3</sup>	\$5,500,000		
Water Main Replacement - Year 8: ~8.0 miles <sup>3</sup>	\$5,500,000		
Water Main Replacement - Year 9: ~8.0 miles <sup>3</sup>	\$5,500,000		
Water Main Replacement - Year 10: ~8.0 miles <sup>3</sup>	\$5,500,000		
<b>Potential New South Pressure Zone:</b>			
New 0.5 MG Spheroid Tower in Potential South Pressure Zone	\$1,200,000		
New Flow Control Valve from Potential South Pressure Zone to Main Pressure Zone	\$210,000		
South Pump Station including VFD, 0.2 MG Underground Reservoir, backup generator, SCADA	\$1,500,000		
<b>Subtotal</b>	<b>\$34,810,000</b>		
Engineering and Contingencies <sup>4</sup>	\$13,924,000		
<b>Total</b>	<b>\$48,734,000</b>		





*"...meeting community needs...enhancing quality of life."*

## MEMO

---

**TO:** Utilities Committee

**FROM:** Paula Vandehey, Director of Public Works *PAN*

**DATE:** January 14, 2022

**SUBJECT:** AquaDuoscope Measuring Method Program.

---

The City of Appleton has been working to address Inflow and Infiltration (I/I) into our sanitary sewer system for over 30 years. All of the major cross-connections and leaking sewer mains that we are aware of have been addressed. However, the amount of clear water (I/I) getting into the sanitary sewer system continues to be significant, and at times, creates challenges at the Wastewater Treatment Plant.

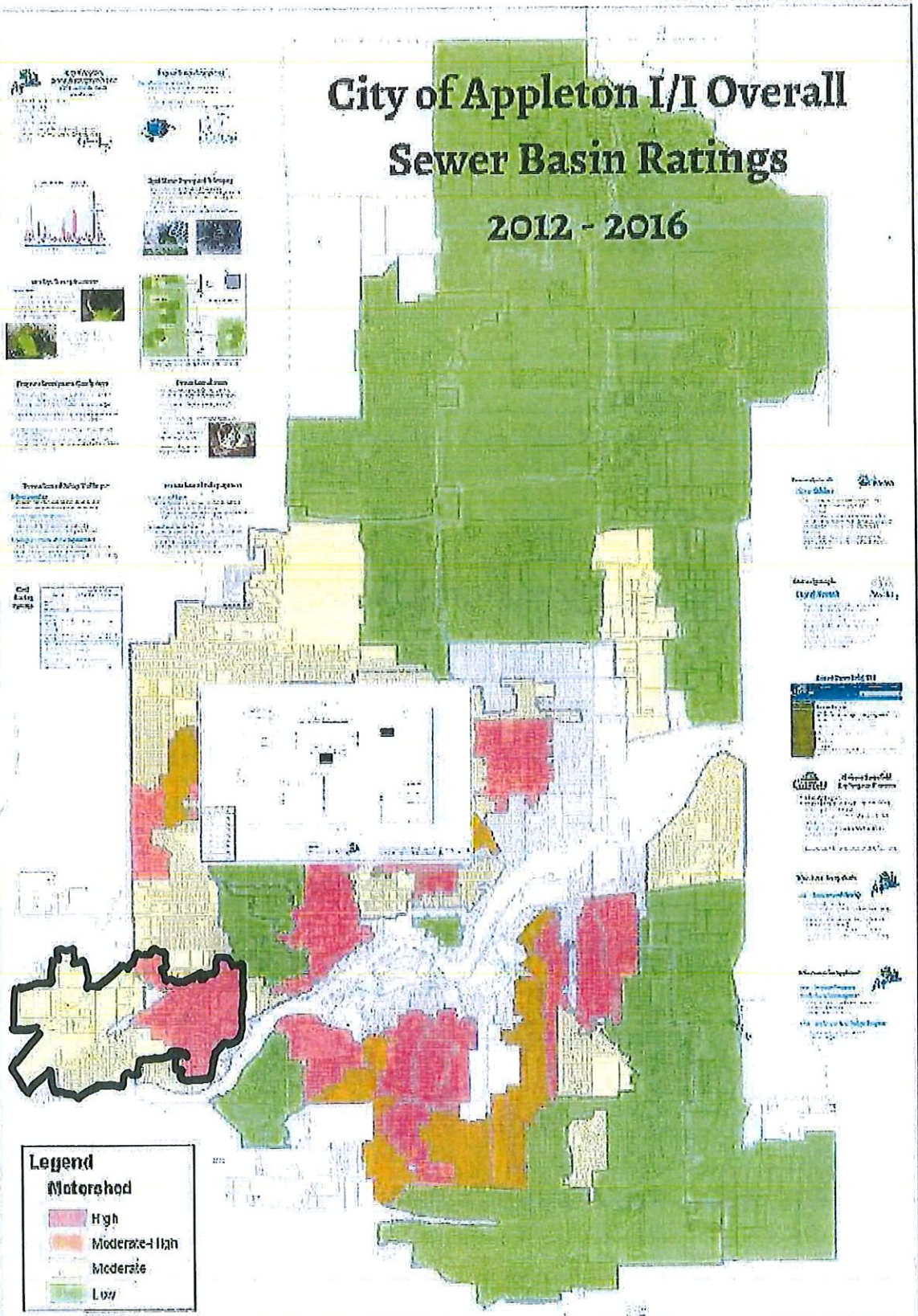
The City currently televises approximately 11% (35 miles) of our sanitary sewer system annually in an attempt to identify areas of I/I. Locations identified are then added to our 5-Year Capital Improvement Program to be addressed accordingly. Recently the City has implemented a sanitary lateral replacement program where we replace approximately 30 private laterals from the sewer main to the home.

A new technology that is now available to us is the AquaDuoscope Measuring Method Program. The company that invented this leakage detection system (Aquapriori) is located in Finland. In 2019 they performed their first ever demonstration project in the United States in Ashland, Wisconsin. They helped that community identify several "hot spots" which were then isolated and fixed accordingly, reducing the overall I/I in that community.

Aquapriori will be training Appleton staff this spring to use the AquaDuoscope Measuring Method on the area shown on the attached maps, which includes 11 miles of sanitary sewer main and one lift station. We are excited to utilize this new technology to help us identify locations of I/I, and we will keep the Committee updated on what we discover.

Attachments

# City of Appleton I/I Overall Sewer Basin Ratings 2012 - 2016



11 Miles  
1 lift station

**Legend**

**Method**

- High
- Moderate-High
- Moderate
- Low



2012-2016 Flow Monitoring I/I Quantification Overall Priority Ratings

N

U.S. South National

July 2016



# Aqua Duoscope 2020 Study Area

- Sanitary Main
- Sanitary Study Area

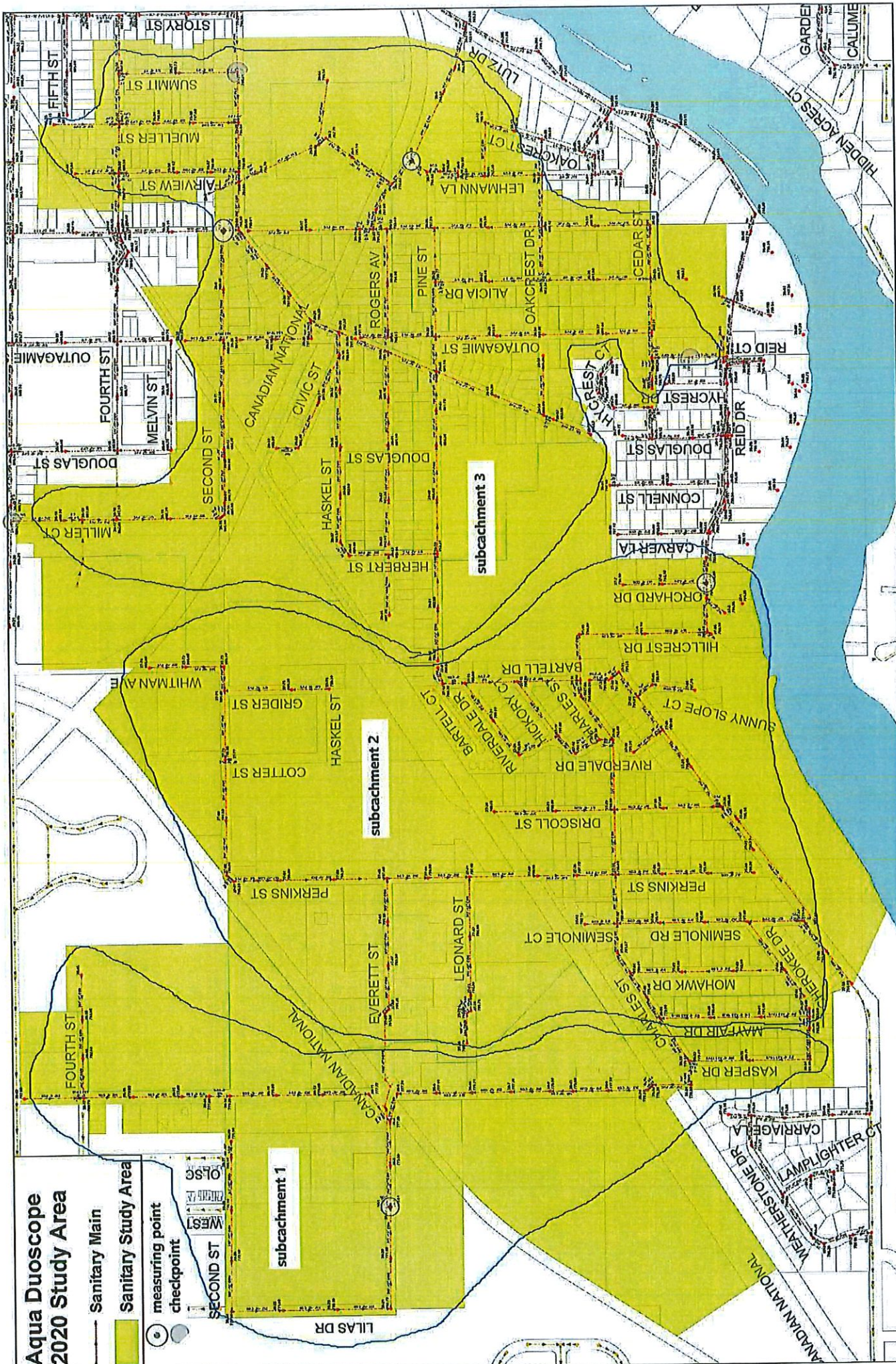
measuring point  
checkpoint

SECOND ST  
WEST  
OLPSC

subcatchment 1

subcatchment 2

subcatchment 3





## AQUA<sup>®</sup>DUO SCOPE

- AquaDuoscope<sup>®</sup>-measurements are used in the waste water network
- Measurements give us information about the inflow / infiltration leakages (I/I) in the waste water network
- AquaDuoscope<sup>®</sup>-softa counts the content of the inflow / infiltration of the sample taken from the sewer pipeline



## AQUA<sup>®</sup>DUO SCOPE

- We measure the flow rate and take a sample of the waste water. When surface or ground water gets into the sewer pipeline, it changes the measured quality parameters.
- With AquaDuoscope<sup>®</sup> - measurements we can determine the amount of leakage water in the waste water flow.
- With AquaDuoscope<sup>®</sup> it is possible to determine the sources of leakage. Our technique is fast and cost-efficient.
- Based on the results it is possible to prioritize renovations in the areas that most need to be renovated.





## AQUA<sup>®</sup>DUO SCOPE

- AquaDuoscope<sup>®</sup>-measurements can be cost-efficiently carried out in very large areas
  - AquaDuoscope<sup>®</sup>
    - is faster and cheaper implementing than TV inspections
    - gives a total picture of I/I (leakages) in a specific area
  - with **AquaDuoscope<sup>®</sup>** You can...
    - determine the amount of I/I (surface and ground water) in the waste water flow
    - determine the sources and exact places of I/I
    - prioritize renovations in the areas that most need to be renovated
    - target the sewer liner technologies
    - save money!
-

**WPPI Capacity Agreement Revenue**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
January	\$ -	\$ 9,732.58	\$ 9,218.23	\$ 8,774.38	\$ 8,418.13	\$ 8,372.75	\$ 8,790.93	\$ 8,274.65	\$ 8,205.38	\$ 8,415.50	\$ 8,044.15	\$ 7,969.60	\$ 8,218.93	\$ 7,353.95	\$ 6,438.42	\$ 6,343.26	\$ 7,151.93	\$ 7,658.25	\$ -	\$ 7,188.25	\$ 7,933.50	\$ 152,502.77
February	\$ -	\$ 8,641.03	\$ 8,724.85	\$ 8,789.60	\$ 8,277.18	\$ 8,304.18	\$ 8,649.95	\$ 8,169.88	\$ 8,201.58	\$ 8,282.15	\$ 8,051.75	\$ 8,046.75	\$ 8,307.50	\$ 7,402.55	\$ 6,278.97	\$ 6,497.57	\$ 7,037.63	\$ 7,704.00	\$ -	\$ 7,216.75	\$ 7,916.50	\$ 150,500.37
March	\$ -	\$ 8,677.23	\$ 8,818.18	\$ 8,757.23	\$ 8,389.55	\$ 8,384.18	\$ 8,674.70	\$ 8,274.65	\$ 8,214.90	\$ 8,205.95	\$ 8,061.28	\$ 7,912.45	\$ 8,084.63	\$ 7,471.13	\$ 6,364.70	\$ 6,482.13	\$ 8,054.23	\$ 8,455.10	\$ 7,999.28	\$ 9,167.55	\$ 8,562.40	\$ 163,011.45
April	\$ -	\$ 8,679.13	\$ 8,545.78	\$ 8,698.45	\$ 8,914.20	\$ 8,888.53	\$ 8,962.23	\$ 8,813.28	\$ 9,074.23	\$ 9,144.53	\$ 8,917.53	\$ 8,874.00	\$ 8,263.28	\$ 7,132.55	\$ 6,895.65	\$ 6,468.42	\$ 7,067.70	\$ 7,602.50	\$ 6,942.50	\$ 7,580.50	\$ 7,850.00	\$ 163,314.99
May	\$ -	\$ 8,635.30	\$ 8,618.15	\$ 8,494.33	\$ 8,448.83	\$ 8,485.43	\$ 8,221.33	\$ 8,150.13	\$ 8,461.23	\$ 8,086.05	\$ 7,920.08	\$ 8,104.63	\$ 7,256.80	\$ 6,398.99	\$ 6,480.42	\$ 6,607.29	\$ 7,302.03	\$ 7,914.00	\$ 7,099.50	\$ 16,960.21	\$ 7,953.00	\$ 165,597.73
June	\$ -	\$ 8,736.28	\$ 8,801.05	\$ 8,484.80	\$ 8,633.73	\$ 8,816.90	\$ 8,649.95	\$ 8,816.88	\$ 8,497.40	\$ 8,514.68	\$ 8,108.68	\$ 8,676.13	\$ 7,373.98	\$ 6,438.42	\$ 6,603.87	\$ 6,566.15	\$ 7,310.60	\$ 8,154.00	\$ 7,328.25	\$ 7,922.00	\$ 9,767.60	\$ 162,201.35
July	\$ -	\$ 8,938.20	\$ 9,239.20	\$ 8,976.30	\$ 9,439.55	\$ 9,068.35	\$ 8,859.50	\$ 8,769.25	\$ 8,996.53	\$ 8,314.65	\$ 8,388.70	\$ 8,896.15	\$ 7,393.98	\$ 6,596.15	\$ 6,507.86	\$ 8,567.60	\$ 7,453.48	\$ 8,268.50	\$ 7,648.25	\$ 8,099.25	\$ 8,204.50	\$ 166,625.95
August	\$ -	\$ 9,751.63	\$ 9,336.35	\$ 9,372.55	\$ 9,551.95	\$ 9,788.45	\$ 9,333.85	\$ 8,683.53	\$ 8,786.98	\$ 8,402.28	\$ 8,929.73	\$ 9,364.78	\$ 8,162.63	\$ 6,666.45	\$ 6,794.18	\$ 8,109.20	\$ 7,399.18	\$ 8,128.25	\$ 7,396.75	\$ 8,070.75	\$ 8,224.50	\$ 170,253.97
September	\$ 8,211.85	\$ 9,288.73	\$ 9,082.98	\$ 8,934.40	\$ 9,445.25	\$ 9,111.88	\$ 9,690.08	\$ 8,757.83	\$ 8,760.30	\$ 8,556.58	\$ 8,832.58	\$ 8,707.55	\$ 8,059.78	\$ 6,522.44	\$ 6,777.03	\$ 7,834.88	\$ 7,282.03	\$ 8,008.25	\$ 7,125.25	\$ 7,876.50	\$ 8,087.25	\$ 174,953.42
October	\$ 9,321.10	\$ 9,180.13	\$ 9,088.70	\$ 9,012.50	\$ 8,753.75	\$ 7,202.85	\$ 8,573.75	\$ 8,917.85	\$ 8,676.48	\$ 8,297.50	\$ 8,506.83	\$ 8,690.43	\$ 8,028.33	\$ 6,507.00	\$ 6,747.89	\$ 7,437.68	\$ 7,273.45	\$ 7,571.25	\$ 6,982.50	\$ 7,893.50	\$ 7,907.25	\$ 170,570.72
November	\$ 9,393.50	\$ 9,193.48	\$ 8,753.43	\$ 8,673.40	\$ 8,376.55	\$ 7,049.81	\$ 8,362.30	\$ 8,205.38	\$ 8,135.45	\$ 8,270.83	\$ 8,143.93	\$ 8,267.50	\$ 7,405.40	\$ 6,349.26	\$ 6,394.70	\$ 7,140.50	\$ 7,099.15	\$ 7,702.50	\$ 7,076.75	\$ 7,787.75	\$ 8,150.25	\$ 165,931.82
December	\$ 8,917.25	\$ 9,307.03	\$ 8,978.20	\$ 8,406.70	\$ 8,521.33	\$ 6,880.98	\$ 8,259.43	\$ 8,300.63	\$ 8,009.73	\$ 8,301.33	\$ 8,021.05	\$ 8,261.80	\$ 7,351.10	\$ 6,325.26	\$ 6,410.13	\$ 6,923.33	\$ 7,692.78	\$ 7,719.75	\$ 7,076.75	\$ 7,893.50	\$ 7,978.75	\$ 165,536.81
<b>YTD Total</b>	\$ 35,843.70	\$108,760.75	\$107,205.10	\$105,374.64	\$105,170.00	\$100,354.29	\$105,028.00	\$102,133.94	\$102,020.19	\$100,792.03	\$ 99,926.29	\$101,771.77	\$ 93,906.34	\$ 81,164.15	\$ 78,693.82	\$ 84,978.01	\$ 88,124.19	\$ 94,886.35	\$ 72,675.78	\$103,656.51	\$ 98,535.50	\$ 1,971,001.35

\*Progam began in September 2001

Date: January 19, 2022

Copies: K. Rindt (via email)

C. Shaw (via email)

Utilities Committee

**Appleton Wastewater Treatment Plant  
Operations Synopsis  
October 2021 – December 2021**

**Wastewater Treatment Program**

- The Appleton Wastewater Treatment Plant (AWWTP) final effluent met Wisconsin Department of Natural Resources (WDNR) discharge monitoring reporting limits for carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), phosphorous, and ammonia. The plant maintained good treatment and a healthy microbiological population with a sludge retention time of 10.5 days. Dewatering processes functioned well and converted 17.2 million gallons (MG) of primary digested sludge to biosolids.

**Summary of Treatment**

<b>Parameter</b>	<b>October</b>	<b>November</b>	<b>December</b>	<b>Average</b>
Industrial Flow (MG)	28.2	30.1	35.2	31.2
Domestic Flow (MG)	210.6	196.1	244.5	217.1
Total Flow (MG)	238.8	226.2	279.7	248.2
Influent CBOD Load (Avg Daily lbs)	22,823	21,361	22,716	22,300
Influent TSS Load (Avg Daily lbs)	39,975	41,426	44,747	42,049
Influent Phosphorous Load (Avg Daily lbs)	499	480	515	498
Influent Ammonia Load (Avg Daily lbs)	2,031	2,054	2,478	2,188
Effluent CBOD Load (Avg Daily lbs)	307	359	426	364
Effluent TSS Load (Avg Daily lbs)	254	223	281	253
Effluent Phosphorous Load (Avg Daily lbs)	24	18	13	18
Effluent Ammonia Load (Avg Daily lbs)	32	43	102	59
% Treatment Removal of CBOD	98.7	98.3	98.1	98.4
% Treatment Removal of TSS	99.4	99.5	99.4	99.4
% Treatment Removal of Phosphorous	95.2	96.3	97.5	96.3
% Treatment Removal of Ammonia	98.4	97.9	95.9	97.4

**Work in Progress:**

- 2019 Appleton Wastewater Plant Improvement Projects: The project includes replacement of the Return Activated Sludge (RAS) pumps, process piping modifications (e.g., blended sludge, filtrate, waste gas flare), outside secondary chemical offloading containment repairs, primary clarifiers #5 & #6 drive replacements (2020 CIP), and H-Building effluent pump replacements (2020 CIP). Staab Construction (Staab) proceeded with construction activities during the reporting period. Work completed through the reporting period included the waste gas flare rehabilitation, filtrate pipe modifications, blended sludge pipe replacement, plant air compressor replacements, primary clarifier drive replacement, RAS Pumps #1 – #6 and #12, and removal of remnant RFE system equipment. Final project completion is set for March 2022, but ongoing supply chain disruptions will likely require this be extended.
- Appleton Wastewater Plant Sludge Storage Building Addition: Applied Technologies, Inc. (ATI) advanced preliminary design work on the concept selected by Project Team staff which best met the needs of the AWWTP from a regulatory, functionality, reliability, efficiency, and capital cost standpoint. ATI provided 60% design plans for review during the final quarter of 2021. The public bidding phase is scheduled to occur in March 2022.



- 2021 Appleton Wastewater Plant Solids Dewatering Equipment Upgrades: McMahon Associates, Inc. (McMahon) continued engineering services as part of the Solids Dewatering Equipment Upgrades project. The AWWTP will be adding one additional BFP (for a total of four new) which will provide the required dewatering capacity based on future growth projections and redundancy to facilitate critical maintenance events. McMahon is to present 60% design plans for review in January 2022. The public bidding phase is scheduled to occur in March 2022.
- 2021 Secondary Clarifier Drive Rebuild Project: On June 2, 2021, Common Council approved contract award for the removal, rebuilding, and reinstallation of drive equipment on Secondary Clarifiers #1 through #6 to Sabel Mechanical. Common Council also approved the sole source purchase of the associated rebuild parts through the original equipment manufacturer, Evoqua. Supply chain disruptions contributed to significant upfront delays with delivery of major parts and equipment. Complete shipments were finally received late in September 2021 which allowed Sabel to commence with the removal of drives on Secondary Clarifiers #3 and #6 on October 5, 2021. Final project completion is not anticipated to occur until the spring of 2022.

### **Regulatory Summary**

- Monthly Discharge Monitoring reports for October, November, and December were filed electronically on time for regulatory compliance.
- The AWWTP Wisconsin Pollution Discharge Elimination System (WPDES) electronic permit application was submitted on October 2, 2021, as part of reissuance. The DNR will be submitting a draft permit for review and comment during the 1<sup>st</sup> quarter of 2022. The current WPDES permit expires on March 31, 2022.

### **Laboratory**

- All sampling and laboratory testing procedures were performed in accordance with requirements outlined in the AWWTP WPDES permit.
- Discharge Monitoring Report (DMR) and Health Department testing program objectives associated with sampling and analysis were met during the reporting period.
- Analysis of Single-Blind Proficiency samples for laboratory recertification occurred during the reporting period.
- Sampling of influent in support of Wisconsin State Lab of Hygiene COVID Sewage Surveillance continued during the reporting period.

**EFFLUENT QUALITY SUMMARY**  
**July 2020/2021 – December 2020/2021**

**Table 1 – 2020 Monthly Permit Summary**

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P <sup>(3)</sup> (lbs/day)	NH3-N <sup>(1)</sup> (mg/L)	Fecal <sup>(2)</sup> Coliform Colonies/ (100 ml)	Chlorine <sup>(2)</sup> Residual (mg/L)	pH (s.u.)
Permit Limit	25	30	1,322 <sup>(3)</sup>	1	23 <sup>(3)</sup>	10, 11, 4.4, 18	400 col/100ml Geo.Mean	0.038 mg/L daily	6.0 - 9.0 daily limit
July 2020	4	2	311	0.25	30	0.73	4	<0.032	6.7/6.9
August 2020	6	3	189	0.30	19	1.15	11	<0.032	6.6/7.2
September 2020	6	3	191	0.34	23	0.81	8	<0.032	6.8/7.2
October 2020	6	4	373	0.31	26	0.88	NA	NA	7.1/7.4
November 2020	6	3	286	0.19	18	0.59	NA	NA	6.9/7.2
December 2020	7	5	347	0.28	20	3.96	NA	NA	6.88/7.11
			<b>Nov - April Period Average<sup>(3)</sup></b>		21.0				
			<b>May - October Period Average<sup>(3)</sup></b>		22.5				

**Table 2 – 2021 Monthly Permit Summary**

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P <sup>(3)</sup> (lbs/day)	NH3-N <sup>(1)</sup> (mg/L)	Fecal <sup>(2)</sup> Coliform Colonies/ (100 ml)	Chlorine <sup>(2)</sup> Residual (mg/L)	pH (s.u.)
July 2021	4	2	382	0.16	22	0.36	5	<0.032	7.1/7.4
August 2021	4	2	259	0.21	23	0.25	28	<0.032	7.1/7.3
September 2021	4	1	90	0.19	15	0.12	4	<0.032	7.1/7.3
October 2021	5	4	254	0.37	24	0.50	NA	NA	7.3/7.3
November 2021	6	4	223	0.28	18	0.69	NA	NA	6.5/7.4
December 2021	6	4	281	0.18	13	1.38	NA	NA	7.1/7.2
				<b>Nov - April Period Average<sup>(3)</sup></b>		15.5			
				<b>May - October Period Average<sup>(3)</sup></b>		21.1			

**NOTES:**

- 1) Seasonal NH3-N limits: 10 mg/L Jan. 1 – Mar. 31, 11 mg/L Apr. 1 – May 31, 4.4 mg/L June 1 – Sep 30, 18 mg/L Oct 1 – Dec 31.
- 2) Seasonal fecal and residual chlorine limits are in effect May 1st through September 30<sup>th</sup>. Limit of Detection 0.032 mg/L.
- 3) April 1, 2017 WPDES Reissuance with new TSS limits expressed as monthly concentration limit (mg/L) and loading limit (lbs).  
 The future TMDL phosphorus limit will be 23 lbs/day expressed as a 6-month average during the months of May – October and November – April.



**YEAR 2021 RECEIVING STATION REVENUE**

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 110,206.08	\$ 99,576.28	\$ 112,441.21	\$ 114,069.65	\$ 128,729.06	\$ 118,096.94	\$ 155,925.24	\$ 165,601.61	\$153,077.94	\$ 137,810.32	\$ 112,948.14	\$ 119,776.57	\$ 1,528,259.04
Buttles Custom Ag	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hickory Meadows	\$ 20,276.34	\$ 25,312.36	\$ 29,607.87	\$ 35,278.49	\$ 27,916.08	\$ 27,265.29	\$ 41,158.16	\$ 45,576.74	\$ 36,397.10	\$ 30,941.38	\$ 23,336.49	\$ 19,480.25	\$ 362,546.55
Holland Sanitary Dist. 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Jeff Waldvogel Trkg.	\$ 28,287.42	\$ 30,970.38	\$ 34,544.27	\$ 42,086.75	\$ 39,497.32	\$ 36,605.25	\$ 41,926.97	\$ 48,241.45	\$ 40,306.58	\$ 46,696.88	\$ 34,983.80	\$ 32,531.95	\$ 456,679.02
Movin Materials	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Waldvogel Trucking	\$ 1,844.16	\$ 1,556.53	\$ 1,975.58	\$ 1,869.36	\$ 1,817.53	\$ 1,893.85	\$ 1,816.50	\$ 1,645.17	\$ 1,588.17	\$ 1,697.56	\$ 1,450.48	\$ 1,251.01	\$ 20,405.90
<b>2021 Total</b>	\$ 160,614.00	\$157,415.55	\$ 178,568.93	\$ 193,304.25	\$ 197,959.99	\$ 183,861.33	\$ 240,826.87	\$ 261,064.97	\$231,369.79	\$ 217,146.14	\$ 172,718.91	\$ 173,039.78	\$ 2,367,890.51
<b>2020 Total</b>	\$153,426.62	\$137,976.81	\$175,878.03	\$179,887.25	\$181,558.27	\$202,129.38	\$205,556.34	\$175,571.51	\$170,679.26	\$195,882.29	\$188,313.41	\$ 180,651.32	\$ 2,147,510.49

3% Rate Increase effective 1/1/18

1% Rate Increase effective 1/1/19

5% Rate Increase effective 10/1/20

Date: January 19, 2022

Copies: K. Rindt (via email)

C. Shaw (via email)

B. Kreski

Utilities Committee

**Appleton Water Treatment Plant  
Operations Synopsis  
October, November, and December 2021**

**Performance Summary**

The table below presents selected water production and quality performance metrics for the current and previous reporting periods.

Treated Water Quality. All compliance parameters met or exceeded regulatory requirements.

Water Production. Compared with Q3 of 2021 (Q/Q) average production decreased by over 12% consistent with seasonal demand variation. Compared with Q4 of 2020 (Y/Y), average water production increased by almost 1%.

Raw Water Quality. Average Q/Q lake turbidity declined by 40% consistent with seasonal change. Y/Y levels also declined by 18%.

Energy Efficiency. Applied electrical energy efficiency Q/Q and Y/Y declined by about 4% consistent with increased plant discharge pressure.

WATER PLANT PARAMETERS	Previous (Q3 2021)			Current (Q4 2021)		
	July	August	September	October	November	December
<b>Water Treated</b>						
Finished (million gallons), total	302.1	310.0	283.6	268.9	252.7	260.3
Finished (million gallons / day), average	9.7	10.0	9.45	8.7	8.4	8.4
<b>Electrical Energy (WTF)</b>						
Consumption (Megawatt-hours)	549.1	564.2	527.6	511.5	486.7	498.4
MWH / million gallons produced	1.82	1.82	1.86	1.90	1.93	1.91
<b>Lake Turbidity (NTU), average</b>	8.02	30.11	32.93	9.12	18.84	13.47
<b>Water System Microbial Quality</b>						
Total Coliform Samples	81	81	81	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
<b>Finished Water Quality</b>						
Water Temperature (Degrees F)	75.7	76.9	69.3	61.6	42.6	33.6
Turbidity (NTU), average	0.02	0.02	0.02	0.02	0.02	0.02
%<0.15 NTU standard	100	100	100	100	100	100
pH (SU), average	8.7	8.6	8.7	8.7	8.89	8.9
Total Chlorine (mg/L)	1.82	1.83	1.90	1.94	2.03	2.07
Fluoride (mg/L)	0.67	0.68	0.69	0.69	0.72	0.70
Orthophosphate (mg/L)	0.72	0.75	0.75	0.68	0.68	0.58

## **Laboratory**

- In support of plant operations, staff conducted analyses according to method protocols for pH, turbidity, alkalinity, hardness, free/total chlorine, ammonia, phosphorus, potassium permanganate, and fluoride.
- In support of distribution operations, staff performed required 81+ monthly Coliform bacteria analyses along with heterotrophic plate count (HPC) testing.
- Staff collected and processed raw and finished water samples to comply with Disinfection By-Products Rule (DBPR) sampling requirements. Provided support to consecutive customers with shipping of DBPR2 samples.
- In support of OCCT demonstration project, completed daily samples and orthophosphate analyses along with stagnant / flowing samples and related water quality analyses.

## **Safety**

- Maintained WTF Safety programs by completing scheduled safety inspections, fire prevention inspections, and monthly meetings. No significant incidents to report.
- Applied appropriate COVID-19 countermeasures as directed by city policy.

## **Operations**

- Operated two UV Disinfection reactors continuously during the quarter. Completed lamp replacements as scheduled.
- Completed construction phase for the Lake Station mechanical/electrical rehabilitation.
- Completed triennial Sanitary Survey in cooperation with WDNR.
- Completed testing phase for Optimized Corrosion Control Treatment (OCCT) pipe loop testing apparatus.
- Completed annual cathodic protection maintenance. Observed evidence of partial icing of north face of Glendale Tower.
- Placed #4 Softener into service and began cleaning #1 Softener.
- Experienced icing event at Lake Station intake requiring operation of new “water door” and temporary deployment of portable pumps.

## **Staffing & Training**

- Operations staffing levels were occasionally reduced by appropriately applied COVID-19 emergency leave instances.
- Welcomed replacement Instrument Technician in anticipation of incumbent retirement.
- Completed annual performance evaluation for all staff.

## WATER MAIN BREAK/ JOINT LEAK REPORT - DECEMBER 2021

### YEARLY WATER MAIN BREAK COMPARISON

<u>DEC 20</u>	<u>DEC 21</u>	<u>YTD 20</u>	<u>YTD 21</u>
27	15	105	137

LOCATION	BREAK DATE	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
2701 E. Henry St.	12/1/2021	296531	DIP	8"	1972	1/128" Crack	57 Days	2,700,219	\$16,417.33
NOTES: Break was found when the crew was testing hydrants and with the correlator. This never surfaced. Duration is based on the last time this hydrant was tested.									
1200 E. Northland Av.	12/2/2021	296737	DIP	12"	1979	Four Holes (2", 3", 3",4")	16 Hours	1,958,621	\$11,908.42
NOTES: Break was found as water was bubbling up. Duration is based on the time of call to repaired. Repairs were made & new breaks were occurring after turning the water back on.									
W. Northland Av. & N. Bennett St.	12/2/2021	296754	CIP	12"	1969	1/16" Crack	5 Hours	104,446	\$635.03
NOTES: Break was called in by APD. Duration is based on the time it was reported and the amount of water.									
821 S. Pierce Av.	12/2/2021	296797	CIP	6"	1927	1/16" Crack	6 Hours	71,058	\$432.03
NOTES: Break was called in by APD. Duration is based on the time it was reported and the amount of water.									

\*\*Water Loss is calculated at the residential rate of \$6.08 per 1000 gallons.

LOCATION	BREAK DATE	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
917 E. Capitol Dr.	12/2/2021	296736	DIP	12"	1967	4" Hole	3 Hours	523,000	\$3,179.84
NOTES: Break was found as water was bubbling out of the road. Duration is based on time of report until it was repaired.									
1707 N. Ballard Rd.	12/9/2021	297018	CIP	8"	1962	1/64" Crack	6 Days	628,464	\$3,821.06
NOTES: Break was found as there was water on the road. Duration is based on resident's note of water on road and the soil saturation.									
501 E. Taft Av.	12/10/2021	297057	CIP	6"	1957	3" Hole	3 Hours	3,113,600	\$18,930.69
NOTES: Break was called in as water is bubbling on road. Duration is based on time of call until it was turned off for repair.									
1030 W. Whittier Dr.	12/12/2021	297092	CIP	8"	1964	1/16" Crack	2 Days	668,455	\$4,064.21
NOTES: Break was called in by resident. Duration is established from when the resident first saw the water, along with the amount of water running down the road.									
1821 W. Reid Dr.	12/13/2021	297126	CIP	6"	1957	3" Hole	4 Hours	365,672	\$2,223.29
NOTES: Break was found as water was bubbling out of the road. Duration is based on time of report until it was repaired.									
1705 N. Rankin St.	12/14/2021	297210	CIP	6"	1957	1/16" Crack	3 Hours	29,009	\$176.37
NOTES: Break was called in by resident. Duration is based on time of call to when it was turned off for repair.									
157 Northbreeze Dr.	12/23/2021	297444	DIP	8"	1978	1/32" Hole	57 Days	13,533	\$82.28

\*\*Water Loss is calculated at the residential rate of \$6.08 per 1000 gallons.



LOCATION	BREAK DATE	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
NOTES: Break was found as there was water on the road. Duration is based on soil saturation and the date of the last hydrant test.									
2624 S. Berry St.	12/23/2021	297448	CIP	8"	1968	12" Split	22 Days	1,990,460	\$12,102.00
NOTES: Break was called in by a resident. Duration is bases on the soil saturation and the last time the hydrant was tested.									
1400 S. Memorial Dr.	12/24/2021	297446	CIP	8"	1928	One 2.5" Hole & Two 1.5" Holes	5 Hours	619,841	\$3,768.63
NOTES: Break was found as water was coming out of the ground. Duration is based on soil saturation and the time of call until was it was off for repair.									
331 E. McArthur St.	12/27/2021	297483	CIP	8"	1957	1/6" Crack	4 Hours	59,551	\$362.07
NOTES: Break was found as water was bubbling up. Duration is based on time of call and the soil saturation.									
College Av. Easement Road	122921	297483	DIP	12"	1960	5" Hole	4 Hours	971,614	\$5,907.41
NOTES: Break was found as water was bubbling up. Duration is from time of call along with soil saturation.									

In addition to the dollar value of water revenue lost, there is an average cost of \$9,000 to repair each water main break (including final restoration) and an average cost of \$630 to produce the lost water for each main break.

\*\*Water Loss is calculated at the residential rate of \$6.08 per 1000 gallons.