



City of Appleton

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

Meeting Agenda - Final Utilities Committee

Tuesday, April 22, 2014

4:30 PM

Council Chambers, 6th Floor

1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

14-597 Approval of the March 25, 2014 Utilities Committee Meeting minutes.

Attachments: [March 25, 2014 Utilities Committee Meeting Minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

14-670 Request to approve a contract for \$134,020 to Faith Technologies for the addition of a Fire Protection System to the Wastewater Plant. This is Phase III of III. In addition, I ask the Committee to pre-approve \$10,000 for required changes or unforeseen circumstances during installation.

Attachments: [Fire Protection Phase III 2014.doc](#)

14-675 Approval of an Engineering contract for the Everett Street Lift Station Improvements Project to McMAHON in the amount of \$45,977 plus a 15% contingency of \$6,897 for a total cost of \$52,874.

Attachments: [Everett Street Lift Station Memo.pdf](#)

6. **Information Items**

14-682 Stormwater Projects Update with Brown & Caldwell.

14-672 Confirm the following:
-Elect a Vice-Chair and Secretary
-Designate a "Contact Person" who can answer specific questions about agenda items.
-Meeting date and time

- 14-671** Monthly Reports for January, February, and March 2014
 -Wastewater Treatment Plant Synopsis and Receiving Station Revenue
 -Water Treatment Plant Synopsis
 -Water Distribution and Meter Team Monthly Report - March

Attachments: [2014 Q1 AWWTP Synopsis.pdf](#)
 [2014 Q1 AWTF Synopsis.docx](#)
 [Water Team Reports March.pdf](#)

7. Adjournment

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.



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Meeting Minutes Utilities Committee

Tuesday, March 25, 2014

4:30 PM

Council Chambers, 6th Floor

1. Call meeting to order

Chairperson Martin called the Utilities Committee meeting to order at 4:30 p.m.

2. Roll call of membership

Present: 4 - Alderperson Jeffrey Jirschele, Alderperson John Robin Hill, Alderperson Joe Martin and Alderperson Kyle Lobner

Excused: 1 - Alderperson Cathy Spears

3. Approval of minutes from previous meeting

14-503 Approval of the March 11, 2014 Utilities Committee Meeting minutes.

Alderperson Lobner moved, seconded by Alderperson Jirschele, that the Minutes be approved. Roll Call. Motion carried by the following vote:

Aye: 4 - Alderperson Jirschele, Alderperson Hill, Alderperson Martin and Alderperson Lobner

Excused: 1 - Alderperson Spears

4. Public Hearings/Appearances

5. Action Items

14-506 Approval of 2013 Annual Report under MS4 General Permit No. WI-S050075-1 (NR216 Phase II Stormwater Report)

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

Aye: 4 - Alderperson Jirschele, Alderperson Hill, Alderperson Martin and Alderperson Lobner

Excused: 1 - Alderperson Spears

14-519 Award Unit F-14, Sanitary and Storm Sewer Cleaning & Televising, to Green Bay Pipe & TV, LLC in an amount not to exceed \$236,500.

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

Aye: 4 - Alderperson Jirschele, Alderperson Hill, Alderperson Martin and Alderperson Lobner

Excused: 1 - Alderperson Spears

6. Information Items

14-505 Appleton Water Treatment Facility Regulatory Upgrade and Process Improvement Project Change Order #1 for a deduct of \$109,974 decreasing the original contract amount from \$4,857,000 to \$4,747,026.

This Presentation was received and filed

14-504 Monthly Reports for February 2014
- Water Distribution and Meter Team Monthly Report

The reports were reviewed.

7. Adjournment

Alderperson Hill moved, seconded by Alderperson Lobner, that the Utilities Committee meeting be adjourned at 4:42 p.m. Roll Call. Motion carried by the following vote:

Aye: 4 - Alderperson Jirschele, Alderperson Hill, Alderperson Martin and Alderperson Lobner

Excused: 1 - Alderperson Spears



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

**PARKS, RECREATION & FACILITIES
MANAGEMENT**

Dean R. Gazza, Director

1819 East Witzke Boulevard
Appleton, Wisconsin 54911-8401
(920) 832-5572 FAX (920) 993-3103
Email - dean.gazza@appleton.org

TO: Utilities Committee

FROM: Dean R. Gazza

DATE: 4/11/2014

RE: Action Item: Request to approve a contract for \$134,020 to Faith Technologies for the addition of a Fire Protection System to the Wastewater Plant. This is Phase III of III. In addition, I ask the Committee to pre-approve \$10,000 for required changes or unforeseen circumstances during installation.

This memo requests to approve a contract for \$134,020 to Faith Technologies for the addition of a Fire Protection System to the Wastewater Plant. This is Phase III of III. In addition, I ask the Committee to pre-approve \$10,000 for required changes or unforeseen circumstances during installation. This contingency would not be used unless absolutely required, and pre-approval will allow me to approve changes in a timely manner. This is a complex system being installed in a very difficult environment. We have done our homework to minimize the possibilities for changes, but on such a project they may occur.

The Wastewater Plant was constructed without a fire protection system. Though one is not required by code, the decision was made to protect life safety, assets and to reduce risk to the plants operation. During 2010, Phase I of three phases was completed which added protection to the administrative and operations buildings. Phase II was completed in 2012 and added fire protection to buildings L, M, T, V and V2. Phase III will cover buildings B, D, K, F1, F2, FG, H and J. Note that \$150,000 was budgeted so our bids fall within the allocated budget.

Bids were received from two contractors:

Best Defense	\$145,219
Faith Technologies	\$134,020

Please feel free to contact me at 832-5572 or at dean.gazza@appleton.org.



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Department of Utilities

To: Chairman Joe Martin and Members of the Utilities Committee

From: Chris Stempa, Utilities Deputy Director

cc: Chris Shaw, Utilities Director

Date: April 17, 2014

Re: *Approval of an Engineering contract for the Everett Street Lift Station Improvements Project to McMAHON in the amount of \$45,977 plus a 15% contingency of \$6,897 for a total cost of \$52,874*

BACKGROUND:

The Everett Street Lift Station was originally constructed in 1961 and rebuilt with a Gorman-Rupp factory-built system in 1997. The lift station is located on the north side of the 2500 block of Everett Street west of the intersection with Lynndale Drive and is the third largest lift station of the fourteen city lift stations. The lift station has a capacity of 0.60 MGD. The station includes a 7,500 gallon wet well with two, 200 gpm Gorman-Rupp TA43-B pumps. The station pumps have reached their useful life and are stressed to keep up under high flow conditions increasing the potential for sanitary sewer bypasses and basement backups.

The current pumping conditions can create excessive pump run times and cycling which increases electrical costs. The new pumps will be designed to address infiltration and inflow during rain events. The lift station wet well level controls are in usable condition but may be replaced if appropriate. Other station upgrades may include flow monitoring, pump programming, SCADA integration and the installation of a standby generator capable of providing lift station operation during power outages. The generator installation will improve the dependability of the lift station and lessen the demand on the deployment of a portable power generator during active or emergency conditions.

The 1,118 feet long, six inch diameter cast iron forcemain (also 1961 vintage) that services the Everett Street Lift station is planned for replacement in 2014 under a separate project (identified under the same CIP) through the Appleton Department of Public Works. The existing forcemain has failed twice due to corrosion and differential settling, most recently in August 2013. This project will include tying the existing forcemain into the new forcemain which is to be terminated within 10 feet of the existing lift station.

RFP PROCESS:

The request for proposal was distributed to four engineering firms. Representatives from each firm attended a pre-proposal meeting that defined the project, scope, and held a question and answer session. A site tour was held to orient the engineering firms to the project location. The following table identifies the engineering firms along with their proposal score and proposal pricing:

Company	Total Score ⁽¹⁾	Quote Pricing	Points per Dollar Factor ⁽²⁾
Donohue	168	\$98,915	17
McMAHON	262	\$45,977	57
RA Smith National	132	\$52,752	25
Strand	188	\$44,400	42

Notes:

1. "Total Score" represents the combined total from each of the four evaluation team members.
2. "Points per Dollar Factor" = Quote Pricing divided by Total Score x 10,000. The highest number is considered the greatest value.

An evaluation team completed their review of the submitted proposals. Firm proposals were evaluated and scored. The evaluation team found that McMAHON had provided a proposal that best met the City's needs. The McMAHON project team is experienced with municipal lift stations of similar size and complexity. Their proposal demonstrated a comprehensive approach that delivered construction or improvement alternatives that address current lift station deficiencies.

RECOMMENDATION:

I am requesting approval of an engineering contract to McMAHON for the Everett Street Lift Station Improvements Project in the amount of \$45,977 plus a 15% contingency of \$6,897 for a total cost of \$52,874.

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

Appleton Wastewater Treatment Plant Synopsis

January 2014 - March 2014

Wastewater Treatment Program

- The Appleton Wastewater Treatment Plant (AWWTP), final effluent met all Wisconsin Department of Natural Resources (WDNR) discharge monitoring reporting limits including carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), pH, phosphorous, and ammonia. (See Table 1). The plant maintained good treatment and a healthy microbiological population with a sludge retention time of nine days. Dewatering processes functioned well and converted 13.66 Million Gallons (MG) of primary digested sludge to biosolids.

Table 1 – Wastewater Influent / Effluent Treatment Data

Characteristic	January 2014			February 2014			March 2014		
AWWTP Flows (MG)	Influent		Percent	Influent		Percent	Influent		Percent
Industrial Flow	63.0		23.9%	62.7		23.6%	63.3		15.9%
Domestic Flow	200.9		76.1%	202.8		76.4%	335.6		84.1%
Total Flow	263.9			265.5			398.9		
Pollutant Loadings (lbs)	Influent	Effluent	Removal	Influent	Effluent	Removal	Influent	Effluent	Removal
CBOD	806,089	17,981	97.8%	799,664	11,027	98.6%	808,735	13,100	98.4%
TSS	1,451,319	10,921	99.2%	1,596,250	10,174	99.4%	1,552,826	9,815	99.4%
Phosphorous	16,703	1,402	91.6%	16,708	1,303	98.2%	16,333	1,012	93.8%
Ammonia	62,216	44,765	28.0%	60,921	21,328	65.0%	56,525	6,658	88.2%

Work Completed:

- 22,975 gallons of spent sulfuric acid (i.e. ferrous sulfate) was used for phosphorus removal during the reporting period. The chemical cost savings for using ferrous sulfate was approximately \$16,540. To meet phosphorous discharge limits, 4,250 gallons of ferrous chloride was purchased and fed during the reporting period at a cost \$3,060.
- Monthly effluent ammonia removal averages gradually improved through the three month period. Removal efficiencies suffered until the air piping re-route project was completed and the aeration tank was returned to service in mid January. The plant was in compliance with the ammonia limit for the months of February and March.

Work in Progress:

- Fine Screen Replacement Project:** Staff provided comments to Strand Associates engineers on the drawings and specs for the Fine Screen Replacement Project. It is anticipated that the project will be released for bids in April.
- Pretreatment Program Local Limit Evaluation (LLE) Project:** The final report from Strand Associates engineers was delivered in late March. Implementation of recommendations will include limit modifications and notification to and discussions with WWTP industrial users.

Appleton Wastewater Treatment Plant
Synopsis
January 2014 - March 2014

- **AWWTP Evaluation of Phosphorus Treatment Optimization and TMDL Compliance Project:** Efforts continued with polymer dosing demonstrations conducted by engineers from CH2M Hill & McMahon. Continuing discussions, an engineer's technical report and evaluation of plant optimization alternatives are expected to lead to chemical feed trials during the coming months.
- **Utility Air Emissions Control Project:** S.E.H provided a draft Type A Air Pollution Registration Operation Permit Application for the AWWTP. This document was finalized and submitted to the WDNR. S.E.H. also compiled the 2013 Air Emission Inventory and submitted to the DNR during the reporting period. This report is an annual requirement under NR 438 now that the AWWTP has obtained its Air Pollution Operation Permit.
- **Personnel:** January saw the resignation of two staff members from the AWWTP. Managers have been working with HR to recruit qualified replacements. It is anticipated that the positions will be filled by the end of April.

Regulatory Summary

- Monthly Discharge Monitoring reports for January, February and March were filed electronically on time for regulatory compliance. The 2014 1st quarter short form was also submitted.

Laboratory Program

- Program objectives for regulatory and process sampling and analysis were met including results for the Discharge Monitoring Report (DMR) and Health Department pool testing program.
- Lab personnel completed the analysis of Double Blind Proficiency samples for laboratory recertification.
- Lab staff will be conducting compliance monitoring sampling and pretreatment monitoring sampling to comply with 2014 requirements. They will also aid operations staff in preparing for chlorine residual testing during the upcoming disinfection season.
- Lab and operations staff continued to support the TMDL project polymer feed demonstration through chemical feed adjustments and further sample collection and analysis. They also supported engineering staff in bench testing and treatment alternative trials.

Appleton Wastewater Treatment Plant
Synopsis
January 2014 - March 2014

EFFLUENT QUALITY SUMMARY
January 2013 – March 2014

<i>Effluent Parameter:</i>	<i>CBOD mg/L</i>	<i>TSS mg/L</i>	<i>Total Phosphorus mg/L</i>	<i>Ammonia- Nitrogen mg/L</i>	<i>Chlorine Residual mg/L</i>	<i>Fecal Coliform Colonies/ 100 ml</i>	<i>pH s.u.</i>
<i>WPDES LIMITS:</i>	<i>25 mg/L monthly avg.</i>	<i>30 mg/L monthly avg.</i>	<i>1 mg/L monthly avg.</i>	<i>10 mg/L monthly avg.</i>	<i>0.037 mg/L daily limit</i>	<i>400 col/100ml geom. mean</i>	<i>6.0 - 9.0 daily limit</i>

2013

January	6	6	0.60	0.73	NA	NA	7.1/7.4
February	7	5	0.54	0.43	NA	NA	7.1/7.3
March	7	8	0.56	0.51	NA	NA	6.9/7.3
April	3	4	0.18	0.85	NA	NA	7.0/7.3
May	4	3	0.33	0.89	<0.01	9	7.1/7.4
June	4	3	0.35	1.85	<0.01	9	7.1/7.3
July	3	1	0.43	0.33	<0.01	21	7.3/7.6
August	3	2	0.60	0.58	<0.01	7	7.2/7.5
September	3	3	0.57	1.79	<0.01	22	7.3/7.6
October	3	4	0.65	1.21	NA	NA	7.2/7.8
November	4	2	0.28	0.62	NA	NA	7.5/7.7
December	6	4	0.57	3.38	NA	NA	7.2/7.5

2014

January	8	5	0.63	20.08	NA	NA	7.5/7.6
February	5	5	0.58	9.56	NA	NA	7.1/7.4
March	4	3	0.34	2.21	NA	NA	6.9/7.1

YEAR 2014 RECEIVING STATION REVENUE

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 14,313.06	\$ 14,872.60	\$ 57,727.42										\$ 86,913.08
CSR & Sons	\$ -	\$ -	\$ -										\$ -
Den-Bec Inc.	\$ -	\$ -	\$ -										\$ -
Hickory Meadows	\$ 9,439.68	\$ 5,582.53	\$ 10,391.43										\$ 25,413.64
Jeff Waldvogel Trkg.	\$ 12,124.46	\$ 12,509.84	\$ 15,168.38										\$ 39,802.68
KA Services	\$ -	\$ -	\$ -										\$ -
Sanimax	\$ -	\$ -	\$ -										\$ -
Schwind Trucking	\$ -	\$ -	\$ -										\$ -
Van's Septic Service	\$ -	\$ -	\$ -										\$ -
Veolia	\$ -	\$ -	\$ -										\$ -
Waldvogel Trucking	\$ 3,345.74	\$ 3,190.94	\$ 3,209.25										\$ 9,745.93
2014 Total	\$ 39,222.94	\$ 36,155.91	\$ 86,496.48	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 161,875.33
2013 Total	\$ 46,492.59	\$ 47,168.51	\$ 65,744.46	\$ 84,936.86	\$ 50,541.77	\$ 52,141.61	\$ 49,581.40	\$ 45,491.61	\$ 49,009.86	\$ 60,183.00	\$ 57,203.91	\$ 35,438.28	\$ 643,933.86

Date: April 11, 2014
 Copies: K. Rindt (via email)
 C. Shaw (via email)
 B. Kreski
 Utilities Committee

Appleton Water Treatment Plant Operations Synopsis January, February, March 2014

Summary

The following table summarizes selected water production and quality performance metrics for the current and previous reporting periods. During the quarter, average water production increased about 11% from the previous quarter. Average raw water turbidity declined significantly as winter temperatures and Lake Winnebago ice-over prevailed. In February, an existing lime feeder system “free flow” resulted in reduced CT ratio. As part of the RUPIP, the new lime feeders and increased CT Basin capacity are expected to eliminate the likelihood of this circumstance in the future.

WATER PLANT PARAMETERS	Previous (Q4)			Current (Q1)		
	October	November	December	January	February	March
Water Treated						
Finished (million gallons)	259	235	249	263	255	281
Finished (million gallons / day)	8.3	7.8	8.0	8.5	9.1	9.1
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	546.5	513.8	548.7	557.3	524.9	570.9
MWH / million gallons produced	2.11	2.18	2.20	2.12	2.06	2.03
Turbidity						
Lake (NTU)	48.4	48.9	9.6	3.2	4.2	4.9
Finished (NTU)	0.02	0.03	0.02	0.02	0.02	0.02
Finished (<0.1 NTU standard)	100%	100%	100%	100%	100%	100%
Water System Microbial Quality						
Total Coliform Samples	81	81	81	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
Disinfectant Contact Time						
Minimum CT Ratio Required	1.0	1.0	1.0	1.0	1.0	1.0
Minimum CT Ratio Achieved	1.95	1.88	1.88	2.02	0.76	1.95
Hardness						
Lake Total / Calcium (mg/L)	176/94	180/84	194/103	196/105	202/97	202/112
Finished Total / Calcium (mg/L)	91/23	99/30	101/41	98/39	103/36	102/32
Finished Water Quality						
Total Chlorine (mg/L)	2.33	2.36	2.29	2.24	2.26	2.25
pH	8.7/9.1	8.8/9.2	8.7/9.0	8.8/8.9	8.7/9.4	8.9/9.1
Water Temperature (Degrees F)	57.4	40.8	34.7	35.6	35.6	37.2
Fluoride (mg/L)	0.82	0.75	0.78	0.66	0.65	0.63
Orthophosphate (mg/L)	0.70	0.64	0.72	0.71	0.56	0.69

Laboratory

- In support of plant operations, staff conducted successful analyses according to method protocols for all parameters including pH, turbidity, alkalinity, hardness, free and total chlorine, ammonia, phosphorus, and fluoride.
- In support of distribution operations, staff performed required 81 monthly Coliform bacteria analyses along with heterotrophic plate count (HPC) testing.

- A written response plan was prepared and accepted by the Department of Agriculture, Trade, and Consumer Protection (DATCP) in connection with the December 2013 audit of our laboratory procedures and equipment.
- The Technical Services Manager provided assistance to wholesale water customers in connection with quarterly Disinfection Byproduct sampling requirements.
- Analyses of double-blind proficiency samples were completed in support of laboratory re-certification.

Safety

WTF Safety programs were maintained by completing scheduled safety meetings and all inspections. There were no significant incidents to report.

Operations

- In support of RUIP construction activities, half of the GAC Contactors (future gravity filters), and #1 Membrane Feed Wet Well were taken out of service. These units are projected to be out-of-service until the end of May. Consequently, the normal “off-peak energy” backwashing schedule has been suspended limiting related potential electrical energy savings.
- Demonstration testing was conducted to evaluate and increase Softener performance in terms of effluent turbidity reduction. The testing confirmed that increased lime addition can reduce turbidity to future target levels.
- Full-scale testing of the TARGA II product from Koch Membrane Systems continued during the quarter. A second membrane stage was converted to the product for expanded testing.
- Plant staff dewatered, cleaned, and inspected #3 Softener, the South Softener Influent Channel, the Contactor Wash Water and the Membrane Wash Water Tanks.
- In March, the stand-by generators were successfully tested in accordance with the capacity agreement with WPPI.

Water Plant Projects

RUIP: The Regulatory Upgrade and Process Improvement Project (RUIP) entered the construction phase on January 23. Work completed during the quarter included:

- Contractor mobilization and staging
- Submittal review
- Membrane wet well concrete wall forms installed
- Filter gullet preparation for second concrete floor installation (#5-8)

PAC Fire Suppression: Design alternatives and equipment were reviewed with the design engineer during the quarter. Review of final design documents will be completed during the second quarter.

Staffing & Training

- The two newest staff successfully completed confined space entry certification.
- The plant design engineer provided plant operations “refresher” training for all plant staff.
- Several staff members attended off-site training sessions to meet state certification requirements.

WATER SUMMARY FOR MARCH 2014

Work done by Construction Maintenance				
	Mar 13	Mar 14	YTD 13	YTD 14
Hydrants repaired	7	3	27	22
Hydrants replaced	0	0	1	0
Hydrant leaks	0	0	0	0
Valves replaced	0	0	0	2
Valves tested & inspected	0	0	0	0
Valves Rebuilt	2	3	6	6
Valve boxes repaired	0	0	9	0
Curb boxes repaired	0	0	2	0
Curb boxes replaced	2	0	23	26
Lead or galvanized replaced	0	0	0	0
New services 1"	1	0	1	0
New services >1"	2	0	2	0
Water main breaks	11	28	46	71
Joint leaks repaired	1	0	2	1
Water quality	0	0	2	1
Service leaks (City side)	1	0	2	1
Work done by Meter Service Team				
	Mar 13	Mar 14	YTD 13	YTD 14
New accounts set with 3/4" or 1"	13	2	40	6
New accounts set with larger meter	0	1	0	2
Meters tested	14	71	51	238
Meters failed	1	0	1	0
Meters stalled	4	2	11	2
Service calls	130	175	356	431
Final readings	248	274	702	731
Read meters - no reading	29	51	61	126
Defective trace replaced	0	0	0	0
Exception meters inspected	0	0	0	0
Exception meters removed	0	0	0	1
Service leaks found	0	0	2	5
Batteries changed	25	0	54	0

**WATER MAIN BREAK/JOINT LEAK REPORT MARCH
2014**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
1225 W. Taylor Street	173647	CIP	8"	1957	Two 2" holes	6 hours	960,000	\$5,839.57
1924 N. Richmond Street	173700	CIP	8"	Unknown	4" hole	9 days	34,560,000	\$210,224.60
1717 E. Calumet Street	173701	CIP	12"	1965	4" hole	6 hours	960,000	\$5,839.57
505 S. Pierce Avenue	173702	CIP	6"	1924	3" hole	6 hours	540,000	\$3,284.76
400 Blk W. Lawrence Street	173737	CIP	6"	Unknown	1/4" crack	2 days	2,068,416	\$12,581.94
1919 E. Melrose Avenue	173738	CIP	6"	1953	3" hole	8 hours	720,000	\$4,379.68
918 E. Glendale Avenue	173749	CIP	8"	1952	3" hole	6 hours	540,000	\$3,284.76
Warehouse Road/Kensington Drive	173750	DIP	8"	1978	3" hole	6 hours	540,000	\$3,284.76
1619 S. Carver Lane	173805	CIP	6"	1952	3" hole	6 hours	540,000	\$3,284.76
1031 W. Frances Street	173823	CIP	8"	1955	1/16" crack	6 hours	91,200	\$554.76

**Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.

**WATER MAIN BREAK/JOINT LEAK REPORT MARCH
2014**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
Bona Avenue/Fidelis Street	173869	CIP	8"	1978	Hair line crack	70 days	672,000	\$4,087.70
702 N. Lawe Street	173911	CIP	8"	1913	3" hole	3 hours	270,000	\$1,642.38
Atlantic Street/Bateman Street	174058	CIP	6"	1938	1/16" crack	6 hours	68,400	\$416.07
115 S. State Street	174059	CIP	6"	1940	3" hole	1 day	2,160,000	\$13,139.04
1029 W. Brewster Street	174060	CIP	6"	1940	3" hole	6 hours	540,000	\$3,284.76
1411 W. Summer Street	174118	CIP	6"	1933	1/16" crack	6 hours	68,400	\$416.07
Walden Avenue/Taft Avenue	174117	CIP	8"	1968	3" hole	6 hours	540,000	\$3,284.76
2709 S. Walden Avenue	174172	CIP	8"	1968	6" long hair line crack	78 days	748,800	\$4,554.87
327 E. North Street	174226	CIP	6"	Unknown	3" hole	6 hours	540,000	\$3,284.76
700 Blk W. Kamps Avenue	174229	CIP	6"	1940	1/16" crack	6 hours	68,400	\$416.07
717 W. Prospect Avenue	174444	CIP	8"	1933	1/16" crack	2 days	364,800	\$2,219.04

**Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.

**WATER MAIN BREAK/JOINT LEAK REPORT MARCH
2014**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
2923 Peach Tree Lane	174515	CIP	8"	1969	1/16" crack	7 days	2,553,600	\$15,533.26
1525 W. Commercial Street	174570	CIP	8"	1935	1/16" crack	6 hours	91,200	\$554.76
1631 S. Lynndale Drive	174623	CIP	6"	1961	1/16" crack	27 days	9,849,600	\$59,914.01
1301 W. Homestead Drive	174666	DIP	8"	1978	3" hole	4 hours	360,000	\$2,189.84
1916 E. Lourdes Drive	174686	DIP	12"	1975	3" hole	6 hours	540,000	\$3,284.76
2523 S. Madison Street	174687	DIP	6"	1972	3" hole	4 hours	360,000	\$2,189.84
2807 N. Ballard Road	174688	DIP	12"	1971	3" hole	4 hours	360,000	\$2,189.84

**Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.

**WATER MAIN BREAK/JOINT LEAK DATA LOG MARCH
2014**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
1225 W. Taylor Street	Local	Asphalt	Major	Yes 50' & 500' away	3/5/2014 1:00 p.m. Wednesday	Fixed right away. A lot of water causing terrace damage and flooding.
1924 N. Richmond Street	Arterial/Collector	Concrete	Major	No	3/6/2014 7:00 p.m. Thursday	Fixed right away. We were searching for this leak for several days as the water was not coming to the surface.
1717 E. Calumet Street	Arterial/Collector	Concrete	Major	Yes 500' away	3/7/2014 2:00 a.m. Friday	Fixed right away. The parking lot for the mini mall was completely flooded and it was creating a huge mess on Calumet Street.
505 S. Pierce Avenue	Local	Asphalt	Major	Yes 200' & 800' away	3/7/2014 7:00 a.m. Friday	Fixed right away during normal work hours. Making a mess.
400 Blk W. Lawrence Street	Arterial	Concrete	Major	Yes 400' away	3/8/2014 5:00 a.m. Saturday	Fixed right away. There was a lot of water.
1919 E. Melrose Avenue	Local	Asphalt	Major	Yes 100' away	3/8/2014 8:00 a.m. Saturday	Fixed right away. A lot of water making a mess and causing road damage.

**WATER MAIN BREAK/JOINT LEAK DATA LOG MARCH
2014**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
918 E. Glendale Avenue	Arterial	Asphalt	Major	Yes 100' away	3/9/2014 12:00 p.m. Sunday	Fixed right away. A lot of water on a busy street by the hospital.
Warehouse Road/Kensington Drive	Arterial	Concrete	Major	Yes 200' away	3/10/2014 7:00 a.m. Monday	Fixed right away. A lot of water.
1619 S. Carver Lane	Local	Asphalt	Major	Yes 300' & 600' away	3/10/2014 12:00 p.m. Monday	Fixed right away. A lot of water causing property damage and making a mess.
1031 W. Frances Street	Local	Asphalt	Major	Yes 20' away	3/10/2014 9:00 p.m. Monday	Fixed right away. A lot of water.
Bona Avenue/ Fidells Street	Local	Concrete	Minor	No	3/11/2014 1:00 p.m. Tuesday	Road heaved several months ago but there was no water coming to the surface and no leak was found when we drilled. Dug a hole when caught up with other work and found the leak.
702 N. Laws Street	Arterial	Concrete	Major	Yes 25' away	3/12/2014 2:00 p.m. Wednesday	Fixed right away. A busy street with a lot of water.

**WATER MAIN BREAK/JOINT LEAK DATA LOG MARCH
2014**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
Atlantic Street/ Bateman Street	Local	Asphalt	Major	Yes 30' away	3/15/2014 8:20 a.m. Saturday	Fixed right away. A lot of water on road and sidewalk.
115 S. State Street	Arterial	Concrete	Major	No	3/17/2014 7:00 a.m. Monday	Fixed during normal work hours. Not much water coming to the surface. There was a lot of water going somewhere as it was a 3" hole running for a long time. There was no frost in the ground.
1029 W. Brewster Street	Local	Asphalt	Major	Yes 300' away	3/17/2014 7:00 a.m. Monday	Fixed right away during normal work hours. A lot of water.
1411 W. Summer Street	Local	Concrete	Major	Yes 200' away	3/17/2014 3:45 p.m. Monday	Fixed right away. Making a mess.
Walden Avenue/ Taft Avenue	Local	Concrete	Major	Yes 25' away	3/18/2014 8:00 a.m. Tuesday	Fixed right away. A lot of water.
2709 S. Walden Avenue	Local	Concrete	Minor	No	3/19/2014 7:00 a.m. Wednesday	Fixed right away. Frost heave leaking for a long time. No water coming to the surface.

					3/20/2014	
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**WATER MAIN BREAK/JOINT LEAK DATA LOG MARCH
2014**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
327 E. North Street	Local	Concrete	Major	Yes 200' away	7:00 a.m. Thursday	Fixed right away during normal work hours.
700 Blk W. Kamps Avenue	Local	Concrete	Minor	Yes 200' away	3/20/2014 7:00 a.m. Thursday	Fixed right away during normal work hours.
717 W. Prospect Avenue	Arterial	Concrete	Minor	No	3/25/2014 12:00 a.m. Tuesday	Let run and fixed during normal work hours.
2923 Peach Tree Lane	Local	Concrete	Major	Yes 10' away	3/25/2014 1:00 p.m. Tuesday	Fixed right away. Water was running into catch basin and not coming to the surface. Homeowner could hear water running for about a week.
1525 W. Commercial Street	Local	Asphalt	Major	Yes 200' away	3/26/2014 10:00 a.m. Wednesday	Fixed during normal work hours.
1631 S. Lynndale Drive	Local	Concrete	Major	No	3/27/2014 8:00 a.m. Thursday	Fixed the next day during normal work hours. Found the leak while testing hydrants. No water coming to the surface. Had been leaking a long time.

					3/28/2014 1:00 p.m.	
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**WATER MAIN BREAK/JOINT LEAK DATA LOG MARCH
2014**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Ashpalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
1301 W. Homestead Drive	Collector	Concrete	Major	Yes 200' away	Friday	Fixed right away. A lot of water.
1916 E. Lourdes Drive	Collector	Concrete	Major	Yes 30' away	3/29/2014 9:00 a.m. Saturday	Fixed right away. A lot of water.
2523 S. Madison Street	Local	Concrete	Major	Yes 175' away	3/29/2014 2:00 p.m. Saturday	Fixed right away. A lot of water and mud.
2807 N. Ballard Road	Arterial	Concrete	Major	Yes 180' away	3/30/2014 6:30 p.m. Sunday	Fixed right away. A lot of water on a busy street.