



City of Appleton

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

Meeting Agenda - Final Utilities Committee

Tuesday, July 25, 2017

5:00 PM

Council Chambers, 6th Floor

1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

[17-1117](#) Approval of the July 11, 2017 Utilities Committee Meeting minutes.

Attachments: [July 11, 2017 Utilities Committee Meeting Minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

6. **Information Items**

[17-1118](#) Request to approve the following 2017 Budget Adjustment:
Water Utility Fund Balance -\$55,000
Distribution Operations & Maintenance +\$55,000

To provide funding for additional permanent patch locations associated with water main breaks and lead service and curb box replacements.

Attachments: [Budget Adjustment - Water Utility main break street patches.pdf](#)

[17-1119](#) Department of Utilities Mid-Year Performance Reviews.

Attachments: [Department of Utilities Mid-Year Performance Reports.pdf](#)

[17-1120](#)

Monthly Reports for April, May, June 2017

- Wastewater Treatment Plant Synopsis and Receiving Station Revenue Report
- Water Treatment Plant Synopsis
- Water Distribution and Meter Team Monthly Report - June

Attachments: [2017 AWWTP Q2 Synopsis.pdf](#)

[2017 AWTF Q2 Synopsis.pdf](#)

[Water Team Reports - June.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
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Meeting Minutes Utilities Committee

Tuesday, July 11, 2017

5:00 PM

Council Chambers, 6th Floor

1. Call meeting to order

Chairperson Dannecker called the Utilities Committee Meeting to order at 5:00 p.m.

2. Roll call of membership

Present: 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

3. Approval of minutes from previous meeting

[17-941](#)

Approval of the June 13, 2017 Utilities Committee Meeting minutes.

Attachments: [June 13, 2017 Utilities Committee Meeting Minutes.pdf](#)

Baranowski moved, seconded by Meltzer, that the Minutes be approved. Roll Call. Motion carried by the following vote:

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

4. Public Hearings/Appearances

[17-973](#)

Presentation and public feedback for Carpenter Street Sanitary Lateral Replacement Program Pilot Project.

Attachments: [2019 Sanitary Lateral Replacement Program-Letter to Carpenter Street Owners.pdf](#)
[Proposed Pilot Project Carpenter Street.pdf](#)

This Item was presented and discussed.

5. Action Items

[17-972](#)

Award the North Reservoir Painting Project to L C United Painting Company in the amount of \$569,000 with a 10% contingency of \$56,900 for a project total not to exceed \$625,900.

Attachments: [North Reservoir Project - Contractor Award 06-26-17.pdf](#)

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

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

[17-974](#)

Preliminary Resolution 4-P-17 for Sanitary Laterals, Storm Laterals and Storm Sewer Main be adopted and refer the matter to the Finance Committee to determine the assessment rate.

Attachments: [4-P-17 Sanitary and Storm.pdf](#)

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

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

[17-975](#)

Award the Water Meter Customer Portal System to American Conservation and Billing Solutions, Inc. (AquaHawk) in the amount of \$65,300 with a 10% contingency of \$6,530 for a project total cost not to exceed \$71,830.

Attachments: [AquaHawk memo.pdf](#)

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

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

[17-982](#)

Award engineering contract for AWTF Chemical Systems Rehabilitation Project to McMahon in the amount of \$39,200 with a 10% contingency of \$3,920 for a project total not to exceed \$43,120.

Attachments: [utilities memo - Chemical Systems Rehabilitation Engineering Contract Award 06-26-17.pdf](#)

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

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

[17-985](#)

Approval of a 3% Rate Increase for Receiving Station Waste Haulers effective January 1, 2018.

Attachments: [utilities memo Receiving Station Rates Changes 06-27-17.pdf](#)

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

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

6. Information Items

[17-942](#)

Change Order #3 to Howard Grote and Sons in the amount of \$500 for the Water Treatment Clarifier Project resulting in the construction contract being reduced from \$494,067 to \$493,567. This item will also be an Information Item at the Finance Committee meeting.

Attachments: [Change Order No 3 Softner Project.pdf](#)

This item was presented.

[17-986](#)

State Approval of AWTF Membrane to Ultraviolet Light Process Transition.

Attachments: [Appleton UV Transition Completion.pdf](#)
 [Appleton SWTR Compliance Summary June 2017.pdf](#)

This item was presented.

[17-943](#)

Monthly Reports for May 2017
- Water Distribution and Meter Team Monthly Report

Attachments: [Meter Team Reports May.pdf](#)

This item was presented.

7. Adjournment

Baranowski moved, seconded by Meltzer, that the Utilities Committee Meeting be adjourned at 5:41 p.m. Roll Call. Motion carried by the following vote:

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek



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

MEMO

TO: Finance Committee
Utilities Committee

FROM: Paula Vandehey, Director of Public Works

DATE: July 13, 2017

SUBJECT: **The following 2017 Budget adjustment be approved to provide funding for additional permanent patch locations associated with water main breaks and lead service and curb box replacements:**

Water Utility Fund Balance	- \$55,000
Distribution Operations & Maintenance	+\$55,000

The Department of Public Works is attempting to catch up on all restoration work associated with water main breaks from years prior to 2017, as well as lead service and curb box restoration work. However, the \$40,000 in the 2017 Adopted Budget will not be sufficient to complete all of the outstanding street, curb and sidewalk patches.

In 2016 we had 92 water main breaks, and so far in 2017 we have already had 37 breaks. If we do not complete all of the outstanding patches, we will continue to fall further behind based on the number of breaks we have already had in 2017 (see attached Water Main Break History chart). The Water Division has replaced over 40 lead services and numerous curb boxes in the last two years. These replacements require permanent street patches and sidewalk and curb replacement.

Therefore, we request a budget adjustment to use existing Water Utility Fund Balance to fund permanent street, curb and sidewalk patches at an additional 50 locations in 2017.

Attachment

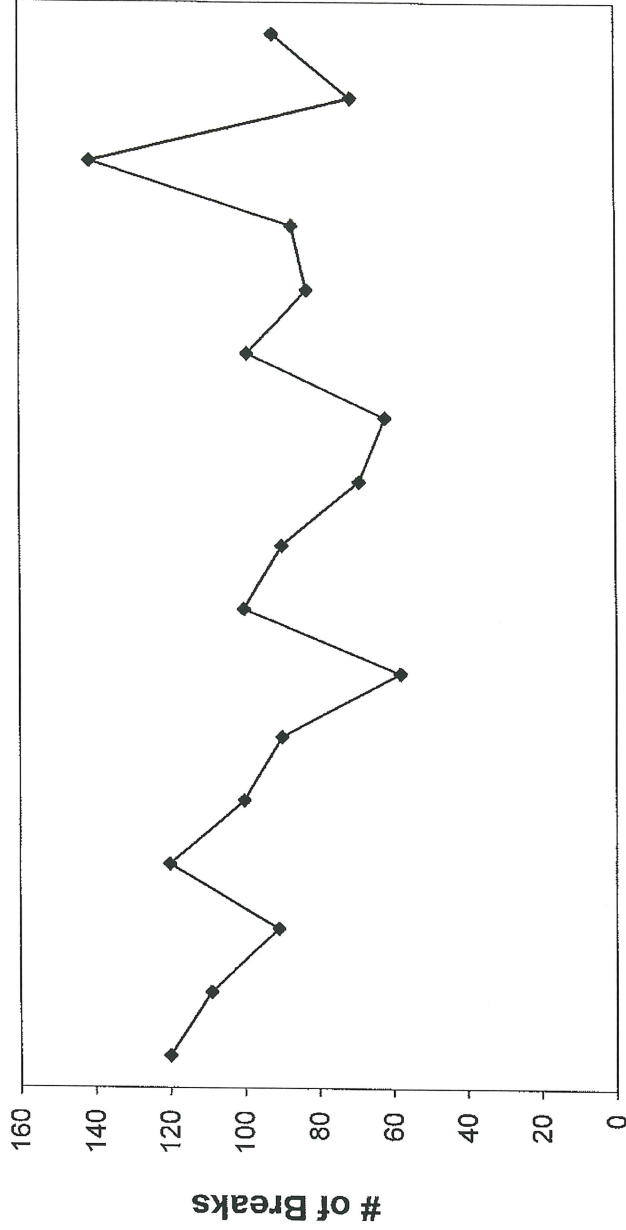
Water Main Break History

YEAR	BREAKS
2000	120
2001	109
2002	91
2003	120
2004	100
2005	90
2006	58
2007	100
2008	90
2009	69
2010	62
2011	99
2012	83
2013	87
2014	141
2015	71
2016	92
2017	37 (Thru May)

TOTAL = 1619

Average : 95.2

Water Main Break History



Years 2000- 2016

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City of Appleton
Wastewater Treatment
Summary Budget to Actual Report
For the Six Months Ending June 30, 2017

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Description	Year to Date Expense	Full Year Amended Budget	Percent of Amended Budget
Utility Administration	130,273	266,409	48.9 %
Wastewater Treatment	1,790,322	3,831,283	46.7 %
Biosolids Management	69,944	783,821	8.9 %
Lab & Pretreatment	428	0	.0 %
Lift Stations	63,999	184,859	34.6 %
Utilities Capital Improvement	119,122	3,156,500	3.8 %
Utilities FMD Projects	137,208	1,165,461	11.8 %
Total	2,311,296	9,388,333	.0 %

**WASTEWATER
2017 BUDGET PERFORMANCE DATA**

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5411 Utility Administration						
Client Benefits / Impacts						
Safe Work Environment						
# of workers comp claims / year	0	2	0	0		0
# of first aid entries per year	13	10	0	5		5
Strategic Outcomes						
Effective Use of Budgeted Funds						
% of operational budget obligated	88%	93%	100%	46%		100%
Trained Staff						
% of staff adequately trained	74%	95%	100%	98%		100%
Average # of hours training per employee	16	11	25	18		10
Work Process Outputs						
Government reports prepared						
# of reports filed						
Compliance Report (eCMAR)	1	1	1	1		1
Biosolids Annual Report	1	1	1	0		1
Pretreatment Report	2	2	2	0		2
Discharge Report (eDMR)	12	12	12	6		12

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5422 Utility Treatment						
Client Benefits / Impacts						
Environmental Safety						
# of DMR Permit exceedance violations	0	0	0	0		0
Essential Services Provided						
# of gallons of influent treated annually	4,228 MG	4,694 MG	4,500 MG	2,857 MG		4,500 MG
Strategic Outcomes						
High Wastewater Treatment Standards						
CMAR GPA for ten categories	A	A	A	A		A
Overall CMAR GPA	3.73	3.73	4.0	3.73		3.73
# of categorical grades of C or below	0	0	0	1		1
Work Process Outputs						
Efficient Plant Operation						
Average # of days to close preventative work orders	59	59	35	36		36

**WASTEWATER
2017 BUDGET PERFORMANCE DATA**

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5423 Biosolids Management Program						
Client Benefits / Impacts						
Environmental Safety						
Biosolids Applications # of sites						
with Nitrogen loading exceedences	0	0	0	0		0
with Metal(s) loading exceedences	0	0	0	0		0
Strategic Outcomes						
Beneficial Re-use						
Wet tons applied	20,936	22,444	23,000	8,529		21,750
Wet tons landfilled	0	0	0	0		0
Wet tons composted	2,496	2,246	2,500	0		1,250
Work Process Outputs						
Biosolids Production and Storage						
Tons of biosolids produced	25,176	25,292	26,000	10,411		23,000
CMAR compliance						
# of site monitoring completed	49	42	24	20		40

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5424 Laboratory and Pretreatment						
Client Benefits / Impacts						
Environmental Safety						
# of industrial clients	10	10	10	10		10
# of clients in significant non-compliance	0	0	0	0		0
Increase Revenue Sources						
\$ received from other sources	\$1,473,124	\$2,161,440	\$1,500,000	\$1,313,615		\$2,300,000
# of tons of hauled waste received	New Measure	New Measure	205,000	141,876		270,000
Strategic Outcomes						
# of pollution minimization initiatives	4	4	4	2		4
Work Process Outputs						
Record Maintenance - DMR						
# DMR and QA/QC samples completed	9,936	10,747	6,125	4,714		10,775
Improvement Treatment Processes						
# process samples analyzed annually*	4,632	4,346	4,900	2,092		4,500
Maintain Industrial Pretreatment Compliance						
# of inspections	10	10	10	4		10
# of sampling events	20	20	20	10		20
# of billable samples for other City depts.	572	503	550	129		350

*includes all compliance, process and billing samples

**includes compost pilot

**WASTEWATER
2017 BUDGET PERFORMANCE DATA**

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5425 Utility Lift Stations						
Client Benefits / Impacts						
Sewage Bypasses / Backups # per year attributed to lift stations	0	0	0	0		0
Strategic Outcomes						
Integrity of Lift Stations Maintained # of emergency calls required	11	10	15	7		14
Work Process Outputs						
Response to Work Orders						
# of preventative work orders	195	202	168	91		168
# of corrective work orders	15	21	50	14		50

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5432 Capital Improvements						
Client Benefits / Impacts						
Cost Effective Treatment Processes						
# of CIP's in budget year	15	11	13	15		15
# of CIP's in five-year plan	19	24	21	23		23
Strategic Outcomes						
Sewer Rate Changes % per year	0%	0%	0%	0%		0%
Work Process Outputs						
Project Management						
% of projects completed at year-end	67%	36%	100%	13%		40%

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City of Appleton
Water Filtration
Summary Budget to Actual Report
For the Six Months Ending June 30, 2017

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Description	Year to Date Expense	Full Year Amended Budget	Percent of Amended Budget
Filtration Administration	184,941	397,556	46.5 %
Treatment Operations	1,976,654	6,647,577	29.7 %
Treatment Capital	111,367	1,126,366	9.9 %
Treatment FMD Projects	9,488	175,000	5.4 %
Total	2,059,716	8,346,499	24.9 %

WATER
2017 BUDGET PERFORMANCE DATA

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5321 Treatment Administration						
Client Benefits / Impacts						
Safe Work Environment						
# of workers comp claims / year	0	0	0	0		0
# of first aid entries per year	4	0	0	2		2
Strategic Outcomes						
Effective Use of Budgeted Funds						
% of Operational budget dollars obligated	85%	85%	100%	35%		97%
Trained Staff						
% of adequately trained staff	98%	100%	100%	100%		100%
Average # of hours training per employee	30	10	60	8		8
Work Process Outputs						
Government Reports Prepared						
# of names of regular reports						
CCR Report	1	1	1	1		1
DNR Reports	12	12	12	6		12
SARA Report	1	2	2	2		2

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5323 Treatment Operations and Maintenance						
Client Benefits / Impacts						
Adequate Supply of Safe Drinking Water						
% of water sampling tests in compliance per year	100%	100%	100%	100%		100%
Adequate Water Pressure						
% of tests having adequate Pressure	New Measure	New Measure	100%	100%		100%
# of sprinkling bans	0	0	0	0		0
# of gallons pumped per year	3,257 MG	3,275 MG	3,200 MG	1,585 MG		3,200 MG
Work Process Outputs						
Efficient Plant Operation						
# of work days lost due to injuries	0	0	0	0		0
# of reservoirs maintaining pressure per year	6	6	7	6		6
# of membrane repairs	19,522	12,855	2,000	0		0
Water Towers						
# inspected / painted per year	2 / 0	1 / 1	1 / 1	0 / 0		1 / 1

WATER
2017 BUDGET PERFORMANCE DATA

Program / Criteria	Actual 2015	Actual 2016	Target 2017	2017		Projected 2017
				Mid Year	End of Year	
5325 Treatment Capital Improvements						
Client Benefits / Impacts						
Cost Effective Treatment Processes						
# of CIP's in budget year	7	6	6	6		6
# of CIP's in five-year plan	11	16	8	7		7
Strategic Outcomes						
Water Rate Changes						
% per year	0%	0%	0%	0%		0%
Work Process Outputs						
Project Management						
% of projects completed at year-end	88%	83%	100%	0%		50%

Appleton Wastewater Treatment Plant
Synopsis
April 2017 - June 2017

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 seven and one half days. Dewatering processes functioned well and converted 14.4 Million Gallons (MG) of primary digested sludge to biosolids.

April 2017			
AWWTP Flows (MG)	Influent	Effluent	Percent
Industrial Flow	51.6		8.7%
Domestic Flow	544.2		91.3%
Total Flow	595.8		
Pollutant Loadings (lbs)	Influent	Effluent	Removal
CBOD	928,975	16,285	98.3%
TSS	1,459,429	14,090	99.0%
Phosphorous	13,483	473	96.5%
Ammonia	54,715	7,763	85.8%
May 2017			
Industrial Flow	53.2		11.0%
Domestic Flow	428.5		89.0%
Total Flow	481.7		
Pollutant Loadings (lbs)	Influent	Effluent	Removal
CBOD	826,671	14,190	98.3%
TSS	1,542,988	12,033	99.2%
Phosphorous	13,629	482	96.4%
Ammonia	63,662	5,433	91.5%
June 2017			
Industrial Flow	51.9		12.0%
Domestic Flow	379.8		88.0%
Total Flow	431.7		
Pollutant Loadings (lbs)	Influent	Effluent	Removal
CBOD	898,830	10,670	98.8%
TSS	1,653,194	7,724	99.5%
Phosphorous	16,364	464	97.1%
Ammonia	58,090	4,456	92.3%

Work in Progress:

- 2017 Appleton Wastewater Plant Improvements Project:** Donohue & Associates as awarded the professional engineering service contract in May as part of the multi-process improvements project. A kick-off meeting was held at the wastewater plant on June 6th to overview

final effluent pumping, waste activated sludge pumping, anaerobic digester mixing compressor glycol system, and aeration blower (No.3) replacement. Staff also provided responses to data and information requests that will be necessary for preliminary engineering phases.

- **Chemical Storage Room Rehab/Improvements Project:** McMahon conducted a pre-design kick-off meeting during the quarter to overview the project and solicit input from AWWTP staff which will be used as part of the preliminary design concepts. The acid containment pit liner was cleaned and inspected in May and found in good overall condition. Those findings are to be included in a conditions assessment and project alternatives technical memorandum. A 90% design meeting has been planned for later this summer with project bidding projected to occur in September.
- **Biogas Utilization Study Update: Donohue:** Donohue & Associates was awarded the professional engineering contract to update eight gas utilization alternatives that were evaluated as part of the original 2009 gas utilization study. The update will account for the increased biogas production associated with larger quantities of high strength wastes. Donohue will also be investigating the applicability of the Renewable Fuel Standard Program (RFSP) as part of the updated study. The final report will be completed by year end.
- **Spartan Drive Lift Station:** The AWWTP is supporting the Department of Public Works as part of the new Spartan Drive lift station construction project. Applied Technologies is the contracted engineer and August Winter and Sons the general contractor. Active construction of the lift station building including associated mechanical and electrical have been ongoing since May. Lift station start-up is projected to occur in September.

Regulatory Summary

- Monthly Discharge Monitoring reports for April, May and June were filed electronically on time for regulatory compliance. The 2017^{2nd} quarter short form was also submitted.
- The AWWTP operating permit was re-issued by the State of Wisconsin Department of Natural Resources with an effective date of April 1, 2017 and an expiration date of March 31, 2022. Staff are in the process of updating internal compliance monitoring and testing requirements including regulatory reporting schedules to align with those outlined in the re-issued permit. Noteworthy additions to the re-issued permit include the phosphorus Total Maximum daily Load (TMDL) water quality based effluent limitation compliance schedule (ultimate compliance date set for January 1, 2023) and the addition of the biosolids compost outfall.

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 Single Blind Proficiency samples for laboratory recertification.
- Lab staff will be conducting compliance monitoring sampling and pretreatment monitoring sampling to comply with 2017 requirements. They will also aid operations staff in preparing for chlorine residual testing during the disinfection season.

EFFLUENT QUALITY SUMMARY

January - June 2016/2017

Table 1 – 2016 Monthly Permit Summary

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P (lbs/day)	NH3-N ⁽¹⁾ (mg/L)	Fecal Coliform Colonies/ (100 ml)	Chlorine ⁽²⁾ Residual (mg/L)	pH (s.u.)
<i>Permit Limit</i>	25	30	1,322 ⁽³⁾	1.0	23 ⁽³⁾	10, 11, 4.4, 18	400 <i>col/100ml Geo.Mean</i>	0.038 <i>mg/L daily</i>	6.0 - 9.0 <i>daily limit</i>
January	2	2	235	0.16	17.2	0.24	NA	NA	7.1/7.4
February	3	4	461	0.20	20.5	0.95	NA	NA	6.9/7.2
March	3	2	389	0.12	23.1	0.86	NA	NA	7.2/7.4
April ⁽³⁾	2	1	165	0.10	12.9	0.32	NA	NA	7.4/7.6
May	4	2	205	0.27	26.0	0.66	2	<0.01	7.0/7.4
June	3	2	211	0.28	31.8	0.75	10	<0.01	7.0/7.4

Table 2 – 2017 Monthly Permit Summary

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P (lbs/day)	NH3-N ⁽¹⁾ (mg/L)	Fecal Coliform Colonies/ (100 ml)	Chlorine ⁽²⁾ Residual (mg/L)	pH (s.u.)
January	4	3	338	0.23	26.2	2.28	NA	NA	7.1/7.3
February	4	2	220	0.17	17.6	1.14	NA	NA	7.1/7.3
March	3	1	151	0.06	9.8	1.58	NA	NA	7.1/7.3
April ⁽³⁾	2	1	470	0.09	15.8	1.48	NA	NA	7.2/7.3
May	4	2	388	0.12	15.6	1.43	2	<0.01	6.9/8.1
June	3	2	257	0.13	15.5	1.25	10	<0.01	7.1/7.9

NOTES:

- 1) Seasonal NH3-N limits: 10 mg/L Jan. 1 – Mar. 31, 11 mg/L Apr. 1 – May 31, 4.4 mg/L Sep 30 – Sep 30, 18 mg/L Oct 1 – Dec 31.
- 2) Seasonal fecal and residual chlorine limits are in effect May 1st through September 30th.
- 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.

YEAR 2017 RECEIVING STATION REVENUE

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leisr Trucking	\$ 118,361.74	\$128,962.99	\$ 159,597.37	\$ 162,154.77	\$ 149,221.72	\$ 173,976.28							\$ 892,274.87
Hickory Meadows	\$ 27,521.03	\$ 19,802.84	\$ 26,208.74	\$ 24,713.06	\$ 34,503.32	\$ 50,488.94							\$ 183,237.93
Jeff Waldvogel Trkg.	\$ 24,968.84	\$ 33,040.15	\$ 34,780.25	\$ 36,016.73	\$ 41,377.45	\$ 46,962.54							\$ 217,145.96
Movin Materials	\$ -	\$ -	\$ -	\$ 6,331.87	\$ -	\$ -							\$ 6,331.87
Waldvogel Trucking	\$ 1,883.47	\$ 2,670.05	\$ 3,031.98	\$ 2,670.27	\$ 2,286.58	\$ 2,081.96							\$ 14,624.31
2017 Total	\$ 172,735.08	\$184,476.03	\$ 223,618.34	\$ 231,886.70	\$ 227,389.07	\$ 273,509.72	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,313,614.94
2016 Total	\$172,642.52	\$174,844.28	\$214,615.28	\$194,073.19	\$147,993.22	\$166,671.53	\$177,531.77	\$179,398.93	\$213,707.36	\$178,214.32	\$184,882.22	\$ 156,865.52	\$ 2,161,440.14

*Movin Materials new hauler in April 2017

Date: July 19, 2017
Copies: K. Rindt (via email)
C. Shaw (via email)
B. Kreski
Utilities Committee

Appleton Water Treatment Plant Operations Synopsis April, May, June 2017

Summary

The table below presents selected water production and quality performance metrics for the current and previous reporting periods. All compliance parameters met or exceeded regulatory requirements. During the quarter, average water production increased by about 6% consistent with seasonal change. The ratio of electrical energy consumption and production volume declined by about 6% indicating improved treatment energy efficiency.

WATER PLANT PARAMETERS	Previous (Q1 2017)			Current (Q2 2017)		
	January	February	March	April	May	June
Water Treated						
Finished (million gallons)	272.0	239.0	260.1	251.0	281.2	290.9
Finished (million gallons / day)	8.8	8.5	8.4	8.4	9.1	9.7
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	467.1	418.3	463.4	438.0	456.7	478.6
MWH / million gallons produced	1.78	1.75	1.78	1.74	1.62	1.64
Turbidity						
Lake (NTU)	2.7	2.3	5.9	7.7	9.2	18.9
Finished (NTU)	0.02	0.03	0.02	0.02	0.02	0.02
Finished (<0.15 NTU standard)	100%	100%	100%	100%	100%	100%
Water System Microbial Quality						
Total Coliform Samples	81	81	81	81	81	82
Compliance with Standard	100%	100%	100%	100%	100%	100%
Disinfectant Contact Time						
Minimum CT Ratio Provided	0.9	1.5	1.4	2.1	3.1	3.1
Hardness						
Lake Total / Calcium (mg/L)	204/112	210/101	201/111	193/104	193/107	186/96
Finished Total / Calcium (mg/L)	105/38	106/38	99/35	90/33	86/27	82/23
Finished Water Quality						
Total Chlorine (mg/L)	1.95	2.18	2.13	2.06	2.01	1.86
pH (SU) Min/Max	8.6/8.8	8.5/8.8	8.6/8.9	8.6/8.8	8.5/8.8	8.1/9.0
Water Temperature (Degrees F)	34.0	36.1	34.9	47.1	57.6	70.0
Fluoride (mg/L)	0.73	0.74	0.65	0.68	0.72	0.74
Orthophosphate (mg/L)	0.62	0.62	0.63	0.69	0.72	0.79

Laboratory

- In support of plant operations, staff conducted analyses according to method protocols for pH, turbidity, alkalinity, hardness, free/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.
- Staff collected and processed raw and finished water samples to comply with LT2 and DBPR2 sampling requirements. Support was provided to consecutive customers with shipping of DBPR2 samples.

Safety

- WTF Safety programs were maintained by completing scheduled safety inspections. There were no significant incidents to report.
- Chemical unloading procedures are under review for potential improvements.

Operations

- #2 Softener was cleaned and is in stand-by.
- Database development continues for the implementation of the new plant data management and reporting system (Hach WIMS).

RUPIP

- GAC Filter and UV Disinfection demonstration testing has concluded successfully. Consequently, WDNR has officially reclassified the AWTF as a 24 MGD conventional surface water treatment plant with enhanced disinfection.
- All membrane equipment was idle during the quarter and will remain idled indefinitely.
- Two UV Disinfection reactors were in continuous service during the quarter.
- Merrick Systems continued lime system dissolver replacements and related improvements under a warranty claim.

Staffing & Training

- All staff have completed mandatory department and City safety and employee training for the year.

WATER SUMMARY FOR JUNE 2017

Work done by Construction Maintenance				
	<u>June 16</u>	<u>June 17</u>	<u>YTD 16</u>	<u>YTD 17</u>
Hydrants repaired	3	10	12	26
Hydrants replaced	1	1	3	3
Hydrant leaks	0	0	1	0
Valves replaced	0	1	1	2
Valves tested & inspected	190	170	1284	1604
Valves Rebuilt	3	5	3	16
Valve boxes repaired	7	13	31	38
Curb boxes repaired	24	24	90	107
Curb boxes replaced	1	0	18	2
Lead or galvanized replaced	12	3	14	24
New services 1"	0	0	0	0
New services >1"	0	0	1	0
Water main breaks	4	5	25	42
Joint leaks repaired	0	0	0	1
Water quality	0	0	0	6
Service leaks (City side)	0	0	1	2
Work done by Meter Service Team				
	<u>June 16</u>	<u>June 17</u>	<u>YTD 16</u>	<u>YTD 17</u>
New accounts set with 3/4" or 1"	28	6	83	35
New accounts set with larger meter	1	1	2	6
Meters tested	873	61	4807	2978
Meters failed	32	0	325	104
Meters stalled	0	0	0	0
Service calls	0	85	642	771
Final readings	462	412	1854	1735
Read meters - no reading	5	0	5	0
New meters installed	900	78	4965	3058
Exception meters inspected	0	0	0	0
Exception meters removed	0	0	0	0
Service leaks found	1	0	24	12
Cross connection inspections	815	69	4630	2938

**WATER MAIN BREAK/Joint LEAK REPORT JUNE
2017**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
1709 W. Homestead Drive	226927	DIP	8"	1978	4" hole	3 hours	486,226	\$2,957.66
Clara Street/ Rail Road	227122	DIP	8"	1977	1/256" crack & 3" split	159 days	432,639	\$2,631.69
Newberry Street/ White Oak Drive	227303	CIP	12"	1963	1/256" crack & 3" split	164 days	418,528	\$2,545.86
1118 N. Plateau Street	227867	CIP	6"	1941	3" hole	2 hours	178,652	\$1,086.72
Nicholas Street/ Glendale Avenue	227913	CIP	8"	1966	1/8" crack	2 hours	60,779	\$369.71
								\$0.00
								\$0.00
								\$0.00

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

**WATER MAIN BREAK/JOINT LEAK DATA LOG JUNE
2017**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
1709 W. Homestead Drive	Local	Concrete	Major	Yes 100' away	6/3/2017 4:00 a.m. Saturday	Fixed right away to prevent water loss and property damage.
Clara Street/ Rail Road	Local	Concrete	Minor	No	6/8/2017 6:30 a.m. Thursday	Fixed right away. Water was not surfacing and had been running a long time.
Newberry Street/ White Oak Drive	Arterial	Concrete/Asphalt	Minor	Yes 10' away	6/13/2017 9:00 a.m. Tuesday	Fixed right away. Had been leaking a long time.
1118 N. Plateau Street	Local	Asphalt	Major	Yes 100' away	6/27/2017 4:00 a.m. Tuesday	Fixed right away to prevent water loss and property damage.
Nicholas Street/ Glendale Avenue	Local	Concrete	Major	Yes 100' away	6/27/2017 11:00 a.m. Tuesday	Fixed right away to prevent water loss and property damage.