

**Appleton Wastewater Treatment Plant
Operations Synopsis
April 2022 – June 2022**

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 9.2 days. Dewatering processes functioned well and converted 18.3 million gallons (MG) of primary digested sludge to biosolids.

Summary of Treatment

Parameter	April	May	June	Average
Industrial Flow (MG)	28.8	23.6	23.2	25.2
Domestic Flow (MG)	542.9	342.2	332.1	405.7
Total Flow (MG)	571.7	365.8	355.3	430.9
Influent CBOD Load (Avg Daily lbs)	17,661	19,106	17,711	18,159
Influent TSS Load (Avg Daily lbs)	42,723	46,371	44,990	44,695
Influent Phosphorous Load (Avg Daily lbs)	459	441	446	449
Influent Ammonia Load (Avg Daily lbs)	1,614	1,892	1,765	1,757
Effluent CBOD Load (Avg Daily lbs)	752	472	385	536
Effluent TSS Load (Avg Daily lbs)	371	171	118	220
Effluent Phosphorous Load (Avg Daily lbs)	20	13	14	16
Effluent Ammonia Load (Avg Daily lbs)	77	11	11	33
% Treatment Removal of CBOD	95.7	97.5	97.8	97.0
% Treatment Removal of TSS	99.1	99.6	99.7	99.5
% Treatment Removal of Phosphorous	95.6	97.1	96.9	96.5
% Treatment Removal of Ammonia	95.2	99.4	99.4	98.0

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). During the reporting period, Staab Construction (Staab) completed the remaining RAS Pumps installation and worked on miscellaneous punch list items. Final project completion is expected to be extended beyond the June 30, 2022, contract date. This delay is attributed to change orders, equipment purchases, and shipment delays.
- Appleton Wastewater Plant Sludge Storage Building Addition: Applied Technologies, Inc. (ATI) advanced preliminary design work on the concept selected by the Project Team, which best met the needs of the AWWTP from a regulatory, functionality, reliability, efficiency, and capital cost standpoint. The public bidding phase was initiated June 1, 2022, and closed on June 15, 2022, with Miron Construction as the least cost bidder at \$5,330,989 which was below the engineer's estimate of \$5,869,000. Contract award is pending Common Council authorization on July 20, 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 proceeded with developing design plans during the reporting period following the Sludge Storage Building Addition project bid opening. The public bidding phase for the Dewatering Equipment Upgrades project is now expected in the 3rd quarter of 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. Sabel Mechanical resumed work in early June 2022 removing the drives on Secondary Clarifiers #1 and #2. Final project completion is not anticipated to occur until late August.

Regulatory Summary

- Monthly Discharge Monitoring reports for April, May, and June 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 current WPDES permit expired on March 31, 2022. The AWWTP continues to operate under the expired permit limits until DNR reissues a permit. Procedurally, the DNR has yet to submit a draft permit for review and public comment. The exact timeline is not yet known for when that step will occur, but the DNR is anticipating that the reissued permit will be administered in January 2023.

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.
- Sampling of influent in support of Wisconsin State Lab of Hygiene COVID Sewage Surveillance continued during the reporting period.

YEAR 2022 RECEIVING STATION REVENUE

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 155,140.59	\$130,533.65	\$ 156,997.30	\$ 182,013.10	\$ 144,798.81	\$ 152,868.28							\$ 922,351.73
Buttles Custom Ag	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Hickory Meadows	\$ 24,903.48	\$ 20,475.06	\$ 32,031.60	\$ 42,276.54	\$ 26,113.02	\$ 34,735.80							\$ 180,535.50
Holland Sanitary Dist. 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Jeff Waldvogel Trkg.	\$ 34,629.34	\$ 34,267.37	\$ 38,307.65	\$ 39,227.94	\$ 45,610.75	\$ 45,195.54							\$ 237,238.59
Movin Materials	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Waldvogel Trucking	\$ 1,638.34	\$ 1,815.63	\$ 1,789.65	\$ 1,722.67	\$ 1,876.88	\$ 1,622.57							\$ 10,465.74
2022 Total	\$ 216,311.75	\$187,091.71	\$ 229,126.20	\$ 265,240.25	\$ 218,399.46	\$ 234,422.19	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,350,591.56
2021 Total	\$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	\$ 173,227.16	\$ 2,368,077.89

- 3% Rate Increase effective 1/1/18
- 1% Rate Increase effective 1/1/19
- 5% Rate Increase effective 10/1/20
- 4% Rate Increase effective 01/01/22

Date: July 19, 2022
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Utilities Committee