

**Appleton Wastewater Treatment Plant  
Operations Synopsis  
January 2023 – March 2023**

**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 9.5 days. Dewatering processes functioned well and converted 15.3 million gallons (MG) of primary digested sludge to biosolids.
- On December 26, 2022, a bulk load of cationic polymer was off loaded into the Hauled Waste Station. The polymer entered the anaerobic digesters and caused a cascade of equipment and process issues resulting in bypassing the digesters. This matter is being addressed separately from the synopsis and communicated to the Utilities Committee through a series of updates at the Utilities Committee meetings.

**Summary of Treatment**

<b>Parameter</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>Average</b>
Industrial Flow (MG)	36.9	36.2	38.2	37.1
Domestic Flow (MG)	348.1	295.8	676.8	440.2
Total Flow (MG)	385.0	332.0	715.0	477.3
Influent CBOD Load (Avg Daily lbs)	21,314	24,612	25,956	23,961
Influent TSS Load (Avg Daily lbs)	43,824	51,887	53,005	49,572
Influent Phosphorous Load (Avg Daily lbs)	422	433	443	433
Influent Ammonia Load (Avg Daily lbs)	2,069	2,354	2,553	2,325
Effluent CBOD Load (Avg Daily lbs)	490	806	1,514	937
Effluent TSS Load (Avg Daily lbs)	236	419	826	494
Effluent Phosphorous Load (Avg Daily lbs)	10	15	29	18
Effluent Ammonia Load (Avg Daily lbs)	22	117	349	163
% Treatment Removal of CBOD	97.7	96.7	94.2	96.2
% Treatment Removal of TSS	99.5	99.2	98.4	99.0
% Treatment Removal of Phosphorous	97.6	96.5	93.5	95.9
% Treatment Removal of Ammonia	98.9	95.0	86.3	93.4

**Project Updates**

- Appleton Wastewater Treatment Plant Sludge Storage Building Addition: The construction contract with Miron Construction in the amount of \$5,330,989 was approved by Common Council on July 20, 2022. The contract was subsequently fully executed with a formal notice to proceed issued by Applied Technologies, Inc. on August 2, 2022. The construction submittal process immediately pursued with active construction beginning in April 2023. Final completion is projected to occur in late February 2024.
- 2022 Phase I Appleton Wastewater Plant Belt Filter Press Equipment Upgrades: McMahon Associates, Inc. (McMahon) continued engineering services as part of the Solids Dewatering Equipment Upgrades project. The AWWTP will be replacing all three exiting Belt Filter Press (BFP) units and add one additional BFP. The additional BFP will provide the required dewatering capacity based on future growth projections and

redundancy to facilitate critical maintenance events. The public bidding phase was initiated October 20, 2022, and closed on November 10, 2022, with Staab Construction as the least cost bidder at \$5,063,000. Contract award subsequently occurred at Common Council December 7, 2022 with the Notice to Award issued thereafter. Contract execution and formal Notice to Proceed occurred in January 2023. The construction submittal process immediately pursued because of the lengthy lead time (up to 52 weeks) associated with HVAC, electrical, and BFP equipment. Active onsite construction is not anticipated to occur until September 2023. Final completion is currently identified in late February 2024 but will likely need to be extended because of the previously mentioned lead times.

### **Regulatory Summary**

- Monthly Discharge Monitoring reports for January, February, and March 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 sometime in 2023.

### **Laboratory**

- All sampling and laboratory testing procedures were performed in accordance with requirements outlined in the AWWTP WPDES permit, which included analysis of double-blind proficiency samples for laboratory recertification.
- 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.

### **Staffing & Training**

- Staffing levels remain reduced following the resignation of a Relief Operator in December 2022. The search to find a qualified candidate continues.
- Maintained operations schedules with overtime and deferred maintenance work assignments as a result of the ongoing Relief Operator vacancy.