

**Appleton Wastewater Treatment Plant  
Synopsis  
April 2013 - June 2013**

**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 11.11 Million Gallons (MG) of primary digested sludge to biosolids.

**Table 1 – Wastewater Influent / Effluent Treatment Data**

Characteristic	April 2013			May 2013			June 2013		
	Influent		Percent	Influent		Percent	Influent		Percent
AWWTP Flows (MG)									
Industrial Flow	58.1		8.2%	50.2		11.7%	44.0		11.3%
Domestic Flow	647.7		91.8%	377.7		88.3%	344.8		88.7%
Total Flow	705.8			427.9			388.8		
Pollutant Loadings (lbs)	Influent	Effluent	Removal	Influent	Effluent	Removal	Influent	Effluent	Removal
CBOD	636,647	18,346	97.1%	690,558	13,139	98.1%	676,588	13,015	98.1%
TSS	1,316,323	22,691	98.3%	1,534,845	9,093	99.4%	1,514,014	8,552	99.4%
Phosphorous	13,955	1,008	92.8%	17,658	1,139	93.5%	15,246	1,119	92.7%
Ammonia	45,862	5,430	88.2%	53,557	3,185	94.1%	52,421	6,313	88.0%

**Work Completed:**

- 56,455 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 \$40,650. To meet phosphorous discharge limits, 500 gallons of ferrous chloride was purchased and fed during the reporting period at a cost \$360.
- Monthly effluent ammonia removal averaged 90.1% . The monthly average concentration for the three months was 1.20 mg/l. These concentration results are in compliance with the ammonia limits of 11 mg/L for April & May and 4.4 mg/L for June.

**Work in Progress:**

- The Northwest Lift Station Improvement Project was finished during the reporting period. Final monitoring equipment installation, setup and calibration completed the project. Staff will continue to observe equipment performance and monitor operational data.
- The Fine Screen Replacement Project engineering was awarded to Strand Associates on May 15<sup>th</sup> after staff evaluation of RFP's. A project kick-off meeting was held on June 11<sup>th</sup> with engineers and AWWTP staff.

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- The Pretreatment Program Local Limit Evaluation (LLE) Project contract was awarded to Strand Associates on June 5<sup>th</sup>. The project scope is to evaluate existing pollutant limits as conditions or treatment operations change as a requirement of Federal Code 40 CFR 403. The last LLE conducted in the City of Appleton was in 1992. The contract was finalized during the reporting period and a project kick-off meeting was held on June 11<sup>th</sup>.
- The AWWTP Evaluation of Phosphorus Treatment Optimization and TMDL Compliance Project was awarded to CH2M Hill on June 19<sup>th</sup> after RFP internal evaluation and firm interviews. This project will formulate a critical path for decisions and recommendations ahead of the September 30<sup>th</sup>, 2015 AWWTP discharge permit expiration date. Permit renewal at that time is expected to include more restrictive effluent quality limits for phosphorus, total suspended solids, and ammonia. Contracts are currently being finalized and project kick-off is anticipated for late July or early August.
- Siemens Energy was awarded the Wastewater Treatment Plant Oil Cooler Upgrade Project on June 19<sup>th</sup>. This project will enhance the oil cooling capacities of the recently installed high efficiency turbine aeration blower, decrease or prevent associated maintenance costs, and extend the useful life of the equipment.
- The Air Emissions Control Project for the Water Treatment Plant and the WWTP was recommended for award to the engineering firm Short Elliott Hendrickson (S.E.H.) on June 25<sup>th</sup> by the Utilities Committee. The project involves an evaluation of plant emissions, alternatives to control those emissions, and permitting to meet state and federal requirements. Contracts are currently being finalized and a project kick-off meeting is anticipated in early August.

**Regulatory Summary**

- Monthly Discharge Monitoring reports for April, May, and June were filed electronically on time for regulatory compliance. The 2013 2nd quarter short form was also submitted.

**Biosolids Program**

- The unseasonably wet spring hampered land application activities as compared to years past. A total of 5,461 wet tons of biosolids were land applied to agricultural fields. Biosolids storage remains adequate but continues to be closely monitored as viable agricultural sites are preselected for additional land application in August or early September.
- Biosolids compost was utilized on the various City terrace restoration projects including the former Prospect Street reservoir tank site during the reporting period. The Utility also received numerous inquiries from residents, community gardens, contractors, and other municipalities about acquiring compost. Unfortunately, the wet spring impeded making screened compost available but efforts continue to fulfill requests that satisfy the DNR distribution plan conditions. Cover systems are being evaluated for purchase that will protect cured or finished compost from the elements while in storage.

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**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.
- Staff participated in audits by the Wisconsin Department of Agriculture and Consumer Protection (DATCAP) and the Wisconsin Department of Natural Resources (WDNR) to maintain laboratory registration with both departments. Responses to these two audits were returned to the accrediting authorities and accepted without revision.
- Lab staff will be conducting compliance monitoring sampling and pretreatment monitoring sampling to comply with 2013 requirements. They will also focus on training for lab and essential operations staff based on feedback from the WDNR lab audit and a regulatory review of laboratory operations.

**Staffing**

- Pretreatment and Biosolids Coordinator (now titled Environmental Programs Coordinator) Amanda Owens resigned from the Utility effective May 10, 2013. Water Plant Relief operator (RO) Brian Kreski was selected from an internal and external candidate pool to fill the vacancy. The process to fill the vacant RO position (one of two) was initiated immediately.

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**EFFLUENT QUALITY SUMMARY**

**April 2012 – June 2013**

<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>11 &amp; 4.4 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>

**2012**

<b>April</b>	1	2	0.30	0.30	NA	NA	7.1/7.4
<b>May</b>	3	2	0.55	0.55	<0.01	77	7.1/7.3
<b>June</b>	2	3	0.30	0.28	<0.01	2	6.8/7.1
<b>July</b>	1	1	0.54	0.25	<0.01	6	6.8/7.3
<b>August</b>	3	2	0.83	0.36	<0.01	24	7.1/7.4
<b>September</b>	3	3	0.81	0.81	<0.01	70	7.1/7.5
<b>October</b>	2	3	0.57	0.17	NA	NA	7.1/7.5
<b>November</b>	3	4	0.70	0.10	NA	NA	7.2/7.5
<b>December</b>	5	10	0.73	0.39	NA	NA	7.1/7.5

**2013**

<b>January</b>	6	6	0.60	0.73	NA	NA	6.9/7.4
<b>February</b>	7	5	0.54	0.43	NA	NA	7.1/7.3
<b>March</b>	7	8	0.56	0.51	NA	NA	7.1/7.2
<b>April</b>	3	4	0.18	0.85	NA	NA	7.1/7.3
<b>May</b>	4	3	0.33	0.89	<0.01	9	7.0/7.2
<b>June</b>	4	3	0.35	1.85	<0.01	9	7.0/7.3

**YEAR 2013 RECEIVING STATION REVENUE**

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 1,423.16	\$ 13,577.59	\$ 13,692.12	\$ 19,334.07	\$ 15,189.99	\$ 9,810.38							\$ 73,027.31
CSR & Sons*	\$ 185.33	\$ -	\$ -	\$ -	\$ -	\$ -							\$ 185.33
Den-Bec Inc.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Hickory Meadows	\$ 13,533.61	\$ 9,904.51	\$ 21,369.30	\$ 47,757.74	\$ 17,311.90	\$ 21,191.41							\$ 131,068.47
Jeff Waldvogel Trkg.	\$ 14,062.23	\$ 12,620.09	\$ 12,404.72	\$ 11,619.37	\$ 12,857.59	\$ 14,647.31							\$ 78,211.31
Sanimax	\$ 523.29	\$ 97.02	\$ -	\$ 264.20	\$ 246.58	\$ -							\$ 1,133.09
Schwind Trucking	\$ 2,682.83	\$ 2,391.01	\$ 3,961.01	\$ 2,895.05	\$ 1,892.05	\$ 1,590.95							\$ 15,412.90
Van's Septic Service	\$ 11,210.00	\$ 5,657.20	\$ 11,133.60	\$ -	\$ -	\$ -							\$ 28,000.80
Veolia	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Waldvogel Trucking	\$ 2,870.14	\$ 2,921.09	\$ 3,183.71	\$ 3,066.43	\$ 3,043.66	\$ 4,901.56							\$ 19,986.59
<b>2013 Total</b>	\$ 46,492.59	\$ 47,168.51	\$ 65,744.46	\$ 84,936.86	\$ 50,541.77	\$ 52,141.61	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 347,025.80
<b>2012 Total</b>	\$35,782.69	\$36,509.44	\$56,782.88	\$45,246.16	\$68,295.22	\$48,075.42	\$52,208.50	\$56,132.02	\$44,427.19	\$104,378.71	\$67,703.78	\$51,357.71	\$ 666,899.72

\*New Hauler for 2013

Date: July 10, 2013  
Copies: K. Rindt (via email)  
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Utilities Committee