

Director of Compliance and Innovation Report

February 21, 2024

Plant Loading, CSO Report, and Director's Notes

Plant Influent Report:

Biochemical Oxygen Demand, 5-Day (Avg. 42727 lbs/day)	67 percent of design
Total Suspended Solids (Avg. 60383 lbs/day)	56 percent of design
Average Daily Flow (42.34 million gallons/day)	103 percent of design
Maximum Daily Flow (73.18 million gallons/day)	59 percent of design
Plant Influent Total Monthly Flow (million gallons) for January	960.61
Estimated Unbilled Total Monthly Flow (million gallons)	252.08
Total Monthly Precipitation (inches)	2.92

Plant Effluent Report:

<u>Parameter</u>	<u>Report Frequency</u>	<u>Permit Limits</u>	<u>Reported Values</u>	<u>Violations</u>
CBOD ₅ , mg/L	Mo./Wk. Avg	20/40	2/4	0
TSS, mg/L	Mo./Wk. Avg	25/45	6/12	0
NH ₃ -N, mg/L	Mo. Avg/Daily Max	1.5/3.0	0.25/0.89	0
DO, mg/L	Mo. Avg/Wk. Avg/Daily Min	6.0/4.5/4.0	8.68/8.50/8.28	0
pH, S.U.	Daily Min/Max	6.0/9.0	7.80/8.18	0
Total Nickel, mg/L	Mo. Avg	0.0381	0.013	0
Cl ₂ Residual, mg/L	Daily Max	0.05	NA	NA
Fecal Coliform CFU/100mL	Daily Max	400	NA	NA

CSO Report:

Location	Events	Est. Total Duration of Discharges (hrs.)	Discharge (million gallons)
Oakland Avenue (Outfall 003)	4	39.97	8.306
Lincoln Park (Outfall 004)	0	0	0
McKinley Avenue (Outfall 007)	3	25.1	8.49
Seventh Ward (Outfall 008)	3	21.8	5.584

Director's Notes:

ICP-OES Proposal (RFP):

A request for proposals for an Inductively Coupled Plasma – Optical Emission Spectrometer (ICP-OES) unit was posted on the District's website on January 15, 2024. All the proposals except one were opened on February 7, 2024. The last proposal was opened on February 13, 2024 due to a delivery error by FedEx after verification with legal counsel that the District could open the proposal.

A motion for the acceptance of the following proposal will be presented to the Board during this month's Board meeting.

Chemical, Fuel and Polymer Bids:

Bid requests for plant chemicals, fuel and polymer have been sent out for 28% Liquid Urea-Ammonium Nitrate (UAN), Sodium Hypochlorite, Ferrous Chloride, Sodium Bisulfite, Gasoline, Diesel, and Waste Activated Sludge Flocculant (Polymer). Bids will allow the District to ensure that the best rate is obtained. Bids will be publicly opened and read aloud on April 3, 2024.

Compliance Reporting:

In accordance with the requirements of our facility the District submitted a Tier II report and annual 503 sludge report.

Staff Training Activities:

Brent Deardorff and Brandi Rosenberger attended the Central Illinois Professional Wastewater Operators (CIPWO) winter meeting at Hudson Farms in Urbana on January 31, 2024. The meeting included presentations about PFOS/PFAS sampling and testing by Teklab Inc. and improvements Clark Dietz made to the St. Joseph IL wastewater facility.

Pretreatment USEPA Inspection:

The USEPA Chicago Office contacted Austin Gruber on February 2, 2024 to notify him that they would be at the District from March 11th-14th to perform a pretreatment compliance inspection. The inspection will be a review of certain aspects of the pretreatment program and its implementation.

Operations, Laboratory, and Pretreatment Activity Reports – January/February 2024

Operations Activities:

Normal operational activities were conducted as prescribed by standard procedures or in response to conditions within the plant. These include operating, monitoring, and adjusting facility equipment, performing process control testing, records keeping, and coordination with the other departments to realize optimal performance of the Plant.

- 1) Digester #2- Operators have removed all the sludge that they can. Maintenance will finish pumping sludge but have experienced high methane levels in the attic space creating a safety concern. We will pump the remaining sludge out as soon as possible.
- 2) Digester #3- Jarvis repaired the fire tube and box. Operators will put back online asap. We are still waiting for the parts for the mixer.
- 3) Operations staff have been assisting with the ongoing issues with the Frac tank.
- 4) Operations staff continue to actively address PMs as time, workload, and staff levels allow.
- 5) Operations staff continue to assist contractors regarding Grit system replacement.
- 6) Operators are preparing to dewater #5 Primary Clarifier for replacement.

Laboratory Activities:

Routine:

A total of 2,271 analyses were performed in the laboratory during the month of January 2024.

Monitoring of treatment plant, industrial users, and receiving stream samples for compliance purposes and process monitoring continued. Laboratory personnel continued to perform additional background nutrient monitoring to help fully characterize the nutrient loading on the plant.

Non-Routine:

- 1) The SDD laboratory continued to send samples of raw influent twice a week throughout the month of January 2024 for the "COVID-19 in Wastewater" study funded by the Illinois Department of Public Health. A Zoom call was held on January 12, 2024, with the study participants and the researchers to discuss the results of the study thus far. Elevated levels of COVID and RSV were observed in the samples collected in January.
- 2) The quarterly sampling of the groundwater monitoring wells was conducted at the South Sludge Lagoons and Wyckles Lagoons during the second week of January 2024.
- 3) Keith Richard was a panelist for an IWEA Lunch and Learn webinar on January 24, 2024. The topic of the webinar was PFAS sampling at POTW's. Keith joined panelists from MWRD and Fox Metro WRD to discuss the challenges of sampling for PFAS at POTW's. The webinar was attended by over fifty wastewater professionals.
- 4) Keith Richard virtually attended the Nutrient Loss Reduction Strategy (NLRS) Annual Partnership Conference on January 25, 2024. The conference was hosted by the Illinois EPA with the purpose of updating the attendees on the current state of the NLRS and highlighting the successes of the past year.
- 5) The SDD laboratory analyzed twenty-seven stormwater samples during January 2024 for the Lake Decatur Watershed monitoring study. This was considerably more samples than in previous months due to the six inches of rainfall during the month. The SDD is providing in-kind laboratory analysis of samples collected at the study's three monitoring sites after significant storm events.
- 6) An application was submitted on behalf of the District for a NACWA Peak Performance Award for the calendar year 2023. The Peak Performance Awards recognize POTW's for excellent compliance with their NPDES discharge permits. The District qualifies for a Silver Award since we had only one violation of our NPDES permit discharge limits during the 2023 calendar year. The 2023 Peak Performance Award winners will be announced later this year.

Pretreatment Activities:

Pretreatment - General Activities:

- 1) Pretreatment personnel monitored eleven commercial and industrial users (IU) during January 2024. There were no industry site inspections that took place in January.
- 2) There were no wastehauler permits issued in the month of January.
- 3) **Primient** continued to operate under their revised penalty structure. They had a total of 26 violations in the month of January, so the consecutive three month count to revert to the previous structure has been reset. Following successful completion of the consecutive 3-month period, their penalty structure will revert back to the structure set in EO 18-003.

Pretreatment Ordinance - Verbal Notices:

Special Note: 1/12/2024-1/31/2024 – **Primient** has been in violation of their BOD daily max, BOD 10-Day Moving Average, TSS daily max, and flow limits during the month of January for a total of 26 violations in the month of January. Currently, **Primient** is still in violation of their BOD 10-day moving average as of 2/1/2024. Once violations cease there will be higher level enforcement assigned.

The SDD issued a total of 5 Verbal Notices to **Bulkmatic** and **ADM** in January 2024:

1. 1/3/2024 - **ADM** was issued a verbal notice and \$1,000 fine for violating their FOG limit from the West Plant, as well as discharging FOG to the Lakeshore Pump Station. A 5-Day and 15-Day response was submitted but was not adequate. A meeting has been scheduled for with West Plant personnel on 2/13/2024 to discuss the next steps.
2. 1/16/2024 – **ADM** was issued a verbal notice, a \$1,000 fine, and a \$2,000 dumpster fee for discharging excess corn germ to the district due to a plugged cyclone at the East complex. The Dumpster fee was calculated at an average of \$800 per dumpster for 2.5 dumpsters filled. A 5-Day response was submitted and was adequate.
3. 1/20/2024 – **ADM** was issued a verbal notice and \$1,000 fine for discharging water with a pH lower than 6 for more than 45 minutes from the East complex. A 5-Day response was submitted and was adequate.
4. 1/28/2024 – **ADM** was issued a verbal notice and \$1,000 fine for discharging BOD above their permitted limit, the majority of which coming from the West complex. A 5-Day response was submitted and was adequate.
5. 1/30/2024 - **Bulkmatic** was issued a verbal notice with no fine for discharging BOD above their permitted limit. No response is expected.

Pretreatment Ordinance - Warning Notices (WN):

No Warning Notices were issued during January 2024.

Pretreatment Ordinance - Notices of Violation (NOV):

No Notices of Violation were issued during January 2024.

Pretreatment Ordinance - Executive Orders:

No Executive Orders were issued during January 2024.

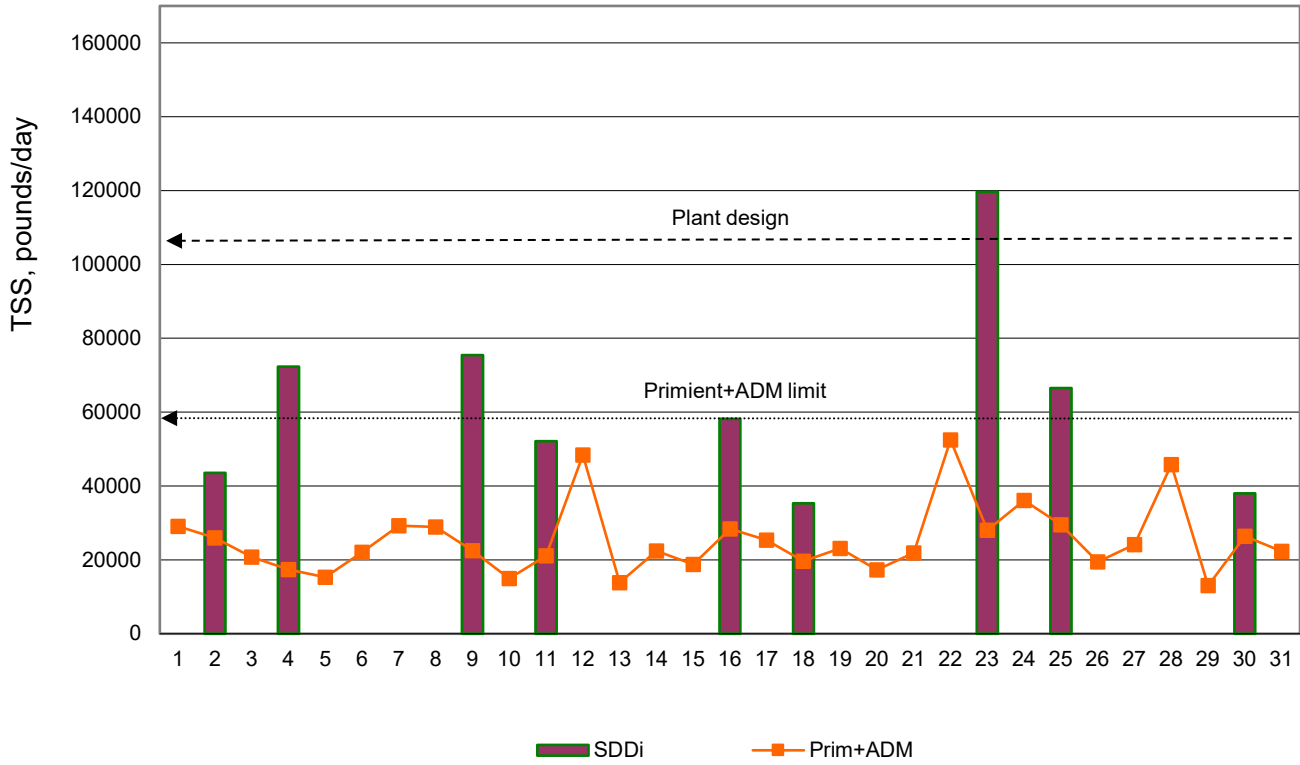
Pretreatment Ordinance - Penalty Assessments:

The following industrial penalties were assessed for January 2024:

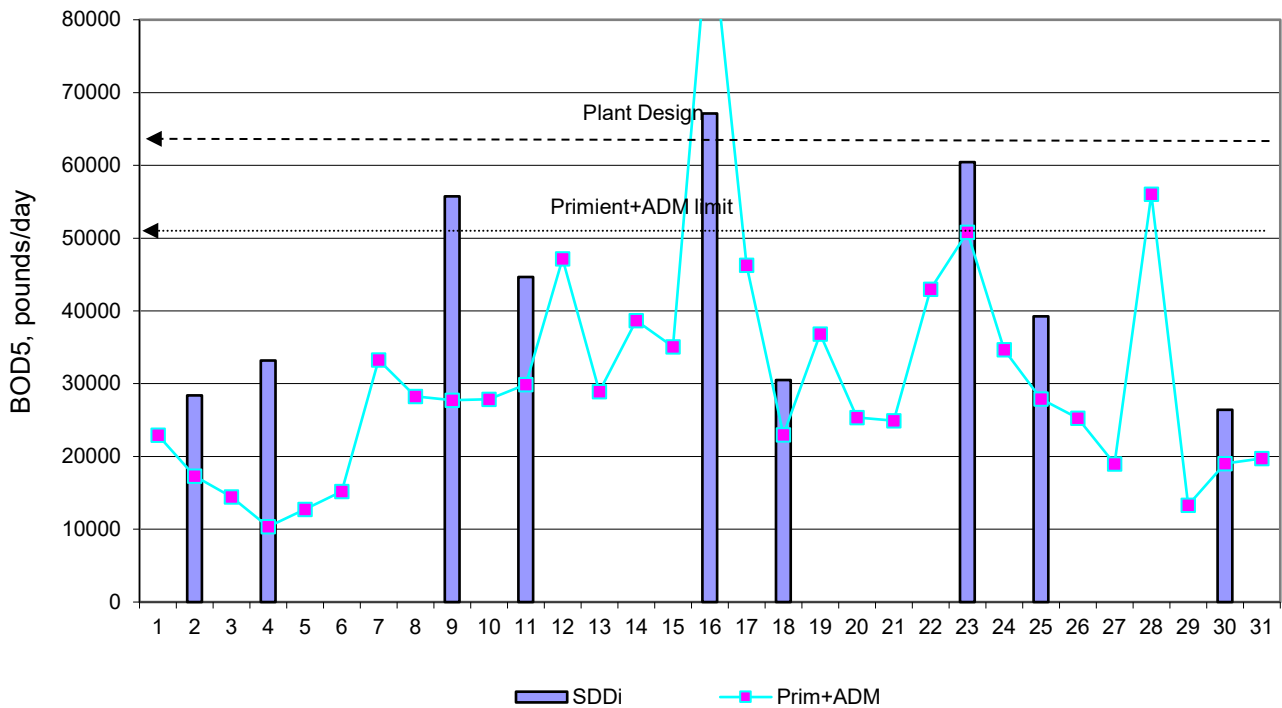
- | | |
|--------------------|------------------|
| 1) Primient | \$483,500 |
| 2) ADM | \$4,000 |

Plant Operating Graphs:

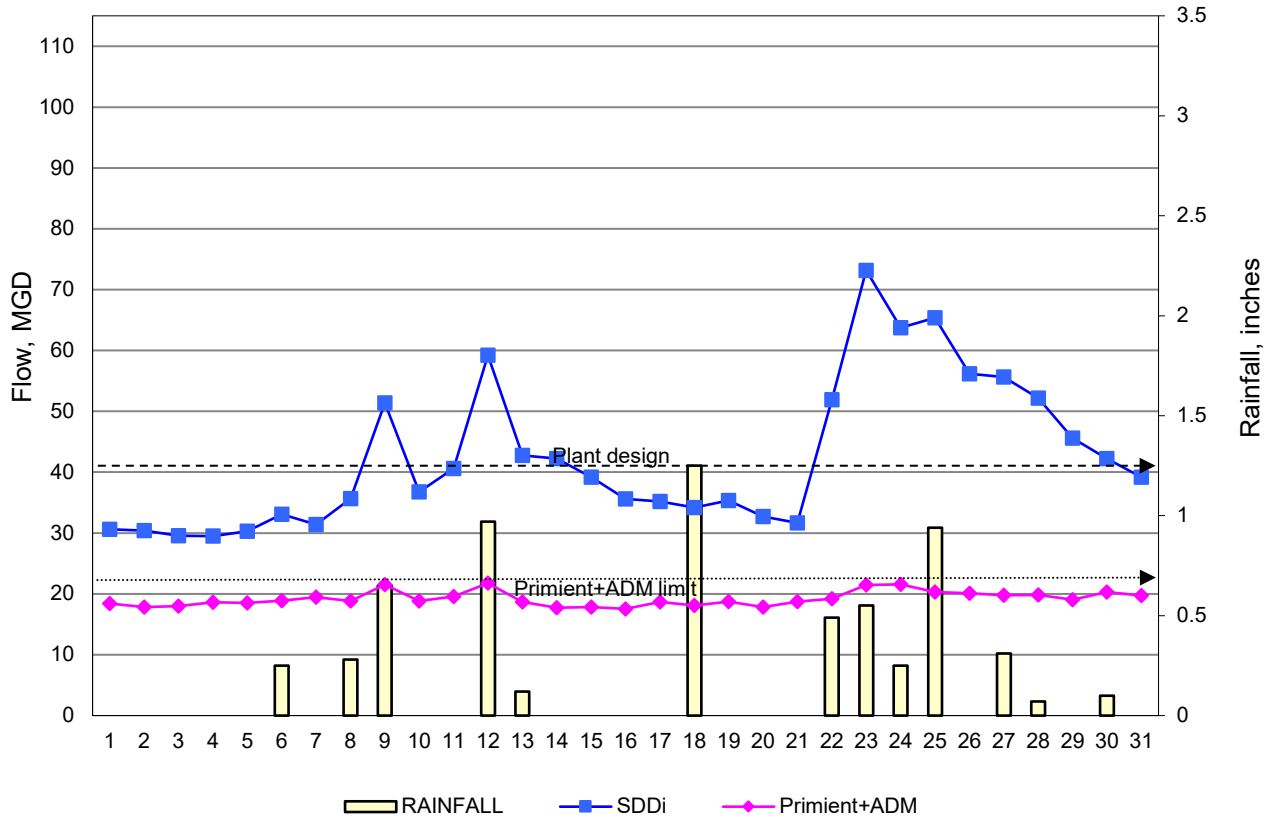
TSS Comparison: SDD Inf Primient+ADM Discharges



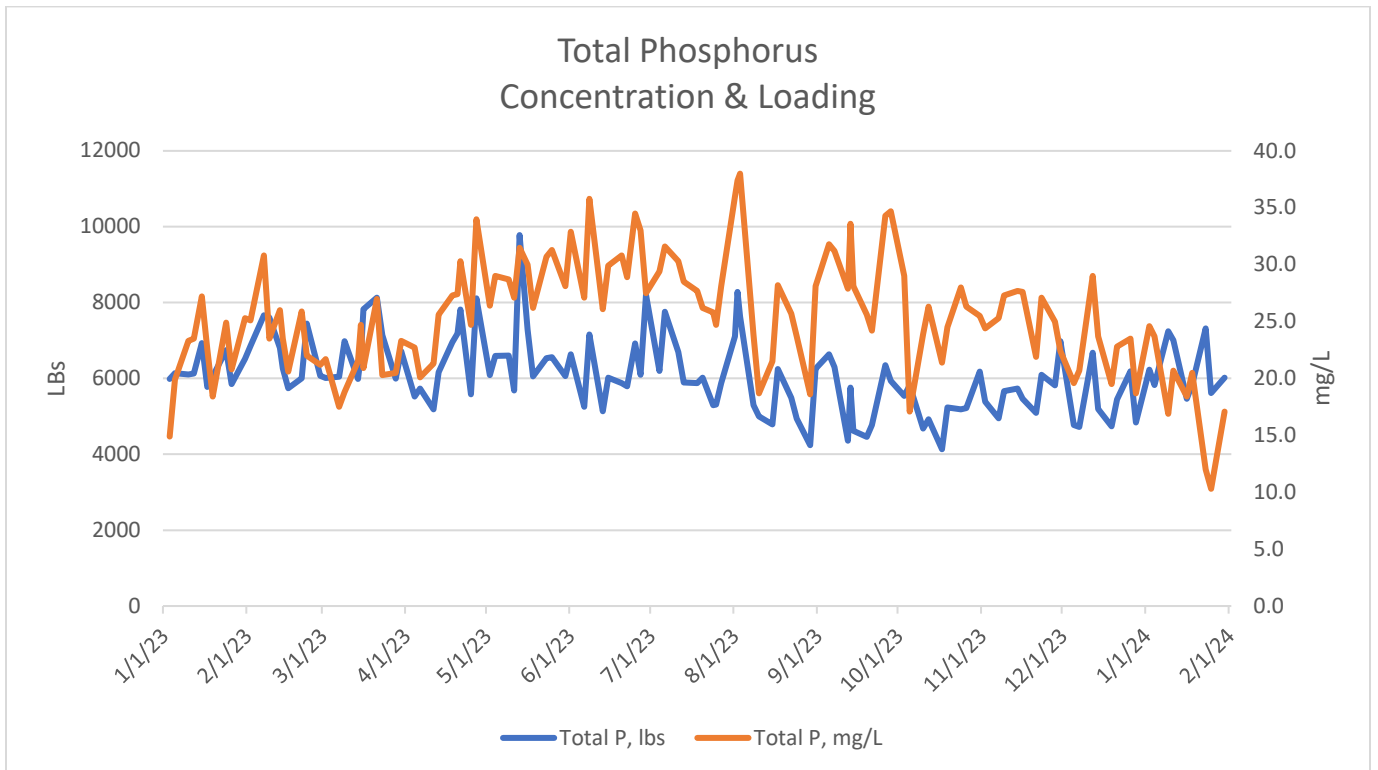
BOD Comparison: BOD Inf vs. Primient + ADM Discharges



Flow Comparison: SDD vs. Primient + ADM Discharges and Rainfall

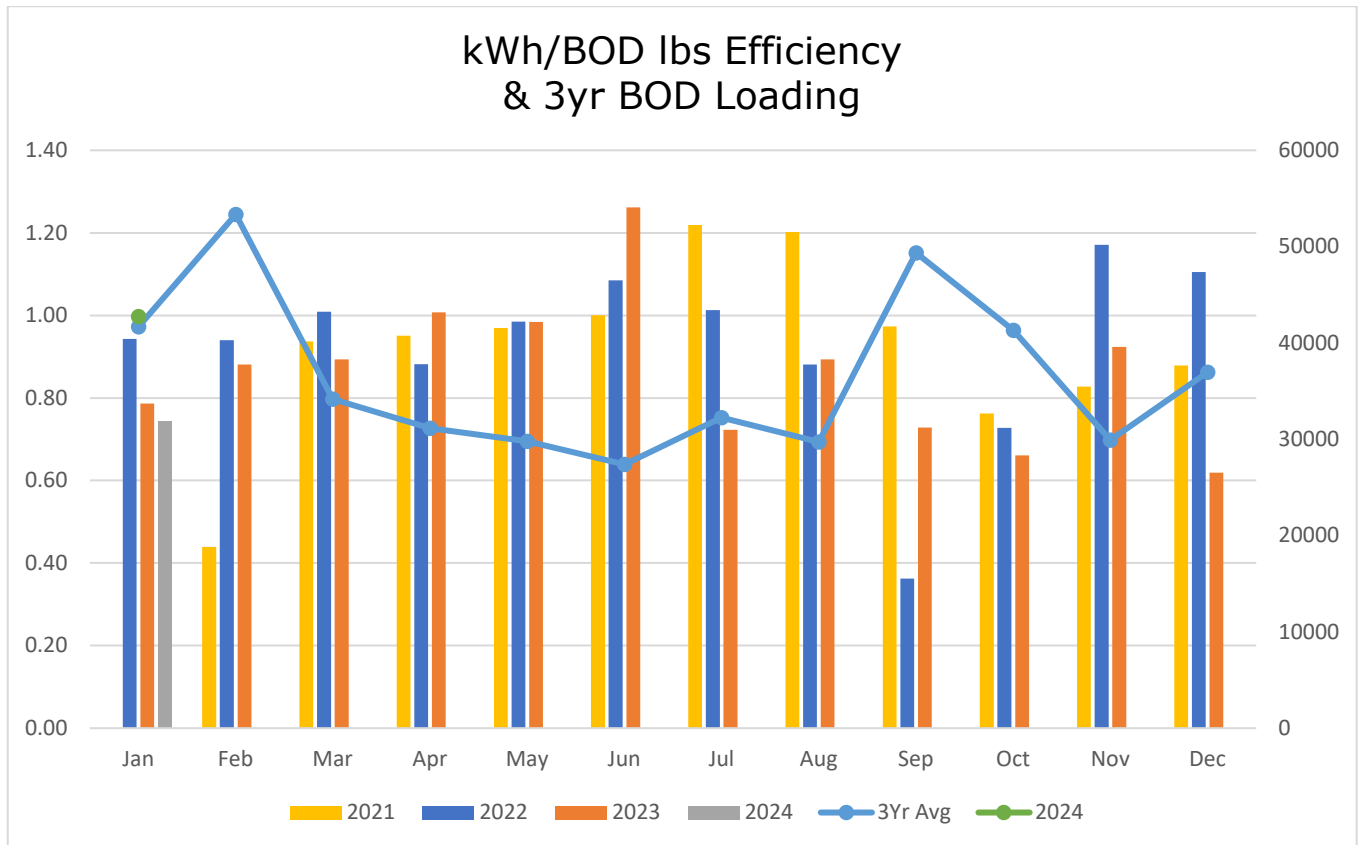
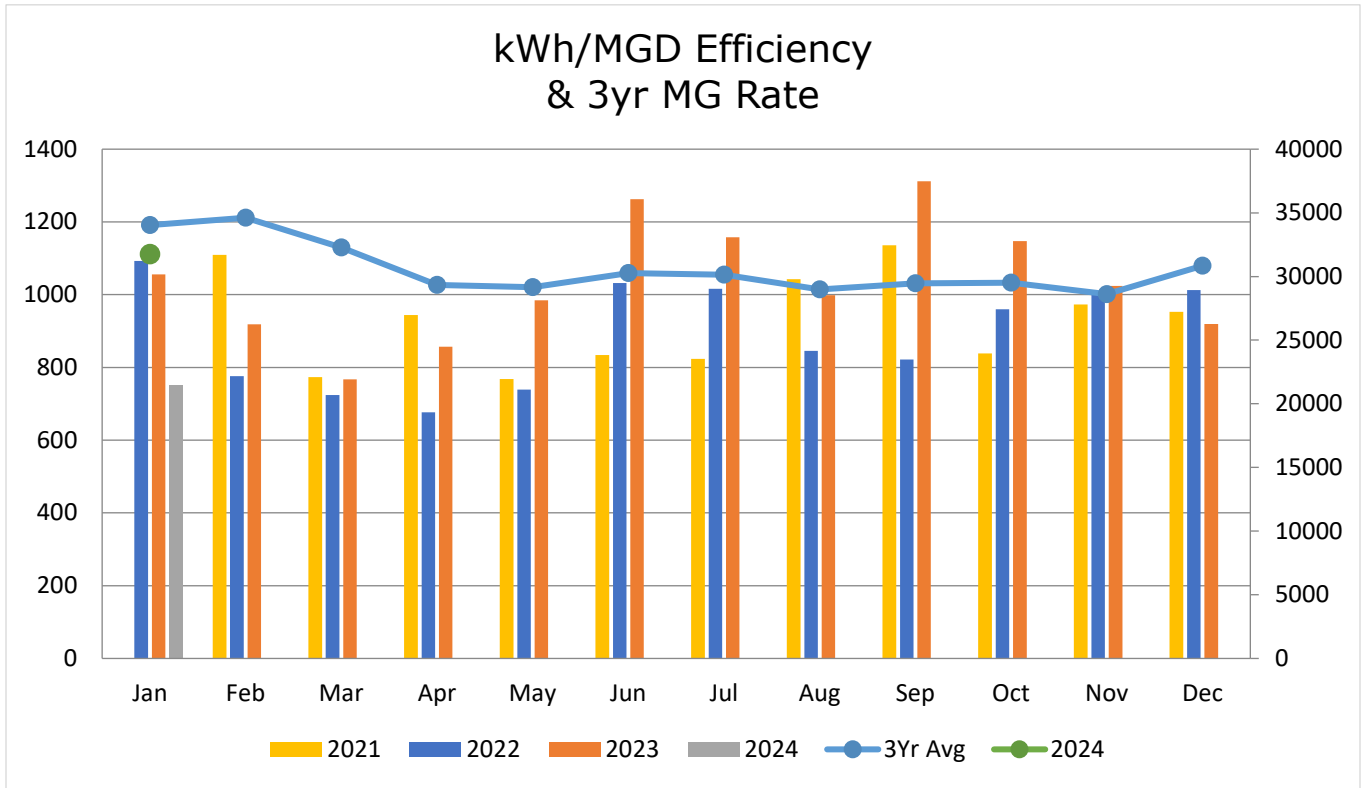


Phosphorus Tracking Graph:



Plant Efficiency Graphs:

January 2024



**Sanitary District of Decatur
Bid Tabulation Results from
02/07/2024**

(Pending Approval)

Attached (see below) are the bid tabulations from 02/07/24, please note that no submitted bids are accepted until the District's Board of Trustees have voted to approve them. These are just the results of the bids opened that day. Please feel free to check the District's website for additional information. www.sddcleanwater.org

2024 ICP-OES Bid Tabulation

Bid Opening Date 02/07/24

Bidder	Price	Service Plan
Perkin Elmer	\$80,220.04	2024 - \$0 2025 - \$0 2026 - \$11,080.32
Agilent Technologies	\$55,777.48	2024 - \$2,900.00 2025 - \$7,056.00 2026 - \$7,056.00
Thermo Electron	Not received by	10 am deadline *
<p>*Note- The proposal was opened at 7:20 AM on 2/13/24. The proposal price was \$83,691.68 with annual consumables cost of \$1,300.00 for 2024, \$0 for 2025 and the 2026 service plan is \$10,999.00. The proposal was received late due to a FedEx delivery error.</p> <p align="center">KR 2/13/24</p>		
NOTE: "No Bid" submissions are not included in the tabulation sheet.		

**Sanitary District of Decatur
Nutrient Program Management Report**

February 12, 2024

During the period November 25, 2023 through January 19, 2024 District personnel attended meetings with members of the Black & Veatch Team to affect progress in nutrient reduction planning and activities.

The District has provided plant performance data to B&V for inclusion in the Power BI dashboards. Additionally, the District has continued to construct the Fermentation Pilot to gather performance data on the proposed biological phosphorus removal process.

B&V has continued the development of their full facility model, continued to develop aged infrastructure evaluation, and evaluation of alternatives for upgrades to the Water Resource Recovery Facility. In addition, B&V continued to assistance with construction phase services of the Fermentation Pilot including leading the construction progress meetings.

Below you will find a list of the actual meetings conducted in chronological order. The information covers the subject, date, and agenda items of each meeting. Additional information related to any of these meetings or specific agenda items can be supplied to the Board upon request including meeting minutes and documentation used during the meeting as it is all being stored as part of the permanent record.

Nutrient Reduction Program Meetings Conducted during November 25, 2023 through January 19, 2024

Subject	Date	Agenda Items
Nutrient Program Management Bi-weekly Meetings	12/06/2023, 12/20/23, 01/03/24 and 01/17/24	<i>Objective:</i> Provided Status Update on Program Tasks Frac Tank Pilot Power BI Pretreatment Program Update PDOP/Annual Progress Report Watershed Services Aging Infrastructure WRRF Upgrade Plan
Fermentation Reactor Pilot Construction Progress Meeting	12/05/2023 and 01/09/2024	Submittal Status Status of Owner Supplied Equipment Request for Information Work Change Directive / Change Orders Pay Applications Construction Schedule/Activities Additional Questions / Discussion Next Meeting
Fermentation Reactor Pilot Sequence of Operations Review meeting	01/11/2024	<i>Objective:</i> Review detailed sequence of operation with B&V and Farnsworth, who is providing programming services.
Fermentation Reactor Pilot Research Plan meeting	11/14/2023	<i>Objective:</i> Review and Discuss the draft Research Plan for the Fermentation Reactor Pilot

**Sanitary District of Decatur
Watershed Management Report**

February 12, 2024

During the period November 25, 2023 through January 19, 2024 District personnel attended meetings with members of the Black & Veatch and Geosyntec Teams to affect progress in meeting the NARP requirements as listed in the NPDES permit as well as moving forward on the formation of a future watershed workgroup for the Middle Sangamon River.

Recent activities pertained to items necessary to complete the NARP Study. Foremost in these efforts included Geosyntec applying the calibrated instream model to evaluation management scenarios to address impairments in the Sangamon River. This period focused on the review of the results of the alternative scenarios while receiving District feedback.

Below you will find a list of the meetings conducted. The information covers the subject, date, and agenda items of each meeting. Black & Veatch provided a written summary. Additional information related to any of these items can be supplied to the Board upon request including meeting minutes and documentation used during the meeting as it is all being stored as part of the permanent record.

Watershed Management Meetings Conducted during November 25, 2023 through January 19, 2024

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Instream Model Scenario Discussions	12/13/2023 and 01/10/2024	<i>Objective:</i> Geosyntec presented/reviewed the initial results of the baseline and alternative scenarios of the Instream Model and discussed baseline scenarios.



February 13, 2024

Sanitary District of Decatur (SDD)
501 Dipper Lane
Decatur, IL 62522

Nutrient Program Manager
BV Project No. 411502

Attention: Don Miller, P.E., Director of Engineering

Subject: SDD Nutrient Program Management
Progress Update (November 25, 2023, through January 19, 2024)

Dear Mr. Miller:

This letter summarizes the work associated to the SDD Nutrient Program Management project for services from November 25, 2023, through January 19, 2024.

1. Program Management, Administration, and Coordination
 - Conducted bi-weekly program conference calls to update progress and discuss key issues.
 - Provided Monthly Project Update.
 - Provided ongoing management of the project including program management, preparation/monitoring of the program schedule and budget as well as program administrative duties.
 - Updated Power BI dashboard with most recent plant monitoring data.
2. Pretreatment Program Update
 - Completed final draft of Industrial Pretreatment Program Update report
3. Phosphorus Discharge and Optimization Plan (PDOP)
 - No Services were completed this period.
4. Watershed Support Services
 - Conducted bi-weekly progress update meeting.
 - Geosyntec presented/reviewed the results of the final scenarios.
 - Continued initial planning efforts for the Watershed Group formation development.
5. WRRF Upgrade Plan
 - Aged Infrastructure Evaluation
 - i. Cost estimating for rehabilitation and replacement of infrastructure.
 - ii. Completed final draft TM 5b Aged Infrastructure Evaluation.
 - Plant Facility Evaluation
 - i. Continued detailed modeling efforts to evaluate and provide whole plant process model simulations related to the alternatives identified for nutrient removal.

- ii. Continued development of upgrades needed for each unit process to meet nutrient limits including multiple plant loading scenarios which will be considered to identify improvement costs for ADM and Primient.

6. Capital Improvement Plan Development

- Alternative Funding
 - i. Reviewed opportunities for alternative funding for the Nutrient Program
 - ii. Prepared for and conducted a kickoff meeting for the Alternative Funding

7. Pilot and Demonstration Testing

- Prepared for and conducted the Construction Progress Meeting with Burdick (Contractor).
- Prepared draft Pilot Testing Research Plan
- Prepared for and conducted Pilot Testing Research Plan review meeting with SDD

Please feel free to contact me with any questions, comments or if you need additional information.
Sincerely,

Bently Green, P.E.
Vice President, Black & Veatch

Enclosure(s): SDD Nutrient Program Manager Schedule and Anticipated Cost Forecast

