

Operations and Compliance Report

March 22, 2023

Plant Loading, CSO Report, and Director's Notes

Plant Influent Report

Biochemical Oxygen Demand, 5-Day (Avg. 35018 lbs/day)	55 percent of design
Total Suspended Solids (Avg. 45663 lbs/day)	42 percent of design
Average Daily Flow (33.59 million gallons/day)	82 percent of design
Maximum Daily Flow (55.04 million gallons/day)	44 percent of design

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	2/2	0
TSS, mg/L	Mo./Wk. Avg	25/45	3/5	0
NH ₃ -N, mg/L	Mo. Avg/Daily Max	1.5/3.0	0.12/0.12	0
DO, mg/L	Mo. Avg/Wk. Avg/Daily Min	6.0/4.5/4.0	8.55/8.38/8.12	0
pH, S.U.	Daily Min/Max	6.0/9.0	7.62/8.18	0
Total Nickel, mg/L	Mo. Avg	0.0381	0.019	0
CL ₂ Residual, mg/L	Daily Max	0.05	NA	0
Fecal Coliform CFU/100mL	Daily Max	400	NA	0

CSO Report

Location	Events	Est. Total Duration of Discharges (hrs.)	Discharge (million gallons)
Oakland Avenue (Outfall 003)	2	2.99	1.2
Lincoln Park (Outfall 004)	0	0	0
McKinley Avenue (Outfall 007)	2	3.4	2.94
Seventh Ward (Outfall 008)	1	1.7	5.45

Director's Notes:

Pretreatment Administrator:

Austin Gruber has been selected for the position of Pretreatment Administrator. Austin brings industrial experience and pretreatment knowledge from his former position. He also comes to the District eager with enthusiasm to learn his new position.

CSO Annual Public Notification Meeting:

In accordance with the SDD's NPDES permit, the District scheduled a public notification meeting to present information and receive comments from the public regarding the operation & maintenance plan, pollution prevention plan, & public notification concerning its combined sewer overflow treatment facilities. The meeting scheduled for March 22, 2023 was announced in the paper on March 9, 2023, stating that all members of the public are encouraged to participate in the meeting.

Land Application of Biosolids:

The District has been currently communicating with J. Oros Environmental Inc. on ways they may be able to assist in effectively mix and transfer the material from the West Wyckles Lagoon to the East Wyckles Lagoon.

Compliance Reporting:

In accordance with the requirements of our NPDES permit the SDD has submitted all semi-annual and/or annual reports to the appropriate entities. These include the annual NARP Progress Report, the annual PDOP Progress Report, the Final PDOP Final Implementation Report and the semi-annual Feasibility Progress Report.

Staff Training Activities:

Brand Rosenberger and Raven Durbin attended the ERTC Class 3 short school and test. Joseph Lundin, Chuck Roberts and Brian Wise have all tested for the Class 4 certification.

Keith Richards and Ashley Bailey attended the first Pretreatment Work Group to share and suggest ideas with fellow pretreatment colleagues on pretreatment programs.

Operations, Laboratory, and Pretreatment Activity Reports – February/March 2023**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 gas production has returned to near normal production.
- 2) # 2 digester mixer has been repaired. We now have all available mixers operating (1,2 and 4)
- 3) The Operators had to switch influent flow to the West Headworks due to the MCC replacement at the 210 building. Operators had to make several adjustments due to equipment being unavailable during the replacement. Due to heavy rain, the East Headworks needed to be brought back on-line before normal power was restored using the generators. They did a great job, and it was a valuable training tool for the new operators.
- 4) Blower usage is back to normal (2 blowers on at all times with the 3rd starting when needed). We had a short period of extra ammonia that required an adjustment to the Dissolved Oxygen.
- 5) Operations staff continue to actively address PMs as time, workload, and staff levels allow.

Laboratory Activities:**Routine:**

A total of 1,726 analyses were performed in the laboratory during the month of February 2023.

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 quarterly NPDES sampling of the influent, effluent, and sludge to Wyckles was conducted during the second week of February 2023.

- 2) The SDD lab continued to send samples of raw influent twice a week throughout the month of February 2023 for the "COVID-19 in Wastewater" study funded by the Illinois Department of Public Health. A Zoom call was held on February 3, 2023, with the study participants and the researchers to discuss the results of the study thus far. It was announced that they plan to start analyzing for norovirus in the samples in addition to COVID and influenza.
- 3) The SDD lab/pretreatment collected and analyzed two more days of samples for the ongoing nutrient study for Black and Veatch. Samples were collected on February 13 and February 28, 2023.
- 4) Keith Richard attended the USGS Integrated Water Science in the Illinois River Basin Stakeholder Meeting on February 22, 2023. There were presentations by numerous governmental agencies and non-governmental organizations that are studying the Illinois River Basin.
- 5) Keith Richard hosted a virtual meeting of the Illinois Water Environment Association (IWEA) Laboratory Committee. The purpose of the meeting was to plan for the committee's various activities at the upcoming IWPC 2023 conference in Springfield on April 10-12. Keith continues to serve as the Chair of the IWEA Laboratory Committee.

Pretreatment Activities:

Pretreatment - General Activities:

- 1) Pretreatment personnel monitored ten commercial and industrial users (IU) during February 2023. No industrial site inspections were conducted.
- 2) An Industrial Wastewater Permit Application was received from **Industrial & Custom Powder Coating (ICPC)**.
- 3) Bimonthly sampling for the Nutrient Study is ongoing. SDD personnel are utilizing our portable samplers to collect the extra samples from **Primient** and **ADM**.
- 4) Wastewater Hauler Permit applications were received from **Alpha Drains** and **Smith Septic**.

Pretreatment Ordinance - Verbal Notices:

The SDD issued a Verbal Notice to **ADM** on February 14, 2023, for discharging wastewater containing total suspended solids above their permitted limit on February 10, 2023. The exceedance was attributed to sewer cleaning activities at the **ADM West** plant.

Pretreatment Ordinance - Warning Notices (WN):

No Warning Notices were issued during February 2023.

Pretreatment Ordinance - Notices of Violation (NOV):

No Notices of Violation were issued during February 2023.

Pretreatment Ordinance - Executive Orders:

The SDD issued Executive Order 23-001 to **ADM** on February 2, 2023, for two separate illicit discharges of alcohol to the sanitary sewer.

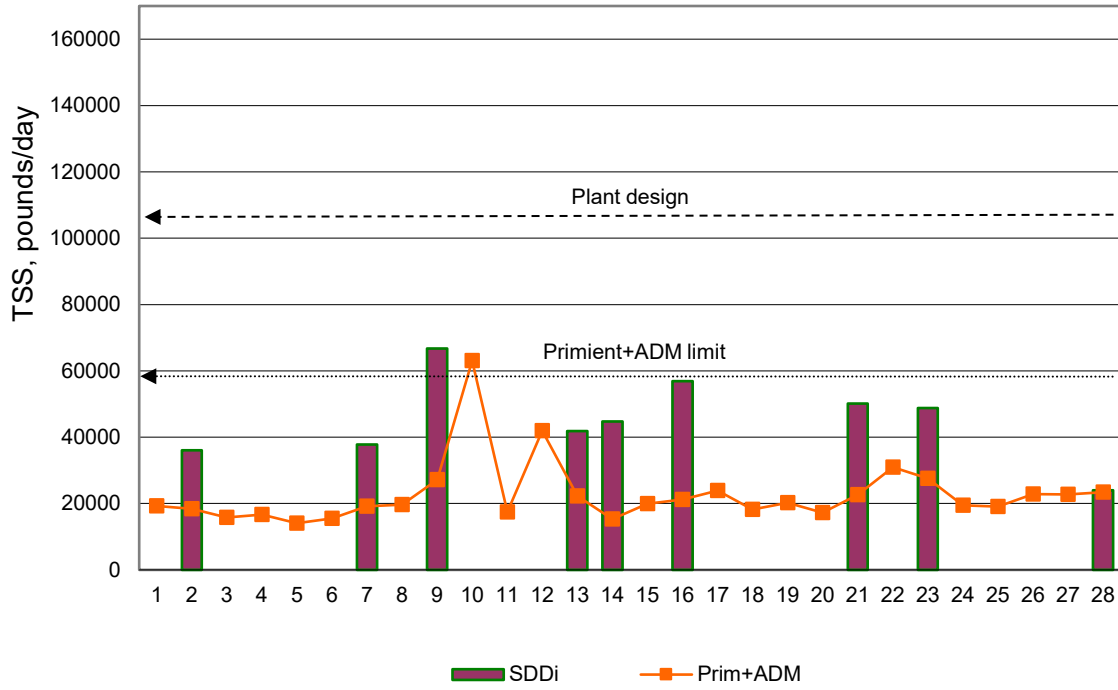
Pretreatment Ordinance - Penalty Assessments:

The following industrial penalties were assessed for February 2023:

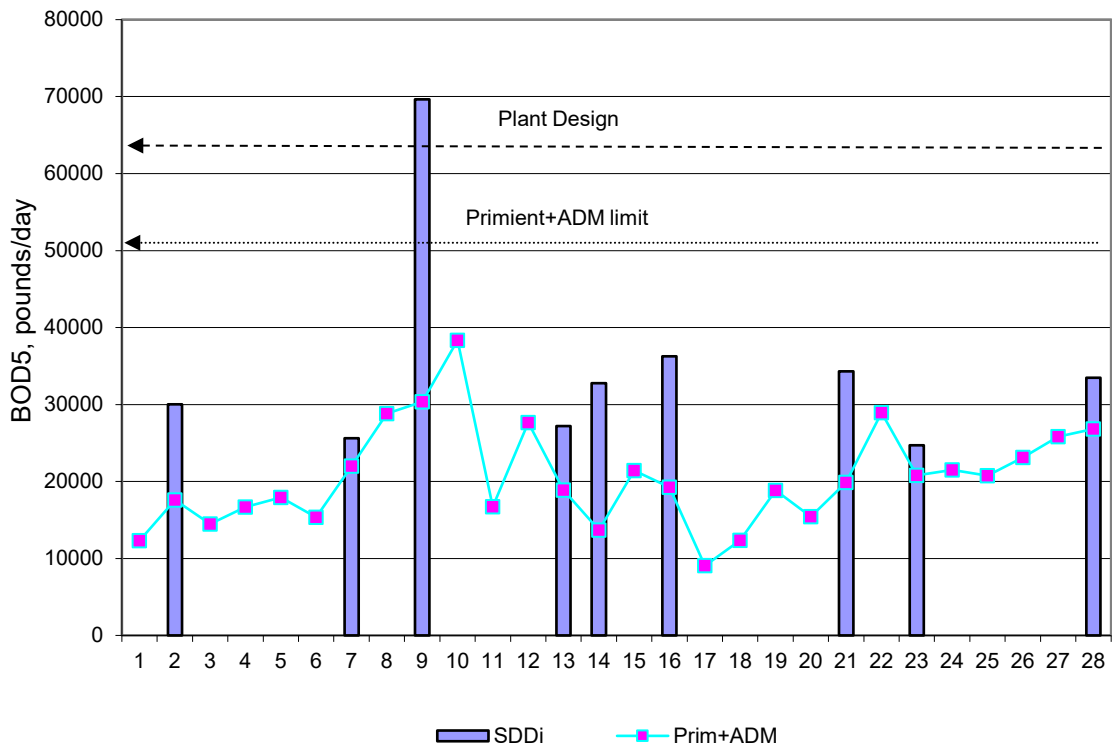
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|---------------|----------------|
| 1) ADM | \$1,000 |
|---------------|----------------|

Plant Operating Graphs:

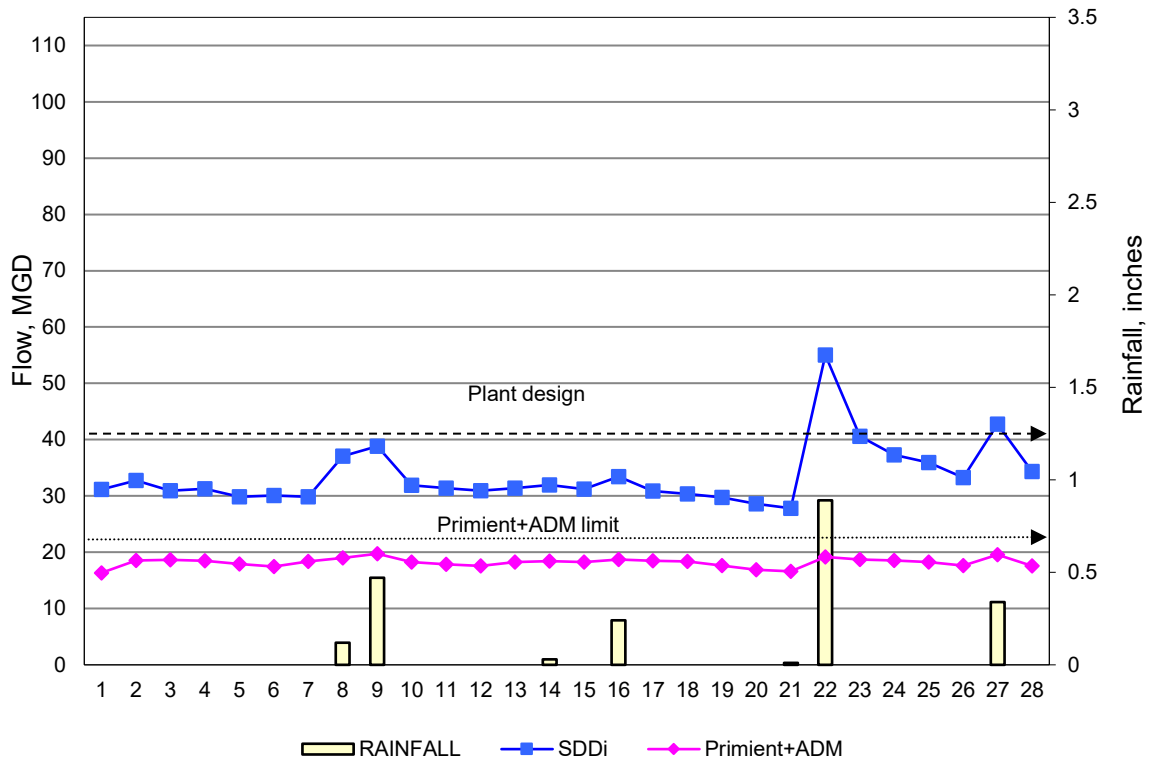
TSS Comparison: SDD Inf Primient+ADM Discharges



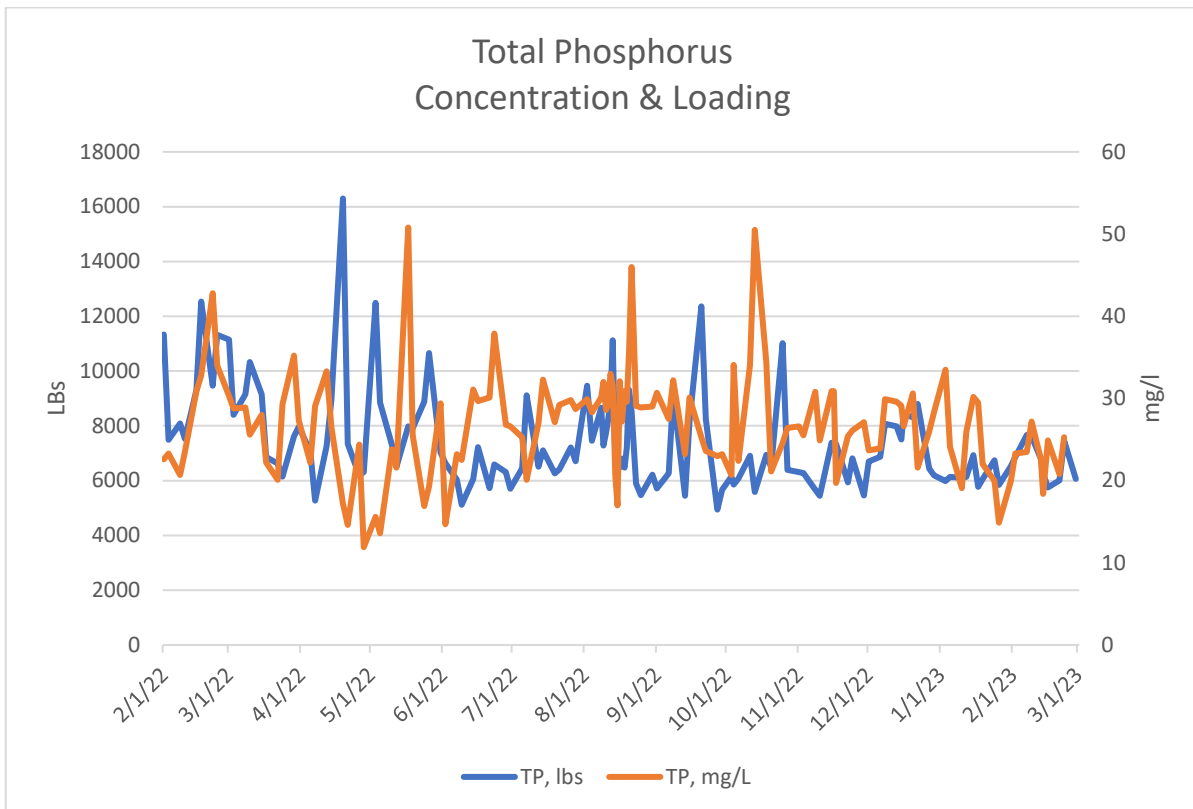
BOD Comparison: BOD Inf vs. Primient + ADM Discharges



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

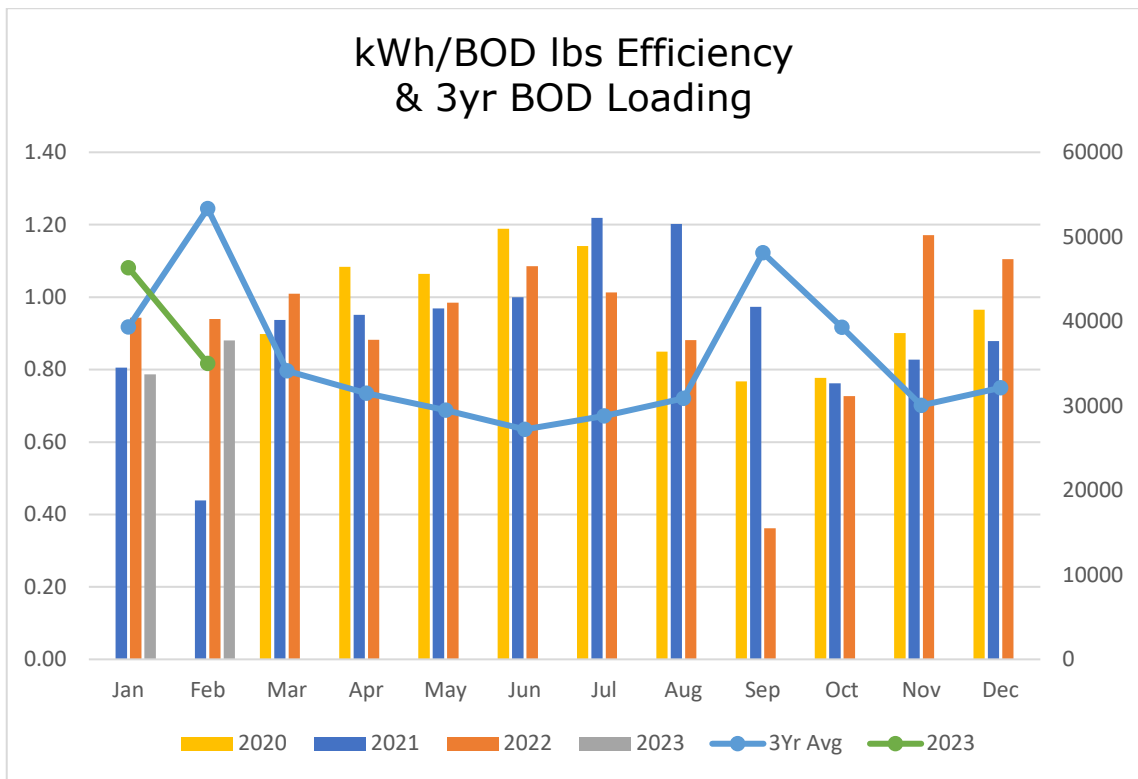
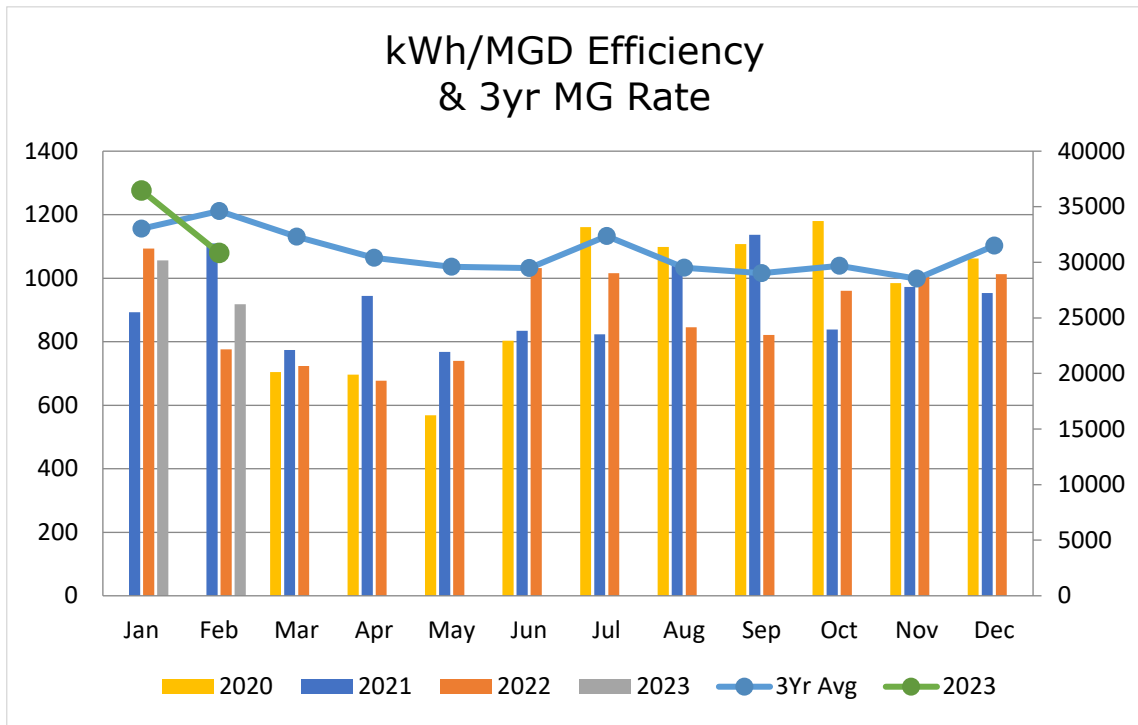


Phosphorus Tracking Graph:



Plant Efficiency Graphs:

February 2023



Sanitary District of Decatur Nutrient Program Management Report

March 22, 2023

During the month of January District personnel attended meetings with members of the Black & Veatch Team to affect progress in nutrient reduction planning and activities.

Currently, activities are surrounding the gathering and sharing of data and information so that all parties can assist in how to move the projects forward as efficiently as possible. In the month of January, the District continued to gather and forward all requested industrial special sampling lab results and plant performance data as requested by the B&V.

B&V concentrated on gathering and incorporating industrial feedback for completing the final Phosphorus Optimization Plan (PDOP) including a meeting with ADM. They continued efforts associated to their analysis and evaluations of solid stream alternatives. BV also continued their analysis of liquid stream alternatives to finalize the Technical Memorandum. B&V has continued to request, receive, and assimilate data provided by SDD for integration into a Power BI dashboard for the Program. In addition, B&V has also continued the development of their full facility model as well as the design and coordination associated with the Frac Tank Pilot Study.

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 if 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.

Nutrient Reduction Program Meetings Conducted during February 2023

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Nutrient Program Management Bi-weekly Meeting	02/01/2023	<ol style="list-style-type: none"> 1. Frac Tank Pilot Update 2. Power BI 3. Pretreatment Program Update 4. PDOP / Annual Progress Report 5. WRRF Upgrade Plan
BNR Solids Handling Evaluation - Workshop #2	02/07/2023	<ol style="list-style-type: none"> 1. Screening of Solids Handling Technologies 2. Identification of Biosolids Management Alternatives 3. Review of Next Steps 4. Discussion
Nutrient Program Management Bi-weekly Meeting	2/15/2023	<ol style="list-style-type: none"> 1. Frac Tank Pilot Procurement Packages 2. Power BI 3. Pretreatment Program Update 4. PDOP / Annual Progress Report 5. WRRF Upgrade Plan
Process Development Discussion	2/20/2023	<ol style="list-style-type: none"> 1. Proposed Liquid Stream Alternatives 2. Preliminary Full-Plant Modeling Results 3. Initial Alternatives 4. Brainstorming
Meeting with ADM on PDOP	2/21/2023	<ol style="list-style-type: none"> 1. Discussed ADM's comments on the industrial user section of the PDOP
Process Development Discussion Follow Up	2/22/2023	<ol style="list-style-type: none"> 1. Continued discussions from the process development discussion held on 2/20/22

**Sanitary District of Decatur
Watershed Management Report**

March 22, 2023

During the month of January 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 planning the program in order to complete the NARP Study. Foremost in these efforts included Geosyntec completing their detailed data analysis from the completed bi-weekly sampling/monitoring efforts, beginning their next steps for the NARP Study, and reviewing the draft Bylaws for the Watershed Group formation.

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 February 2023

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Watershed Services Bi-weekly Meeting	02/08/2023	1. Bylaws / Watershed Group Update 2. NARP Scope of Services Discussion
Watershed Services Bi-weekly Meeting	02/22/2023	1. Bylaws Review

March 6, 2023

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
February Monthly Progress Update (January 28, 2022 – February 28, 2023)

Dear Mr. Miller:

This letter summarizes the work associated to the SDD Nutrient Program Management project for services from January 28, 2022, through February 28, 2023.

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.
 - Continued to coordinate Power BI development including project data integration and dashboard development.
 - i. BV completed review of LIMS and SCADA data to develop preliminary draft boards in Power BI.
2. Pretreatment Program Update
 - Continued to evaluate special sampling data
 - Engaged Jacobs to begin their review of pre-treatment programs for municipalities similar to SDD with industrial users.
3. Phosphorus Discharge and Optimization Plan (PDOP)
 - Prepared for and met with ADM on February 21, 2023, to discuss comments on the industrial user section within the PDOP
 - Incorporated ADMs final comments into the PDOP report.
 - Submitted Final PDOP report to SDD on February 24, 2023, for IEPA submittal.
4. Watershed Support Services
 - Conducted bi-weekly progress update meeting.
 - Geosyntec began next steps with modeling associated to the NARP Study
 - Continued initial planning efforts and outline for the Watershed Group formation development including a review of the draft Bylaws developed by SDD.

5. WRRF Upgrade Plan

- Continued to incorporate review comments and District feedback into TM#1: Current Conditions, Industrial Influent, Emerging Concerns for final submittal.
- Continued to incorporate review comments and District feedback on the alternatives analysis into TM#2: BNR Liquid Stream Evaluations for final submittal.
- Solutions Development Solids Stream
 - i. Prepared for and conducted BNR Solids Handling Evaluation – Workshop 2 which provided:
 1. Screening of Solids Handling Technologies
 2. Identification of Biosolids Management Alternatives
 3. Review of Next Steps
 4. Discussion
- Aged Infrastructure Evaluation
 - i. Continued to develop the overall condition assessment approach including evaluation criteria and associated forms for documentation.
- 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. Prepared for and conducted a Process Development Workshop which included discussions surrounding the proposed liquid stream alternatives, preliminary full-plant modeling results, initial alternatives, and brainstorming of alternatives.
 1. Conducted a process development workshop follow up, which continued the discussions from the initial workshop stated above.

6. Pilot and Demonstration Testing

- Completed the development of procurement documents for the primary sludge pump, bubble mixing system and Frac Tank (rental agreement)
- Completed the development of the 50% Frac Tank Pilot design.

FRAC TANK PILOT PROJECT SCHEDULE	
MILESTONE/ACTIVITES	DATE
Receive comments from Vendors	January 27, 2023
Issue draft procurement packages for primary sludge pumps, bubble mixing and Frac Tank to SDD	January 31, 2023
Issue 50% Design Documents to SDD	February 24, 2023

SDD to Issue Procurement Documents to Vendors for Primary Sludge Pump, Bubble Mixing System and Frac Tank (rental agreement)	Week of February 27, 2023
Receive Quotes from Vendors for Direct Procurement	March 10, 2023
Issue Final Bid Documents for SDD Review / Approval	March 17, 2023
Issue Purchase Orders / Rental Agreements with Vendors	March 17, 2023
Advertise for Bids (16 days)	March 22, 2023
Bid Opening	April 7, 2023
Issue Notice to Proceed	April 20, 2023
Early Receipt of Pre-purchased Equipment Primary Sludge Pumps (20-week delivery) Big Bubble Mixing (20-week delivery) Frac Tank (6 weeks delivery)	Five Months from Issuance of Purchase Order August 2023
Substantial Completion (pending equipment delivery times)	September 2023
Final Completion	September 2023

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

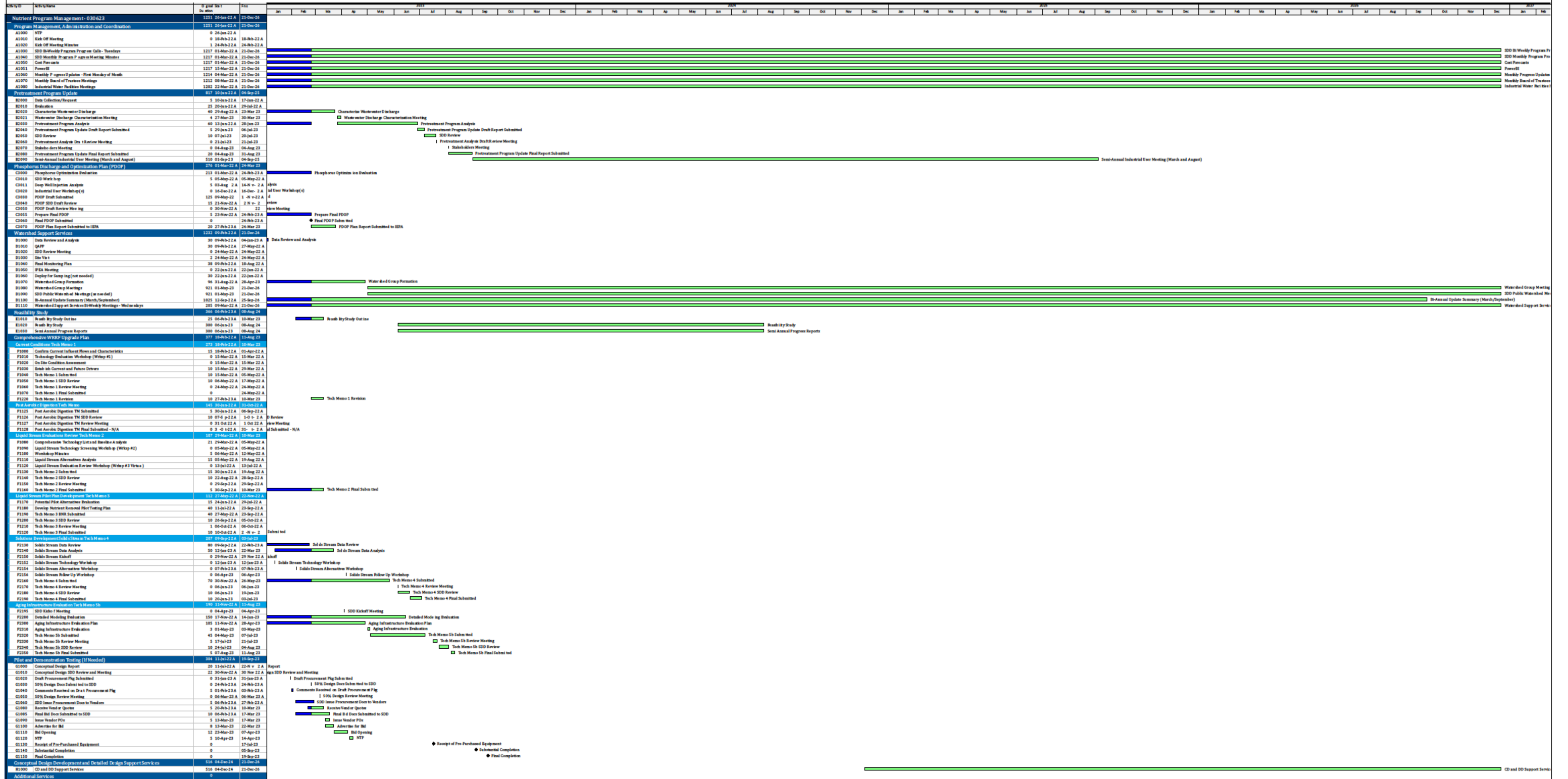
Sincerely,

Diane Grossenheider, P.E.
 Project Manager, Black & Veatch

Enclosure(s):

- SDD Nutrient Program Manager Schedule
- Anticipated Cost Forecast

Project: Nutrient Program Management - 030623



SANITARY DISTRICT OF DECATUR - NUTRIENT PROGRAM MANAGEMENT
2022 - 2023 COST FORECAST
BV Project Number 411502

Incremental		2022.02	2022.03	2022.04	2022.05	2022.06	2022.07	2022.08	2022.09	2022.10	2022.11	2022.12	2023.01	2023.02	2023.03	2023.04	2023.05	2023.06	2023.07	2023.08	2023.09	2023.10	2023.11	2023.12	2022 Total	2023 Total		
	Planned	13,683	108,359	237,519	168,336	497,476	284,217	100,648	86,219	109,725	91,822	91,820	204,625	175,033	184,839	230,195	181,219	171,412	188,595	126,472	126,461	158,090	126,472	126,465	1,789,824	1,999,878		
	Actuals	16,724	60,831	77,995	54,608	61,865	125,355	145,679	112,979	118,381	94,677	105,543	155,812	179,053											974,636	334,865		
	Forecast	16,724	60,831	77,995	54,608	61,865	125,355	145,679	112,979	118,381	94,677	105,543	155,812	179,053	166,132	139,875	142,318	128,209	108,992	103,233	101,927	108,992	108,992	69,739	974,636	1,474,019		
Task 1 Program Mgmt	Planned	4,631	18,589	25,171	20,169	20,164	25,213	20,168	20,170	25,211	20,169	20,167	20,050	17,010	17,014	21,263	17,010	17,012	21,267	17,010	17,012	17,012	21,263	17,012	17,012	219,622	199,885	
	Actuals	7,905	2,198	2,585	3,303	2,115	3,760	4,348	5,103	3,173	9,068	4,320	9,295	8,708												47,875	18,003	
	Forecast	7,905	2,198	2,585	3,303	2,115	3,760	4,348	5,103	3,173	9,068	4,320	9,295	8,708	9,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	47,875	117,003	
Task 2 Pretreatment Program Update	Planned	1,726	15,177	42,250	17,294	10,680	30,576	19,616	5,192	6,491	5,192	5,192	-	-	-	-	-	-	-	-	-	-	-	-	-	159,386	-	
	Actuals			705	470	470	235	-	353	430	430	1,450	4,250	4,715												4,543	8,965	
	Forecast			705	470	470	235	-	353	430	430	1,450	4,250	4,715	8,000	25,000	30,576	30,576	5,192	6,491	5,192	5,192				4,543	125,184	
Task 3 Phosphorus Discharge and Optimization	Planned	536	3,756	4,694	7,073	26,718	5,977	4,881	4,879	6,099	4,877	4,879	6,748	5,656	5,213	5,665	4,536	4,531	5,665	4,533	4,531	5,668	4,533	4,531	5,668	4,533	74,369	55,062
	Actuals		1,290	3,755	3,508	1,613	235	4,645	8,731	8,100	10,948	3,898	4,760	6,665													46,721	11,425
	Forecast		1,290	3,755	3,508	1,613	235	4,645	8,731	8,100	10,948	3,898	4,760	6,665	5,213	5,665	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	46,721	34,303
Task 4 Watershed Support Services	Planned	6,790	61,631	12,107	4,040	193,891	22,817	18,255	18,250	22,817	18,253	18,251	5,383	4,569	4,567	5,710	4,572	4,565	5,710	4,572	4,565	5,710	4,569	4,567	397,102	53,676		
	Actuals	940	14,809	17,206	28,841	21,065	45,297	54,170	36,587	44,435	12,003	34,319	16,395	4,931													309,674	21,326
	Forecast	940	14,809	17,206	28,841	21,065	45,297	54,170	36,587	44,435	12,003	34,319	16,395	4,931	22,919	5,710	4,572	4,565	5,710	4,572	4,565	5,710	4,569	4,567	309,674	88,785		
Task 5 Comprehensive WRRF Upgrade Plan	Planned	-	9,206	122,984	89,447	32,035	35,466	-	-	-	-	-	62,344	52,898	52,900	66,121	52,900	52,898	66,124	52,898	52,898	66,124	52,898	52,898	66,124	52,898	289,138	621,557
	Actuals	7,879	42,534	53,745	16,778	36,223	74,878	81,756	59,461	42,065	47,294	28,643	60,035	67,250													491,254	127,284
	Forecast	7,879	42,534	53,745	16,778	36,223	74,878	81,756	59,461	42,065	47,294	28,643	60,035	67,250	67,000	67,000	67,000	67,000	52,898	52,000	52,000	52,000	52,000	25,000	25,000	491,254	639,182	
Task 6 Feasibility Study	Planned	-	-	-	-	-	-	-	-	-	-	-	-	3,670	3,670	4,590	3,670	3,670	4,590	3,670	3,670	4,590	3,670	3,670	4,590	3,670	-	43,130
	Actuals													775													775	-
	Forecast													775	3,000	1,500	3,670	3,670	4,590	3,670	3,670	4,590	3,670	3,670	4,590	3,670	-	36,475
Task 7 Pilot and Demonstration Testing	Planned	-	-	-	-	213,988	164,168	37,728	37,728	49,107	43,331	43,331	105,773	91,229	101,474	54,736	43,787	43,787	54,736	43,789	43,785	54,736	43,789	43,787	589,381	725,408		
	Actuals				1,710	380	950	760	2,745	20,178	14,935	32,914	61,078	86,010												74,572	147,089	
	Forecast				1,710	380	950	760	2,745	20,178	14,935	32,914	61,078	86,010	51,000	25,000	25,000	25,000	30,000	25,000	25,000	30,000	25,000	25,000	74,572	433,068		
Cumulative																												
Planned	-	13,683	122,042	359,561	527,897	1,025,373	1,309,590	1,410,238	1,496,457	1,606,182	1,698,004	1,789,824	1,994,449	2,169,482	2,354,321	2,584,516	2,765,735	2,937,147	3,125,742	3,252,214	3,378,675	3,536,765	3,663,237	3,789,702	1,789,824	3,789,702		
Actuals	-	16,724	77,554	155,549	210,157	272,023	397,378	543,057	656,036	774,417	869,094	974,636	1,130,448	1,309,502											974,636	334,865		
Forecast	-	16,724	77,554	155,549	210,157	272,023	397,378	543,057	656,036	774,417	869,094	974,636	1,130,448	1,309,502	1,475,634	1,615,509	1,757,827	1,886,036	1,995,028	2,098,261	2,200,188	2,309,180	2,378,919	2,448,656	974,636	2,448,656		

