



DIRECTOR OF ENGINEERING REPORT

December 20, 2023

District Engineering manages projects, consultants, contractors, and equipment suppliers. Consultant reports and Project Managers reports are included in this section along with details regarding the status of the associated study, design, or construction projects.

ACTIVE PROJECTS

21CMP04 Fermentation Reactor Pilot:

SCOPE: The construction of a pilot fermenter system which will include installation of a new primary sludge pump in the existing Primary Clarifier Control Structure (Structure 210) and associated piping; piping modifications downstream of existing waste activated sludge (WAS) pump in the WAS Pump Station (Structure 112); a new compressed air mixing system; a steel frac tank that has been fabricated as a fermenter (Temporary Structure 100) and requires connections to primary sludge, WAS, compressed air mixing system, odorous air treatment system, and Primary Effluent Channel (Structure 022).						
Contractor: Burdick			Original Contract Price: \$956,796.00			
Engineer: Black and Veatch						
R.E. Inspector: SDD						
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
03/24/23	04/04/23	05/09/23	06/21/23	07/31/23	07/24/23	12/21/23 Subst 01/20/24 Final

Key Activities: Procurement of materials for the Frac Tank are still on track for the pilot project to start January 2024.

Staff is coordinating SCADA integration with Farnsworth Group, SDD I&C, and plc programs for the 210, 112, and 009 buildings.

Construction Issues: Pressure monitoring transmitter for the sludge pump will not arrive prior to startup. Contractor has installed a District owned transmitter until the contractually required transmitter arrives. We are also working through a delayed delivery on the Atlas-Copco air compressor for the enviromix system that has not arrived yet.

NON-CONSTRUCTION ACTIVITY

DESIGN - 22ENG31 ADMINISTRATIVE OFFICE COMPLEX:

Many of the below items are well on their way to completion. Site utilities evaluation is ongoing. Staff expects to receive a more detailed layout from AEX for the individual departments within the next week. This will bring us to the end of schematic design where there will be a schematic design level cost opinion generated. We will move on to design following this effort.

Phase 1 - Schematic Design (10 weeks) is in process:

1. Confirm programming of interior spaces and adjacencies
2. Review public access and site security concerns.
3. Conduct a preliminary code analysis.
4. Develop conceptual designs for the building layout and site orientation.
5. Identify major laboratory equipment.
6. Establish building security requirements.
7. Develop conceptual HVAC system options.
8. Confirm existing electrical utilities and power capacity.
9. Review energy efficient design strategies for net zero goals.
10. Review available site utilities, including potable water, non-potable water, sanitary, gas, and electric.



DIRECTOR OF ENGINEERING REPORT

December 20, 2023

11. Perform siting evaluation based on existing utility locations, potential roadway improvements, and public access.
12. Perform and prepare topographic survey of the proposed site.
13. Evaluate drainage and detention requirements.
14. Evaluate parking requirements.
15. Develop a schematic design level cost opinion.

This last period staff has conducted 2 progress meetings with AEX and Hanson professional services has completed the civil field work. The most recent progress meeting engaged both AEX and Black and Veatch. Staff expects modified adjacencies to be reviewed at the next design progress meeting (11/21). Along with the adjacencies, BV/AEX have been tasked with confirming space requirements for the Laboratory during the upcoming period.

DESIGN - 22ENG02 Lost Bridge Force Main Renewal

The designer is Clark Deitz Engineers (CDI). SKS Engineers has completed the results of the soil borings and provided a summary report to the engineers. Staff is expecting design review documents at the end of this month.

Schedule:

Geotech report and boring contractor coordination	Nov 23
Alternatives evaluation and survey	Dec 23
ROW reviews	Dec 23
60% Design	Dec 23
90% Design	Mar 24
Advertise	Apr 24
Targeted Award Date	May 24

STUDY - Collection System Master Plan - Resiliency Evaluation

This scope of work is focusing on the NE Quadrant of Decatur. Clark Dietz has assigned a different engineer to work on this project following the departure of the original engineer from the company. SDD outside maintenance staff was interviewed this last month soliciting input on their known issues of the pump stations, force mains, and collection systems operations that may impact the resiliency of the systems (Larkdale, Damon, and Faries Parkway). I am expecting a first draft of the master plan shortly after the first of the year.

Schedule:

Develop Master Plan Outline	Oct 23
Develop sewer system gravity capacities report	Oct 23
Develop maps of sewer system condition assessment	SDD
Develop pumping station capacity reports	Nov 23
Develop "higher risk" capacity bottleneck report	Nov 23
Incorporate previous master plans into report	Dec 23
Incorporate discussion on ADM Service Partners	Dec 23
Prepare final report	Dec 23



UPCOMING PROJECTS:

DESIGN – Damon Avenue Pump Station Upgrades Project

The project includes installation of a new electrical service at the pump station and the installation of a new 385HP pump. The newer pump is providing full redundancy to the largest capacity pump currently installed in the pump station. The pump being replaced is one of two 60HP Flygt pumps. After the work is complete, there will be two 385hp pumps and one 60hp, with the removed 60hp to be the backup the remaining 60hp pump.

The electrical work is to install an owner procured dual service switch board and automatic transfer switch and a contractor supplied 1200-amp CT enclosure.

Final Electrical Drawings were received this month from AEX. Specifications are being prepared for advertisement.

DESIGN – Final Clarifier Upgrades Project

<<No Update>> The project includes replacement of 3 isolation gates on the influent channels, painting 2 carbon steel clarifiers, performing maintenance work on the clarifier floors, and repairing 8 isolation gates in the nitrification aeration tanks.

Final plan drawings have been received. Technical specification development will commence again once the Damon Project is advertised.

DESIGN – Groundwater Dewatering Project

Staff had a meeting with professional geologist Martha Silks of LRE Water; an engineer out of Lawrence Kansas this last period. Martha Silks is the Lead Hydrologist for LRE Water, SDD has a long history with her as she has served on teams working with dewatering issues on the plant site dating back to the early 2000's. Dewatering well cleaning efforts have not improved staff ability to dewater various sites to perform maintenance on clarifiers. We are preparing a scope of work document with her anticipating she would bring 3 alternative solutions to address groundwater dewatering issues in this area of the plant for staff consideration. I expect this agreement will be available at the January trustee meeting for consideration.

INTERGOVERNMENTAL ACTIVITIES

1. Staff has continued participating in meetings with the CITY and ADM for the "NE quadrant work group" looking at water and wastewater needs in this corridor.

From the SDD perspective, the work reviewed was the location of the pump station, a short section of feeder gravity sewer, and the force main routing to and around the Damon PS. The CITY presented their work on water supply development.

2. Faries Parkway sewer relocation bids were advertised this week by the CITY. There is a prebid meeting for the work on Dec 19th and bids open on Jan 4th, 2024.

If there are questions, please contact me at 422-6931 ext 216, or by email at DonM@sddcleanwater.org.



PROJECT MANAGER REPORT

December, 2023

District Engineering manages projects, consultants, contractors, and equipment suppliers. Consultant reports and Project Managers reports are included in this section along with details regarding the status of the associated study, design, or construction projects.

ACTIVE PROJECTS

22ENG45 Primary Clarifier #5 Replacement Project:

SCOPE: Removal and replacement of the existing primary clarifier. Work will include the procurement, installation and commissioning of a new circular primary clarifier and appurtenances. Painting of UV light exposed and submerged carbon steel components, and miscellaneous electrical adjustments to facilitate the removals and commissioning of the new process unit.						
Contractor: Plocher			Original Contract Price: \$1,155,600.00			
Engineer: SDD			Sum of Change Orders: \$0			
R.E. Inspector: SDD			Total Value: \$1,155,600.00			
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
09/16/22	09/27/22	11/01/22	11/17/22	11/30/22	Feb 2024 (tentative)	330 days-Substantial 360 days - Final

Key Activities: <<No CHANGE>> Clarifier delivery moved from October 2023 to late February 2024 (provided by Walker Process representative). New schedule will be updated following a solid delivery date.

23MNT22 Sidewalk and Stairs Replacement Project

SCOPE: Removal and replacement of the stairs east of the Admin building, handrails and the sidewalks directly attached to them.						
Contractor: Chirsty-Foltz			Original Contract Price: \$54,178.00			
Engineer: SDD			Sum of Change Orders: \$0			
R.E. Inspector: SDD			Total Value: \$54,178.00			
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
09/08/2023	09/14/23	10/05/23	10/18/23	10/31/23	11/23/23	90 days-Substantial 120 days - Final

Key Activities: Christy-Foltz is onsite removing the existing handrails and breaking up existing concrete for new surface.



PROJECT MANAGER REPORT

December, 2023

23ENG22 McKinley Interceptor Repair

SCOPE: Removal of approximately 115 ft of failing 48-inch centrifugally cast fiberglass pipe and replacement with PVC pipe. After the repair is made, the entire manhole to manhole gravity sewer segment is to be CIPP lined. Restoration will require slope stabilization with geofabric and rip rap.						
Contractor: TBD				Original Contract Price: \$TBD		
Engineer: SDD				Sum of Change Orders: \$0		
R.E. Inspector: SDD				Total Value: \$TBD		
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
10/26/23	11/02/23	11/22/23	12/21/23	12/28/23	TBD	180 days-Substantial 210 days - Final

Key Activities: Bid Open was November 22nd, with three contractor bids being received.

The Burdick Company, SKS, and CSD Environmental were plan holders for this project. The received bids are as follows: The Burdick Company at \$1,021,980, CSD Environmental Services at \$1,326,551.41, and SAK at \$841,365.

There is a contract award recommendation for board consideration under old business.

22ENG44 East Headworks Grit Classifier Replacement

SCOPE: Removal and replacement of the East headworks grit classifiers, grit removal conveyor and all appurtenances necessary to deliver a fully functioning integrated grit washing and removal system. Owner has pre-purchased the grit washers, the removal conveyor, and grit dumpster distribution sweep plate. Contractor will assume responsibility for coordinating receiving, unloading, and staging equipment from the manufacturers.						
Contractor: Christy-Foltz				Original Contract Price: \$165,950.00		
Engineer: SDD				Sum of Change Orders: \$0		
R.E. Inspector: SDD				Total Value: \$165,950.00		
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
05/10/23	05/30/23	06/15/23	07/12/23	09/21/23	09/21/23	150 days-Substantial 150 days - Final

Key Activities: The contractor has switched over the old control panel to two separate control panels one for the North classifier and one for the South classifier. Huber has certified the installation of the control panels and we are preparing to install the classifiers that have now arrived.

Contractor is required to have a manufacturers technician on site for start-up and manufacturer is indicating that may be after the first of Jan 2024.

**Sanitary District of Decatur
 BID TABULATION**

**Project: 2023ENG51 McKinley Interceptor Repair
 Bid Date: 11/22/2023
 Bid Time: 10:00am**

Item #	Pay Item	QTY	UOM	Engineering Estimate		Burdick		CSD		SAK	
				Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
1	Miscellaneous Owner Contingency	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00
2	Bypass pumping	1	LS	\$ 350,000.00	\$ 350,000.00	\$ 400,000.00	\$ 400,000.00	\$ 640,593.88	\$ 640,593.88	\$ 260,000.00	\$ 260,000.00
3	Remove and dispose of failed 48" sewer pipe.	115	LF	\$ 217.39	\$ 25,000.00	\$ 400.00	\$ 46,000.00	\$ 675.25	\$ 77,653.75	\$ 350.00	\$ 40,250.00
4	Install new 48" PVC sewer pipe	115	LF	\$ 1,739.13	\$ 200,000.00	\$ 1,500.00	\$ 172,500.00	\$ 1,645.00	\$ 189,175.00	\$ 1,400.00	\$ 161,000.00
5	Install 2 repair bands	2	EA	\$ 16,000.00	\$ 32,000.00	\$ 16,000.00	\$ 32,000.00	\$ 17,851.20	\$ 35,702.40	\$ 15,550.00	\$ 31,100.00
6	Repair storm inlet piping	1	LS	\$ 1,000.00	\$ 1,000.00	\$ 5,000.00	\$ 5,000.00	\$ 20,000.00	\$ 20,000.00	\$ 16,650.00	\$ 16,650.00
7	Install riprap (RR4 gradation w/ geofabric and 6" CA-6 bedding)	230	SY	\$ 65.22	\$ 15,000.00	\$ 66.00	\$ 15,180.00	\$ 76.50	\$ 17,595.00	\$ 140.00	\$ 32,200.00
8	Haul in and place and grade topsoil	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 9,600.00	\$ 9,600.00	\$ 8,165.00	\$ 8,165.00	\$ 13,890.00	\$ 13,890.00
9	Seed and Mulch	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 9,000.00	\$ 9,000.00	\$ 8,165.00	\$ 8,165.00	\$ 10,000.00	\$ 10,000.00
10	Repair 4" Asphalt	280	SF	\$ 53.57	\$ 15,000.00	\$ 15.00	\$ 4,200.00	\$ 100.00	\$ 28,000.00	\$ 65.00	\$ 18,200.00
11	CIPP Lining of repaired 48" sewer	305	LF	\$ 409.84	\$ 125,000.00	\$ 700.00	\$ 213,500.00	\$ 821.00	\$ 250,405.00	\$ 715.00	\$ 218,075.00
12	All other work not included in items 1-11 above	1	LS	\$ 50,000.00	\$ 50,000.00	\$ 110,000.00	\$ 110,000.00	\$ 46,096.38	\$ 46,096.38	\$ 35,000.00	\$ 35,000.00
13				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BID AS READ:				\$ 828,000.00	\$ 1,021,980.00	\$ 1,326,551.41	\$ 841,365.00				