



DIRECTOR OF ENGINEERING REPORT

Jan 24, 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: Final installation/checkout of the mixing system by the manufacturer is scheduled for 1/23/24. We are expecting to begin feeding the pilot reactor at that point.

Staff continues coordinating SCADA integration with Farnsworth Group, SDD I&C, and plc programs for the 210, 112, and 009 buildings. We expect that to be completed by Jan 29th at which time sampling and reactor monitoring will begin. We are preparing for an operations training session on the reactor to occur before the 29th.

Construction Issues: Miscellaneous insulation over pipe heat tracing is needing installed – temporary blanketing is being used until final installation is complete.

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 has received and returned comments on layouts from AEX for the individual departments. We have received floor plans from Black and Veatch for the Lab and returned comments back to them for the inclusion in the AEX plans. 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.



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- 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.
- 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, 2 reviews with Black and Veatch for the Lab, and has another progress review scheduled for 1/22/24. At the upcoming meeting we will finalize the office/wall adjacencies and perform a formal review of the laboratory layout with AEX. We expect that during the next period AEX will be providing a schematic design level cost opinion.

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. Design documents have been received and staff is in the process of reviewing them. The alignment and construction will impact Decatur Park District property. We are scheduling a meeting (first week in Feb) with the Park District to discuss alignment and easements required.

Schedule:

Geotech report and boring contractor coordination	Nov 23
Alternatives evaluation and survey	Dec 23
ROW reviews	Dec 23
60% Design	Dec 23 Delivered for Review 1/9/24
90% Design	Mar 24
Advertise	Apr 24
Targeted Award Date	May 24

STUDY - Collection System Master Plan - Resiliency Evaluation

Staff received the draft of the master plan shortly after the first of the year. SDD is utilizing our GIS system to prepare additional exhibits for the report. The generation of those exhibits is underway while review of the final report is completed.

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	Delivered Draft for Review 1/5/24

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 and coordination with the groundwater upgrades will commence again once the Damon Project is advertised.

DESIGN – Groundwater Dewatering Upgrades Project

Dewatering well cleaning efforts have not improved staff ability to dewater various sites to perform maintenance on the plant's final clarifiers.

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 in the plant dating back to the early 2000's. LRE Water, an engineer out of Lawrence Kansas and staff have agreed on a scope of work anticipating they would bring 3 alternative solutions to address groundwater dewatering issues in this area of the plant. The agreement (attached) outlines the scope of work, however, has not incorporated SDD standard terms and conditions at the time of writing this update. The final agreement is expected to be available at the January trustee meeting for consideration. This approach has been presented to Black and Veatch for review by their staff performing the aging infrastructure evaluation.

The agreement outlines a 4-month timeline to develop a long-term and potentially multi-year solution to the groundwater problem. However, there is an immediate need to bring the west cluster clarifiers down and perform maintenance because the attempt at having the existing wells cleaned this summer has not achieved the desired results. This maintenance need has been shared with Martha Silks and the expectation is that we will install 5-6 replacement wells in locations close to the existing wells based on her recommendation for placement. Information learned from the new wells will be used in the long term plan.

INTERGOVERNMENTAL ACTIVITIES

1. Staff has continued participating in meetings as needed with the CITY and ADM for the "NE quadrant work group" looking at water and wastewater needs in this corridor.
2. Staff held it's quarterly meeting with the CITY on January 10th, 2024.



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3. Faries Parkway sewer relocation bids were opened as expected on Jan 4th, 2024. Attached is the bid summary received from the CITY. Cost of the work is \$303,000. As per the IGA the City is paying all engineering and site preparation costs plus \$20,000. The original project estimate was \$135,000 in 2022. No Board Action is required

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



PROJECT MANAGER REPORT

January 24th, 2024

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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: The contractor came on site 01/16/24 to make plans to receive and stage the clarifier upon receipt from manufacturer.

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: Concrete stairs and sidewalk sections removed and replaced with concrete. Nosing for stair tread installed during the initial pour. Handrail installation awaiting concrete to cure due to site location and access to the sides of the concrete for side mounted handrail.

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: SAK			Original Contract Price: \$841,365.00			
Engineer: SDD			Sum of Change Orders: \$0			
R.E. Inspector: SDD			Total Value: \$841,365.00			
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	1/23/24	180 days-Substantial 210 days - Final



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January 24th, 2024

Key Activities: SAK was awarded the contract. The pre-construction meeting is scheduled for January 23 at 10:00 a.m. Contractor start date and schedule will be determined at the pre-construction meeting.

22ENG44 East Headworks Grit Classifier Replacement

<p>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.</p>						
<p>Contractor: Christy-Foltz Engineer: SDD R.E. Inspector: SDD</p>			<p>Original Contract Price: \$165,950.00 Sum of Change Orders: \$0 Total Value: \$165,950.00</p>			
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 South classifier (002) has been removed from service and removed from the 217 building. Installation of the new classifier is underway by Christy-Foltz. Fabrication of the inlet piping is underway by Burdick, Christy-Foltz’s sub-contractor. The south classifier is ready for manufacture start-up.

Future projects that are being investigated and bid packages being produced.

1. Damon Avenue Pump Station Upgrades
 - a. (Electrical service upgrades, and Pump #2 Replacement)
2. West Cluster Dewatering well replacements

RETURN WITH BID

**CITY OF DECATUR, ILLINOIS
DEPARTMENT OF PUBLIC WORKS
for
Faries Park Interceptor Relocation
CITY PROJECT 2022-12**

Bidder will complete the Work in accordance with the Contract Documents for the following bid prices:

BASE BID

WORK ITEM	DESCRIPTION	PAY UNIT	QTY	UNIT PRICE	EXTENSION
20800150	TRENCH BACKFILL	CY	170.0	143.27	24,355.90
25100105	SEEDING CLASS 7	SQ YD	2,000.0	319.	6,380.00
28000900	MULCH METHOD 1	SQ YD	2,000.0	1.27	2,540.00
60228110	MANHOLES, SANITARY, 4 FT DIAMETER, TY 1, CLOSED LID	EACH	3.0	24,080.34	72,241.02
67100100	MOBILIZATION	LSUM	1.0	12,534.15	12,534.15
X0326441	STONE BEDDING MATERIAL	TON	20.0	98.26	1,965.20
X0322791	FILL EXISTING SANITARY SEWER	FT	450	12.87	5,791.50
X1200073	MANHOLE REMOVAL	EACH	2.0	5,179.98	10,359.96
X5630212	SANITARY SEWER CONNECTION	EACH	1.0	6,069.50	6,069.50
X6020399	CONNECTION TO EXISTING MANHOLE	EACH	1.0	5,822.86	5,822.86
Z0057100	SANITARY SEWER, 12"	FT	500.0	270.43	135,215.00
Z0009000	ALTERATIONS, CANCELLATIONS, EXTENSIONS, DEDUCTIONS AND EXTRA WORK	LSUM	1	\$20,000.00	\$20,000.00

TOTAL BASE BID 303,275.09

TOTAL BASE BID IN WORDS

Three Hundred Three Thousand Two Seventy Five and 09/100

Bid Opening

FARIES PARK INTERCEPTOR RELOCATION

CITY PROJECT 2022-12

01/04/2024

Tentative City Council Date: January 16, 2024

BIDDER	BID	% Over / Under Eng. Estimate
A & R Services	\$ 303,255.09	
Burdick Plumbing & Heating Co., Inc.		
EL Pruitt Company		
Entler Excavating	\$ 340,980	
The Lowest Apparent Responsible Bidder		
Engineer's Estimate	Base Bid: \$245,450.00	