



TriCo Regional Sewer Utility

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JOINT CAPITAL & CONSTRUCTION COMMITTEE AND BOARD OF TRUSTEES MEETING

Monday, June 5, 2023 at 4:30 P.M.
7236 Mayflower Park Drive, Zionsville, IN 46077

AGENDA

1. Public Comment
2. Dedications
3. #2301 Lift Station 10 Upgrades - Professional Services
4. Tee/Wye CIPP Lateral Liner Project
5. WRRF Master Planning Update & Service Area Growth
6. WRRF Energy Consumption, Generation & Storage
7. Capital Project Updates
8. Other Business
 - a. July meeting date/time

Next Scheduled Meeting: Wednesday, July 5, 2023 at 4:30 pm



MEMORANDUM

To: Capital and Construction Committee

From: Wes Merkle

Date: May 31, 2023

Subject: Dedications

Guidepost Higher Ground Elementary sanitary sewers are complete and ready for dedication. Staff recommends acceptance of these sewers.

Recommended Action: Accept the dedication of Guidepost Higher Ground Elementary sanitary sewers.



MEMORANDUM

To: Capital and Construction Committee

From: Wes Merkle

Date: May 31, 2023

Subject: #2301 Lift Station 10 Pump & Control Upgrades - Professional Services

Project No. 2301 includes the substantial upgrades to Lift Station 10 (Ashbrooke), including new pumps, discharge piping, wet well modifications, electrical gear, controls, and a backup generator. The purpose of this project is to add redundancy and increase the capacity of Lift Station 10 to buildout at 3.35 MGD.

Staff issued a Request for Proposals to five engineering firms. Four firms submitted proposals, three of which have successfully completed design projects with TriCo previously. Staff reviewed their responses and recommends Commonwealth Engineers, Inc. to complete the work, which includes engineering design, permitting, bidding and construction phase services.

Recommended Action: Recommend the Board approve the professional services agreement with Commonwealth Engineers in an amount not to exceed \$70,700.



MEMORANDUM

To: Capital and Construction Committee

From: Aaron Strong

Date: May 31, 2023

Subject: Tee/Wye CIPP Lateral Liner Project

TriCo Staff maintains an aggressive televising and inspection program. One of the objectives is to identify sources of Inflow & Infiltration (I&I). Staff identified 9 tee/wye lateral connections at the sewer main that need rehabilitation due to cracks, roots, or separated joints all of which allow groundwater to infiltrate the system.

To mitigate these challenges and ensure the continued smooth operation of our system, we have decided to once again deploy a Cure In Place Pipe Patch(CIPP) lateral lining solution. CIPP is a trenchless pipe rehabilitation technique that involves inserting a resin-impregnated liner into the existing host pipe. This liner is then cured in place, forming a seamless, durable, and corrosion resistant pipe within the original infrastructure.

The ROI on a lateral liner could be as little as one year where groundwater infiltrates at 5 gallons per minute.

TriCo requested 3 quotes to perform this work and received the following quotes:

| | |
|-------------------------|----------|
| BLD Services, LLC | \$49,600 |
| Circle City Pipe Lining | \$32,859 |

Recommended Action: Recommend the Board award the Tee/Wye CIPP Lateral Liner contract to Circle City Pipe Lining for \$32,859.



MEMORANDUM

To: Capital and Construction Committee

From: Wes Merkle

Date: May 31, 2023

Subject: WRRF Master Planning Update
& Service Area Growth

TriCo recently completed the \$23 million WRRF Expansion project, taking capacity of our plant to 5.72 million gallons per day (MGD). While capacity at TriCo's WRRF and TriCo-owned capacity at Carmel's plant are believed to be sufficient for buildout of our existing service area, staff recommends preparing for possible future needs and opportunities through economic development, service area expansion, additional services, reliability, and efficiency. The next step is to complete a master plan update for the plant, focusing on the following goals, and providing conceptual layout, scope of work, phasing, and costs:

- Add capacity
- Repurpose existing infrastructure
- Add primary clarification, convert to anaerobic digestion, add combined heat and power generation
- Directly accept and process FOG, food waste, and/or septage
- Add pretreatment for future industrial users nearby
- Nutrient recovery
- Increase reliability and redundancy with equipment and electrical gear, and reduce energy consumption

More information will be provided at the Committee meeting for further discussion.



MEMORANDUM

To: Capital and Construction Committee

From: Wes Merkle

Date: May 31, 2023

Subject: WRRF Energy Consumption,
Generation & Storage

Staff has reviewed power consumption data produced since the WRRF Expansion project put new capacity online last year. Our plant consumes approximately 260,000 kilowatt-hours (kWh) of electricity each month, with a maximum 15-minute consumption of approximately 500 kilowatts (which is the basis for our “demand charge”, making up approximately one-third of our electric bills). In the past 12 months, TriCo spent approximately \$385,000 powering the plant, up 36 percent from the previous 12 months, while power consumption is up 9 percent.

Benchmarking data indicates that our new plant is very efficient, averaging 1.5 kWh per pound of biochemical oxygen demand (BOD) removed, \$2,480 per million gallons treated, and 3.1 kBTU/gallon treated per day, putting our plant in the top 5 percent for energy efficiency. Had our plant consumed an average rate of power per pound of BOD removed, TriCo would have spent an additional \$520,000 powering the plant in the past 12 months. Benchmarking data was assessed using “Benchmarking for Water and Wastewater Treatment Plants” by the Smart Energy Design Assistance Center at the University of Illinois and “Energy Use in Wastewater Treatment Plants” by the US Environmental Protection Agency.

Staff has and continues to make substantial effort to operate effectively and efficiently. Keeping up with preventative maintenance and process optimization are critical. We have made substantial investments in technology and equipment: most electric motors run on variable frequency drives (VFDs) enabling equipment to run at reduced speeds when possible, LED lighting, high efficiency HVAC equipment, premium efficiency electric motors, instrumentation and controls, and process optimization through SCADA. Staff also includes power consumption costs when evaluating new equipment for purchase.

Staff has been working with Carmel-based Solential Energy to look at on-site generation and storage opportunities. Our plant currently has aerobic digesters so we do not have the ability to capture digester gas to generate heat and electricity – this conversion would require substantial investment and may only be feasible with a future project to further expand treatment capacity or overhaul aging equipment and processes. We do, however, have space for energy storage and solar panel equipment. The purpose of this effort is to evaluate potential opportunities to reduce TriCo’s power bills. If deemed viable, staff will further evaluate alternatives, potential vendors, and a path forward.

More information will be provided at the Committee meeting for further discussion.



MEMORANDUM

To: Capital and Construction Committee

From: Wes Merkle

Date: May 31, 2023

Subject: Capital Project Updates

The following updates are provided for ongoing capital projects. Please refer to the Capital Project Fact Sheets for background information on individual projects.

- #1902 – TriCo WRRF Expansion

Punch list and warranty work continues.

- #2202 Lift Station 8 (Laurelwood) Reconstruction

Construction contractor Lykins mobilized directional drilling equipment to the site and began force main installation. Lift station work will follow. Completion is anticipated late summer.

- #2204, 2205 and 2206 Lift Stations 11, 14 and 26 Backup Generators

Delivery of the third new generator for Lift Station 14 is anticipated this week or next. Construction contractor Barth Electric expects to begin work at Lift Stations 11 and 26 shortly.

- #2207 Lift Station 26 (Jackson's Grant) Parallel Force Main

Work should begin in the coming weeks pending material delivery. Completion is anticipated late summer.

- #2208 Lift Station 16 (Michigan/Sycamore Street) Reconstruction

Construction contractor Ottenweller began work on site. A deep Citizens water transmission main was found in conflict with the proposed sanitary sewer extension, so the new main was installed deeper than anticipated. The development team has installed their sewers on site. Completion of lift station work is anticipated this fall.

- #2301 Lift Station 10 (Ashbrook) Upgrades

Staff completed an evaluation of current flow and EDU data to finalize design parameters for planned upgrades. A request for proposals was issued to five firms; proposals were received and evaluated by staff. If approved by the Board, design will be complete with permits and bids for construction received this fall.

- #2302 Lift Station 23 (126th Street/West Clay Elementary) Upgrades

Staff plans to proceed with design of this project later this year.

- Lacoma Estates Low Pressure Main Extension

Construction is expected to begin soon. Work should take several weeks to complete.