



City of Pflugerville

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Title: Discuss and consider action to approve a Professional Service Supplemental Agreement with Freese and Nichols, Inc. in the amount of \$1,528,933 for professional engineering services associated with the Central Wastewater Treatment Plant Expansion Phase 2 Project.

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Attachments: 1. PSSA Freese and Nichols WWTP Expansion Ph 2, 2. WWTP Expansion Phase 2 Project Map, 3. Draft Presentation_2021-0382

Date	Ver.	Action By	Action	Result
4/27/2021	1	City Council	Approved	Pass

Discuss and consider action to approve a Professional Service Supplemental Agreement with Freese and Nichols, Inc. in the amount of \$1,528,933 for professional engineering services associated with the Central Wastewater Treatment Plant Expansion Phase 2 Project.

This Professional Services Supplemental Agreement (PSSA) #7 is to add design phase services provided by Freese and Nichols, Inc. (FNI) the Engineer of Record for Phase 2 of the Central Wastewater Treatment Plant (CWWTP) expansion project. FNI as the design engineer has a critical role throughout the construction of the CWWTP Phase 1 improvements project and during the initial period of operation after construction is complete. The proposed design phase effort for the completion of Phase 2 of the CWWTP Expansion and effort under special services to evaluate reliability and the addition of a secondary power feed as well as other specialty services.

Under previous agreements, the City of Pflugerville retained Freese and Nichols, Inc. (FNI) for a Study Phase to evaluate the existing CWWTP and develop recommendations for improvements for expansion of the facility to an annual average flow of 10.0 MGD. The project has a phased implementation plan given capacity constraints of the existing plant and the inability to complete phase 2 work until Phase 1 work is complete and the new capacity is available. The solids processing facilities in Phase 3 will be constructed at such time as they become necessary, when waste solids production from the expanded/upgraded facility requires the solids handling capacity to be increased. The plant expansion/upgrade project will be implemented in three (3) design and construction phases. Construction of Phase 1 of the CWWTP is anticipated to be substantially complete by the end of 2021 and must be fully operational before Phase 2 construction can begin. The City has already experienced wastewater flows averaging over 75% of the Phase 1 permit capacity of the plans, therefore it is recommended that Phase 2 construction begin as soon as possible.

Phase 1 (currently under construction)

- New treatment plant headworks including: influent lift station, solids screening and grit removal systems and flow splitter box
- Two (2) new Carrousel style aeration tanks designed for biological nutrient removal
- New final clarifier and mixed liquor splitter box
- New effluent filters and ultra-violet (UV) disinfection system
- New non-potable water pump station and disinfection system
- New electrical/motor control and combined laboratory/administration/electrical buildings
- Design of the interim improvements

Phase 2 (immediately following Phase 1)

- Modification of the existing Carrousel units to include new anaerobic/anoxic reactor basins to enable biological nutrient removal through the existing carrousel units
- Rehabilitation and repair of the existing treatment units, including the carrousel and clarifiers that will continue to be used in the expanded/upgraded treatment facility

The scope of work for Phase 2 will include final design services to bring the plant capacity to 8.5MGD and dully convert the original treatment trains to achieve biological nutrient removal (BNR), which FNI will develop the final construction documents (plans and specifications) and provide bid phase services for Phase 2 of the project.

Additional Special Services have also been included:

- A. Secondary Power Feed and electrical Reliability Evaluation - FNI and subconsultant will evaluate alternatives for improving power reliability at the facility, coordinating with Oncor and evaluation of up to four (4) options
- B. Composting Operations Screening Level Analysis - FNI will complete three (3) options to improve/expand composting operations at the CWWTP considering capital cost, operations, and maintenance costs, buffer requirements, and potential for odor production.
- C. Department of Public Works Facilities Master Plan - Given the constraints of the existing wastewater treatment plant site, the current and proposed construction and a growing work force, FNI will complete a Facilities Master Plan for the Department of Public Works. This study will stake a look at how Public Works should grow and what space is needed and will clarify where the City will place the wastewater treatment operators who are currently using a temporary trailer for operations after there office was demolished with Phase I of the Wastewater Treatment Plant.

Phase 3 (approximately 2027, depending on actual rate of increase in influent flow)

- New waste sludge processing facility, including new sludge thickening and dewatering equipment, and a new solids processing building
- Demolition of abandoned influent lift station and screening structure to clear space needed for the new anaerobic/anoxic basins

- Improvements to existing area lighting by replacing existing fixtures
- Addition of backup power for Biosolids Building (New generator, relocated generator from EB-4, or tie-in to existing generator)
- Addition of secondary power feed provided by Oncor resulting from “Secondary Power Feed and Electrical Reliability” evaluation.
- Other items include associated electrical, controls, and SCADA improvements; yard piping; drainage and paving improvements.

The proposed Phase 2 design phase services have been budgeted as reflected in the modified CIP projects with \$1.5M funds available for FY21 to this project. Bid phase, Construction Phase, Start-Up and Post Construction services will be covered under a separate request presented to City Council at a future date.

Prior City Council Action

Freese and Nichols, Inc. was selected as the most qualified firm for the City’s wastewater treatment plant engineering services by the City Council on October 11, 2016.

City Council approved a professional services agreement with Freese and Nichols in the amount of \$375,806 for Preliminary Design and Permitting Phase services at the March 28, 2017 meeting.

City Council approved a professional services supplemental agreement with Freese and Nichols in the amount of \$3,442,165.00 for final design and bid phase services of the Central WWTP Expansion Phase 1 project at the February 27, 2018 meeting.

City Council approved a professional services supplemental agreement with Freese and Nichols in the amount of \$1,309,800 for construction and post construction phase services of the Central WWTP Expansion Phase 1 project at the October 22, 2019 meeting.

Deadline for City Council Action

Action is requested on April 27, 2021.

Funding Expected: Revenue Expenditure N/A

Budgeted Item: Yes No N/A

*This project is funded through utility bond funds.

Amount: \$1,528,933

1295 Form Required? Yes No

Legal Review Required: N/A Required Date Completed: 4-19-2021

Supporting documents attached:

Professional Services Agreement
Project Exhibit
Draft Presentation

Recommended Action

Approve a Professional Service Supplemental Agreement with Freese and Nichols, Inc. in the amount of \$1,528,933 for professional engineering services associated with the Central Wastewater Treatment Plant Expansion Phase 2 Project.

