



City of Norman, OK

Municipal Building
Council Chambers
201 West Gray
Norman, OK 73069

Master

File Number: K-1011-148 AMD #2

File ID: K-1011-148 AMD #2 **Type:** Contract **Status:** Consent Item

Version: 1 **Reference:** Item No. 23 **In Control:** City Council

Department: Utilities Department **Cost:** \$5,347,900.00 **File Created:** 04/09/2014

File Name: WRF Phase 2 Construction Engineering Services **Final Action:**

Title: AMENDMENT NO. TWO TO CONTRACT NO. K-1011-148: BY AND BETWEEN THE NORMAN UTILITIES AUTHORITY AND GARVER, L.L.C., INCREASING THE CONTRACT AMOUNT BY \$5,347,900 FOR A REVISED CONTRACT AMOUNT OF \$9,432,700 TO PROVIDE CONSTRUCTION ADMINISTRATION, CONSTRUCTION OBSERVATION, START-UP TRAINING, OPERATION AND MAINTENANCE MANUALS, AND SCADA APPLICATION ENGINEERING SERVICES FOR THE WATER RECLAMATION FACILITY PHASE 2 IMPROVEMENTS AND BUDGET APPROPRIATION.

Notes: ACTION NEEDED: Acting as the Norman Utilities Authority, motion to approve or reject Amendment No. One to Contract No. K-1011-148 with Garver, L.L.C., increasing the contract amount by \$5,437,900 for a revised contract amount of \$9,432,700; and, if approved, authorize the execution thereof and appropriate \$341,114 from the Wastewater Fund Balance (032-0000-253.00-00) into Project No. WW0065, WWTP Improvement South, Phase 2, Design (032-9048-432.62-01) and \$376,048 from the Sewer Excise Tax Fund Balance (322-0000-253.00-00) into Project No. WW0065, WWTP Improvement South, Phase 2, Design (322-9048-432.62-01).

ACTION TAKEN: _____

Agenda Date: 04/22/2014

Agenda Number:

Attachments: Figure 1, Proposed Improvements, Attachment 1, Design Budget, K-1011-148.pdf, Amd 1 K-1011-148.pdf, Amd 2 K-1011-148.pdf

Project Manager: Mark Daniels, Utilities Engineer

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Effective Date:

History of Legislative File

Version:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
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Text of Legislative File K-1011-148 AMD #2

Body

BACKGROUND: The Wastewater Master Plan (WWMP), adopted by the Norman Utilities Authority (NUA) in 2001, recommended that facilities treating an average daily design flow (ADF) of 21.5 million gallons per day (MGD) would ultimately be needed to serve the area approved for urban development under the 2025 Land Use and Transportation Plan. The WWMP recommended expansion of the South Water Reclamation Facility (WRF) from 12 to 17 MGD and construction of a new North WRF with an ultimate ADF of 4.5 MGD.

In 2001, the voters approved establishment and funding of three new wastewater funds to address existing and future wastewater system needs. The existing Water Reclamation Fund (032, "WRF") was supplemented by the Sewer Maintenance Fund (321, "SMF"); the Sewer Excise Tax Fund (322, "SET"); and the Sewer Sales Tax Fund (323, "SST"). Revenues are generated by usage fees (WRF); by the \$5 per month sewer maintenance rate (SMF) for collection system rehabilitation; by a temporary 5-year, 1/2 percent sales tax (SST) to fund existing and obligated wastewater system needs; and a Wastewater Excise Tax on New Development (SET) to fund future wastewater system obligations resulting from new development added to the sewer utility system after 2001.

NUA approval of Resolution No. R-0708-78 authorized new development in the northern sewage basin through construction of the northern interceptor system and rehabilitation of Lift Station D. The decision to rehabilitate and expand Lift Station D to a maximum pumping capacity of 6 MGD, and complete downstream Bishop Creek interceptor improvements provided additional time before the North WRF would be critically needed.

More recently, the NUA determined that the South WRF should be rehabilitated and expanded first and the North WRF would be designed and constructed in the future when the capacity of the recently expanded Lift Station D was consumed.

Voters approved a rate increase in October 2013 increasing the monthly base rate from \$3.90 to \$5.00 and increasing the commodity rate from \$1.60 to \$2.70 per thousand gallons of wastewater generated. The revenues from the rate increase are accounted for in the WRF. This increased revenue stream will allow the NUA to move forward with securing funding for the South WRF improvements and the associated professional engineering work.

Regulatory Requirements:

The Norman Water Reclamation Utility's Oklahoma Pollutant Discharge Elimination System (OPDES) permit for the South WRF, issued July 1, 2010 by Oklahoma Department of Environmental Quality (DEQ), gave a compliance deadline of July 1, 2013 for construction of new disinfection facilities to attain compliance with final discharge limits. Concurrent with issuance of the OPDES permit, staff informed DEQ that this schedule was not achievable; since that time NUA staff has forwarded suggested revisions to the compliance schedule. At this time, proposed Consent Order 13-077 prepared by staff and DEQ will reflect the following schedule for remaining tasks:

- Begin construction of disinfection facilities by July 1, 2014;
- Complete construction of disinfection facilities by January 1, 2016;
- Attain compliance with final limits for Fecal Coliform by July 1, 2016.
- Complete construction of all facilities by January 1, 2017;
- Attain compliance with final limits for Total Suspended Solids by July 1, 2017.

Engineering Services:

Request for Proposal (RFP) 1011-36 for the WRF Phase 2 Improvements was forwarded to design firms in September 2010 and the review committee selected Garver, L.L.C. (Garver) of Norman, Oklahoma teamed with Carollo Engineers to design the improvements. On March 8, 2011, the NUA approved Contract K-1011-148 in the amount of \$397,800 authorizing Garver to proceed with the Engineering Report (ER) and Surveying Phases. The findings of the ER were presented to the NUA Trustees at Study Session on November 8, 2011. The ER was finalized and submitted to the DEQ on November 18, 2011.

On June 12, 2012, the NUA approved Amendment No. 1 to Contract K-1011-148 increasing the contract amount by \$3,687,000 which authorized Garver to proceed with the Final Design and Bidding phases of the WRF Phase 2 Improvements. The contract envisioned adding Construction Phase and Operational Phase Services by future contract amendment, if deemed appropriate by the NUA.

The design process moved forward and the plans and specifications for the improvements were submitted to the DEQ on August 1, 2013, approximately one month after DEQ approval of the ER on June 27, 2013. The

DEQ approved the plans and specifications on November 26, 2013.

Proposed Improvements:

The ER recommended and the approved plans and specifications reflect adding disinfection and odor control technologies at the WRF and expanding the average daily design flow from 12 to 17 MGD. A number of maintenance issues were also identified and will be corrected. The WRF Phase 2 Improvements will include the following:

- influent screening improvements and flow metering;
- rehabilitation of four primary clarifiers;
- three new aeration basins with aeration system replacement in three existing basins;
- two new secondary clarifiers;
- a new Return Activated Sludge/Waste Activated Sludge (RAS/WAS) pump station;
- a new ultra violet light (UV) disinfection process;
- a new effluent aeration structure with diffusers;
- a new 66-inch outfall line and discharge structure at the Canadian River;
- a new sludge blending tank and two new WAS thickening centrifuges;
- conversion of an existing secondary digester to a primary digester with mixing;
- new odor control facilities for the headworks, the primary clarifiers and sludge processes; and
- associated yard piping, standby power, electrical and instrumentation.

Funding:

The funding shares for the WRF Phase 2 Improvements (project WW0065) were approved by the NUA during the fiscal year 2013-2014 budget cycle. The Fiscal Year Ending June 30, 2014 (FYE14) funding pro-rata share was based on the type of improvement and its associated design capacity. Maintenance improvements are funded by the WRF as it serves existing needs; improvements increasing capacity from 12 to 13.9 million gallons per day (MGD) are obligated improvements typically funded by the SST; improvements increasing the design flow beyond 13.9 MGD are expansion-related and funded by the SET. Based on the proposed improvements, the NUA-approved funding split was 40.7% from the Sewer Excise Tax (SET) and 59.3% from the Wastewater Fund (WWF). However, the NUA has also authorized any remaining Sewer Sales Tax (SST) funding to be expended on the "current obligations (existing needs)" portion of the project.

DISCUSSION: Under separate actions, the NUA will consider acceptance of the bids received in response to Project Bid 1314-57; award the bid to Archer Western Construction, LLC in the amount of \$48,822,550; authorize partial financing of the project through a Statewide Revolving Fund loan through the OWRB; and authorize the Chairman to sign contract and bonds with Archer Western Construction, LLC in the amount of the bid. Staff expects the construction to proceed on the following schedule:

- Award Bid and Authorize Chairman to sign Contract and Bonds - April 22, 2014
- Obtain OWRB Approval of Award and Contract - May 13, 2014
- Issue Notice to Proceed - May 14, 2014
- Start Construction - June 2, 2014
- Complete Construction (900 days) - November 18, 2016

Amendment No. 2 to Contract K-1011-148 authorizes Garver to proceed with the construction phase services including Construction Administration, full-time Construction Observation, preparation of Operation and Maintenance Manuals, Equipment Start-up and Training, and implementation of the Supervisory Control and Data Acquisition (SCADA) Application Engineering for the WRF Phase 2 Improvements.

The proposed scope of the work and its associated cost has been negotiated with Garver. The construction phase is expected to last for slightly more than 30 months; construction administration and construction observation services are highly dependent upon the duration of construction. Appendix A.1 of the amendment details the work tasks associated with construction phase services and start-up services. Appendix A.2 of the

amendment details the work tasks associated with application engineering services. The proposed engineering services fee is fixed at a maximum not to exceed amount of \$5,347,900 as briefly described below:

Construction Administration at a cost of \$2,165,100; this task includes work items such as review and processing of material and equipment submittals/shop drawings, periodic (at least monthly) meetings with the contractor, NUA, private utilities, and other government agencies as required during the contract period including pre-construction, substantial completion and final completion inspections, meeting minutes, response to contractor requests for information (RFI), evaluation of any proposed project scope changes, review and approval of contractor construction estimates, preparation of record drawings, etc.

Full-time Construction Observation at a cost of \$2,075,700; this task includes provision of one full time administrative assistant to perform administrative tasks such as preparation of daily reports and filing, two full-time on-site representatives to document construction activities, work completed to date, construction materials testing, weather, and other occurrences effecting project completion on a daily basis, attendance at periodic meetings and reporting of issues to the Engineer and the NUA that may affect the project cost or time of completion. Full-time inspection is a requirement of the SRF loan process and greatly helps to ensure construction is in conformance with the contract documents.

Construction Observation Allowance not to exceed \$297,500; this task includes provision of one half-time on-site representative (paid as an allowance, if needed) to further document construction activities as noted above.

Equipment Start-up and Training at a cost of \$111,600; this task includes classroom training of all WRF staff on the proposed equipment and documentation of equipment performance at initial startup and during conformance testing, as well of video documentation of said training for future use by the NUA.

Preparation of Operation and Maintenance (O&M) Manuals at a cost of \$137,200; this task includes written standard and emergency operating procedures for each major piece of equipment or process, process control methodology, instructions for periodic maintenance of equipment and procedures for documenting maintenance, as well as incorporating these O&M procedures into the WRF SCADA system to allow easy access to this information by WRF staff.

SCADA Application Engineering at a cost of \$560,800; this task includes updating and improving the existing system to include remote process control through PLC programming and graphic screens for both existing and new equipment, interface with other external devices and conformance testing. Application Engineering services are often included as a part of the construction contract; however, based on our past experience, implementation of the SCADA system is best left to the design engineer who developed the process control design intent rather than the construction contractor.

The FYE14 design budget includes \$2,830,191 in the WRF and \$1,800,547 in the SET fund. Attachment 1 details the proposed cost of Amendment No. 2, the current design budget and the appropriation necessary to fund the construction phase engineering costs shown. As indicated, it is necessary to appropriate a total of \$717,162 to supplement the existing unencumbered construction totaling \$4,630,738. The following appropriations are required:

- \$341,114 from the Water Reclamation Fund Balance (032-0000-253.00-00) into WRF Design (account 032-9048-432.62-01; project WW0065);
- \$376,048 from the SET Fund Balance (account 322-0000-253.00-00) into SET Design (account 322-9048-432.62-01; project WW0065).

These appropriations would increase the FYE14 construction budget to \$5,347,900 including \$3,171,305 in the WRF and \$2,176,595 in the SET Fund. This funding is adequate to fund proposed design Amendment No. 2.

RECOMMENDATION 1: Staff recommends that the NUA authorize appropriation of \$341,114 from the Water Reclamation Fund Balance and \$376,048 from the SET Fund Balance as outlined above..

RECOMMENDATION 2: Staff recommends that the NUA approve Amendment No. 2 to Contract No. K-1011-148 with Garver, LLC of Norman, Oklahoma in the amount of \$5,347,900.