



City of Norman, OK

Municipal Building
Council Chambers
201 West Gray
Norman, OK 73069

Master

File Number: K-1516-85 AMD#1

File ID: K-1516-85 AMD#1 **Type:** Contract **Status:** Consent Item

Version: 1 **Reference:** Item 16 **In Control:** City Council

Department: Utilities Department **Cost:** \$33,000.00 **File Created:** 02/08/2017

File Name: Amendment #1 to Water Modeling contract **Final Action:**

Title: AMENDMENT NO. ONE TO CONTRACT K-1516-85: BY AND BETWEEN THE NORMAN UTILITIES AUTHORITY AND ALAN PLUMMER ASSOCIATES, INC., INCREASING THE CONTRACT AMOUNT BY \$33,000 FOR A REVISED CONTRACT AMOUNT OF \$255,000 TO PROVIDE AN UPDATE TO THE WATER DISTRIBUTION SYSTEM MODEL IN ASSOCIATION WITH THE FYE15 WATER WELLS AND SUPPLY LINES PROJECT.

Notes: ACTION NEEDED: Motion to approve or reject Amendment No. One to Contract K-1516-85 with Alan Plummer Associates, Inc., increasing the contract by \$33,000 for a revised contract amount of \$255,000; if approved, authorize the execution thereof.

ACTION TAKEN: _____

Agenda Date: 02/28/2017

Agenda Number: 16

Attachments: K-1516-85 Water Model Amendment 1 Contract,
APAI Amendment 1 PO#273753

Project Manager: Mark Daniels, Utilities Engineer

Entered by: mark.daniels@normanok.gov

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
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Text of Legislative File K-1516-85 AMD#1

Body

BACKGROUND: On March 13, 2012, the Norman Utilities Authority (NUA) approved Contract K-1112-114 with Carollo Engineers, Inc. for preparation of the 2060 Strategic Water Supply Plan (the 2060 SWSP). The plan update was needed because the NUA was unable to supply sufficient potable water to meet peak demands from its own supply resources during summer months, and was concerned about probable regulatory changes reducing both our potable surface water and groundwater supplies.

The goal of the 2060 SWSP is to strengthen our knowledge of potential short and long-term water supply source(s) for our community and begin implementation of a robust, water supply solution acceptable to the citizens of Norman. The 2060 SWSP Ad-Hoc Committee was appointed to ensure open and two-way dialogue with the community, to ensure the suggestions of the public were addressed, and to be able to communicate the objectives and conclusions of the 2060 SWSP to the public.

Eight meetings were held with the 2060 SWSP Ad-hoc Committee and six public meetings were held for public participation and input. Fourteen different water supply “portfolios” were developed, investigated and evaluated at these meetings. Each portfolio was developed to provide an annual average supply of 29 million gallons per day (MGD) in 2060 and a peak daily supply of 55.4 MGD in 2060. Ultimately, Resolution R-1314-146 was approved by the NUA on June 24, 2014 recommending Portfolio 14 for implementation; this portfolio included the following recommendations:

1. Continued use of Lake Thunderbird as a raw water supply source with treatment at an improved water treatment facility at the existing site (but with the current allocation reduced from 8.4 to 6.1 MGD based on a pending Bureau of Reclamation yield study);
2. Expanded water conservation practices ultimately resulting in additional water supply of 1 MGD in 2060 through reduced water consumption;
3. Additional non-potable reuse ultimately resulting in additional potable water supply of 0.8 MGD in 2060 (and reduced peak summertime demand of about 4.6 MGD by 2060);
4. Continued use of our current groundwater supply system of 36 wells and expanding our groundwater supply system by 2 MGD in the short term for a total of 8 MGD;
5. The addition of treatment for arsenic and chromium 6 at a centralized facility increasing the groundwater capacity to 10.1 MGD by bringing 12 inactive wells back on-line; and
6. Implementation of indirect potable reuse (IPR) over time by adding additional treatment at the Water Reclamation Facility (WRF) and discharging the highly treated effluent into Lake Thunderbird; raw water conveyance and water treatment expansions would be required.

The Fiscal Year Ending 2016 (FYE16) budget included a capital improvement project known as the FYE15 Water Wells and Supply Lines (project WA0212). As noted in Item 4 above, this project was recommended as a part of the NUA-approved 2060 SWSP and funding for the project was approved by Norman voters in 2015 as an interim means to increase the City of Norman water supply. Staff distributed Request for Proposal (RFP) 1516-6 in August 2015 and proposals were received on September 14, 2015. The scope of RFP 1516-6 was generally to:

1. Study geologic conditions within the Garber Wellington aquifer, evaluate and propose the most cost effective well field development plan for Norman,
2. Recommend, permit and acquire sites and water rights for test wells and production wells,
3. Recommend test well drilling and testing procedures to maximize water quantity and enhance water quality,
4. Consider the implications of pending (and potentially new) EPA rules concerning drinking water quality and evaluate and recommend the optimum location of a future ground water treatment facility or facilities, including blending;
5. Provide design documents and construction assistance for the installation of test wells, production wells, well houses and transmission system improvements to convey potable water to customers.

In October 2015, the following consultants were selected to perform the tasks identified below:

1. Carollo Engineers, Inc. of Oklahoma City, Oklahoma: Study geologic conditions within the Garber Wellington aquifer; recommend a well field development plan considering the likely location of a future groundwater treatment facility while optimizing future water transmission and distribution lines; water right acquisition; test well and production well design with associated construction administration.
2. Cowan Group of Oklahoma City, Oklahoma: Water rights permitting through the OWRB.
3. Alan Plummer Associates, Inc. (APAI) of Oklahoma City, Oklahoma: update our city wide water distribution system model originally prepared in 2003 to include all waterlines; model calibration and recommendations for future improvements to enhance performance.
4. APAI, Garver and Cardinal were tentatively selected to perform work associated with water transmission improvements once water well locations have been finalized.

On February 9, 2016 the NUA approved Contract K-1516-85 in the amount of \$222,000 which authorized APAI to perform services to update the existing water distribution model. Generally, APAI will review and utilize previously prepared modeling efforts; update our existing Infoworks water distribution system model to reflect current loadings projected by the Norman 2025 Land Use and Transportation Plan (as amended); incorporate

recently constructed water distribution improvements, calibrate the model based on peak summer-time water demand, and recommend future water supply and water distribution improvements to correct deficiencies in the existing water distribution system. Carollo will utilize the model calibrated by APAI to optimize future water transmission and distribution lines as indicated in Task 1.

Discussion: The water distribution model update is a part of the FYE15 Water Wells and Supply Lines project (WA0212), is approximately 50% complete and is progressing satisfactorily. Amendment No. 1 to APAI Contract K-1516-85 will authorize additional funding of \$33,000 for further work toward development and calibration of the hydraulic water model, as identified in Tasks B-2 and B-3 of the contract. The work effort associated with these tasks increased and the duration and work was extended when multiple data issues and anomalies were identified and remedied by APAI. This amendment allows for a more accurate model calibration and will ensure a better forecast of future demands and resulting capital improvement needs in the distribution system. Amendment No. 1 will increase the contract amount by \$10,000 for the development of the hydraulic model and \$23,000 for the model calibration.

The FYE17 budget includes \$1,217,654 in FYE15 Water Wells and Supply Lines, Design (account 031-9345-462.62.01; project WA0212) which is adequate to fund the amendment.

RECOMMENDATION: Staff recommends approval of Amendment No. 1 to Contract K-1516-85 with Alan Plummer Associates, Inc., of Oklahoma City, Oklahoma, in the amount of \$33,000.