



City of Norman, OK

Municipal Building Council
Chambers
201 West Gray Street
Norman, OK 73069

Master

File Number: K-1314-98

File ID: K-1314-98

Type: Contract

Status: Consent Item

Version: 1

Reference: Item No. 28

In Control: City Council

Department: Utilities Department

Cost: \$218,900.00

File Created: 11/27/2013

File Name: Engineering for High Pressure Plane Water Tower

Final Action:

Title: CONTRACT NO. K-1314-98: A CONTRACT BY AND BETWEEN THE NORMAN UTILITIES AUTHORITY AND PROFESSIONAL ENGINEERING CONSULTANTS, P.A. IN THE AMOUNT OF \$218,900 TO PROVIDE ENGINEERING SERVICES RELATED TO THE DESIGN, BIDDING AND CONSTRUCTION OF A ONE MILLION GALLON ELEVATED WATER STORAGE TANK LOCATED IN NORTHEAST NORMAN AND BUDGET TRANSFER.

Notes: ACTION NEEDED: Acting as the Norman Utilities Authority, motion to approve or reject Contract No. K-1314-98 with Professional Engineering Consultants, P.A., in the amount of \$218,800; and, if approved, authorize the execution thereof and transfer \$18,900 from Project No. WA0293, Right of Way (031-9354-462.60-01) to Design (031-9354-462.62-01).

ACTION TAKEN: _____

Agenda Date: 01/14/2014

Agenda Number: 28

Attachments: PEC Contract K-1314-98, PEC Insurance Certificate, CityWaterStorageTanks.pdf, Proposed HPP Tank and Waterline.pdf, PEC Requisition

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-1314-98

Body

BACKGROUND: The addition of another elevated water storage tank has been envisioned by the Norman Water Utility for several years. The existing water distribution system has four elevated storage tanks with a capacity of 4.5 million gallons (MG), as follows and as illustrated in the attached map:

Cascade Tower, steel/concrete composite tank with capacity of 2 MG;
Brookhaven Tower, welded steel tank with capacity of 1.5 MG;
Boyd Tower, welded steel tank with capacity of 0.5 MG;
Robinson Tower, welded steel tank with capacity of 0.5 MG.

Additionally, 7.5 MG of underground water storage is provided at the Water Treatment Plant (WTP) in two

“clearwells” for a total storage capacity of 12 MG. Distribution pumping at the smaller 1.0 MG clearwell feeds the high pressure plane (HPP) in northeastern Norman while pumps from the larger 6.5 MG clearwell feed the four existing storage tanks and the remainder of the Norman distribution system.

Two other storage tanks exist in the system but are not usable due to their elevation: the Lindsey Tower, a welded steel tank with capacity of 0.5 MG; and the Hall Park Standpipe, with a capacity of 0.3 MG.

Computer modeling of the water distribution system indicates the greatest need for elevated storage is in the High Pressure Plane (HPP) in northeastern Norman. There is no elevated storage currently in the HPP; water pressure is provided via four constant speed pumps at the 1 MG clearwell. In the event of a power failure or a water line break, water pressure in the HPP is reduced relatively quickly. The construction of the elevated storage tank will provide storage to meet fire demands and maintain reliable pressures in the HPP even if additional water from the clearwell is not available. Another means to maintain a more consistent water pressure and reduce pumping costs is to install variable frequency drives (VFDs) on the pumps. The elevated storage tank will eliminate the need for installing VFDs on the 1 MG clearwell pumps in the future.

Several tank locations in the HPP were considered. The storage tank is proposed to be located on existing City of Norman property north of Robinson and east of 24th Avenue NE as shown on the attached map. The project will also include piping to the tank from the existing 24-inch waterline along the north side of Robinson as well as improving the existing gravel roadway to the proposed facility. As another benefit, a tank at this location will allow its use as a second feed for backwashing filters at the WTP.

DISCUSSION: Professional Engineering Consultants, P.A. (PEC), with offices in Oklahoma City and Tulsa, will provide design, bidding and construction administration services associated with construction of the storage tank. The proposed work scope and cost are detailed in Attachments B and C to the contract. The proposed contract amount of \$218,900 was negotiated by staff and is approximately 7% of the estimated construction cost of the elevated storage tank project.

The work scope calls for bidding two types of elevated storage tanks to obtain the most cost effective tank design. Bids will be received for both a 1 MG composite elevated storage tank, similar to the Cascade Tank, and a 1 MG spheroid elevated storage tank. It is expected that the design phase will be complete in about six months, in summer 2014.

The Fiscal Year Ending 2014 Water Fund budget includes \$100,000 in Land/Right-of-Way, \$200,000 in Design, and \$2,500,000 in Construction for a total of \$2,800,000 for this project. To fully fund the proposed contract, staff recommends transfer of \$18,900 from Land/Right-of-Way (account 031-9354-462.60-01) into Design (account 031-9354-462.62-01; project WA0293).

RECOMMENDATION: Staff recommends the NUA approve Contract No. K-1314-98 with Professional Engineering Consultants, P.A. totaling \$218,900. Staff also recommends transferring funds in the amount of \$18,900 from Land/Right-of-Way (account 031-9354-462.60-01) into Design (account 031-9354-462.62-01).