City of Norman, OK

Municipal Building
Council Chambers
201 West Gray
Norman, OK 73069

Master

File Number: K-1920-52

File ID:	K-1920-52	**Type:**	Contract	**Status:**	Consent Item
Version:	1	**Reference:**	Item 19	**In Control:**	City Council
Department:	Public Works Department	**Cost:**	$33,340.00	**File Created:**	09/24/2019
File Name:	Contract with Small Arrow Engineering			**Final Action:**	

Title: CONTRACT K-1920-52: A CONTRACT BY AND BETWEEN THE CITY OF NORMAN, OKLAHOMA, AND SMALL ARROW ENGINEERING, L.L.C., IN THE AMOUNT OF $33,430 TO PROVIDE PROFESSIONAL ENGINEERING AND DESIGN SERVICES TO UPGRADE AND EXPAND THE COMPRESSED NATURAL GAS (CNG) FACILITY TO ACCOMMODATE TRANSIT FAST-FILL AND SLOW-FILL REQUIREMENTS FOR THE CITY OF NORMAN AND BUDGET TRANSFER BETWEEN PROJECT ACCOUNTS.

Notes: ACTION NEEDED: Motion to approve or reject Contract K-1920-52 with Small Arrow Engineering, L.L.C., in the amount of $33,430; and, if approved, authorize the execution thereof and transfer $15,115 from Project BG0079, Eight Dual Slow Fill Pumps, Construction (027-9075-435.61-01)to Project BG0079, Eight Duel Slow Fill Pumps, Design and $18,315 from Project BG0080, CNG Gas Drive Replacement and Storage, Construction (027-9075-435.61-01) to Project BG0080, CNG Gas Drive Replacement and Storage, Design (027-9075-435.62-01).

ACTION TAKEN:_____

Agenda Date: 10/08/2019

Agenda Number: 19

Attachments: K-1920-52, Attachment B - Revised Project Schedule, CNG Station Daytime, CNG Site Plan

Project Manager: Mike White, Fleet Supt

Entered by: sharon.hamilton@normanok.gov

Effective Date:

History of Legislative File

Version:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:

Text of Legislative File K-1920-52

Body

BACKGROUND: On August 28, 2018, University officials advised City staff of their desire to transfer non-campus bus services in Norman to another operator by the end of the 2019 fiscal year. On July 30, 2019, Council approved contract K-1920-30 with EMBARK to provide transportation services for the City of Norman from August 3, 2019 through June 30, 2020. On July 30, 2019, Council approved a facility lease agreement with the University of Oklahoma for a portion of the current OU Transportation Center to operate the fixed routes, paratransit routes and fleet maintenance operation of the Norman public transportation system until December 30, 2019. On August 27, 2019, Council approved contract K-1617-114 by and between the Norman Municipal Authority and PDG, LLC, to provide design services for the City Parks/Transit/Public Safety Maintenance Facility. The timeline for the facility design is fast tracked in order to meet the expectations of each stakeholder group. The Bus Transit Facility will receive high priority due to the urgent need for the City to move out of the OU Fleet Facility; however, the Park Maintenance Facility and the Emergency Vehicle Maintenance Facility are equally important, and timelines are critical.

DISCUSSION: On August 5, 2019, the Public Works Fleet Division started performing night shift fueling, minor maintenance and cleaning service of 13 City of Norman transit vehicles. On October 1, 2019, the Public Works Fleet Division will provide the same services for 15 additional transit vehicles with a total inventory of 28 units. Fourteen of the transit vehicles are dedicated compressed natural gas (CNG) vehicles and are expected to consume 5,500 gallons of CNG each month. The City of Norman's CNG Fueling Facility already has monthly usage of approximately 33,000 gallons that is consumed by the public and internally by the City. In order to handle the growing load on this facility, it is mission critical to expand on-hand CNG storage and replace the underperforming, unreliable natural gas engine on the natural gas compressor package. The CNG Fueling Facility has two (2) electric drive 125 horsepower (hp) compressors each and one (1) 72 horsepower (hp) natural gas engine powered compressor. The natural gas engine powered compressor is relied upon during power outages and overnight slow-fill for vehicles located at the North Base Facility (approximate 35 units). The current on-hand CNG storage is 900 gallons at a maximum pressure of 4200 pounds per square inch (PSI). As PDG, LLC works to develop a master plan for maintenance facilities, it is equally important to expand and upgrade our CNG Fueling Facility to handle the increased load needed with the additional transit vehicles and guarantee the reliability of fuel to our public and private customers. It is recommended to add another 400 gallons of CNG storage capacity and have a new 145 horsepower (hp) natural gas drive engine that produces comparable output to the present electric drive compressors.

With this background in mind, Public Works staff has consulted with the original CNG Fueling Facility design and engineering firm, Small Arrow Engineering, LLC, of Joplin, MO. Small Arrow (SAE) has provided Alternative Fuels consulting services to the City of Norman, including grant writing/administration services, CNG Fueling Facility improvements and performance enhancements, for over nine years. Small Arrow has provided the following scope of work to include design of upgrades to the present CNG station to increase CNG storage capacity (an additional 52,500 cubic feet (CF) at 4200psi). This additional capacity will complete full station

buildout, which has site space previously allotted for these additional American Society of Mechanical Engineers (ASME) rated vessels.

Furthermore, the SAE design will allow for installation of a new natural gas powered engine to increase the capacity and output of the present Arrow Engine based compressor package. This upgrade will then allow for full use of the natural gas drive compressor package during OG&E "SmartHours" and reduce electric charges to the City during the 2pm to 7pm timeframe for 5 months out of the year. In addition, the upgraded natural gas drive compressor will have the capacity to serve and fuel the entire City's CNG fleet (including the new Transit vehicles) that may require CNG during electrical outages. Finally, the station controls and slow-fill CNG system will be designed for expansion to serve the Transit vehicles based at the new City Parks/Transit/Public Safety Maintenance complex along the south side of Da Vinci Street. It is planned to install ten (10) additional dual hose time fill dispensers to allow for 20 CNG based transit vehicles to refuel. Fast-fill only allows a tank to be at no more than approximately 75% full. Allowing the tanks to fill overnight provides up to 90% fill on the tank; this ensures the mileage range is more each day, allowing the transit vehicles to fill at night during off-peak hours when electricity rates are lower. Using the slow-fill dispensers at night will also keep the technicians from having to fill the buses, which can be as much as fifteen minutes per bus saved each day, translating into at least approximately (3) hours of labor that will no longer be spent waiting for the fast-fill to be completed at the Fast Fill Public Access CNG Station.

If approved, the CNG facility design will be completed by November 15, 2019. This design will be incorporated into the current design of the buildings. It is estimated that the cost of the CNG construction will be $475,000 for station upgrades and extension of time fill dispensers to the new Transit Maintenance Facility.

Recommendation No 1: It is recommended that City Council approve and the Mayor be authorized to sign Contract K-1920-52, with Small Arrow Engineering, LLC in the amount of $33,430 for the engineering and design services to upgrade and expand the CNG Fueling Facility to accommodate transit fast-fill and slow-fill needs.

Recommendation No 2*:* Staff further recommends approval of a transfer of $15,115 from Transit Slow-Fill Parts, Construction (account 027-9075-431.61-01; project BG0079) to Transit Slow-Fill, Design (account 027-9075-431.62-01; project BG0079); and transfer $18,315 from Transit Fast-Fill Parts (account 027-9075-431.61-01; project BG0080) into Transit Fast-Fill, Design (account 027-9075-431.62-01; project BG0080).