CITY OF NORMAN, OK

STAFF REPORT

MEETING DATE: 05/10/2022

REQUESTER: Katherine Coffin

PRESENTER: David Riesland, Transportation Engineer

ITEM TITLE: CONSIDERATION OF APPROVAL, ACCEPTANCE, REJECTION, AMENDMENT AND/OR POSTPONEMENT OF AMENDMENT NO. ONE TO CONTRACT K-1920-49: BY AND BETWEEN THE CITY OF NORMAN, OKLAHOMA AND STANTEC CONSULTING SERVICES, INC., INCREASING THE CONTRACT AMOUNT BY $302,134.25 FOR A REVISED CONTRACT AMOUNT OF $576,156.56 TO PROVIDE ENGINEERING DESIGN SERVICES FOR THE TRAFFIC MANAGEMENT CENTER AND BUDGET TRANSFER AS OUTLINED IN THE STAFF REPORT

BACKGROUND:

A Traffic Management Center or TMC is a component of a transportation management system that improves traffic flow and incidence response. Many cities throughout the country, including Oklahoma City, Tulsa and Edmond in the state of Oklahoma, have TMCs designed to better manage the flow of traffic on their streets.

A TMC collects information about the transportation network, combine it with other operational, and control data to manage the transportation network and to provide traveler information. TMCs communicate transportation-related information to the media and to the motoring public. TMCs are places where multiple agencies can coordinate their responses to changing transportation situations and conditions. The TMC uses closed circuit video equipment and roadside count stations to enable decision-makers to identify and react to an incident in a timely manner based on real-time data.

For the last two decades, the City of Norman has been working on the development of an Advanced Traffic Management System (ATMS) and communication network of underground fiber optic cable. There are currently ten closed-loop traffic signal coordinated systems and approximately 60 miles of fiber optic cable in the ground in Norman, connecting 127 of the City's 156 traffic signals. The remaining 29 signals are stand-alone signals and are not currently part of a coordination system.

The City utilizes video detection systems as its primary means of detection; however, a few intersections do feature in-pavement loop detectors. Where fiber optic cable is available at a given intersection with video detection, the feeds from these cameras are linked to the offices of

the Transportation Engineer in the Municipal Complex and the Traffic Control Division Building located in North Base, using the ATMS software. All of the City's school zone flashers utilize cellular modems to provide communications to and from the office through a wireless communication system. The City also maintains a number of driver feedback speed limit signs with and without school zone flashing beacons. The City of Norman has already laid the foundation for the establishment of a TMC with its robust fiber optic communication network, state-of-the-art traffic signal controllers, and modern vehicle video detection systems.

On April 2, 2019, Norman citizens approved a $72 million proposition to fund 19 transportation projects, including $366,000 dollars earmarked for the design of a TMC that will ultimately be constructed using federal transportation funds. On November 12, 2019, the Norman City Council approved Contract K-1920-49 with Stantec Consulting Services, Inc., to prepare the Systems Engineering Analysis needed to qualify for federal funding of the TMC.

The Federal Fiscal Year 2021-2022 Transportation Improvement Plan includes a $3,000,000 grant for the City's first TMC. It is anticipated that there will be a local match of 10 percent (10%) of the grant funds ($300,000) for the installation and construction phases of the project. The project achieved a perfect score of 100 in the Association of Central Oklahoma Governments (ACOG) competitive ranking process. Funds for the construction of the TMC must be obligated by the Oklahoma Department of Transportation (ODOT) by October 2022.

DISCUSSION:

The original Contract K-1920-49 included the Systems Engineering Analysis along with an element of design. This design at the time was intended for design of the TMC that was to be co-located within the new Emergency Communications and Operations Center (ECOC) that was believed at the time to be constructed shortly following the issuance of K-1920-49 (early 2020). Funding, engineering design, and project scope issues have further delayed construction of the ECOC, such that it cannot be completed in time to house the Traffic Management Center on the TMC funding schedule.

Staff has explored other potential locations for the TMC; three different potential locations were explored. As schedules for the various locations were sorted through, it became clear to Staff that the best solution was two-fold: to house the TMC in the southwest corner of "Building C" in the Municipal Complex (the future Information Technology/Human Resources Building); and to develop a smaller ECOC site as a future back-up location that will be used for traffic management in emergency events. A conceptual drawing of the Building C TMC is attached.

In Contract K-1920-49, Phase 1 included two parts. Part 1 was the Systems Engineering Analysis required by the federal regulations; and Part 2 was the staffing evaluation for the City's TMC and the Traffic Control Division. Both of these parts have been completed.

Phase 2 of Contract K-1920-49 was to consist of the final design for the TMC. Due to all of the moving parts with the physical location of the TMC, the funding identified for design in 2019 is not sufficient at the current time. There is now building re-design associated with the Building C remodel. A revised scope of services for Phase 2 is attached. Future phases of the project will include deployment of Closed Circuit Television Cameras to selected signalized intersections

along with the deployment of Arterial Dynamic Message Signs along key corridors in Norman, and staffing of the TMC.

A traditional TMC design has generally included a large video wall. In order to install a large video wall usually means that minimum ceiling heights must be available. The necessary height was not available in the Building C location. As such, the Stantec team began working on a propriety iTOC. Each modular iTOC accommodates two operator seats, designed with three large 55" 4K video curved monitors, not to exceed 12 feet in total length, constituting the upper monitoring area. The lower monitoring area of the iTOC shall contain four (4) dual 49" curved monitors as shown in the attached iTOC rendering. Current plans are to include two iTOC units in the Building C TMC and one iTOC unit in the ECOC TMC.

Even with the changes to the TMC in terms of locations, Phase 2 remains as the final design for implementation of the TMC. This phase will use the findings of the systems engineering analysis in Phase 1 to develop a scalable, cost effective and sustainable TMC compatible with the State and Regional ITS architectures.

Staff negotiated a $302,134.25 contract fee with Stantec Consulting Services, Inc., for the Phase 2 design services for the TMC (a copy of the design fee and the original K-1920-49 contract is attached). Funding for the work was allocated in the City's FYE 2020 Capital Budget, Traffic Management Center Study – Design (Account 50594019-46201; Project BP0422). The amount in this account is currently $25,977.69. This leaves a balance of $276,156.56 to be identified.

Another account, Railroad Quiet Zone – Construction (50591169-46101; Project TR0066) has a balance of $639,386.31 available. Planned expenditures for that project, except for fencing along James Garner Boulevard, have been addressed. Transferring $276,156.56 from the Railroad Quiet Zone – Construction account to the Traffic Management Center Study – Design account will leave a balance of $363,229.75 for future Railroad Quiet Zone projects. Fencing along James Garner Boulevard has been estimated at approximately $200,000.

The construction of the new TMC space in Building C is anticipated to be bid by the Oklahoma Department of Transportation in October 2022. Construction will likely begin in January 2023 with completion expected in December 2023. The TMC is anticipated to be operational in the spring of 2024. The TMC construction in Building C will be carefully coordinated with other planned improvements in that building.

Construction of the TMC and the associated technology, furniture, and fixtures will be paid for, primarily, with the federal transportation grant at an estimated cost of $3,000,000. 2019 transportation bond funding is available at $300,000, for the anticipated local cost share of the project.

RECOMMENDATION NO. 1:

Staff recommends approval of Amendment No. 1 to Contract K-1920-49 with Stantec Consulting Services, Inc. in the amount of $302,134.25, for the engineering services associated with the design of a new Traffic Management Center.

RECOMMENDATION NO. 2:

Staff recommends the transfer of $276,156.56 from Railroad Quiet Zone, Construction (Org 50591169, Object 46101; Project TR0066) to Traffic Management Center, Design (Org 50594019, Object 46201; Project BP0422).