City of Pflugerville

Legislation Details (With Text)

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Title:	Approving an agreement with Kimley-Horn and Associates, Inc. in the amount of $99,987.00 for professional engineering services associated with Phase 1 of the Signal System Improvements Plan Implementation and authorize the City Manager to execute the same.				
Sponsors:					
Indexes:					
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Attachments:	1. Professional Services Agreement, 2. Presentation Slides				

Date	Ver.	Action By	Action	Result
8/25/2020	1	City Council	Approved	Pass

Approving an agreement with Kimley-Horn and Associates, Inc. in the amount of $99,987.00 for professional engineering services associated with Phase 1 of the Signal System Improvements Plan Implementation and authorize the City Manager to execute the same.

At the June 23rd City Council meeting, staff presented a report for the Pflugerville Traffic Signal System Assessment and Improvements Plan (Plan) which includes improvements to the City's traffic signal system including the Texas Department of Transportation (TxDOT) Signals that the City will assume responsibility for in 2021 and the City's existing signals. The professional services agreement for Signal System Improvements Plan Implementation Phase 1 provides for the design and development of plans for of an Advanced Traffic Management System (ATMS), a communication system to support the ATMS, and various Intelligent Transportation System (ITS) field equipment, which were identified as phase 1 improvements in the Plan. This project will consist of preparing plans for selection and deployment of an ATMS to control all on-system and off-system traffic signals, installation of a broadband wireless communications system, and development of conceptual schematic for a future Traffic
Management Center (TMC).

Based on the feedback received at the June 23rd meeting from City Council, Staff did coordinate with other agencies, and did look into various options and vendors for managed service solutions and operation and maintenance of our traffic signal system. In considering a design- build approach to implement the Plan, it was determined that the approach is not a viable option for the City given Texas Local Government Code Sec. 2269.352 which states that design build is not an authorized procurement method for civil projects, as defined by the Code, for Cities under 100,000 in population. Managed services solutions will be evaluated as part of this scope and coordination with various vendors will be completed with the project.

The City of Pflugerville currently operates and maintains 19 traffic signals with four (4) additional locations identified for new signals (under various design stages). After takeover of the TxDOT traffic

signals, the City will maintain thirty-three (33) signal within the city limits and two (2) signals on FM 1825 (Pecan St) at Central Commerce Dr. and Vision Dr that are located outside city limits for a total of thirty-five (35) signals.

In addition to previewing needed upgrades, Kimley-Horn investigated how the City could prepare and transition to an ATMS by providing an Intelligent Transportation System (ITS) for Smart Mobility. An ATMS requires certain technology and functions within traffic signals and several upgrades have been identified at specific locations as project improvements necessary in preparation for ITS or any other technology. Kimley-Horn prepared a preliminary list of prioritization projects in the Traffic Signal System Assessment and Improvements Plan report.

The Plan identifies three (3) Phases in order to complete a list of Capital Improvement Projects and shows a listing of all projects within three phases, as well as includes high-level cost estimates and phasing order when each project must be completed. With this item, staff is requesting approval for the Design of the list of Phase 1 Priority 1 projects. Ultimately, Phase 1 projects have been categorized to provide traffic signal upgrades for communication to all signals in the City and deploy a Central Control System to enable remote access to all signals. Priority 1 projects has been categorized for repairs and upgrades to being the traffic signals up to meet standards.

City Council approved the selection of Kimley-Horn and Associates, Inc. at the August 28, 2018 City Council meeting for professional engineering services associated with the 2018-2020 Traffic Improvements Projects and authorized the City Manager to enter into negotiations regarding a scope of work and fee proposal**.** Funding for this project was accounted for in the FY 2020 budget in anticipation of the completion of the completion of the Plan as well after coordination with TxDOT to determine which traffic signal upgrades they would complete on the existing TxDOT traffic signals that would become City ownership for operation and maintenance.

Background
In a June 23rd presentation and discussion, staff presented the results of the City's Traffic Signal System Assessment and Improvements Plan and Texas Department of Transportation (TxDOT) Signal System Field Assessment Report developed by Kimley-Horn and Associates (K-H). In accordance with Texas Administrative Code: Title 43, Section 25.5, after the City of Pflugerville population exceeds 50,000 in the next federal census, installation, operation, and maintenance of signals on state highway systems are the responsibility of the City. The City currently has two state-maintained Farm-to-Market highways (FM 1825 and FM 685) and will take over maintenance and operations (M&O) responsibilities for the traffic signals on these corridors after the 2020 census is published.

The City's initial efforts began in September 2018 with the intent of the project scope to complete a Traffic Signal Inventory and Assessment prior to the City's takeover of operations and maintenance of 16 Texas Department of Transportation (TxDOT) signals. The inventory evaluation was to determine the functionality of each traffic signal, assess the capabilities of the existing traffic signal system and provide a transition period between TxDOT and the City for full operations and maintenance.

K-H conducted a field inventory and assessment of the signals and inside the signal cabinets at all intersections to make a list of items that needed repair and upgrade to stay compliant with current standards. Quarterly meetings were conducted with TxDOT discuss project findings and repairs and improvements to be made by TxDOT before transitioning signals over to the City. The main improvements by TxDOT include:

- Upgrade span-wire signal to a mast-arm at Pecan St / Swenson Farms Blvd.
- Repair all malfunctioning pedestrian push-buttons and ped-heads.
- Replace all 5-section signal displays for left-turns with 4-section displays with flashing yellow arrow (FYA) to stay compliant with TxMUTCD.
- Provide appropriate Malfunction Management Unit (MMU) compliant with FYA operations.
- Replace all high-pressure sodium lights (on top of poles) with LED lights.
- Provide battery back-up units at select signals
- Replace obsolete video monitors inside signal cabinets
- Develop and implement signal timing plans along FM 1825 and FM 685

The projected schedule for City to take over operations and maintenance of TxDOT signals is anticipated to be March 2021.

K-H also conducted a detailed inventory and assessment of signals currently operated & maintained by the City. A similar list of repairs and improvements was developed for the City signals. These were categorized as Repairs, Upgrades for Compliance with current standards, and System Improvements. As part of this project, K-H also developed a framework for Signal System Improvements as the traffic and number of signals increase. K-H discussed various traffic signal components (such as signal controllers, vehicle detection, signal communication, battery back-up) with Staff to adopt and standardize technology for all signals in the City. The project report identifies all the improvements required to migrate the City to an Advanced Transportation Management System (ATMS) and lists planning level cost estimates for proposed improvements.

Prior City Council Action
City Council approved the selection of Kimley-Horn and Associates, Inc. at the August 28, 2018 City Council meeting for professional engineering services associated with the 2018-2020 Traffic Improvements Projects and authorized the City Manager to enter into negotiations regarding a scope of work and fee proposal**.**

A professional services agreement with Kimley-Horn and Associates, Inc. in the amount of $99,924 for professional engineering services associated with coordination and preparation for the City to assume responsibility for traffic signals currently managed by TxDOT on state-maintained roadways was approved by City Council at the September 11, 2018.

Deadline for City Council Action
Action is requested on August 25, 2020.

Funding Expected: Revenue __ Expenditure _X_ N/A __
Budgeted Item: Yes _X_ No __ N/A __
Amount: _$99,987.00___
1295 Form Required? Yes _X_ No __
Legal Review Required: N/A __ Required _X_ Date Completed: _07/02/2020__

Supporting documents attached:
Professional Services Agreement

Recommended Action
Approve an agreement with Kimley-Horn and Associates, Inc. in the amount of $99,987.00 for

professional engineering services associated with Phase 1 of the Signal System Improvements Plan Implementation and authorize the City Manager to execute the same.