



ENGINEERING SERVICES

To: Mayor and Town Council

From: Hulon T. Webb, Jr., P.E., Director of Engineering Services

Through: Mario Canizares, Town Manager
Chuck Ewings, Assistant Town Manager

Re: Professional Engineering Services Agreement – Stantec Consulting
Traffic Signals: First Street at Artesia and Teel Parkway at Prairie Drive

Town Council Meeting – November 14, 2023

Strategic Visioning Priority: 1. Acceleration of Infrastructure

Agenda Item:

Consider and act upon authorizing the Town Manager to execute a Professional Engineering Services Agreement between Stantec Consulting Services, Inc., and the Town of Prosper, Texas, related to the design of traffic signals on First Street at Artesia Boulevard and on Teel Parkway at Prairie Drive.

Description of Agenda Item:

Richland High School is currently under construction at the southeast corner of Teel Parkway and First Street with a planned opening of Fall 2025. Along with the development of the high school site, the Prosper Independent School District (PISD) will be extending two-lanes of Prairie Drive from the current eastern terminus of Prairie Drive to Teel Parkway, and the Town will be constructing the northbound two lanes of Teel Parkway from just north of US 380 to First Street. The construction of the northbound two lanes of Teel Parkway will complete four lanes of Teel Parkway from US 380 to First Street and intersection at Prairie Drive.

With the increased traffic from the high school, Stantec re-evaluated their 2019 Signal Warrant Studies along Fishtrap Road and concluded that the traffic signal on First Street at Artesia Boulevard is now warranted and recommended. As for the traffic signal on Teel Parkway at Prairie Drive, the traffic impact analysis (TIA) provided by PISD showed that while the traffic signal is not warranted for the traffic anticipated when the high school first opens, the projected future growth in population and traffic could meet the warrants for a traffic signal as early as 2027. Instead of delaying the design and construction of a traffic signal on Teel Parkway at Prairie Drive until the traffic warrants a traffic signal, due to the emergency exit of Fire Station #2 connecting to a newly expanded intersection, emergency signals will be installed in the interim. Once a revised traffic signal warrant study recommends a traffic signal, the emergency signals will be removed, and the standard traffic signal heads installed to provide a fully operational traffic signal.

The services associated with this agreement are for the design of two (2) traffic signals, one on First Street at Artesia Boulevard and the other on Teel Parkway at Prairie Drive. The traffic signal design improvements include mast arm pole assemblies and foundations, vehicle detection, pull boxes, underground conduits and cables, mast arm-mounted signs, and pedestrian signals designed for APS (Audible Pedestrian Signals) readiness. As stated earlier, the traffic signal design on Teel Parkway at Prairie Drive will include the installation of temporary emergency signals until such time as a traffic signal warrant study recommends they be replaced with standard traffic signal heads to provide a fully operational traffic signal. Design work will be performed for public bids using Town of Prosper standard construction contracts and specification format.

At the October 24, 2023, Town Council meeting, the Town Council approved a list of qualified engineering firms, which included traffic engineering services. Stantec Consulting Services, Inc., is included on the approved list and was also on the prior list approved at the April 9, 2019, Town Council meeting. They have successfully completed traffic signal warrant studies and design of multiple traffic signal projects for the Town.

Budget Impact:

The cost for the design is \$60,250 for the traffic signal at the intersection on First Street at Artesia Boulevard and \$40,750 for the design on Teel Parkway at Prairie Drive, for a total of \$101,000. The project budget for design, in the amount of \$65,000 is budgeted in Account No. 750-5410-10-00-2101-TR and \$65,000 is budgeted in Account No. 750-5410-10-00-2318-TR for a total budget of \$130,000. Therefore, \$60,250 will be funded from Account No. 750-5410-10-00-2102-TR, and PISD has agreed to pay for one-half of the design and future construction of the signal on First Street at Artesia Boulevard. Staff is also working with Denton County Fresh Water District No. 10 (DCFWS#10) on an agreement for cost participation on the design and future construction of the signal on First Street at Artesia Boulevard.

Legal Obligations and Review:

Terrence Welch of Brown & Hofmeister, L.L.P., has approved the attached documents as to form and legality.

Attached Documents:

1. Professional Engineering Services Agreement
2. Location Maps

Town Staff Recommendation:

Town staff recommends that the Town Council authorize the Town Manager to execute a Professional Engineering Services Agreement between Stantec Consulting Services, Inc., and the Town of Prosper, Texas, related to the design of traffic signals on First Street at Artesia Boulevard and on Teel Parkway at Prairie Drive.

Proposed Motion:

I move to authorize the Town Manager to execute a Professional Engineering Services Agreement between Stantec Consulting Services, Inc., and the Town of Prosper, Texas, related to the design of traffic signals on First Street at Artesia Boulevard and on Teel Parkway at Prairie Drive.