City of Norman, OK

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

Master

File Number: K-1213-207

File ID:	K-1213-207	**Type:**	Contract	**Status:**	Consent Item
Version:	1	**Reference:**	Item No. 24	**In Control:**	City Council
Department:	Public Works Department	**Cost:**		**File Created:**	06/07/2013
File Name:	Contract with Garver Engineering for Robinson Street Traffic Signal Interconnect System			**Final Action:**	

Title: CONTRACT NO. K-1213-207: A CONTRACT BY AND BETWEEN THE CITY OF NORMAN AND GARVER ENGINEERING L.L.C., IN THE AMOUNT OF $32,000 TO PROVIDE ENGINEERING SERVICES FOR THE DEVELOPMENT OF TRAFFIC SIGNAL TIMING PLANS FOR THE ROBINSON STREET TRAFFIC SIGNAL INTERCONNECT SYSTEM.

Notes:

Agenda Date: 06/25/2013

Agenda Number: 24

Attachments: K-1213-207 Contract Documents - Robinson Street Signal Timing, Location Map, Requisition

Project Manager: Angelo Lombardo, Transportation Engineer

Entered by: michelle.rudder@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-1213-207

Body

BACKGROUND: The City of Norman currently operates twelve traffic signal interconnect systems along its busier arterial roadways. These systems promote the continuous movement of traffic along major arterials, minimize overall delay and reduce traffic collision rates (~30% reduction nationally).

While some traffic signals fall into multiple corridors, the twelve interconnect systems in Norman include traffic signals along the following corridors:

- State Highway 9 (Ten Signals)
- Lindsey Street (SH 74A) (Eighteen Signals)
- Boyd Street (Eight Signals)
- Main Street (Sixteen Signals)
- Gray Street (Six Signals)
- Alameda Street (Six Signals)
- Robinson Street (Fourteen Signals)
- Tecumseh Road (Six Signals)
- Classen Boulevard/12th Avenue East (US 77/SH 77H) (Thirteen Signals)

- Classen Boulevard/Porter Avenue (Eight Signals)
- 24th Avenue West (Eight Signals)
- 36th Avenue West (Five Signals)

The objective of a coordinated signal system is to provide continuous movement of vehicles and/or to minimize delay along an arterial or along a network of major streets.

DESCRIPTION: One of the most important elements of an efficient traffic signal coordinated system is the traffic signal timing plan. The goal is to have a timing plan that is based on the prevailing traffic conditions.

Several factors are considered in the formulation of the timing plan. They include the degree to which traffic characteristics change in amount or directional distributions throughout the day, the quality of progressed movement that can be provided by the various timing plans, the timing plan transition method used and the cycle lengths involved. Most systems in Norman have up to five time-of-day plans which can typically include a.m. peak, a.m. off-peak, noon peak, p.m. off-peak, and p.m. peak.

The development of a timing plan requires the following activities:

- Collection of traffic turning movement counts - typically 6 hours (from 7:00 to 9:00 a.m., 11:00 a.m. to 1:00 p.m. and 4:00 to 6:00 p.m.),
- Vehicle classification study,
- Calculation of operating speeds in the field,
- Development inventory of traffic signals (phasing and sequence) and intersections geometry (number of lanes, width of lanes, length of turn lanes),
- Measurement of distance between signalized intersections,
- Identification of critical intersection and establishment of a common cycle for the system,
- Analyses of individual intersections to establish optimum splits that minimize overall delay,
- Establishment of offsets to maximize progression,
- Implementation of timing plan in the field, and
- Monitoring of system operation and field adjustments to the timing plan if necessary.

Through a competitive Request for Proposal (RFP) process, the Public Works Department and the RFP Selection Committee (comprised of City staff Angelo Lombardo-Transportation Engineer, David Riesland-Traffic Engineer, and Brian McNabb-Traffic Signal Supervisor, and Norman citizens Stephen Corfidi and Evan Trevathan) selected Garver Engineering, LLC, with an office in Norman, Oklahoma, to provide the engineering services necessary to develop timing plans for the Robinson Street system between Brookhaven Boulevard and 12th Avenue NE. In addition to Garver, submittal packages were received from EST (office in Norman, Oklahoma), Lee Engineering (office in Oklahoma City, Oklahoma), SAIC (office in Oklahoma City, Oklahoma) and TEC (office in Oklahoma City, Oklahoma). This corridor has not been re-timed in a number of years because of large construction projects such as the Robinson Street Underpass, the Robinson Street intersection with 12th Avenue NE, and the reconstruction of the northeast quadrant of the Robinson Street interchange with Interstate Highway 35. As such, this corridor is in need of updated coordination timing plans.

Public Works staff has negotiated a contract with Garver Engineering, LLC, to provide the previously mentioned design services. The $32,000 fee will be funded by using funds in the Traffic Control Division operation and maintenance budget specifically reserved for this activity (Account No. 010-5023-429.40-02 Consultant Design). All of the funds are available in the FYE 2013 budget.

If approved, Garver Engineering, LLC will complete this project in 3 months. City staff will then implement the recommended signal timing plans immediately using existing staff and equipment.

RECOMMENDATION: Staff recommends approval of Contract No. K-1213-207 with Garver Engineering, LLC, in the amount of $32,000, for the development of updated timing plans for the Robinson Street signal system.