



Legislation Text

File #: 21-0103, **Version:** 1

TO:

Honorable Mayor and Members of the City Council

THROUGH:

Bruce Moe, City Manager

FROM:

Carrie Tai, AICP, Acting Public Works Director

Prem Kumar, City Engineer

Helen Shi, Senior Civil Engineer

SUBJECT:

Consideration of a Resolution Awarding a Professional Services Agreement to DKS Associates for Engineering Design Services for the Manhattan Beach Advanced Traffic Signal (MBATS) System Project for a Not-to-Exceed Amount \$1,283,417 and Authorizing the City Manager to Execute the Agreement (Acting Public Works Director Tai).

ADOPT RESOLUTION NO. 21-0029

RECOMMENDATION:

Staff recommends that City Council adopt Resolution No. 21-0029:

1. Awarding a Professional Services Agreement to DKS Associates for Engineering Design Services for the Manhattan Beach Advanced Traffic Signal System Project (Project) in the total not-to-exceed amount \$1,283,417.
2. Authorizing the City Manager to execute the Professional Services Agreement.

FISCAL IMPLICATIONS:

Through a competitive grant in the Multi-Year Sub-Regional Improvements Program (MSP), the City was awarded Measure M funding in the amount of \$5.44 million through Los Angeles County Metropolitan Transportation Authority (LACMTA). This project was approved as part of the City's Capital Improvement Plan (CIP) with \$3.64M in Fiscal Year (FY) 2020-2021 and \$1.8 million in FY 2021-2022. This Measure M funding will be paid by LACMTA to the City on a reimbursement basis. There are no required City matching funds for the project.

The approved \$5.44 million project funding is anticipated to cover the cost of engineering design, environmental clearance and the first phase of construction costs. The project's Budget and Expenditures Report is provided as an attachment.

In addition, on December 17, 2020, City staff applied to LACMTA as part of the South Bay Highway Program for additional Measure M funding in the amount of \$7.31 million to cover the cost of the

remaining project construction. The disposition of this grant is looking favorable as it makes its way through the various LACMTA committees for the eventual review and possible approval of the Board sometime in Summer 2021.

BACKGROUND:

Currently, the traffic signals along the City's main corridors are activated using one or more standard traditional technologies, including loop detection, video detection and pre-set signal timing. These intersections carry a significant amount of outbound, inbound and through traffic during peak commute periods of the day. The traffic signals' controls are limited by current technologies and the advanced traffic signal synchronization is not implemented. Traffic signal synchronization is a traffic engineering technique of matching the green light times for a series of intersections to enable the maximum number of vehicles to pass through, thereby reducing stops and delays experienced by motorists. With the traffic signal synchronization, the intersections along a traffic corridor will coordinate with a designated master intersection to optimize the signal timing.

The traffic signals in the City are physically maintained and programmed on-site by the Los Angeles County Department of Public Works (LAC-DPW) through a long-standing maintenance service agreement. With the traditional technologies, the signal malfunction incidents are not automatically detected or alerted to the signal maintenance team. Rather, the signal maintenance team relies on someone to report a malfunction, therefore the perceived response time to incidents usually depends on the timeliness of requests from the callers who observed the incidents.

The City's MBATS System Project proposes to upgrade and connect signal controller equipment through a fiber optic backbone infrastructure that will support emerging traffic management technologies, such as dynamic signal timing, vehicle-to-vehicle communication, autonomous vehicles, public safety preemption and other smart cities initiatives that can improve traffic signalization and operational efficiencies. The infrastructure will enable enhanced signal timing, relieve congestion during peak hours, improve traffic progression, and allow the system to be more responsive to changes in traffic conditions, and prepare for the future of more Internet of Things (IOT) communication. The project will allow both City staff and a semi-autonomous control system to remotely monitor and control the signalized intersections to maximize synchronization and minimize backups through real-time data analysis and timing changes.

The City's MBATS System Project is an extension of the South Bay Cities Council of Governments (SBCCOG) South Bay Fiber Network project, which is still in the design/construction stage, will provide a fiber-optic broadband infrastructure "ring" that offers cost-effective, high-speed broadband to municipal facilities throughout the South Bay sub-region. This ring will support enhancements to the region's mobility and accessibility systems, and to the networks that provide community services to South Bay residents.

On June 18, 2019, the City Council received an update from Public Works regarding the \$5.44 million Measure M MBATS System Project grant application that was submitted for consideration. The application identified the fiber network that would connect traffic signals throughout Manhattan Beach to Los Angeles County's Traffic Management Control Center. The MBATS System Project scope of work was subsequently expanded to include the specific traffic signal equipment that is most compatible with the County's regional network given our long-standing maintenance agreement. The cost of this additional equipment required reducing the number of signals that could be connected to the fiber network in the scope of work. Therefore, staff informed LACMTA that due to the expanded

scope of work, the City would request additional funding to complete the remaining signalized intersections at a later date as the next phase. LACMTA indicated that modifications to the original funding request can be made through future grant applications and the budget amendment process after LACMTA Board's initial approval.

In September 2019, the LACMTA Board took formal action to award \$5.44 million in Measure M Funding to the City of Manhattan Beach for design of both Phase I and Phase II and construction of the Phase I MBATS System Project, subject to the terms and conditions of a fully executed funding agreement. On February 16, 2020, City Council approved the funding agreement and appropriation of the \$5.44M funding to the MBATS System Project. In June 2020, LACMTA staff executed the final funding agreement.

DISCUSSION:

The Public Works Department issued a Request for Proposals on August 17, 2020, for the MBATS System Project professional engineering design services. A total of three proposals were received by September 29, 2020. Proposals were reviewed, evaluated and ranked by an evaluation committee of City staff, County of Los Angeles engineers and LACMTA staff according to the following selection criteria:

- Demonstrated understanding of the requested scope of services and overall successful project delivery, including resource allocation matrix.
- Staffing qualifications and experience of key personnel and sub-consultants.
- Project management methods, quality control and focus on timeliness/scheduled delivery.
- Consultant's familiarity with local (sensitivity) conditions.

On October 27, 2020, interviews were conducted with the two top ranked proposers - DKS and Iteris, Inc. City staff, County of Los Angeles engineers and LACMTA staff were in attendance for the interviews. DKS was selected as the most qualified firm with the best overall proposal. DKS' assigned staff have excellent experience with similar projects. DKS identified and understood the project's key issues, and proposed an appropriate level of staffing for the size and complexity of the project. The consultant's scope of work and methodology was clearly outlined to complete the project in a timely manner. The scope of work will entail:

- Preparation of plans, technical specifications, and cost estimates for the MBATS System Project, including both Phase I and Phase II. Below key improvements are included for consideration at appropriate locations:
 - A. Install new video detection system
 - B. Install new or replace existing outdated analog CCTV camera with new IP CCTV System
 - C. Replace existing traffic signal controller with new 2070 Advanced Transportation Controller (ATC)
 - D. Install 12 Single-Mode Fiber Optic (SMFO) drop cable from splice enclosure to new controller cabinet
 - E. Splice drop cable to allow for a redundant system
 - F. Install new Touchless Accessible Pedestrian Signals (APS) system with audible walk indications

- G. Install Roadside Units (Multi-Band Compatible)
- H. Install Travel Time/Origin Destination System (V2X)
- I. Install 10 gig Ethernet Switches
- J. Install Access Management Software for ITS Network monitoring, management and alert.

- Topographic survey for Americans with Disabilities Act (ADA) ramp design at 12 intersections with 48 ramp corners
- Traffic signal modifications at up to 12 intersections and ADA ramp design at up to 48 ramps
- Changeable Message Signs/Dynamic Message Signs (CMS/DMS) design plans for 4 locations with up to 2 structural design alternatives with structural calculations for pole foundations and sign mounting details
- Potholing for underground utilities at potential conflict locations (up to 50 locations) to avoid utility conflicts
- System integration with network design for the new ITS field devices and new communication network
- Traffic signal timing sheets
- Preparation of bidding documents suitable for bidding and award of a public works construction contract; and
- Design support services during the Phase I and Phase II construction

Completion of plans, specifications, and cost estimates for the MBATS System Project is expected to take approximately twelve months. The project will then be ready for construction bidding.

Staff recommends that City Council authorize the City Manager to execute an agreement with DKS for a total not-to-exceed cost of \$1,283,417 for engineering design services.

PUBLIC OUTREACH:

DKS' Professional Services Agreement scope of work includes community outreach meetings during the design process. Depending on the outcome of these initial public meetings, additional public meetings may be scheduled, if needed.

ENVIRONMENTAL REVIEW:

As part of DKS' scope of work, all environmental concerns will be reviewed and discussed with City staff. Once the issues have been closely studied and evaluated, the appropriate findings in compliance with the California Environmental Quality Act (CEQA) will be prepared.

LEGAL REVIEW:

The City Attorney has reviewed this report and determined that no additional legal analysis is necessary.

ATTACHMENTS:

1. Resolution No. 21-0029
2. Agreement - DKS Associates
3. Budget and Expenditures Report

4. MBATS System - Phase I & Phase II Location Map