

MEETING DATE: 10/19/09

AGENDA ITEM: Approve Contract Amendment with Iteris, Inc. for Configuration and Project Management Services for the Fox Hills Area Traffic Signal Synchronization Project, Acquisition of a Traffic Control System P-852

ATTACHMENTS

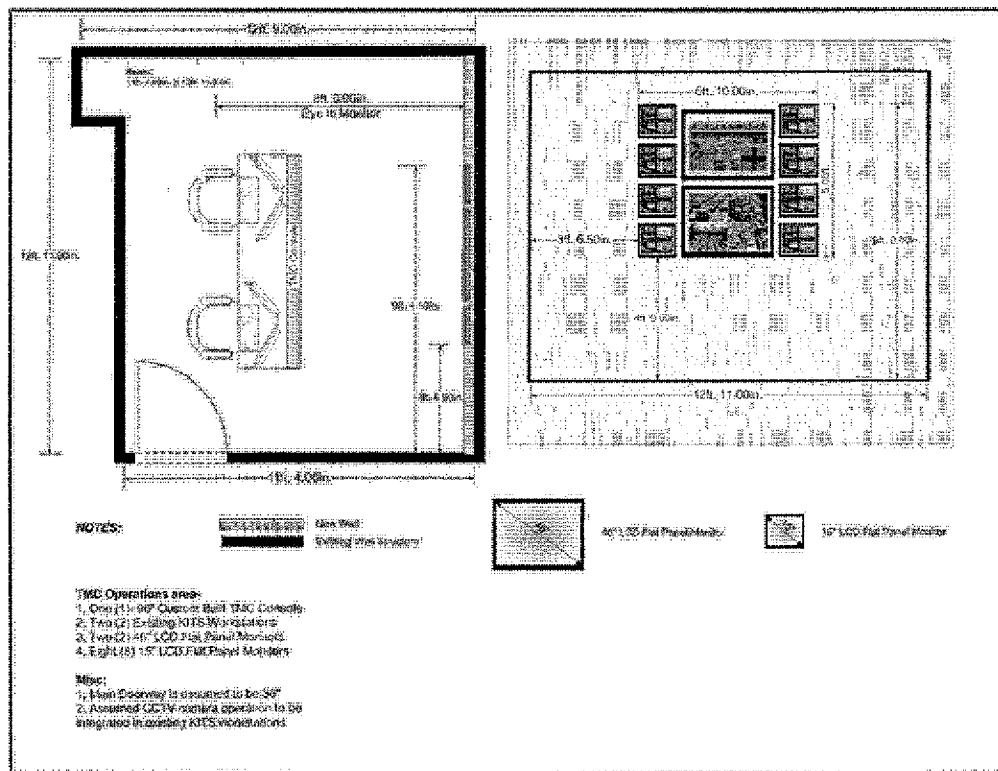
		<u>Pages</u>
1	Iteris Space Analysis	1-5

City of Culver City Traffic Management Center (TMC) Design & Integration Scope of Work

Scope of Work

A traffic management center (TMC) is the center of traffic operations. A TMC requires design elements with both form and function for effective traffic operations and an appealing layout that can be displayed as a technological focus.

The City of Culver City TMC is proposed to be located in an existing office space in City Hall. Primarily the TMC will house the traffic control system (KITS) workstations. To accommodate the operations of the traffic control system, two closets will be removed on the east side of the room. This modification to the TMC room will provide more space to house a new console table designed for the limited space and layout of the modified room, along with a video wall on the rebuilt east wall. **Figure 1** displays the proposed layout of the new TMC. To accomplish the successful design and integration of the Culver City TMC, the following tasks are proposed.



Task 1: Develop Spatial & Facility Requirements

The City desires to build a fully functional TMC within the existing room. In embarking on any such TMC design activities it is important to follow a systematic approach in the design and upgrade process. A critical element includes detailed documentation of existing systems and infrastructure, user requirements definition, logistics and spatial planning and construction oversight.

City of Culver City

Traffic Management Center (TMC) Design & Integration Scope of Work

The Iteris Team will perform varying tasks to result in the identification of spatial requirements and plans. These will include:

Subtask 1.1 Review of Existing Infrastructure

As part of this sub-task, a detailed inventory of the existing infrastructure will be done in support of the TMC. The review of the existing infrastructure will include identification of:

- Existing Fiber Optics cable that enters the room.
- The path of the fiber optic cable
- Spare fibers from the basement server room to the 2nd floor communications room
- Capacity of existing video hardware.
- Identify existing conduit in ceiling or under floor
- Identify existing phone connections in the room
- Identify existing data (Ethernet) connections in the room.

Subtask 1.2 Identification of Spatial Requirements

The Iteris Team shall perform the following tasks to result in the identification of spatial requirements.

- Identify overall operating requirements for each of the above spaces considering factors such as:
 - Basic function of each space.
 - Number and type of staff to be housed in each space, and duties to be performed (both near and long term staffing requirements will be performed).
 - General types of equipment required for performing the identified functions.
 - Equipment needs for each space will be defined. These will include items such as Equipment racks, communications backboard(s), UPS, HVAC, Storage and work areas.
 - Required interaction among staff and equipment.
 - Future expandability.
- Based on the operating requirements identified above, describe the spatial requirements for each space. For each space the distinct operational areas will be highlighted and described. For example, the control room may include the surveillance area (e.g. video wall), operator area (and console requirements and size), supervisor area, storage requirements, map area etc.
- Iteris shall identify overall environment requirements of the spaces. This information will be used to help compare location options in the following task. Environmental requirements investigated will include:
 - Lighting
 - Acoustics
 - Cable Management:
 - Electrical/mechanical requirements
 - Mechanical
- Identify operating relationships between the spaces (e.g. relationship of the viewing area to the control area, etc.)
 - Iteris shall identify overall environment requirements of the TMC space. Environmental requirements investigated will include:

City of Culver City Traffic Management Center (TMC) Design & Integration Scope of Work

- Lighting: Often overlooked, lighting is an important feature of any TMC.
- Acoustics: Noise control should be provided. This is particularly important for the Control Room where a quiet environment is required for efficient operation.
- Cable Management: Cable management through ceiling, through floor, and console furniture so that a clutter free design. The major considerations; concealment, accessibility, expandability, and cost should all be investigated.
- Electrical/mechanical requirements: As part of a detailed design an electrical loading assessment shall be conducted. Equipment rack grounding should also be addressed during design.
- Mechanical: The key mechanical considerations that are unique to the TMC are the HVAC and fire suppression components.

Task 1.3 Define Building System Issues

The Iteris Team shall meet with the City personnel to discuss building systems issues and needs for the TMC. The following will be discussed:

- Power supply, including requirements for back-up.
- Heating, ventilation and air conditioning (HVAC).
- Fire protection.
- Communications (LAN, telephone systems relocations).

All of these considerations will result in the preparation of Plans, Specifications and Estimates for the TMC deployment. The plans will be stamped by a licensed architect.

Task 2 Detail Design

Studio Architects will be engaged to perform the final design and design development of the Iteris and Culver City concept for the TMC tenant improvements that pertain to the shell of the TMC space. It shall be performed in two basic sub-tasks described as follows:

Task 2.1 As-Built Development

As-built plans will be prepared under this contract using city's records to be provided for a TMC TI design development in existing City Hall at existing TMC space to be enlarged and remodeled.

Task 2.2 Detail Design Plan Development

Studio Architects will prepare Construction Plans to obtain clearance from the city's Building and Safety Department for appropriate permits, respond to contractor R.F.I.'s and assist in the bid process; visit job site (twice), and perform a final review for final coordination with build teams.

It is assumed that alternate bids/re-bids and changes to work proposed are not included. It is also assumed that the existing HVAC and units shall be re-used as required, as the city reported this room (#B242) housed computer serves. Therefore, the plans will not include Mechanical and Plumbing, and any other incidental engineering.

City of Culver City

Traffic Management Center (TMC) Design & Integration Scope of Work

Task 3 *Integration*

Integration Services will encompass a variety of activities as shown below. These activities include:

- Installation and final connections of TMC monitors (monitors to be provided by City or contractor)
- Install TMC communications cabling and interface equipment required for the operation of the TMC systems deployed. This includes the video multiplexing equipment, expansion of the video matrix hardware, and hardware used for remote switching and control of video system. The following assumptions are taken in developing the cost estimate to complete this item:
 - All equipment and necessary cabling will have to be purchased by the City (or contractor)
 - Iteris will purchase the fiber optic cable that will connect the TMC to the server room in the basement.
- Develop and conduct an Acceptance Test Plan of the TMC
- Generate a draft and final Test Report as a result of the acceptance tests, to include those actions, results, failures, and corrective or preventative measures taken with respect to the hardware and configuration installed with this project.
- Develop an operations manual based on the delivered system and to include a description of the operation of the system (hardware, software, and communications equipment) as it relates to the user's tasks.
- Generate an architectural map of the TMC systems installed.

Schedule and Budget

It is estimated that the design component of the project (Tasks 1 and 2) will be completed within two months from notice-to-proceed. The final task, Integration, (Task 3) will commence as the construction phase of the project is nearing completion and will take approximately three weeks.

The table below provides a summary of the proposed project budget to complete the tasks identified above.

City of Culver City

Traffic Management Center (TMC) Design & Integration Scope of Work

TASK		Iteris				The Studio Group			Crosstown	Total Hours	Total Cost
		George Gener System Integrator	Gabriel Murillo System Integrator	Nick Hartman Project Engineer	Alan Fang Project Engineer	Julio Gener Lead Architect	Gemmer Lema Senior Drafter	Robin O'neil Electrical Engineer	Fiber Optics Install		
Task 1.0	Develop Spatial & Facility Requirements	12	12	4	16	4	0	0		48	\$ 7,080
Task 2.0	Detail Design	8	8	8	12	18	22	14		90	\$ 12,920
Task 3.0	Integration & Testing	34	34	34	40	0	0	0	\$ 4,600	4,742	\$ 25,370
Task 4.0	Documentation	4	4		16					24	\$ 2,900
	Total Labor Hours	58	58	46	84	22	22	14		304	\$ 48,270
	Total Labor Hours By Firm	246				58					
										ODC	\$ 1,730
										TOTAL	\$ 50,000