

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

OFFICE ENGINEER

1727 30th Street MS-43

P.O. BOX 168041

SACRAMENTO, CA 95816-8041

FAX (916) 227-6214

www.dot.ca.gov/hq/esc/oe



*Serious Drought.
Help save water!*

December 29, 2015

12-Ora-5,22,57,73,133,405, etc.-VARIOUS

12-0N78U4

Project ID 1215000036

ACNHP-X059(067)E

Addendum No. 5

Dear Contractor:

This addendum is being issued to the contract for CONSTRUCTION ON STATE HIGHWAY IN ORANGE COUNTY AT VARIOUS LOCATIONS to revise the *Notice to Bidders and Special Provisions*.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on Tuesday, January 5, 2016.

In the Special Provisions, Section 86-2.19A, "General," the following paragraph is added after the first paragraph.

"Prototype, rebuilt or reconditioned equipment will not be allowed."

In the Special Provisions, Section 86-2.19B(20), "Communications Module," the first paragraph is replaced as follows:

"The communications module must be able to integrate with the existing switch."

In the Special Provisions, Section 86-2.19B(20), "Communications Module," the second paragraph is replaced as follows:

"The communications module must connect to the switch fabric using dual full-duplex 20GBps switch fabric channels."

In the Special Provisions, Section 86-2.19C(15), "Small Form-factor Pluggable Module," is replaced as attached.

In the Special Provisions, Section 86-2.19C(16), "Communications Module," the third paragraph is replaced as follows:

"You must connect the communications module to the existing hub switches via the dual full-duplex 20GBps switch fabric channels. You must install the appropriate number of SFPs in the SFP ports located in the communications module."

In the Special Provisions, Section 86-2.20A, "General," the following paragraph is added:

"Prototype, rebuilt or reconditioned equipment will not be allowed."

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In the Special Provisions, Section 86-2.20A(1)(a)(i), "System Sizing," the first paragraph is replaced as follows:

"The software must support a minimum of 350 cameras, and must be able to expand in a modular fashion. The software must support up to 150 simultaneous user endpoints, including 4 video streams per user endpoint, utilizing common internet web browser applications and SSL encryption. The system must be capable of supporting high quality bandwidth sessions and low quality, low bandwidth connections simultaneously and must allow for the configuration of the video quality attributes for each video stream. High quality video must be defined as a video stream with a resolution greater than 1280 x 720 up to 1920 x 1080 pixels at 30 frames per second. The system must scale with the initial offering and must not require multiple central systems for management."

In the Special Provisions, Section 86-2.20A(1)(a)(ii), "Video Management System Analytics," the last paragraph is replaced as follows:

"The video analytics data in the VMS must be accessible in a delimited or fixed length file format which can be accessed from and imported into a separate database management system."

In the Special Provisions, Section 86-2.20A(1)(a)(iii), "System Management," is replaced as attached.

In the Special Provisions, Section 86-2.20A(1)(a)(iii)(1), "Web Interface (Administrator)," the following paragraph is added after the last paragraph:

"The software must allow the administrator to switch between the video streams being displayed. The administrator must have the ability to override the video stream that is on display. The current video stream displayed will be overwritten as conducted by the administrator be it via a different video stream or a recorded video stream as selected by the administrator."

In the Special Provisions, Section 86-2.20A(1)(a)(iii)(3), "System Components," the first paragraph is replaced as follows:

"The hardware platform(s) or server(s) required to meet the specifications herein, must be provided as a component of the video management system. All server and workstation hardware and software specifications must meet or exceed the VMS manufacturer's requirements, as indicated on manufacturer provided data sheets. The management server software must provide management, monitoring, and control of the entire system. The management server software should typically be installed on a server-class computer, but may be installed, with all the other video management software modules on one workstation. The management server shall also maintain data stream management, alarm management, priority management, central logbook, central configuration and user management."

In the Special Provisions, Section 86-2.20A(1)(a)(iv), "System Access," the following paragraph is added after the first paragraph.

"The system shall be a web based solution with the option of having an application based software. Access to the system shall be required by 30 web based users (including 20 ATMS workstations and 10 admin workstations)."

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In the Special Provisions, Section 86-2.20A(1)(a)(vi), "ATMS Integration," the first paragraph is replaced as follows:

"Caltrans will be installing other technologies including a new Video Wall system and ATMS upgrade at the TMC. You shall coordinate the installation, testing, and commissioning of technologies associated with this project with Caltrans Engineer to facilitate your work including integration, system testing, and commissioning. The Caltrans Engineer will provide support with regards to network routing and configuration details for ATMS integration."

In the Special Provisions, Section 86-2.20A(1)(a)(vi), "ATMS Integration," the fourth paragraph is replaced as follows:

"The system must receive multicast video from encoded CCTV sources of IP cameras and convert the multicast video to a unicast video. After conversion, the system must provide the unicast video to twenty existing ATMS workstations with four streams each. The system must be capable of providing a total of 40 unicast streams at 4CIF resolution."

In the Special Provisions, Section 86-2.20A(1)(a)(vi), "ATMS Integration," the following paragraph is added before the last paragraph:

"The Caltrans existing and new ATMS 5.0 do not support ONVIF for IP camera control."

In the Special Provisions, Section 86-2.20A(1)(c), "Network Management Software," is added as attached.

In the Special Provisions, Section 86-2.20A(3)(a), "Product Data," the first paragraph is replaced as follows:

"Prior to software installation, product data must be provided to Caltrans for their review and acceptance of the equipment. The product data shall be sufficiently detailed to verify compliance with the technical specifications. Product data must include but not be limited to:

1. Software Development Kit
2. Software flow charts"

In the Special Provisions, Section 86-2.22A(2)(d), "Operating System Patches and Security scans," the second paragraph is replaced as follows:

"You must do the following once every two weeks for the extend of the four (4) year calibration and validation period:

1. Perform security scans for any malware, including but not limited to viruses, worms, Trojans, rootkits, rogues, and spyware.
2. Install OS patches according to current manufacturer's specifications.
3. Install Antivirus software patches according to manufactures specifications."

In the Special Provisions, Section 86-5.01F(1), "General," the following paragraph is added after the first paragraph.

"Prototype, rebuilt or reconditioned equipment will not be allowed."

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In the Special Provisions, Section 86-5.01F(2)(a)(ii)(2), "Technical and Functional Requirements," the following paragraph is added after the last paragraph:

"The camera must have the ability to be configured to return to a pre-defined PTZ position after a specified period of inactivity."

In the Special Provisions, Section 86-5.01F(2)(d), "Software and Operational Requirements," is replaced as attached.

To *Bid* book holders:

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the *Notice to Bidders* section of the *Notice to Bidders and Special Provisions*.

Submit the *Bid* book as described in the *Electronic Bidding Guide* at the Bidders' Exchange website.

http://www.dot.ca.gov/hq/esc/oe/electronic_bidding/electronic_bidding.html

Inform subcontractors and suppliers as necessary.

This addendum, EBS addendum file and attachments are available for the Contractors' download on the Web site:

http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/12/12-0N78U4

If you are not a *Bid* book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,



RYAN CHAMBERLAIN
District Director

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Attachments

86-2.19C(15) Small Form-factor Pluggable Module

You must furnish and install 2 Small Form-factor Pluggable (SFP) modules with each Ethernet Access Switch that is furnished and installed. You must furnish and install 116 SFP modules for the connections to be performed at the HUB locations.

You must verify the SFP module is tested prior to installation and after installation in order to provide complete communications between the Caltrans TMC and the field elements. Caltrans or his/her assigned representative must be notified two working days prior to all field tests.

You must install and connect the SFPs to the SFP ports located at the Ethernet access switches and communications modules. You must install and connect fiber optics to the SFP via LC connectors.

You must coordinate with the Caltrans D12 IT Department and the Electrical Systems Branch for network system integration in order to provide complete communication between the TMC and the field elements.

86-2.20A(1)(a)(iii) System Management

System Management involves the administration of Caltrans video streams and each "Consumer" of video streams. The software must allow Caltrans the administrative capability to:

1. Manage the database of cameras available for the video sharing system
2. Manually enable or disable any video stream available at any time
3. Automatically schedule the enabling or disabling of any video stream by user as managed by login schedule
4. Replace an existing video stream with a different video stream or recorded video from any camera
5. Enable or disable specific consumer's ability to view any video stream available
6. Determine the maximum number of simultaneous video streams available at any time
7. Configure/limit the maximum number of simultaneous video streams that can be requested by a consumer or group of consumers. This value may be less than the available video streams from the agency

The software must inform system administrators via SMS text message and email of non-functional videos.

The video management software must provide network management through Simple Network Management Protocol (SNMP) to a network management software described in section 86-2.20A(1)(c).

The software must include but not be limited to the following features:

86-2.20A(1)(c) Network Management Software

You must provide a Network Management software (NMS) and hardware solution. The software must provide network management. Network management must allow the monitoring (polling), performance data collection, analysis, reporting and automated alerting for all project-related network switches, routers, firewalls, and all video servers, encoders/decoders, processors and other network-attached devices. This includes, but is not limited to, 10 switches and 2 secure routers with integrated firewalls.

All server and workstation hardware and software specifications must meet or exceed the NMS manufacturer's requirements, as indicated on manufacturer provided data sheets.

The NMS must provide the capability to continuously monitor all of these devices, via polling with the ICMP and SNMP V2/V3 protocols.

The NMS must provide the following features:

1. Software architecture based on Internet web services and a relational database to store configuration and historical data
2. Web browser based user interfaces for administrative utilities and network monitoring tasks
3. Capability to create and customize a home web page specific to each user and administrator
4. Capability to create and customize multi-layered graphical network maps
5. Capability to scan, discover and add network devices to the monitoring database
6. Capability to monitor and alert on complex network routes with major routing protocol support
7. Capability to create dynamic network maps based on device discovery
8. Capability to monitor, alert and report based on device environmental and hardware status
9. Monitoring and display of response time, availability, and performance of network devices
10. Deep packet inspection and analysis of network traffic
11. Pre-defined, customizable and ad hoc network reporting capabilities
12. Automated alerting, reporting and capacity planning tools
13. Wireless network monitoring and management

86-5.01F(2)(d) Software and Operational Requirements

The proposed camera must utilize ONVIF Profile S protocol. to integrate video camera system communication drivers for flexibility and system interoperability. The camera system must support Ethernet communication channels at a minimum, allowing field selection of the following protocol drivers as required;

All camera and pan and tilt functions are operated via Ethernet communication.

All cameras must have the functionality of H.264 video compression technology.

All cameras must have software to perform the following analytics without additional software:

Vehicle detection

Vehicle count data

Vehicle classification data

Incident detection

Motion detection

Security detection (including, but not limited to, the ability to reliably detect and analyze moving objects, multiple object behaviors including idle and removed, loitering, multiple line crossing, and trajectories).

Multiple user-configurable alarms

Intelligent Tracking