



# Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

February 22, 2021

SUBJECT FAP Route 623(US 6)  
Project HSIP-A34E(257)  
Section (31)N,SFY  
LaSalle County  
Contract No. 66B52  
Item No.10, March 5, 2021 Letting  
Addendum A

## NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised the Schedule of Prices
2. Revised page ii of the Table of Contents to the Special Provisions
3. Revised pages 20-30 of the Special Provisions
4. Added pages 146&147 to the Special Provisions
5. Revised sheets 1, 2, 4, 6, 7, 22, 25, 86, 89, 90, 92, 114, 115, 116A, 121, 122, 125, and 129-137 of the Plans.
6. Added sheets and 137A-137C to the Plans

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Jack A. Elston'.

Jack A. Elston, P.E.  
Bureau Chief, Design and Environment

MTS

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## **CLOSED CIRCUIT TELEVISION DOME CAMERA, IP BASED**

Description. This work shall consist of furnishing and installing an integrated Closed-Circuit Television (CCTV) Dome Camera Assembly, camera bracket, and all other items required for installation and operation. This assembly shall contain all components identified in the Materials Section and shall be configured as indicated on the plan sheets.

### Materials.

The CCTV camera shall be an Axis Model Q6075-E Dome Camera Assembly for integration into the existing District 3 ITS system.

The Contractor shall provide all materials required to install the proposed camera on the proposed aluminum light pole as shown on the plan sheets.

The Contractor shall submit catalog cut sheets to the Department for all items (mounting brackets, hardware, etc.) that will be utilized for review prior to commencing work.

The Department will program the cameras prior to installation.

The camera shall meet or exceed the following specifications:

### CAMERA

VIDEO:	60 Hz (NTSC), 50 Hz (PAL)
IMAGE SENSOR:	1/2.8" progressive scan CMOS
LENS:	4.44–142.6 mm, F1.6–4.41 Horizontal angle of view: 62.8°–2.23° Vertical angle of view: 36.8°–1.3° Autofocus, auto-iris
DAY AND NIGHT:	Automatically removable infrared-cut filter
MINIMUM ILLUMINATION:	Color: 0.3 lux at 30 IRE F1.6 B/W: 0.03 lux at 30 IRE F1.6 Color: 0.5 lux at 50 IRE F1.6 B/W: 0.04 lux at 50 IRE F1.6
SHUTTER TIME: NTSC:	1/33000 s to 1/3 s with 50 Hz 1/33000 s to 1/4 s with 60 Hz
PAN/TILT/ZOOM:	Pan: 360° endless, 0.05° - 450°/s Tilt: 220°, 0.05°-450°/s 32x optical zoom and 12x digital zoom, total 384x zoom E-flip, 256 preset positions, Tour recording, Guard tour, Control queue, On-screen directional indicator, Set new pan 0°, Adjustable zoom speed

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## VIDEO

VIDEO COMPRESSION:	H.264 (MPEG-4 Part 10/AVC), Motion JPEG
RESOLUTIONS:	HDTV 1080p 1920x1080 to 320x180 HDTV 720p 1280x720 to 320x180
FRAME RATE (H.264):	Up to 60/50 fps (60/50 Hz) in HDTV 720p Up to 30/25 fps (60/50 Hz) in HDTV 1080p
VIDEO STREAMING:	Multiple, individually configurable streams in H.264 and Motion JPEG, Axis' Zipstream technology, Controllable frame rate and bandwidth, VBR/MBR H.264
IMAGE SETTING:	Manual shutter time, compression, color, brightness, sharpness, white balance, exposure control, exposure zones, fine tuning of behavior at low light, rotation: 0°, 180°, text and image overlay, 32 individual 3D privacy masks, image freeze on PTZ, automatic defog, backlight compensation Wide Dynamic Range (WDR): Up to 120 dB depending on scene, highlight compensation

## NETWORK

SECURITY:	Password protection, IP address filtering, HTTPSa encryption, IEEE 802.1Xa network access control, Digest authentication, User access log, Centralized Certificate Management
PROTOCOLS:	IPv4/v6, HTTP, HTTPSa, SSL/TLSa, QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, SFTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS, SSH, NTCIP

## SYSTEM INTEGRATION

APPLICATION PROG INTERFACE:	Open API for software integration, including VAPIX® and AXIS Camera Application Platform; specifications at <a href="http://www.axis.com">www.axis.com</a> , AXIS Video Hosting System (AVHS) with One-Click Connection, ONVIF Profile S, specification at <a href="http://www.onvif.org">www.onvif.org</a>
ANALYTICS:	Video motion detection, Autotracking, Active Gatekeeper Basic Analytics (not to be compared with third-party analytics): Object removed, Enter/Exit detector, Fence detector, Object Counter, Highlight compensation, Support for AXIS Camera Application Platform enabling installation of third-party applications, see <a href="http://www.axis.com/acap">www.axis.com/acap</a>

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EVENT TRIGGERS:	Detectors: Live stream accessed, Video motion detection, Shock Detection, Object removed, Enter/Exit detector, Fence detector, Object counter; Hardware: Fan, Network, Temperature, Casing Open; PTZ: Autotracking, Error, Moving, Ready, Preset Reached; Storage: Disruption, Recording; System: System Ready; Time: Recurrence, Use Schedule; Input signal: Manual trigger, Virtual input
EVENT ACTIONS:	Day/night mode, overlay text, video recording to edge storage, pre- and post-alarm video buffering, send SNMP trap PTZ: PTZ preset, start/stop guard tour File upload via FTP, SFTP, HTTP, HTTPS network share and Email; Notification via email, HTTP, HTTPS and TCP
DATA STREAMING	Event data
BUILT IN INSTALLATION AIDS	Pixel Counter
<u>GENERAL</u>	
CASING:	IP66-, NEMA 4X- and IK10-rated Metal casing (aluminum), polycarbonate (PC) clear dome, sunshield (PC/ASA)
SUSTAINABILITY:	PVC Ffree
MEMORY:	512 MB RAM, 128 MB Flash
POWER CAMERA:	Axis High PoE midspan 1-port: 100–240 V AC, max 74 W Camera consumption: typical 16 W, max 60 W
CONNECTORS:	RJ45 10BASE-T/100BASE-TX PoE, RJ45 Push-pull Connector (IP66) included
EDGE STORAGE:	Support for SD/SDHC/SDXC card Support for recording to dedicated network-attached storage (NAS); For SD card and NAS recommendations see <a href="http://www.axis.com">www.axis.com</a>
OPERATING CONDITIONS:	With 30 W midspan: -20 °C to 50 °C (-4 °F to 122 °F) With 60 W midspan: -50 °C to 50 °C (-58 °F to 122 °F) Maximum temperature (intermittent): 60 °C (140 °F) Arctic Temperature Control: Start-up as low as -40 °C (-40 °F) Humidity 10–100% RH (condensing)

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APPROVALS:	EMC: EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2, EN 55024, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, RCM AS/NZS CISPR 22 Class A, KCC KN32 Class A, KN35  Safety: IEC/EN/UL 60950-1, IEC/EN/UL 60950-22  Environment: EN 50121-4, IEC 62236-4, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60721-4-3, NEMA 250 Type 4X, IEC 60068-2-30, IEC 60068-2-60, IEC 60068-2-78, IEC/EN 60529 IP66, NEMA TS-2-2003 v02.06, Subsection 2.2.7, 2.2.8, 2.2.9; IEC 62262 IK10, ISO 4892-2  Midspan: EN 60950-1, GS, UL, cUL, CE, FCC, VCCI, CB, KCC, UL-AR
WEIGHT:	3.7 kg (8.2 lb.)
INCLUDED ACCESSORIES:	Axis High PoE 60 W midspan 1-port, RJ45 Push-pull Connector (IP66), Sunshield, Installation Guide, Windows decoder 1-user license
VIDEO MANAGEMENT SOFTWARE:	AXIS Camera Companion, AXIS Camera Station, Video management software from Axis' Application Development Partners available on <a href="http://www.axis.com/techsup/software">www.axis.com/techsup/software</a>
WARRANTY:	Axis 3-year warranty and AXIS Extended Warranty option

#### Environmental Enclosure/Housing

The environmental enclosure shall be designed to physically protect the integrated camera from the outdoor environment and moisture via a sealed enclosure. If the option exists in the standard product line of the manufacturer, the assembly shall be supplied with an integral sun shield. The enclosure shall be fully water and weather resistant with a NEMA 4 rating or better.

The camera dome shall be constructed of distortion free acrylic or equivalent material that must not degrade from environmental conditions. The environmental housing shall include a camera-mounting bracket. In addition, the environmental housing shall include a heater, blower, and power surge protector. An integral fitting compatible with a standard 1-1/2 in (38.1 mm) NPT pipe, suitable for outdoor pendant mounting shall also be provided.

The enclosure shall be equipped with a heater controlled by a thermostat. The heater shall turn on when the temperature within the enclosure falls below 40° F (4.4°C). The heater shall turn off when the temperature exceeds 60°F (15.6°C). The heater will minimize internal fogging of the dome faceplate when the assembly is operated in cold weather.

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In addition, a fan shall be provided as part of the enclosure. The fan will provide airflow to ensure effective heating and to minimize condensation.

The enclosure shall be equipped with a hermetically sealed, weatherproof connector, located near the top for external interface with power, video, and control feeds.

#### CCTV Dome Camera Mounting Supports

The Contractor shall furnish and install a camera manufacturer approved mounting hardware for the camera installation on new aluminum light pole at the locations identified in the plans.

Mounting supports shall be configured as shown on the camera support detail plans and as approved by the Engineer. Mount shall be of aluminum construction with enamel or polyester powder coat finish. Braces, supports, and hardware shall be stainless steel. Wind load rating shall be designed for sustained gusts up to 90 mph (145 km/hr), with a 30% gust factor. Load rating shall be designed to support up to 75 lb (334 N). For roof or structural post/light pole mounting, mount shall have the ability to swivel inward for servicing. The mounting flange shall use standard 1-1/2 inch (38.1 mm) NPT pipe thread.

#### Connecting Cables

The Contractor shall furnish and install outdoor rated, shielded CAT 5E cable at the locations shown on the plan sheets. The cable shall be terminated using the terminal block inside the camera bracket and the IDC connector and pre-formed IP66 rated RJ-45 connector on the camera end and a shielded RJ-45 connector in the cabinet. The Contractor shall test the cable prior after termination.

#### General

The Contractor shall prepare a shop drawing detailing the complete CCTV Dome Camera Assembly and installation of all components to be supplied for approval of the Engineer. Particular emphasis shall be given to the cabling and the interconnection of all of the components.

The Contractor shall install the CCTV dome camera assembly at the locations indicated in the Plans. The CCTV Dome Camera Assembly shall be mounted on the aluminum light pole.

#### Testing

The Contractor shall test each installed CCTV Dome Camera Assembly. The test shall be conducted from the field cabinet using the standard communication protocol and a laptop computer. The Contractor shall verify that the camera can be fully exercised and moved through the entire limits of Pan, Tilt, Zoom, Focus and Iris adjustments, using both the manual control and presets. The Contractor shall maintain a log of all testing and the results. A representative of the Contractor and a representative of the Engineer shall sign the log as witnessing the results. Records of all tests shall be submitted to the Engineer prior to accepting the installation.

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Method of Measurement. The closed circuit television dome camera bid item will be measured for payment by the actual number of CCTV dome camera assemblies furnished, installed, tested, and accepted.

Basis of Payment. Payment will be made at the contract unit price for each CLOSED CIRCUIT TELEVISION DOME CAMERA, IP BASED including all equipment, material, testing, documentation, and labor detailed in the contract documents for this bid item.

## **CELLULAR MODEM**

The Contractor shall furnish and install as directed an industrial cellular router with industrial power supply, and externally mounted cellular antenna.

The Department will be responsible for activating the modem.

The Contractor shall install the cellular router and industrial power supply inside the proposed CCTV cabinet using DIN rail mounting. The Contractor shall furnish and install all wiring and hardware required to install the cellular router, power supply, and external antenna.

The cellular router shall be a Red Lion IndustrialPro SN-6921-VZ 4G LTE or approved equal that meets or exceeds the following minimum specifications:

### FEATURES & BENEFITS

- |                                |  |
|--------------------------------|--|
| Cellular Connectivity:         | <ul style="list-style-type: none"><li>• Verizon LTE with fallback to EVDO</li><li>• 3G (GSM WCDMA/HSDPA/HSUPA or EVDO Rev A)</li></ul>   |
| Built-In Security & Routing:   | <ul style="list-style-type: none"><li>• Secure modbus data using IPsec VPN tunnels</li><li>• VPN tunnel: IP SEC, SSL</li><li>• Port forwarding</li><li>• Stateful Firewall</li><li>• Packet Filtering</li><li>• Access Control List (ACL)</li></ul>                                  |
| Powerful Web-Based Management: | <ul style="list-style-type: none"><li>• Provides remote monitoring and control</li><li>• Mass activation and device upgrades</li><li>• Remote diagnostics and troubleshooting</li><li>• Reporting of key metrics</li></ul>   |
| Rugged, Compact Design:        | <ul style="list-style-type: none"><li>• -40 to +85 °C operating temperature</li><li>• DIN-rail mounting</li></ul>  |
| Features:                      | <ul style="list-style-type: none"><li>• Connect multiple devices to single WAN link</li><li>• Remote TCP/IP based capabilities</li><li>• Integrated switching/routing capabilities</li><li>• Serial to IP conversion</li><li>• Access IP and serial devices simultaneously</li></ul> |

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SPECIFICATIONS

- Wireless Interface:
- Dual-band CDMA2000 EVDO Rev. A (backward compatible with 1xRTT)
  - GSM HSPA (backward compatible with EDGE)
  - EDGE/GPRS
- Ethernet Interface:
- 5x RJ45 Ethernet 10/100 auto-sensing
- Serial Interface:
- 1x RS-232 Serial DB9 115200bps
- USB Interface:
- 1x USB2.0 mini
- LED Status Indicators:
- Power, WAN, Signal, RS232, Ethernet Link and Activity
- Dimensions:
- Steel 120 x 96 x 51 mm (4.7" x 3.77" x 2.0"), 500g (1.1 lbs)
- Power Input:
- 8 - 30 Vdc (12Vdc nominal)
- Environmental:
- Operating Temp: -40 to +85 °C
  - Shock: IEC60068-2-27,
  - Vibration: IEC60068-2-6
  - Humidity: 5 to 95% non-condensing
- Certification:
- EMC:FCC, part 15 and Industry Canada, ICES-003
  - Hazardous Locations: Class I, Div. 2, Groups A,B,C,D, UL1604
  - Electrical Safety: UL508/CSA22.2/14 (CUL)
- Routing Protocols:
- OSPF, BGP, RIP
- Encapsulation Protocols:
- GRE and IPinIP
- Tunneling:
- VPN: IPSec and SSL
- Clustering:
- VRRP
- IP:
- NAT, Port Forwarding, Dynamic DNS, DHCP
  - Stateful Inspection Firewall, IP Transparency
- Warranty:
- 3 years on design and manufacturing defects

The Contractor shall furnish an Aaxeon Model DR-4512 45 watt industrial DIN rail power supply or approved equal that meets or exceeds the following specifications:

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OUTPUT

- DC Voltage: • 12V
- Rated Current: • 3.5A
- Current Range: • 0-3.5A
- Rated Power: • 42W
- Ripple & Noise (Max.): • 200mVp-p
- Voltage Adjustment Range: • 10.8 – 13.2V
- Voltage Tolerance: • +/- 1.0%
- Line Regulation: • +/- 1.0%
- Load Regulation: • +/- 1.0%
- Setup, Rise Time: • 800ms, 60ms/230VAC at full load
- Hold Time (Typ.): • 100ms/230VAC at full load

INPUT

- Voltage Range: • 85 – 265 VAC, 120 – 370 VDC
- Frequency Range: • 47 – 63 Hz
- Efficiency (Typ.): • 77%
- AC Current (Typ.): • 1.5A/115VAC, 0.75A/230VAC
- Inrush Current (Typ.): • Cold Start 28A/115VAC, 56A/230VAC
- Leakage Current: • <1mA/240VAC

PROTECTION

- Over Load: • 105 – 150% rated output power (Protection Type: Constant current limiting, recovers automatically after fault condition is removed)
- Over Voltage: • 13.8 – 16.2V (Protection Type: Shut down o/p voltage, re-power on to recover)
- Over Temperature: • 135 degrees C (Protection Type: Shut down o/p voltage, recovers automatically after temperature goes down)

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ENVIRONMENT

- Working Temperature: • -10 to 50 degrees C
- Working Humidity: • 20 – 90% Non-condensing
- Storage Temperature • -20 to 85 degrees C
- Storage Humidity: • 10 to 95% Relative Humidity

SAFETY

- Safety Standards: • UL 508
- Withstand Voltage: • I/P-O/P:3KVAC, I/P-FG:1.5KVAC, O/P-FG:0.5KVAC
- Isolation Resistance: • I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC
- Harmonic Current: • Compliance to EN61000-3-2,-3
- EMI Conduction and Radiation: • Compliance to EN55011, EN55022

OTHER

- Mounting • DIN Rail

The Contractor shall furnish and install a NEMA 15-R power cable (3 ft. length) and install the power supply in the proposed equipment cabinet and connect the cellular modem to it.

The cellular modem shall be equipped with an external antenna that shall be attached to the light pole and aimed at the nearest Verizon cellular tower.

The cellular antenna shall be a Wilson Electronics 14 dBi Gain 1900 MHz Yagi Antenna (Product Number 311124) or approved equal that meets or exceeds the following specifications:

- Features: • Supports 1900MHz PCS Frequency band, Compatible with all PCS providers, Built-in ground plane
- Antenna Type: • Directional
- Number of Elements: • 9
- Material: • Aluminum
- Frequency Range: • 1850-1990 MHz
- Impedance: • 50 Ohms
- Antenna Gain: • 14 dBi (1710-1880 MHz and 1850-1990 MHz)
- Beam Width: • H 31 Degrees, V 31 Degrees

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- Polarization: • Vertical
- Maximum Power: • 25 Watts
- Radiation: • Directional
- Connector: • N Female
- Dimensions: • Pole with U-Bolts
- Mounting: • U-Bolts, Mounts on pipe with 0.5 inch to 1.5 inch diameter
- Accessories: • RG-58 coax extension equipped with factory installed connectors for Yagi and cellular modem, 20 Ft. Length

The Contractor shall furnish and install all cables, brackets, pole mast and hardware required to install the antenna onto the aluminum light pole as shown on plan sheets. The Contractor shall not drill any holes into the top of the proposed or existing traffic signal cabinets to mount the antenna.

Basis of Payment: This work will be paid for at the contract unit price per each for CELLULAR MODEM which price shall be payment in full for all labor, materials, and equipment required to furnish the cellular modem complete with all accessories described above and install it inside the proposed lighting controller cabinet.

## REMOTE-CONTROLLED VIDEO SYSTEM

Description. This work shall consist of furnishing the equipment specified below that will be used to monitor and control the proposed CCTV camera and access the D3 ITS network. The Contractor shall deliver all equipment to the IDOT District 3 headquarters located at 700 East Norris Drive, Ottawa IL, 61350.

The Contractor shall contact Yogesh Patel at (815) 434-6131 a minimum of seventy-two hours prior to equipment delivery.

The Contractor shall furnish the following items:

- Rugged Laptops – Qty. 3

The laptop shall be a Dell Latitude 5420 rugged laptop or approved equal that meets or exceeds the minimum specifications listed below:

- Processor: 8th Gen Intel® Core™ i7-8650U Processor (Quad Core, 8M Cache, 1.9GHz, 15W, vPro)
- Operating System: Windows 10 Pro 64bit English
- Graphics Card: Intel® Core™ i7-8650U Processor Base with AMD Radeon™ RX540 Graphics 128 Bit
- Systems Management: No Out-of-Band Systems Management - vPro Disabled
- Memory: 16GB, 2x8GB, 2400MHz DDR4 Non-ECC

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<u>Hard Drive:</u>	M.2 256GB PCIe NVMe Class 40 Solid State Drive
<u>Display:</u>	14" FHD WVA (1920 x 1080) Anti-Glare Non-Touch, Outdoor-Readable Screen
<u>Keyboard:</u>	Sealed Internal RGB Backlit English Keyboard
<u>Wireless:</u>	Intel® Dual Band Wireless AC 8265 (802.11ac) 2x2 (No BLTH)
<u>Mobile Broadband:</u>	No Mobile Broadband Card
<u>Primary Battery:</u>	3 Cell 51Whr 3-Year Limited Hardware Warranty ExpressCharge Capable Primary Battery
<u>Power Supply:</u>	90W Rugged AC Adapter, 7.4mm Elbow Barrel
<u>Security Options:</u>	Full Security - Fingerprint Reader, Contacted Smartcard Reader, Contactless Smartcard Reader
<u>Accessories:</u>	Factory Installed Rigid handle for the tied sku
<u>Second Battery:</u>	3 Cell 51Whr 3-Year Limited Hardware Warranty ExpressCharge Capable Secondary Battery
<u>ENERGY STAR:</u>	ENERGY STAR Qualified
<u>Serial Port:</u>	Additional RJ45, Display Port
<u>Camera:</u>	RGB Camera
<u>Warranty:</u>	5 Years ProSupport with Next Business Day Onsite Service
<u>Security Software:</u>	McAfee® Small Business Security 36 month Subscription
<u>OS Recovery Options:</u>	OS-Windows Media Included
<u>Included Accessories:</u>	Rugged Outdoor Use Case, Battery Charger, Two Extra Batteries

Basis of Payment. This work shall be paid at the contract unit price per each for REMOTE CONTROLLED VIDEO SYSTEM, which price shall be payment in full for all labor, equipment, and materials required to furnish the equipment and deliver it to the Department as described above.

## **REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

Description. This work shall consist of the removal of existing traffic signal items including signal cabinet, controller, video detectors, and preemption devices with respective cables and delivery of these items to the District 3 Sign Shop in Ottawa.

Construction. This work shall be performed in accordance with the applicable portions of Article 895.05. The Contractor shall deliver all traffic signal equipment removed to the District 3 Sign Shop. At least 72 working hours prior to removal, the Contractor shall contact the Operations Signal Technician at 815-434-8506 to arrange for delivery.

The contractor shall take care not to cause damage to any of the traffic signal elements during removal. Any items damaged by the Contractor during delivery shall be replaced and furnished to the District 3 Sign Shop at no additional cost to the Department.

Method of Measure. The removal of all signal equipment including cabinets, controllers, video detectors, preemption devices, and all associated cables at one full intersection shall be measured for payment by Each.

Basis of Payment. Removal of all associated existing traffic signal equipment will be paid for at the contract unit price per Each for REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.

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## **OPENING ROUNDABOUT TO TRAFFIC**

The Contractor shall schedule his operations to complete the work necessary to make the roundabout operational on or before November 24, 2021. This work includes installing the lighting and necessary signage to facilitate traffic through the roundabout. Approved temporary lighting may be used to meet the lighting requirement. The cost of providing temporary lighting, if needed, shall be included in the permanent lighting pay items. The Contractor shall note that this completion date is based on an expedited work schedule.

**FAILURE TO COMPLETE THE WORK ON TIME:** Should the Contractor fail to complete the work on or before the specified date of completion or within such extended time allowed by the Department, the Contractor shall be liable to the Department in the amount as calculated per Article 108.09 of the Standard Specifications, not as a penalty but as liquidated and ascertained damages for each calendar day beyond the date of completion or extended time as may be allowed. Such damages may be deducted by the Department from any monies due the Contractor.

A calendar day is every day on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty-four hours later.

## **SYSTEM IMPLEMENTATION, EQUIPMENT INTEGRATION AND SUPPORT**

The Contractor shall install the ITS components at the locations indicated on the plans.

All ITS components shall be subject to a 30 day burn-in period. During the "burn-in" period, all components shall perform continuously, without any interruption of operation, for a period of thirty days. In the event that there are operational problems during the burn-in period, the burn-in period shall reset back to day one.

The Department will program the ITS components and integrate them into the existing ITS system.

The Contractor shall be responsible for installing the proposed ITS components in accordance with the plans, specifications, and manufacturers recommended practices.

This work will not be paid for separately, but shall be included in the contract bid price.

Added 2/22/2021

## **CONTRACT GUARANTEE**

The Contractor shall guarantee all electrical equipment, apparatus, materials, and workmanship provided under the contract for a period of six (6) months after the date of final inspection according to Article 801.14.

All instruction sheets required to be furnished by the manufacturer for materials and supplies and for operations shall be delivered to the Engineer prior to the acceptance of the project, with the following warranties and guarantees:

1. The manufacturer's standard written warranty for each piece of electrical equipment or apparatus furnished under the contract.
2. The Contractor's written guarantee that, for a period of six (6) months after the date of final inspection of the project, all necessary repairs to or replacement of said warranted equipment, or apparatus shall be made by the Contractor at no cost to the Department.
3. The Contractor's written guarantee for satisfactory operation of all electrical systems furnished and constructed under the contract for a period of 6 months after final inspection of the project.

## **CAT 5 ETHERNET CABLE**

This work shall be in accordance with Sections 873, 1076, and 1088 of the Standard Specifications except as modified herein.

This work shall consist of furnishing and installing an outdoor rated CAT5E cable in conduits, handholes, and poles.

The cable shall be rated for outdoor use and conform to the following specifications:

- Outdoor CMX Rated Jacket (climate/oil resistant jacket)
- UV Resistant Outer Jacket Material (PVC-UV, UV Stabilized)
- Outer Jacket Ripcord
- Designed For Outdoor Above- Ground or Conduit Duct applications
- Cat5E rated to 350MHz (great for 10/100 or even 1000mbps Gigabit Ethernet)
- Meets TIA/EIA 568b.2 Standard
- Shielded Twist Pair
- 4 Pairs, 8 Conductors
- 24AWG, Solid Core Copper
- UL 444 ANSI TIA/EIA-568.2 ISO/IEC 11801
- RoHS Compliant
- Water Blocking Gel

Basis of Payment: This work will not be paid for separately, but shall be included in the contract bid price for CLOSED CIRCUIT TELEVISION DOME CAMERA, IP BASED.

Added 2/22/2021