



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

September 2, 2021

SUBJECT Various Routes
Section 2020-213-I
Various Counties
Contract No. 62M86
Item No. 11, September 17, 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 pages 3, 39, 41, 44, 133-135, 167, 190, 264, 409, 425 & 430 of the Special Provisions

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

S-6 – Buildings/Huts, Towers/Monopole, Fiber Optic Connections, Network Equipment	16	EA	\$	\$	\$
S-7 – Ramp Gates (Homeland Security Installations)	40	EA	\$	\$	\$
L-1 – Expressway Lighting	219	EA	\$	\$	\$
L-2 – Arterial Lighting (includes Signs)	222	EA	\$	\$	\$
L-3 – Combo Lighting	114	EA	\$	\$	\$
L-4 – Navigational Lighting	19	EA	\$	\$	\$
P-1 – Pump Stations	44	EA	\$	\$	\$
V-1 – Various Equipment	111	EA	\$	\$	\$
Total:	5025	--	--	\$	\$

PLANNED LOCATIONS: 500 Refer to Article 6.0 Payment of Master Auth. & Invoices

Planned Locations are locations which at the time of Contract development were not ON-Maintenance or are future new locations to be maintained by the Contractor. Those locations with known addresses are shown in Section 3.

If the number of Contractor monthly maintained locations exceeds 5525 locations (total bidding number of locations (5025) plus the number of Planned Locations (500) the Contractor shall receive the bid price each, for an Additional Location through non-routine pay item GRM1.

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2.15.1 ASSET INVENTORY REPORTS

The Contractor is required to keep records of Department owned equipment, Assets, i.e., at locations in the EMCMS. Entry screens and reports are currently in development for each of the electrical systems herein. Each System has a separate and unique Asset Inventory. It is planned that all Asset Inventories will be maintained through the EMCMS beginning at some point in year 2022. Prior to that loading on the EMCMS, all Asset Reports will be kept current on Excel Spreadsheets maintained by the Contractor.

Each month the Contractor must account for Assets removed, scrapped, sent to Spare Parts Inventory, installed as new, sent to vendor for repair, or moved to a different location. This includes parts or equipment required to be supplied through routine maintenance from Contractor supplied equipment. Required documentation includes keeping current an EMCMS Asset documentation screen; EMCMS Asset Inventories for each Electrical System herein, an EMCMS Transaction Report and the Official Asset Inventory Reports.

The coding of the transfers will be similar to that of the established EMCMS Spare Parts entry and reporting. The EMC System Managers and appointed IDOT System Engineers/Technicians must sign and approve the monthly reports. The Engineer will work with the EMC Administration Manager in January 2022 to establish useable monthly documentation.

2.15.2 AUTHORIZATIONS AND INVOICING

The work process and printing of the EMCMS Monthly Routine Authorization and invoice and the two (2) EMCMS Monthly Master Authorizations and Invoices for Non-Routine work (TS and TSC) is discussed in Article 6.0 herein.

2.15.3 CERTIFIED PAYROLL

All Certified Monthly Payrolls, including Subcontractor Payroll will be submitted via the IDOT SharePoint site and hard copies will no longer be permissible. The EMC Administration Manager must setup a Trusted Account with the IDOT Contract Compliance section. Instructions for payroll submittal may be obtained through the IDOT Contract Compliance SharePoint Contractor User Guide, a pdf document.

In addition, the Federal Department of Labor is also requiring monthly web submittals of payroll information. Instructions will be available at the Pre-Construction Meeting.

Paper copies of all payroll reports should be kept by the Contractor for a minimum of seven (7) years.

2.15.4 CONTRACTOR ADVISORY

The Contractor shall follow the instructions herein Article 2.8. Administratively the submittal shall be on an Excel Spreadsheet, printable to a standard letter size paper. The 1st line shall have column headers for the CA #, date reported/found, System, Location Number, Main Route, Cross Street, Cabinet or unit number if applicable, and on 2nd line the named item, description of problem or malfunction, Contractor proposed solution, and date resolved. These items shall be listed on the Monthly System Meeting Agendas until a solution and date resolved is obtained, or the Engineer reports to the Contractor that the item should be noted as "reviewed – no action to be taken" on the spreadsheet report.

2.15.5 CUMULATIVE WORK AGENDAS

At the end of each month the EMCMS Daily Work Agendas shall be compiled by System, and date, and loaded on the FTP site. A sample of the monthly cumulative agenda report will be available at the Pre-Construction meeting.

2.15.6 DAILY AGENDA REPORTS

Refer to Article 2.14 herein.

2.15.7 DBE – DISADVANTAGED BUSINESS ENTERPRISE GOAL

The Illinois Department of Transportation Springfield sets a DBE goal (percent of contract work) at the time of contract bidding. The EMC Administration Manager shall report verbally on the DBE goal status at each

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2.15.11 RM QUANTITY RECONCILIATION REPORTS

Refer to Article 6.0 herein for monthly routine maintenance quantity report requirements for reconcile of the locations and equipment maintained, for the Monthly Master Authorizations and Invoices.

2.15.12 SCRAP DISPOSAL REPORTING

As noted in Article 4.24 the Contractor may not dispose (scrap) any materials without receiving prior approval from the Engineer. The Department's acceptance/approval signatures on the Monthly System Spare Parts Reports, conveys ownership of the scrap materials to the Contractor. When requested by the Engineer the EMC Administration Manager shall provide documentation of monthly vendor scrap tickets/loads and vendor recycling activity.

2.15.13 SPARE PARTS RECORDS

The Contractor is required to keep records of Department owned equipment, i.e., Spare Parts, at all Engineer approved locations. It is planned that all Inventories will be maintained through the EMCMS at some point in 2022. Prior to that loading on the EMCMS, all EMC Spare Parts Reports will be kept on Excel Spreadsheets maintained by the Contractor.

Each month the Contractor must account for Spare Parts removed, scrapped, installed as Asset, new to inventory, or moved to a different location. This includes parts or equipment required to be supplied through routine maintenance from Contractor supplied equipment. Required documentation includes keeping current an EMCMS Spare Parts Entry Screen, an EMCMS Entry Screen for Construction Contractor delivery or pickup of materials, EMCMS Asset Inventories for each Electrical System herein, an EMCMS Transaction Report and the Official Spare Parts Inventory Reports.

There is required coding of all transfers, and samples will be available of the entry sheets at the Pre-Bid Meeting. The EMC System Managers and appointed IDOT System Engineers/Technicians must sign and approve the monthly reports. The Engineer will work with the EMC Administration Manager in January 2022 to establish useable monthly documentation.

2.15.14 SYSTEMS WORK REPORT

At the time of Contract development, the EMCMS Systems Work Report was in program development. When programming is complete the EMC Administration Manager will be responsible each month to load information from the required Certified Payroll submissions and other pertinent work information. This information includes EMC Contract Personnel names, their union title, and total hours worked each week or month on each electrical system, by straight time, overtime, and double time, and a total of hours, with hours specified by routine work or non-routine work. A monthly Excel spreadsheet with the required information shall be submitted until the EMCMS entry screen/report is available.

2.15.15 THIRD PARTY DAMAGE BILLING

Per Article 4.8 when equipment is damaged by 3rd Parties such as construction contractors, general repair crews hired by cities or agencies, utility companies, and the like, the Contractor shall make necessary temporary repairs under routine maintenance per specifications herein, but may bill the offending party for Contractor work performed.

The EMC Administration Manager shall be the sole point of contact for all 3rd Party billing documentation.

Once the GB (General Billing) Ticket has been created and the Contractor has performed temporary repairs the offending party may be billed:

Process: Send 2nd day UPS/FEDX letter to the offending party explaining:

- The Contract with the Illinois Department of Transportation to maintain the electrical equipment
- Article 4.8 herein (written so article may be copied and attached to correspondence)
- Which equipment was found damaged and on which date

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- When the Vendor is notified that they are approved to provide the new work, the Department will issue a non-routine maintenance authorization for the new work. This is not applicable to Article 2.16.8 planned Vendor work for a mobile Ticket.
- All modifications or new work by the Vendor will be implemented and validated in a fully operational test environment. The ability to test any fixes or change requests will be provided to Department appointed personnel.
- Upon Department acceptance of the new work on the test site the Vendor shall coordinate with the Engineer or EMCMS Coordinator for a time to move the new work to the production system, inclusive of a roll back plan in such case the introduction of the new work creates disruptions in the production system.
- Service restoration following complete interruptions to the EMCMS shall be within four (4) hours, except as otherwise permitted by the Engineer.
- The Engineer shall be immediately notified, if in the judgement of the vendor, that a component replacement is required to forestall preventable system failures. The material costs for this EMCMS equipment replacement would be paid through non-routine maintenance, however, the Contractor shall be responsible for any labor or service installation charges.
- User documentation as developed during this Contract shall be provided by the vendor and given to the Engineer at the end of this Contract.

2.16.7 VENDOR SUPPORT AND TRAINING

The EMCMS is a Windows based system and entry fields requirements are extensive and require training for Contractor and Department personnel use. By January 31st, 2022 (or 2023 or 2024 if this Contract is renewed) the Contractor shall provide the Engineer a list of all personnel who shall be accessing or entering data on the EMCMS. In past contracts approximately 40 to 60 Contractor personnel use the EMCMS.

All personnel shall be scheduled for a minimum of twenty-four hours of training through the EMCMS vendor. Training should not be completely held in one day but spread over many hourly sessions depending on the person's level of experience with the EMCMS, or the Vendor may establish many Zoom "call-in" question/answer sessions throughout the year. All Contractor Administrative personnel shall be trained on the EMCMS for the screens and reports which they access, as soon as possible after the Contractor is validated (prior to January 1st) or the first week of January, 2022. The Contractor Patrolmen shall be trained on the EMCMS as soon as possible after the new mobile Ticket is programmed. The Contractor shall provide, through routine maintenance, the training for Contractor and Department personnel. There are approximately 40 Department users.

2.16.8 VENDOR PLANNED WORK

It is a goal of the Department to have in place as soon as possible in year 2022, a mobile Ticket entry screen, i.e., the ability for a Patrolman to create a Ticket on a tablet or phone. This work plus portions of other planned work such as the Spare Parts Inventory, Asset Inventory, and Preventive Maintenance entry screens have been estimated to take as many as 1000 hours of programming time from the EMCMS vendor which will be paid through routine maintenance. The current Vendor has specified the following tablets for the new EMCMS Ticket:

Android Base Tablets

Tablet must have internet connection. Display 9.7 inches or greater. OS – Android 9.0 or greater. 4 GB Ram or Greater. Must be able to use Google Chrome as internet browser.

Apple iPad

Tablet must have internet connection. Display 10 inches or greater. Must be able to use Google Chrome as internet browser.

Windows Base Tablets

Tablet must have internet connection. Display 10 inches or greater. Must be able to use Google Chrome as internet browser.

2.16.9 EMCMS EQUIPMENT AND SOFTWARE WARRANTIES

The Contractor shall obtain and continue the EMCMS equipment and software warranties for the duration of the Contract starting January 1, 2022 and ending December 31, 2022. If this Contract is renewed the warranties shall be extended to cover each renewal year. Items for coverage include software, the

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- Inspect oil for water intrusion in the motor seal chamber
- Inspect the cable for any signs of abrasion or damage
- Inspect the impeller and casing wear ring

8.38 PUMP REBUILD PROGRAM

General Requirements for All Types of Pump Rebuilds

The rebuild program locations are based upon site inspection and operational data including historical data of the pump capacity and vibration analysis. The pump rebuild program is primarily developed using operational data received by testing and inspecting pumps via various routine maintenance programs and periodic inspections.

The Pump Station Manager shall analyze the condition of the pumps and provide a report, at a minimum on a quarterly basis, which prioritizes the stations/pumps as to which should have a pump re-build.

The Contractor may submit the recommendations for pump repair or replacement any time during each calendar year.

All pump removal and reinstallation for repairs and rebuilds shall be documented in the pump station pump re-build log sheet.

Only Service Companies/Vendors in the tri-state area of Illinois/Indiana/Wisconsin shall be used by the Contractor. The exact procedure necessary for the removal and reinstallation of a complete operational pump is the responsibility of the Service Company.

Routine Work:

This following work, whether by Contractor forces or a Department approved service company, shall be paid through routine maintenance:

- The PS Foreman shall be present for removal and reinstallation of the pump
- Labor to load and unload the complete pump unit on a flatbed truck
- Labor to load and unload pump parts and equipment
- Transportation of the pump or parts to the approved service company shop for repairs and delivery of the pump or parts back to the station upon completion of the repair work
- Re-Installation of the complete pump assembly (pump and parts) including the motor
- All services for start-up and testing prior to putting the pump back in service
- Providing respective warranties which shall be loaded on the FTP site
- Contractor personnel shall coordinate with the Service Company's personnel on scheduling and shall provide service/labor to assist with removals, replacements, energizing, de-energizing, and disconnection of any motor electrical splices at the junction boxes.

Non-Routine Work:

The Contractor shall be paid, through non-routine maintenance agree-price work, if it is necessary to use an approved service company or crane service company and operator for the removal of a pump and its later reinstallation.

The Department shall pay the Contractor through non-routine maintenance pay items (if not available in EMC Spare Parts Inventory) or agreed-price work for the necessary parts and labor necessary for the pump repairs.

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If test results are unsatisfactory the Contractor shall be responsible to analyze the operational problem(s) and resolve to the satisfaction of the Engineer. Pump capacity, vibration tests, motor current, and voltage readings shall be taken upon the re-installation of a pump. The readings and tests shall conform to the pump and motor specifications or be approved by the Engineer.

General Procedures:

Case A:

- Pump is selected for the rebuild program, to be repaired on site

The Contractor shall provide the Engineer a choice of quotes from the EMC or Service Vendors for the rebuild work.

- The quote(s) are analyzed by the IDOT Engineer to determine which company shall perform the repair work through non-routine agreed price work
- Following the repair(s) the pump/part(s) shall be inspected and approved by the PS Foreman.

Case B:

- Pump is selected for the rebuild program, to be repaired with parts from EMC Spare Parts inventory by the EMC or Service Vendor

If the pump and/or EMC Spare Parts are determined (or suspected) to need reconditioning the Contractor shall create an agreed-price authorization so the parts may be sent to a service company (as approved by the Engineer).

- The pump/part(s) shall be inspected and approved by the PS Foreman after reconditioning, prior to installation

Case C:

- Pump is selected for the rebuild program to be repaired but no EMC Spare Parts are available in inventory
- The PS Foreman shall submit a report to the Engineer indicating the type, make, model and material specifications for the pump replacement parts.
- The PS Foreman and the Engineer shall review the manufacturer's pump/pump part(s) literature and test data.
- The pump/part(s) shall be inspected and approved by the PS Foreman before re-installation

MIXED FLOW PUMP ASSEMBLY – PS 25 ONLY

This work, whether by EMC or Service Vendor, shall be paid through routine maintenance:

- De-coupling and removing the motor drive from the pump assembly
- Complete removal of the pump assembly including the discharge column, drive shafting, enclosing tube, and bowl as a complete unit

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MIXED FLOW PUMP WORK – PS 2, 3, 29, 33, 35

This work, whether by EMC or Service Vendor, shall be paid through routine maintenance:

- Disassembly of the pump into the following parts: motor, oil tube sections, shafting, coupling, bearing, bowl assembly, column pipes in sections, motor stand, and set-up for inspection for service and repairs on pump station grounds

WET PIT/ DRY PIT SUBMERSIBLE AND SIDE VOLUTE DISCHARGE PUMPS

2, 3, 5, 7, 8 through 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 36 through 44, 46, 47, 48, 50, 51

This work, whether by EMC or Service Vendor, shall be paid through routine maintenance:

- Setting up for removal, disconnect electric connections
- Disconnecting the drive shaft from the rotating assembly
- Close gate valve and provide a blind flange if necessary, to stop water leaks
- Loosening the bolt of the rotating assembly from the volute
- Remove rotating assembly out from pump station
- Loading and unloading of equipment that requires inspection and repair.
- Removing and installing the open shaft and rotating assembly and setting up inspection

8.39 INTELLIGENT KEY SYSTEM

The Contractor shall research the Intelligent Key System, Medeco XT Basic product (which includes schedules, audits, groups, dashboards, and visual audit) for pump station entrance doors and stations with doors to the trash rack area. The Department will purchase through non-routine maintenance.

8.40 CONTRACTOR AND VENDOR LABOR FOR PS 26 TRASH RAKE

All labor hours necessary for the removal of old or non-useable parts, and the labor (Contractor or Vendor labor/services) necessary for a plannedtma re-installation of a trash rake at PS 26, will be paid through routine maintenance.

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The Skyline NTCIP Central Control Software shall include the following

- Telephone Assistance and/or via email, Monday through Friday, 8am to 5 pm MTN time
- Software upgrades, updates, and new releases or versions of software each time Skyline makes updates available

Solar Winds

Renew software operational support/maintenance agreement for the NPM software, equal to or exceeding SolarWinds Orion Network Performance Management Software. Software maintenance shall include free access to any software updates, upgrades, and 24/7 support from the vendor.

Two-Factor Authentication (2FA)

Two-Factor Authentication (2FA) works by adding an additional layer of security to the VPN user accounts. It requires an additional login credential – beyond just the username and password – to gain account access and getting that second credential requires access to VPN and then to IDOT resources.

Contractor needs to purchase the Duo MFA for 200 Users for two factor authentication (2FA) that will be used to authenticate IDOT VPN users by phone. This is normally a contract, for a monthly minimal charge per user.

Palo Alto Networks Enterprise Firewall

Renew software support maintenance for IDOT Global Network (approximately \$ 18,000 per year)

INET/ATMS

Provide a Technical Support Agreement/Software Assurance Plan with a vendor who has 24/7 on-call service capability, on-line monitoring and intervention capabilities, and experience in programming using the existing software, and:

Qualified programmer(s) who have experience with:

- Hardware and software of the type installed in the Department locations
- A data acquisition system
- Synchronized VMIC front end processors
- Coordination control of Dell Power Edge R720 servers networked to process, control, and archive data from the data acquisition system, within and outside of the Department for traffic management control information dissemination and analytical functions; in an environment similar to that of the Traffic Systems Center.

The Vendor shall:

- Respond to correct and address trouble calls and questions from the Department
- Monitor System Resources and behavior at least once per month
- Check processes, CPU usage, error logs, etc. at least once per month
- Aid and assist the Department in user and database management such as adding and deleting users, adding system detectors, DMS, changes to travel time zones, and resetting user passwords
- Provide log of error messages and actions
- Provide recommended action to be taken by Department on pending issues, which do not need immediate action, but need to be addressed before causing system interruptions
- Complete security updates
- Provide standard monthly report

The Contractor supplied maintenance work shall include custom reports from the Vendor, if requested by the Engineer, paid through non-routine maintenance.

The ATMS software relies on numerous 3rd party software platforms to run. Changes to these components can cause security risks or loss of functionality. The Software Assurance Plan must cover these components:

- Current version of Application Server - (Java or Wildfly)

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The Contractor shall reseal all existing traffic signal detector loop wire which has become exposed or as directed by the Traffic Signal Engineer. The Contractor will clean all debris and damaged detector loop sealer from the existing saw cut. Loop detector wire that is exposed will be reinstalled into the existing saw cut and held in place by wedges prior to the resealing of the detector loop.

10.23.2 Detector Loop Replacement

The Contractor must replace all detector loops, which become inoperable. The cost of replacing the detector loop shall be part of Traffic Signal Routine Maintenance. Detector loops that are damaged by state forces shall be replaced and paid through a Non-Routine Authorization letter.

A detector loop, which is milled out during a pavement resurfacing, will be replaced as part of the Department's resurfacing contract. The Department's Electrical Maintenance Contractor will be notified by the Traffic Signal Engineer to dispatch a patrol person to the location to disconnect the loop detector cable from its terminals and place the affected phase(s) on maximum recall and/or other adjustments made as directed by the Traffic Signal Engineer.

System Detector Loops shall be replaced throughout the entire year. Non-System Loops, at the Contractor's option, between November 30th and March 1st may be replaced by a loop or with a temporary vehicle detector approved by the Traffic Signal Engineer, at no additional cost to the Department. The Department approved vehicle detector shall be installed to provide adequate detection in place of the detector loop to the satisfaction of the Traffic Signal Engineer and it shall be removed and replaced permanently by a detector loop by March 31st. If the Contractor is unable to install cable for the temporary vehicle detector due to frozen or full conduits, with prior approval from the Traffic Signal Engineer, the Contractor may temporarily span the cable overhead as long as proper clearances over the roadway can be maintained. No additional compensation shall be provided for vehicle detector cable or for any special installation requirements.

At locations where the Contractor deems the pavement condition to be unfit to replace an existing inoperable detector loop with a new loop, the Contractor shall, with prior approval from the Traffic Signal Engineer, install a video detection system or other Department approved detection system selected by the Traffic Signal Engineer. The new detection system shall be installed in accordance with the applicable specification under Non-Routine Work. Otherwise the cost of providing and installing the new detection system complete including all necessary connections, monitors, electronics handhole drilling, trench and backfill, unit duct and restoration shall be included in routine maintenance of the traffic signal installation and no extra payment shall be allowed.

10.24 LICENSES TO FURNISH

Furnish software and maintenance agreements (SMAs) to operate, support and maintain all Closed Loop Traffic Signal Systems, Video and Detection Systems, ATSS and related central/traffic (CMS, TMS, etc.) management systems for Contractor personnel and IDOT personnel's laptops and desk computers (approximately 15 locations). This shall include but is not limited to the latest versions of Centrats, Tactics, and Aries as directed by the Traffic Signal Engineer.

The Contractor shall furnish 25 intersection licenses for integration into the IDOT's ATSS system.

At the beginning of the EMC 2022 it is estimated that District 1 will have approximately two hundred fifty (250) intersections with video, radar, wireless or other detection in operation. Video and other detection types will increase each year. The Contractor shall provide license software for each of the System Patrolmen who have video and other detection types in their respective area. The System Patrolmen shall be fully instructed in the operation and maintenance of each detection system.

At the beginning of the EMC 2022 it is estimated that District 1 will have one hundred fifty (150) tilt/pan/zoom video cameras in operation. The Contractor shall provide licensed software for each of the System Patrolmen which have this video in their respective areas. The System Patrolmen shall be fully instructed in the operation and maintenance of these cameras.

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Outage. Normally the State's Radio Tower contract will replace outages, however, this pay item will be used in cases where the Engineer requests special outage replacement.

The patrolman shall inspect the beacon light to isolate any problem by checking breaker, flasher circuit and associated controls.

The defective lamp and the remaining lamps on the same level shall be replaced within 24 hours of notification to restore the beacon lighting of the tower. If it needs a new or different flashing control board, the Contractor should order the part by overnight delivery or furnish temporary lighting to restore beacon lighting within 24 hours at no extra cost to this pay item.

Method of Measurement. Microwave tower flashing beacon light restored, and group relamp of remaining lights at that elevation, shall be counted, each.

Basis of Payment. This work shall be paid at the contract unit price each for a RADIO TOWER BEACON RELAMP, which price shall be payment in full for furnishing parts, labor and equipment to restore a beacon light and relamp the remaining lights at that elevation, as specified herein.

GRM1

ROUTINE MAINTENANCE ADDITIONAL LOCATION

Description. *This pay item provides a monthly payment for each additional location of equipment maintained, each month, (maintained on-maintenance on the last day of the month) that exceeds the 5025 locations of equipment as listed for bidding in the Schedule of Prices, plus the 500 Planned Locations.*

Method of Measurement. *The Contractor shall provide the Engineer monthly, an Excel spreadsheet with quantities by county by System, and EMCMS Routine Maintenance Quantity Report which shows total number of all locations maintained by System each month.*

Basis of Payment *The work shall be paid at the Contract unit price, each, for ROUTINE MAINTENANCE ADDITIONAL LOCATION, maintained on the last day of each month, in a calendar year, which exceeds 5525 equipment locations maintained by the Contractor per month, which shall be payment in full for completing the work as described herein.*

GSD1

SIDEWALK, REMOVE AND REPLACE

Description. This work consists of the removal and disposal of existing sidewalk and the construction of new sidewalk at locations shown on the plans, in accordance with Sections 424 and 440 of the Standard Specifications for Road and Bridge Construction and as directed by the Engineer.

Method of Measurement. Sidewalk removal and replacement shall be measured for payment in place and the area computed in square feet.

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Basis of Payment. This item shall be paid for at the contract unit price each for WIRELESS VEHICLE DETECTION SYSTEM, which prices shall be payment in full for the work described herein including all labor, patch cords, and any other materials necessary for the successful installation, testing, and integration as stated herein.

**SWP1
SURVEILLANCE WATCH AND PROTECT**

Description. *The Contractor shall furnish manpower as directed by the Engineer to provide watch and protect services for contractors working on, around, or needing access to IDOT Surveillance System equipment ON-Maintenance or equipment OFF-Maintenance or new equipment under construction.*

The Contractor shall be responsible for monitoring construction contractor's excavation on or around and entering Department fiber optic facilities and to help prevent damage from being done to critical Department equipment.

The Contractor shall be responsible for providing access to Surveillance System Department communication shelters, huts, or remote buildings for work being done by others as part of other IDOT construction contracts, overlapping ISTHA contracts that involve work on IDOT ROW, or IDOT Permit work.

The Contractor shall monitor work being done by others to help prevent damage or interruption of services to critical IDOT critical fiber/network equipment.

This work does not include scheduled Ticket Service Requests by Department personnel to provide access to IDOT Pump Stations.

Method of Measurement. *The work shall be measured per hour for each instance Watch and Protect is provided for the Surveillance System.*

Basis of Payment. *This work will be paid for at the contract unit price per hour for Watch and Protect, which will be payment in full for manpower requested or scheduled by the Department and provided by the Contractor.*

Revised 9/2/2021

Description. This item shall conform to the requirements of sections 877 of the Standard Specifications for Road and Bridge Construction, the District 1 Traffic Signal Special Provisions and the current Highway Standard, "Steel Mast Arm Assembly and Pole", except as revised herein.

Prior to the final acceptance of any Steel Mast Arm Assembly and Pole, Contractor must furnish to the Engineer a certified, notarized mill analysis of the material used in the Steel Mast Arm Assembly and Pole.

This item, when applicable, shall include the relocation of existing sign panels currently installed at the location.

If the proposed mast arm assembly is replacing an existing mast arm, the relocation of any existing equipment, as directed by the Engineer, including but not limited to Signal Heads, Pushbuttons, EVP, PTZ, Video Vehicle Detection, Radar Vehicle Detection in addition to the removal of the existing mast arm assembly shall be included in this item. The Contractor shall retain ownership of the existing mast arm assembly.

The mast arm shall be fitted with stainless steel mesh in accordance with the Standard Specifications for Road and Bridge Construction.

Basis of Payment. This work shall be paid at the contract unit price each for furnishing and installing a STEEL MAST ARM ASSEMBLY AND POLE as described above, which price shall be paid in full for all work and materials as described herein and includes furnishing, installing, delivery, handling and all appurtenances and mounting hardware necessary for a complete assembly as directed/approved by the Traffic Signal Engineer.

TMA1 Steel Mast Arm Assembly and Pole 28 ft to 40 ft

TMA2 Steel Mast Arm Assembly and Pole 42 ft to 55 ft

TMA3 RELOCATE OR INSTALL MAST ARM ASSEMBLY AND POLE FROM CONTRACT SPARE PARTS

Description. This item shall conform with sections 877 of the Standard Specifications for Road and Bridge Construction and District 1 Traffic Signal Special Provisions except as revised herein. The mast arm assembly and pole shall come from Contract Spare Parts or be relocated from one foundation to another foundation at the same intersection or another intersection as indicated on the plans. All transportation costs to move the mast arm assembly and pole from Contract Spare Parts to the intersection or from intersection to intersection are included in this item. Existing holes in the mast arm assembly and pole shall be plugged as directed by the Traffic Signal Engineer. The Contractor shall install stainless steel screening at the base of the mast arm in accordance with the Standard Specifications for Road and Bridge Construction. The cost of furnishing and installing screening or a new shroud shall be included in this item.

This item, when applicable, shall include the relocation of existing sign panels currently installed at the location.

If the proposed mast arm assembly is replacing an existing mast arm, the relocation of any existing equipment, as directed by the Engineer, including but not limited to Signal Heads, Pushbuttons, EVP, PTZ, Video Vehicle Detection, Radar Vehicle Detection in addition to the removal of the existing mast arm assembly shall be included in this item. The Contractor shall retain ownership of the existing mast arm assembly.

The mast arm shall be fitted with stainless steel mesh in accordance with the Standard Specifications for Road and Bridge Construction.

Basis of Payment. This work shall be paid at the contract unit price each for RELOCATE OR INSTALL EXISTING MAST ARM ASSEMBLY AND POLE FROM CONTRACT SPARE PARTS, as described above, which price shall be paid in full for all work and materials as described herein and includes furnishing, installing, delivery, handling and all appurtenances and mounting hardware necessary to relocate a mast arm pole assembly or install a mast arm assembly from Contract Spare Parts as directed/approved by the Traffic Signal Engineer.

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Traffic Signal Design Details, except as revised herein. All traffic signal sections shall have twelve inch lenses unless otherwise stated on the plans or as directed by the Traffic Signal Engineer. At locations where new signal heads are replacing existing signal heads, the removal of the existing signal heads and mounting hardware shall be included in this item and the Contractor shall retain ownership of the existing used signal heads.

All mounting hardware shall be new and shall be included in the pay item for signal head. Visor type, including louvers, shall be as directed by the Traffic Signal Engineer. The pay items listed below shall include either bracket mounts or mast arm mounts as required by the plans or directed by the Traffic Signal Engineer. Any modifications to mounting hardware shall be included in this item.

Backplates and type (standard or reflective), as directed by the Engineer, shall be included in these items.

Basis of Payment. This work shall be paid at the contract unit price each for LED SIGNAL HEAD of the number of sections specified OR LED SIGNAL HEAD, OPTICALLY PROGRAMMED of the number of sections specified, which price shall be paid in full for all work as described herein and as approved by the Traffic Signal Engineer. Removal, salvage, or disposal of existing heads and related mounting hardware and backplates shall be included in these items.

- TSL1 LED Signal Head, 3 Section
- TSL2 LED Signal Head, 4 Section
- TSL3 LED Signal Head, 5 Section
- TSL4 LED Signal Head, Optically Programmed, 3 Section
- TSL5 LED Signal Head, Optically Programmed, 5 Section

TSL6 LED SIGNAL FACE, LENS COVER

Description. This work shall consist of furnishing and installing a signal lens cover with the purpose of preventing snow buildup on and around a signal lens allowing for clear indication during inclement weather.

This item shall fit over a 12 inch signal head lens and shall include the clear lens cover, attachment collar and any clips or fasteners necessary to fit it flush. The cover shall be installed in accordance with the manufacturer's instructions and in a manner that prevents dust, debris, or moisture buildup on the inside of the lens cover that could affect the signal indication visibility.

The snow resistant signal head lens cover shall be warrantied, free from material and workmanship defects for a period of three years from final inspection.

Basis of Payment. This work shall be paid at the contract unit price each for LED SIGNAL FACE, LENS COVER, as described above, which price shall be paid in full for all work as described herein including furnishing, installing, and all mounting hardware necessary for a fully operational snow resistant signal head lens cover as approved by the Traffic Signal Engineer.

TSL7 LED SIGNAL FACE, VISOR HEATER

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