



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

October 13, 2021

SUBJECT Various Routes
Section 2020-213-I
Various Counties
Contract No. 62M86
Item No. 107, November 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 pages 44, 54, 82, 96, 100, 136, 153, 154, 156, 162, 164, 190, 196 & 206-211 of the Special Provisions
2. Added pages 40A & 100A to 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

2.15.9.1 MCHD PAYMENT TO THE ILLINOIS STATE TREASURER

The IDOT Claims Department processes the MCHD invoices as delivered to them from the Contractor per Article 2.15.9. The invoices (on Contractor letterhead) as mailed to the insurance companies by the IDOT Claims Department have a cover letter stating that the payment is to be made to the Illinois State Treasurer. Some insurance companies do not read the cover letter and accidentally pay the MCHD Invoice directly to the Contractor. In these cases the Contractor is not to accept payment but will return the check to the insurance company. If the Contractor accidentally cashes a check which should have been sent to the IDOT Claims Department, the Contractor must issue a check for the due amount to the Illinois State Treasurer, which shall be delivered to the IDOT Claims Department. The Contractor's check shall state the Ticket number and IDOT Claim number. This new payment information shall also be noted on the monthly MCHD report as provided by the Contractor (cumulative yearly spreadsheet) per Article 2.15.9

The Contractor is not to discuss with insurance companies, or claimants any motorist caused damage Ticket or Contractor repairs, payment due the Department or any other matter relating to this contract's language regarding motorist caused damage. All letters, emails, or phone calls shall immediately be forwarded to the IDOT Claims Department, 201 W. Center Ct, Schaumburg, Illinois 60173. The Department shall provide the names and emails and phone numbers of Claims personnel at the Pre-Construction Meeting.

2.15.10 PERSONNEL CHANGES

At the end of each month the Administrative Manager shall create a spreadsheet report which lists all the new employees and removed employees from the Contract work. This personnel information must be kept current in the EMCMS. There is planned EMCMS programming work which would allow the EMC Administration Manager the privilege to add and delete EMC personnel. When this EMCMS work is complete the report will no longer be necessary.

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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 1st, 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. It is a requirement that all Contractor assigned Patrolmen shall use the EMCMS on a tablet as specified and required herein.

All Contractor Administrative and Dispatch personnel shall have eight (8) hours of special in person training from the EMCMS vendor for the EMCMS screens and reports which they access, as soon as possible after the Contract is awarded (prior to January 1st) or the first week of January, 2022.

All Patrolmen, other Contractor personnel, and new Department personnel using the EMCMS shall be scheduled for a minimum of eight (8) hours of in-house training through the EMCMS vendor in January or February each year. For the remainder of the year the Vendor may continue in-house training or establish web/Zoom "call-in" question/answer sessions, for an additional sixteen (16) hours spread-out during the year, for specified screen or report training for all personnel (Contractor or approximately 30 Department users). The Contractor Patrolmen shall be trained on the EMCMS as soon as possible after the new mobile Ticket is available.

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. The completion or modification of this work plus other planned work or modifications of existing EMCMS screens and reports such as the Spare Parts Inventory, Asset Inventory, and Preventive Maintenance entry screens have been estimated to take as many as 700 hours of programming time from the EMCMS vendor which will be paid through routine maintenance. The Contractor shall furnish the assigned System Managers, Patrolmen and Repair personnel (Foremen), Night Survey Patrolman and Dispatch Supervisors each a computer tablet (one of the following as listed below) as required for the new EMCMS Ticket and Patrol information entries:

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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- Familiar with TCP/IP Stack, five layers
- Valid electrician's card
- Familiarity with OSHA Safety Standards
- Familiarity with IDOT Traffic Control Standards
- Ability to communicate effectively
- Maintain valid driver's license

3.12 SURVEILLANCE WORK CREW

Work performance requirements herein dictate that employees assigned duties shall have:

- IMSA level I and IMSA Work Zone Temporary Traffic Control
- Ability to perform repairs of surveillance equipment, cameras, dynamic message signs, ramp metering equipment/cabinets, loops, cable, and other equipment as listed herein
- Advance training in NEC and MUTCD guidelines and methods in the last 3 years
- Experience in splicing, termination and testing of fiber optic cable
- Extensive experience in the repair of REVLAC and RACS Equipment
- Extensive experience in the operation and maintenance of the REVLAC and RACS system
- Extensive experience in the IDOT VDS network digital and analog
- Experience with FSK tone telemetry system
- Experience with telephone data line troubleshooting
- Experience in fiber enhanced and LED DMS maintenance
- Familiarity with basic electronics and electronic components
- Familiarity with large scale FSK tone telemetry systems
- Familiarity with various types of telecommunication systems
- Familiarity with single mode fiber optic cable installations
- Familiarity with OSHA Safety Standards
- Familiarity with IDOT Traffic Control Standards
- Ability to communicate effectively
- Maintain valid driver's license

3.13 TELEMETRY SPECIALIST AVAILABLE EQUIPMENT

The following equipment (as owned or leased by the Contractor) shall be available when requested by the Department.

- Tempo Data Scout DSO Timms Test set or better
- OTDR Fiber Optic Tester w/launch kit ST/LC/SC Connectors – (MAX-720C-Q1-QUAD-Oi-EI-EUI-91-iADV-VFL-FOA-32-00-UPC-FIPT-400-SC-UPC-00-FR2)
- Cable Labeler – Brother Model as specified herein
- Power Meter Light Source (EXFO – FLS-600-EI-EUI-UPC/SC) 'with connectors adapters – FOAS-32, FOAS-54, and FOAS-98)
- Visual Fault Locator (EXFO - FLS-240 POCKET PAL)
- Ethernet Cable Tester – (DataScout - DS-COMBO-10G)
- Fluke TS22 Test Set w/Piercing Pin Clips (FLK-22800001)
- Greenlee Nylon Fish Net Tape – 3/16" x 100 ft. (GRE-FTN536-100)

3.14 PUMP STATION SYSTEM MANAGER

Work performance requirements herein dictate that the assigned Pump Station Manager shall have:

- Technical Institute certificate or Electrical Engineering diploma

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A Department authorization of work, written on the EMCMS, shall be received, and accepted by the Contractor, on the EMCMS, prior to the start of all non-routine work. Written correspondence will not be used. Any non-routine maintenance work undertaken by the Contractor prior to receiving an Engineer approved authorization is done at the Contractor's own risk. It is the Contractor's responsibility to review daily, on the EMCMS, the list of authorizations which have been transmitted to the Contractor.

If the Contractor does not believe desired completion date will be met or it is found that there is extenuating circumstances after the work has started such as Contractor inability to access the location, or safety reasons, both parties must agree on a new completion date and the Department EMCMS Coordinator shall enter in the EMCMS.

Should the Engineer determine, however, that the Contractor did not make a conscious effort to meet and agree on a new completion date, the Contractor may be assessed liquidated damages for not completing the work by the due date.

Agreed work shall be performed using first shift labor rates for straight time unless Engineer approval is given to use first shift overtime or double-time rates. Normally Contractor scheduled work for second or third shift hours will be paid through first shift labor rates.

The Contractor shall keep time records of all labor on non-routine authorizations. When requested by the Engineer the Contractor shall forward these records of Contractor or Sub-Contractor or Vendor work.

5.5 TYPES OF EMC NON-ROUTINE WORK AUTHORIZATIONS

5.5.1 UNIT PRICE AUTHORIZATIONS (PIWA)

Unit priced (Pay Item) non-routine work (PIWA) shall consist of work which has been authorized based upon the unit prices (Pay Items herein) as bid on this Contract for the various non-routine work items. The Department may use any pay item from one system on another system. As examples, a Traffic Signal System pay item may be used for a Surveillance System authorization or a Lighting System pay item may be used for a Various System authorization.

In the Standard Specifications for Road and Bridge Construction, per Article 104.01 Intent of the Contract, it states " Payment to the Contractor will be made for the actual measured quantities performed and accepted or material furnished and accepted according to the contract, and the scheduled quantities may be increased, decreased, or omitted as herein provided." (Per Article 5.1 herein, the Department is under no obligation to authorize any non-routine work.)

The Engineer will approve and transmit an Estimated Authorization to the Contractor on the EMCMS. Pay item quantities will be based upon the initial scope of work. The Engineer will attach special instructions and/or plans to the authorization which the Contractor should review before acceptance of the work. The Contractor shall accept the authorization in the EMCMS within three (3) days of transmittal from the Department or notify the author that a review of the authorization is necessary before acceptance.

The Department shall authorize pay item work per the needs of the Department and the Contractor cannot refuse to provide the work or materials unless conditions are met for an increased agreed payment per Standard Specifications for Road and Bridge Construction.

For a savings to the Department, the Engineer may allow the use of EMC Spare Parts in a non-routine agreed work authorization, which will be clearly stated to the Contractor in the authorization instructions or attachments when the authorization is transmitted by the Engineer.

When the work is complete the Contractor enters in the EMCMS, the completion date, corrects any items of work or quantities as necessary, attaches all requested documentation, and notifies the author of the authorization via the EMCMS auto-email, to perform a Final Inspection of the completed work.

If following the Department inspection of the work, the work items and quantities or requested documentation are not correct the Contractor shall be notified by email and via the EMCMS. The Contractor must correct the errors in the EMCMS and re-notify the author by the EMCMS auto-email notification.

Correct items and quantities and requested documentation must be entered/attached in the EMCMS Final Authorization for Department review, or the Engineer will not approve/transmit the authorization for Contractor invoicing.

Mobilization:

Revised 10/13/2021

The Contractor shall maintain all Light Towers (also known as High Mast Light Towers (HMLT) which can reach up to 160 feet in height. The towers have a lowering ring for mounting luminaires and for service at ground level. The lowering ring can be raised or lowered using a portable drive unit or built in drive with a remote control for safety. When performing tower work and/or inspection that require lowering the ring, the Contractor shall relamp and clean the inside and outside of all luminaires and any traffic monitoring camera if installed.

If unable to lower the tower ring the Contractor shall provide boom lift equipment necessary to perform the work or outage repair, keeping repair time schedules herein.

Certain light towers have traffic monitoring cameras installed which are maintained through the Surveillance System.

The Contractor shall maintain the light tower service pad and repair if damaged.

For rust inspection requirements refer to Article 7.22

The ground well/rod if defective shall be repaired or replaced.

Light Tower Foundation:

It is the Contractor's responsibility to be knowledgeable of requirements for light tower foundation construction and current approved Department Standards.

Minor repairs to concrete foundations shall be completed within seven (7) calendar days from the date of discovery/issuance of a ticket. A full tower foundation replacement shall be approved by the Engineer.

7.6 SPECIAL LIGHT TOWER SITUATIONS – NON-ROUTINE MAINTENANCE

If the Contractor discovers or is informed of structural damage to a light tower for any reason (motorist caused damage, PM inspection or Department inspection) the Engineer shall be immediately notified to approve the immediate removal of the light tower which will be paid through non-routine maintenance pay items where applicable and agreed-price for location specific crane expenses. Applicable Non-Routine Pay Items include:

- Light Tower (Remove and Re-Erect)
- Labor and Equipment to Clear Site for Safety
- Temporary Lighting (installation and removal)
- Traffic Control, in this situation
- Furnish Replacement Light Tower, only if not available in EMC Spare Parts Inventory
- New Foundation (if required, removal and replacement)

The Department reserves the right to use EMC Spare Parts for all material replacements as necessary.

Temporary Lighting in Place of Tower:

The Contractor shall install temporary light poles within three (3) days and shall order the material and complete the reinstallation of the light tower within a five (5) month period.

7.6.1 TOWER STRUCTURAL RESPONSIBILITY

The Department relies on the Contractor to inform the Department when structural problems are thought to be present on light towers (or communication towers herein discussed in Articles 9.0 and 11.0), however, structural problems or deficiencies in tower design are not the responsibility of the Contractor.

7.7 TUBE LIGHTS (L-1 & L-2)

The Contractor shall maintain the tube lighting to Department Standards at:

- L 0867 I 90 94 KENN @ Grand Ave
- L 0903 I 94 RYAN @ 99TH St Tunnel

- Navigation lighting outages
- Beacon lights on radio towers and base stations
- Other outages
- Off-maintenance location outages

If the Contractor Night Outage Patrol is conducting the outage patrol for the Surveillance System, that would be an additional category.

The Excel spreadsheet report shall be loaded on the FTP site by 12 noon and shall include a column for:

1. Date of NP (Night Patrol) Outage Found
2. Outage Replacement Date (open)
3. Contractor Repair Crew Outages Found & Replaced (open)
4. County
5. EMCMS location number and name
6. Cabinet unit numbers
7. Ticket number
8. List problem reported on Ticket
9. Use column to note Tickets where work is not completed (open)

The spreadsheet shall be formatted with above columns so the user can sort for all monthly outages by each of the categories and columns shown above.

Outage Report # 2 – All Outage Replacements

On the first Monday workday of the next month the Contractor Night Outage Patrolman shall complete the monthly Excel spreadsheet Outage Report # 1 with all the Replacement information available (columns 2, 3, and 9) and load on the FTP Site.

Outage Report # 3 – Repeat Outage & Replacements

At the end of each two months the Contractor shall provide a Repeat Outage Report, an Excel spreadsheet which shows by Categories; the County, EMCMS location number and name, and cabinet unit number, of outages and replacement dates (or non-replacement dates) which have appeared in both of the last two months. This report shall be emailed to the IDOT Lighting System Manager for review.

7.12.1 NIGHT OUTAGE PATROL FOR SURVEILLANCE DMS

In addition to Lighting System duties in Article 7.12, the Contractor's Night Outage Technician shall perform a night-time patrol of the Surveillance System DMS (Dynamic Message Signs) to assure safe, operational conditions of equipment and materials, and to assure that all installations are performing at the level of service for which they are designed. The patrol survey shall include installations for which maintenance responsibility has been temporarily transferred.

Create Tickets for:

- Any blocking tree branches, or bushes which obstruct the motorist's proper site line
- Message visibility/distortions
- Panel malfunctions
- LED malfunction
- Discoloration problem
- Physical damage
- Power outage

Revised 10/13/2021

7.13 RESPONSE AND REPAIR TIME REQUIREMENTS

Article 4.0 discusses general response requirements of routine maintenance. The following chart lists routine maintenance maximum response time, service restoration, and permanent repair times specifically allowed.

- **Service Response Time** -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location
- **Service Restoration Time** – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage, the undamaged portions of the system are operational.)
- **Permanent Repair Time** – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement

INCIDENT OR PROBLEM	Response Time	Service Restoration Time	Permanent Repair Time
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ARTICLE 9.0 - SURVEILLANCE SYSTEM

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Reporting requirements herein listed in Article 9.12 apply to Articles 9.13 through 9.22.4.

*If IDOT Inspector is not in attendance.

Article #	PM Program	Monthly Submittal	Report Type
9.13	Monthly Site Maintenance	Jan-Dec	FTP-GPS Photo
RAMP METERING			
9.14.1	Monthly Ramp Metering Quick Check	Jan-Dec	Tickets
9.14.2	Quarterly Ramp Meter. Cab. Inspect. & Clean.	Mar-June-Sept-Dec	FTP-GPS Report
SURVEILLANCE CABINET			
9.15.1	Yearly Cabinet Inspection & Cleaning	Jan-Nov	FTP- GPS Report
DMS			
9.16.1	Monthly DMS Night Patrol	Jan-Dec	Tickets
9.16.2	Quarterly DMS Cab.& Sign Inspect. & Clean.	Mar-June-Sept-Dec	FTP- GPS Report
9.16.3	Yearly DMS Sign Support Inspection	June-July	Tickets
REVLAC			
9.17.1	Monthly REVLAC Transition Patrol	Jan-Dec	Tickets
9.17.2	Monthly REVLAC Building Quick Check	Jan-Dec	Tickets
9.17.3	Twice Per Year REVLAC Equip Inspt/Cleaning	April-May & Sept-Oct	*GPS Photo
9.17.4	Yearly REVLAC Building Inspection & Cleaning	April-May	*GPS Photo
CAMERA			
9.18	Yearly Camera Inspection & Cleaning	March-Oct	Tickets
HUT & TOWER LOCATIONS			
9.19.1	Monthly Hut & Tower Location Quick Check	Jan-Dec	Tickets
9.19.2	Quarterly Monthly Generator Testing	Jan-Dec	FTP-GPS Photo
9.19.3	Yearly Hut & Tower Inspection & Cleaning	April-June	*GPS Photo
9.19.3.1	Communication Tower Inspection	April-June	FTP- GPS Report
9.19.4	Yearly Count Station Inspection	May-July	Tickets
RAMP GATE			
9.20	Yearly Ramp Gate Inspection	May	Tickets
VENDOR MAINTENANCE			
9.21.1	Yearly UPS Vendor Maintenance	March	FTP-Service Rpt
9.21.2	Yearly HVAC Vendor Maintenance	Early June	FTP-Service Rpt
9.22.3	Twice Per Year Liebert Vendor Maintenance	Early June – Late Nov	FTP-Service Rpt
9.22.4	Yearly Fire Extinguisher Vendor Maintenance	November	FTP-Service Rpt

9.13 SITE MAINTENANCE

Revised 10/13/2021

Site maintenance is required for S-4 REVLAC buildings (A, C, D, E) and S-6 Surveillance huts and tower locations, and locations from Article 11.0 - FRB, and RRB, and TSC (winter only). All work shall be scheduled on the Daily Agenda.

Winter Site Maintenance - November through March

The Contractor shall perform snow removal operations. When the snowfall total reaches 2” inches or there is sleet/ice formation in any District 1 area, all the parking areas/lots and sidewalks of the REVLAC buildings (S-4) and Huts/Tower locations (S-6) shall be plowed/shoveled and salted, starting with the TSC location, which should be cleared and salted by 6:30AM on workdays and remaining locations completed by 10:00AM on workdays, for the safety of EMC personnel.

Outdoor Site Maintenance - Spring/Summer/Fall – April through October

The Contractor shall perform grass cutting, branch cutting and removal, trash removal, do insect/tick and weed killer spraying a minimum of once per month for the approach/path to the structure/cabinet and within the fenced area of the structure/cabinet. The TSC location is exempt from this monthly requirement.

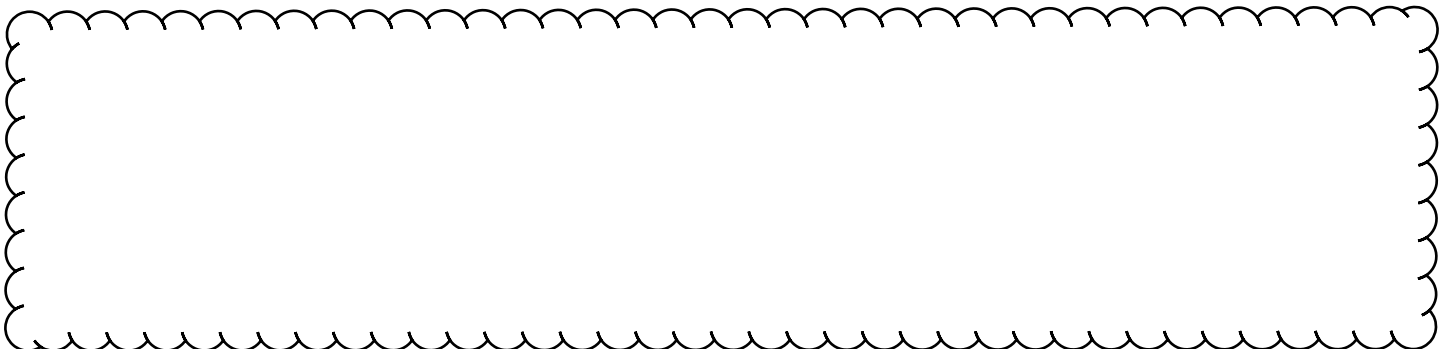
The Contractor shall take two (2) GPS Photos (by phone) one before work begins and the second after work has been completed. (Report Type # 2) which shall be submitted monthly on the FTP Site.

Indoor Site Maintenance – Monthly All Year

The Contractor shall clean all floors once per month with Simple Green cleaner, which is approved for use in areas with electrical equipment, with plain water and an industrial specified mop and bucket. This work may be combined with other monthly site maintenance requirements. The TSC location is exempt from this monthly requirement.

The Contractor shall take two (2) GPS Photos (by phone) one before work begins and the second after work has been completed. (Report Type # 2) which shall be submitted monthly on the FTP Site.

9.14 RAMP METERING PM



9.14.2 QUARTERLY RAMP METERING CABINET INSPECTION & CLEANING

Mar-June-Sept-Dec Between 7:00AM and 10:00AM and 2:00PM and 3:00PM:

The Contractor shall submit a Report Type # 3 (GPS Report) for the monthly FTP Site submittal. This PM program is one of the planned tablet EMCMS entry formats. The cabinet inspections and cleanings include:

- Replace Control Cabinet Filter Media
- Inspect Loop Detectors

Revised 10/13/2021

9.16 DMS PM

9.16.2 QUARTERLY DMS CABINET & SIGN INSPECTION & CLEANING

March, June, September, and Dec. (between 9:30AM and 2:00PM)

The Contractor shall perform an inspection and cleaning of each DMS cabinet and sign and submit a Report Type # 3 (GPS Report) for the monthly FTP Site submittal. This PM program is one of the planned tablet EMCMS entry formats. The cleaning materials and procedures shall be approved by the Surveillance System Engineer prior to the start of work.

The inspection includes but is not limited to:

- Replace Control Cabinet Filter Media
- Verify photocells operation
- Verify functioning of fans/heaters; replace or repair
- Check cabinet and meter foundation and tighten foundation bolts at the base of cabinet
- Seal all ducts with steel wool and duct seal.
- Replace filters
- Inspect/test battery backup units (BBU's) where applicable
- Inspect/test PDA's where necessary
- Log into DMS Controller with vendor diagnostic software
- Verify proper operation in remote and local modes
- Verify proper firmware is loaded and proper sign configurations are loaded
- If necessary, load correct firmware and configuration and check with Contractor Telemetry Specialist that the DMS is operating properly
- Inspect communications and power cables incoming and outgoing
- Replace cables where insulation is deteriorated
- Verify with Contractor Telemetry Specialist the message correctness and LED intensities on the DMS sign
- Replace LED panels as needed
- Check voltage levels of power supplies and battery and adjust where needed
- Check blank-out functions, power failure, and communications failures
- Check meter housing making sure it is seated properly, and weather tight. If any problems, coordinate with utility company.
- Check for loose connections to power cables and communications cables
- Check ribbon cables in sign enclosure for worn spots or breaks in the cable/insulation.

Revised 10/13/2021

9.19 HUT & TOWER LOCATIONS PM

9.19.1 MONTHLY HUT & TOWER LOCATIONS QUICK CHECKS

This preventive maintenance program may be performed at the same time as the requirements of Article 9.13 (Winter, Outdoor, and Indoor Site Maintenance).

Specific items to be tested/inspected and repaired as necessary, (or create Follow-Up Tickets) but are not limited to:

Equipment at Huts & Tower Buildings

- Alarms, and Indicators on all equipment
- Electrical Service

Building Interior and Exterior

- Applicable Outdoor and Indoor Site Maintenance per Article 9.13
- Address rodent infiltration – use duct seal and steel wool to fix
- Spray for Insects – ants, etc.
- Seal any openings found

Check these items: Create Tickets for Follow-Up Work:

Graffiti
Lighting Outages – specify type and size on Ticket
Phone line problems
Roof Leaks
HVAC Repairs

9.19.2 QUARTERLY GENERATOR TESTING

The Contractor shall test the generator at thirteen (13) hut and tower locations, and Traffic Systems Center once per quarter, at approximately the same date each quarter. Locations include H55B, H55WS, H57A, H57B, H80, H94, HRIV, TFOS, THIL, TNOR, TPLA, TSTA and TSC.

The Contractor shall submit a Report Type # 2 (GPS Photo) for the quarterly FTP Site submittal.

- Check control panel and transfer switch operation
- Check engine oil and coolant levels
- Check that block heater is working
- Check battery charging system/battery tender
- Check for holes or leaks and loose connections in the air cleaner
- Check fuel level and fuel transfer pump operation
- Check for exhaust system leaks or restrictions
- Drain the condensation trap
- Check all meters, gauges, and indicator lamps
- Check oil reservoir and battery acid level and maintain proper operating levels
- Check the air filter monthly and change at specified intervals
- Exercise generator at full load for one (1) hour
- Note any rusting on the generator and its enclosure (for future non-routine work)
- Check for fluid/fuel leaks
- Check generator fuel and note level
- Check re-circulating pump

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7. Remote Control CCTV:

- Dust and clean all equipment, check operations and levels and settings

8. Alarms Checks on the following equipment:

- iMpath
- Optelicom
- Meridian
- Bosch
- Cisco
- IFS
- iMux
- Check and clean PLC
- Check media converter
- Check fiber transceiver

9. General Items:

- Replace or repair corroded conduit, junction boxes and connectors
- Replace or repair damaged weather stripping and/or minor leaks
- Replace batteries in the surge arresters, building clocks, and other equipment, per manufacturers' specifications
- Check heaters for correct operations
- Check door operations

10. Roof:

The Contractor shall thoroughly clean the roof and remove surface dirt, debris and contaminants. The roof drains shall be unclogged, and minor repairs performed (review roof repair work at REVLAC locations, Article 9.17.4).

9.19.3.1 SURVEILLANCE SYSTEM COMMUNICATION TOWER INSPECTIONS

The Contractor shall perform a yearly Communication Tower Inspection during the Hut and Tower PM program, once per year, from April through June (in same month if Contract is renewed). Refer to applicable specifications of work from Article 7.22 (light towers). Submit a GPS Photo Report

9.19.4 YEARLY COUNT STATION INSPECTION

The Contractor shall perform manual traffic counts at five (5) percent of the Surveillance Count Stations in District 1 or as directed by the Engineer in May, June & July. The Contractor shall manually count each lane of the count station for a pre-determined one-hour duration. The Contractor work start, and end times shall be coordinated by Contractor Telemetry Specialist who shall synchronize the INET/ATMS clock used to start and end the hourly data collection sequence. These hourly counts will be used to validate the calculated INET/ATMS volumes collected along the corridor. The Department shall analyze the collected data and compare to the calculated INET/ATMS data.

9.20 RAMP GATE PM INSPECTION

All gates installed on the entrance ramps to expressways (42) shall be operated and tested once per year, in April, in presence of an IDOT inspector. The Contractor shall hand clean the gates with Simple Green or a biodegradable detergent, and water. The Contractor shall lubricate pivot bearings and locking arm with spray grease, inspect cone cabinets, and lubricate locks.

The IDOT Inspector shall determine if the striping shall be replaced. The striping work shall be performed in the field at the time of this inspection. The procedure shall be to hand clean the old striping while the gate is in its closed position, and then apply the new striping over.

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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 the latest versions of Centracs, Tactics, and Aries as directed by the Traffic Signal Engineer.

The Contractor shall furnish 25 Centracs 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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ARTICLE 11.0 – VARIOUS SYSTEMS AT VARIOUS LOCATIONS

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- 11.26 VARIOUS SYSTEMS COMMUNICATION TOWER INSPECTIONS

The Contractor shall submit the Type # 3 and Type # 4 Report formats to the Engineer and IDOT System Manager for approval at the Pre-Construction meeting, so there is no misunderstanding of the information to be submitted throughout the year. All reports must be in a legible, Excel format. No Word documents are allowed.

The Engineer reserves the right to request a particular format for any or all reports. The FTP Site records for PM work shall be sorted by Contract Year, Month, System, then PM program in Article number order.

If the Contractor disagrees with the PM Program scheduled completion dates listed herein, or the dates must be moved due to safety or other concerns, the Department will meet with the Contractor and may modify the schedule, however, the work must be completed in the Contract year for on-maintenance locations.

Reporting requirements herein listed in Article 11.11 apply to Articles 11.12 through 11.25

Article	PM Program	Submit Monthly	Format
Art. 11.12	Weekly REVLAC ComCenter DVD Inspection	Jan-Dec	Tickets
Art. 11.13	Monthly Site Maintenance	Jan-Dec	FTP-GPS Photo
Art. 11.14	Quarterly Monthly HQ UPS Battery Inspection & SCADA Battery Replacement (Year 2023)	Jan-Dec	FTP-GPS Photo
Art. 11.15	Quarterly Monthly HQ & Moveable Bridge Generator Inspection + Specific Month for Yearly Prog- Yearly Extensive Inspection	Jan-Dec and October Refer to P-100 form in PS System	FTP-GPS Photo
Art. 11.16	Monthly Joliet Moveable Bridge Inspection	Jan-Dec	FTP-GPS Photo
Art. 11.17	Quarterly Monthly Weigh Station Inspection	Jan-Dec	FTP-GPS Photo
Art. 11.18	Twice Per Year Clock Inspection – Refer to Article 7.19	March & November	Tickets
Art. 11.19	Twice Per Year RAGS Inspection and Cleaning	Apr & November	Tickets
Art. 11.20	Twice Per Year Maintenance Yard & Facility Equipment Inspection	Mid-April to Mid-May	FTP-GPS Photo
Art. 11.21	Yearly Maintenance Yard & Facility Wash & Relamp	Complete by end of October	FTP-GPS Photo
Art. 11.22	Yearly Photocell Calibration	June	Tickets
Art. 11.23	Yearly Control Inspection – Refer to Art. 7.20	Jan-Nov	FTP-Excel Spreadsheet
Art. 11.24	Yearly Light Pole Inspection – Refer to Art. 7.21	Jan-Nov	FTP-Excel Spreadsheet
Art. 11.25	Yearly Light Tower Safety Inspection - Refer to Art. 7.22	Jan-Nov	FTP-GPS Report & Excel Spreadsheet
Art. 11.26	Yearly Communication Tower Inspection	Jan-Nov	FTP-GPS Photo

11.12 WEEKLY REVLAC COMCENTER DVD INSPECTION

The Contractor shall inspect the ComCenter DVD process video for REVLAC once per week, to confirm the transitions are recording properly. This inspection shall be scheduled on the same day of the week, for the

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duration of the Contract. If problems are found, repairs or equipment replacements shall be completed within twenty-four (24) hours.

11.13 MONTHLY SITE MAINTENANCE

Site maintenance is required for Facility locations HRB (Hillside Ramp Building) FRB (Former REVLAC Building B) and FOS Foster Tower. The work shall be scheduled on the Daily Agenda.

Winter Site Maintenance - November through March

The Contractor shall perform snow removal operations when the snowfall total reaches 2" inches or there is sleet/ice formation in any District 1 area.

Outdoor Site Maintenance - Spring/Summer/Fall – April through October

The Contractor shall perform grass cutting, branch cutting and removal, trash removal, do insect/tick and weed killer spraying a minimum of once per month for the approach/path to the structure/hut and within the fenced area of the structure/hut.

The Contractor shall take two (2) GPS Photos (by phone) one before work begins and the second after work has been completed. (Report Type # 2) which shall be submitted monthly on the FTP Site.

Indoor Site Maintenance – Monthly All Year

The Contractor shall clean all floors once per month with Simple Green cleaner, which is approved for use in areas with electrical equipment, with plain water and an industrial specified mop and bucket. This work may be combined with other monthly site maintenance requirements in Article 9.0 Surveillance System.

11.14 QUARTERLY HQ UPS BATTERY INSPECTION & SCADA BATTERY REPLACEMENT

The Contractor shall inspect the batteries of the UPS Systems, once per quarter at Schaumburg HQ. Water levels shall be checked, add if necessary. Connections shall be cleaned and tightened if necessary. A GPS Photo (Report # 2) shall be taken and submitted on the FTP site.

The Contractor may be required to replace the SCADA backup battery for the radio, and the lithium battery in each CPU of the FIUs and the back-up battery pack in each FIU of the lighting SCADA system, for equipment located in the IDOT ComCenter and EMC Dispatch Center in the September through November period of year 2023 only (if this Contract is renewed).

11.15 QUARTERLY GENERATOR INSPECTION + YEARLY EXTENSIVE INSPECTION

The Contractor shall test the generator quarterly at the IDOT Headquarters, Foster Tower, and the Joliet Moveable Bridges at approximately the same date each quarter:

- Check control panel and transfer switch operation
- Check engine oil and coolant levels
- Check that block heater is working
- Check battery charging system
- Check for holes or leaks and loose connections in the air cleaner
- Check fuel level and fuel transfer pump operation
- Check for exhaust system leaks or restrictions
- Drain the condensation trap
- Check all meters, gauges, and indicator lamps
- Check oil reservoir and battery acid level and maintain proper operating levels

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- Check the air filter monthly and change at specified intervals
- Exercise generator
- Note any rusting on the generator and its enclosure (for future non-routine work)
- Check for fluid/fuel leaks
- Check generator fuel and note level

Diesel fuel shall always be filled to the proper level. If fuel level is less than $\frac{3}{4}$ (75%) of full level, a Ticket shall be created to schedule the refill of the tank.

The Contractor shall submit Report Type # 3, an Excel spreadsheet with the above information.

Extensive Yearly Generator Maintenance:

The Contractor shall perform inspection and maintenance required for the generators once per year. In the past this maintenance has been performed in October of each year, however the Contractor may provide a schedule for this yearly work and submit with the January 2021 FTP submittal. Each station shall have this yearly generator work performed in the same months of the Contract year (if renewed).

- Change oil and oil filters
- Drain, flush, and replace coolant
- Replace cooling system hoses in 2022
- Replace thermostats in 2022
- Replace fan belts in 2022
- Check and adjust valves as necessary
- Conduct operational inspection to insure proper valve rotation
- Check fan hub
- Check pulley
- Check water pump
- Change the day tank breather
- Clean or replace the crankcase breather
- Change fuel filter
- Drain sediment from the fuel tank
- Clean accumulation of grease, oil, and dirt on set
- Lubricate generator bearing
- Check vibration isolators for proper adjustment and conditions
- Check circuit breaker and transfer switch, and test equipment by simulating a power outage
- Check turbo pressure, adjust if necessary, to manufacturer specifications
- Provide fuel system service to perform fuel polishing only in 2022
- Check and note any rusting on the generator and its enclosure

A GPS Photo (Report # 2) shall be taken and submitted on the FTP site.

11.16 MONTHLY JOLIET MOVEABLE BRIDGE INSPECTION

For those moveable bridges on EMC Maintenance the Contractor shall perform a monthly inspection of the Bridge Monitoring CCTV and associated equipment:

- Camera operations
- Camera Housing
- Lens
- Monitor

The Contractor shall also check for outages of the bridge signals (TS) or exterior or interior lighting outages and replace with proper lamps.

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The Contractor shall determine whether the Department Bridge Tender has any electrical power problems to report, which shall have Tickets created. A GPS Photo (Report # 2) shall be taken and submitted on the FTP site.

Once the new equipment for the Moveable Bridges is accepted ON-Maintenance from contract 60P55, the Contractor shall add equipment as listed in Article 11.6 to this monthly inspection. Any new forms to be used will be available at that time.

11.17 QUARTERLY WEIGH STATION INSPECTION

The Contractor shall provide Lighting System personnel, to inspect quarterly, during the daytime, each weigh station installation as follows:

- Check operation of Open/Close signs
- Replace all burned out lamps and damaged sockets
- Check lighting in scale pit
- Replace damaged, discolored, cracked or peeling signal lenses
- Repair or replace any damaged signal posts, foundations, signal heads, cable, conduit and over height vehicle detector posts from any cause whatsoever
- Check alignment of signal heads
- Check alignment of over height vehicle detectors
- Check operation and condition of loop detectors
- Align all signal posts
- Identify vehicle detector loops in need of replacement
- Create ticket for loop resealing if required
- Check proper operation of the CCTV System and monitors filing washer fluid for proper camera operation. The wiper system on the cameras at the WS80OB Weigh Station, I-80 outbound, west of 80th Ave, require refilling.
- Refer to Article 11.8 for Special Use Items

This PM program is one of the planned tablet EMCMS entry formats. A GPS Photo (Report # 2) shall be taken and submitted on the FTP site.

11.18 TWICE PER YEAR CLOCK INSPECTION (59 per inspection)

The Contractor shall perform the twice per year Clock Inspection for the Maintenance Yards, Weigh Stations and Various Facilities in March and November of each year. Refer to specifications of work in Article 7.19

11.20 TWICE PER YEAR MAINTENANCE YARD & FACILITY EQUIPMENT INSPECTION

The Contractor shall inspect the IDOT Maintenance Yards (V-5) and Facility offices (V-7) twice per year, once in mid-April to mid-May and again mid-September to mid-October. Items for inspection include exterior and interior lighting and its control equipment, service entrance and feeder panels, emergency/exit lights, light switches, GFIC outlets, salt dome storage lighting, and proper electrical operations of lift motors and pumps, asphalt heating tanks, spray pumps and their controllers, electrical equipment, pressure washer pumps, exhaust fans, and other items as listed herein in the Special Use Equipment.

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The Contractor personnel shall check-in with the IDOT Maintenance Yard Technician before starting the inspection. The IDOT Technician may direct the Contractor personnel to electrical items which need attention.

During the spring inspection the Contractor shall disconnect the beet juice or brine pumps, drain fluids, clean, and lubricate. During the fall inspection the same pumps shall be re-connected, lubricated and checked for proper electrical and mechanical operation.

Service Entrance and Feeder Panel Inspection:

Inspection Procedure:

- Clean enclosure and control equipment by blowing out with low air pressure or vacuuming
- Clean contacts, relays and timers and visually inspect for damage or out of adjustment parts
- Remove all dust from electrical devices and equipment.
- Check connections
- Exercise breaker
- Check trip setting
- Inspect wiring/conductors for overheating and discoloration
- Check tightness of wire terminations and connections
- Check for proper labeling, provide and install missing labels
- Check wire tags/labels, provide and install missing tags or labels
- Check fuse disconnects for proper operations, keep fuse clips clean and tight
- Check fuses for proper size
- Test equipment ground system

The Contractor shall submit the GPS Photo (Report # 2) on the FTP site, noting which locations have had LED fixture installations.



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11.22 YEARLY PHOTOCCELL CALIBRATION

Each year, on the day of the summer solstice, normally June 21st, the Schaumburg Headquarters photocell shall be cleaned, tested, and adjusted to 5 +/- 0.5 ft. cd., or as specified by the Engineer for proper lighting control operations.

11.23 YEARLY CONTROL INSPECTION (60)

The Contractor shall perform the yearly Control Inspection for the Maintenance Yards, Weigh Stations and Various Facilities in the period of January through November (in same month if Contract is renewed). Refer to specifications of work in Article 7.20. Submit an Excel Spreadsheet for the FTP Site, Report # 4.

11.24 YEARLY LIGHT POLE INSPECTION (184)

The Contractor shall perform the yearly Light Pole Inspection for the Maintenance Yards, Weigh Stations and Various Facilities in the period of January through November (in same month if Contract is renewed). Refer to specifications of work in Article 7.21. Submit an Excel Spreadsheet for the FTP Site, Report # 4.

11.25 YEARLY LIGHT TOWER INSPECTION (16)

The Contractor shall perform the yearly Light Tower Inspection for the Maintenance Yards, Weigh Stations and Various Facilities in the period of January through November (in same month if Contract is renewed). Refer to specifications of work in Article 7.22. Submit a GPS Report # 3 and Excel Spreadsheet Report # 4 for the FTP Site.

11.26 VARIOUS SYSTEMS COMMUNICATION TOWER INSPECTIONS

The Contractor shall perform a yearly Communication Tower Inspection for the tower/monopole at IDOT Schaumburg HQ and Material Lab, the Rodenburg and Woodstock towers at the Maintenance Yards, and others as applicable to the Various System herein, in the period of January through November (in same month if Contract is renewed). Refer to applicable specifications of work from Article 7.22 (light towers). Submit a GPS Photo Report # 3.

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