

State of Florida

Department of Transportation



DISTRICT FOUR

EXHIBIT A

Scope of Services

Palm Beach and Northern 3 Counties (N3C)

Intelligent Transportation System (ITS)

Maintenance Services

District Four

Financial Project Number(s): 416255-4-72-01 416255-4-72-02 416255-6-72-01 416255-6-72-02 425806-3-72-01 Proposal/Contract Number: RFP-DOT-18/19-4012JR

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EXHIBIT A - SCOPE OF SERVICES

1 OBJECTIVE

The Florida Department of Transportation District Four Transportation Systems Management & Operations (TSM&O) Section, hereafter known as the Department, requires maintenance services by an ITS Device Maintenance firm, hereafter known as the Vendor, for ITS devices and infrastructure hereafter known as the System — located in Palm Beach, and the Northern Three Counties (N3C), which consists of Martin, St. Lucie, and Indian River Counties — and eventually express lane devices in Palm Beach County. The Vendor shall provide the ITS maintenance services as described in the contract documents, 24 hours a day, 7 days a week and year-round for the term of the contract. This System consists of, but is not limited to, the following:

- Traffic control signal and ITS device lighting protection, grounding and surge suppression,
- Conduit,
- Communications cable,
- Electrical conductor cable,
- Pull, splice, and junction boxes,
- Electrical power service assemblies,
- Pre-stressed concrete, steel and aluminum poles,
- Vehicular signal assemblies,
- Traffic controller assemblies, Vehicle detection system (VDS) assemblies,
- Equipment cabinets,
- Ramp signaling system (RSS) assemblies,
- Video equipment including closed-circuit television (CCTV) cameras, video encoders/decoders, and video wall components,
- Network devices including aggregation/distribution, edge switches, terminal servers, Ethernet extenders, and media converters,
- Highway signing, including dynamic message signs (DMS) and electronic display signs as well as portable and arterial signs and their supports including structures,
- Camera lowering device,
- Highway advisory radios (HAR) / beacons assemblies,
- Wireless communication devices,
- Leased line communications,
- Portable and permanent emergency power generators,
- Uninterruptable power supplies (UPS) and power distribution units,
- Adaptive signal control technology (ASCT) system,
- Communications hubs and equipment shelters,
- Environmental conditioning equipment, and

- Hardware, software, and firmware related to ITS equipment and other traffic control devices.

This list is not intended to be all-inclusive but should frame the general nature of devices and infrastructure that the Vendor may be expected to maintain. This might include items such as traffic signal controllers and other arterial system equipment. There may be other forces, including in-house staff, other maintaining agencies, or other vendors, who are authorized to perform similar services within the coverage area of this contract. Standard practice and requirements for coordination of vendor activities, such as those within the Department's *Standard Specifications for Road and Bridge Construction*, are applicable in such cases.

The System described in this Scope of Services shall cover all existing and future ITS elements within the geographic coverage area and term defined in this agreement, hereafter known as the Contract. This is a performance-based contract where the Vendor's compliance with this Scope of Services is evaluated periodically during the term of the Contract.

1.1 Item Additions and Deletions

During the Contract period and any renewal periods, the Department shall have the right to add or delete Items (services and/or commodities) from this Contract. Any new Items added shall be at the requirements, specifications, terms, and conditions stated herein or as later stipulated by the Department, and at mutually agreed pricing accepted, in writing, by both the Vendor and the Department as provided by Exhibit B. Items may be removed at the sole discretion of the Department, per the requirements, terms, and conditions herein and/or as permitted by Florida Statutes or Florida Administrative Code.

Due to the changing dynamics within ITS, the Vendor will be able, upon written authorization by the Department's Project Manager and upon supplemental agreement to the Contract as to compensation and time, to perform additional services pertaining to the support and/or maintenance of the ITS field devices and infrastructure not otherwise identified in this Contract, within the basic scope of this Contract.

2 KEY TO ACRONYMS, ABBREVIATIONS AND DEFINITIONS

AMS – Arterial Management Systems

ANSI - American National Standards Institute

APL – Approved Products List

BICSI – Building Industry Consulting Service International

BTTS - BlueTooth Travel Time System

CADD – Computer-Aided Design and Drafting

CCTV – Closed-Circuit Television

DMM – Digital Multi Meter

DMS – Dynamic Message Signs

DNS – Domain Name Service

DVMRP – Distance Vector Multicast Routing Protocol

EIGRP – Enhanced Interior Gateway Routing Protocol

EL – Express Lanes

FDLE – Florida Department of Law Enforcement

FDOT – Florida Department of Transportation

FOC – Fiber Optic Cable

GPL – General Purpose Lanes

HAR – Highway Advisory Radio

IGMP – Internet Group Management Protocol

IGRP – Internet Gateway Routing Protocol

IT – Information Technology

ITS – Intelligent Transportation Systems

ITSM – ITS Facility Management

MIMS – Maintenance and Inventory Management System

MOT – Maintenance of Traffic

MVDS – Microwave Detection System

N3C – Northern Three Counties

OEM – Original Equipment Manufacturer

OSHA – Occupational Safety and Health Administration

OSPF – Open Shorted Path First

OTDR – Optical Time Domain Reflectometer

PIM – Protocol Independent Multicast

PTMS – Portable Traffic Monitoring Station

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RMA – Return Material/Merchandise Authorization

RSS – Ramp Signaling System

RTMC – Regional Transportation Management Center

RWIS – Road Weather Information System

SA – Supplemental Agreement

SHEMP - Strategic Hurricane Emergency Management Plan

SNMP – Simple Network Management Protocol

SOG – Standard Operating Guideline

SOP – Standard Operating Procedure

SUE – Subsurface Utility Engineering

TIMSO-Traffic Incident Management Support Office

TMC – Transportation Management Center

UPS – Uninterruptable power supplies

US – United States

VDS – Vehicle Detection System

VLAN – Virtual Local Area Network

VSLs – Variable Speed Limit Sign

Contract - The entire agreement between the Vendor and the Department setting forth the obligations of the parties including the performance of the services and method of compensation. The Contract will be executed by both the Vendor and the Department and will include all documents, exhibits, appendices and attachments specifying requirements, description and terms of services to be performed/provided by the Vendor and billing rates for these services.

Vendor - The individual, firm, or company contracting with the Department to perform the contractual services described in the Contract.

Department/District Four/District/FDOT - The Florida Department of Transportation, District Four Office.

Department's Project Manager - The Department's staff member(s), manager(s), and/or consultant(s) with overall responsibility and authority to oversee the contractual services being provided by the Vendor for the Department as described in this Contract.

Letter of Authorization (LOA) - document issued by the Department or the Department's Project Manager (or his/her designee) authorizing the vendor to commence work on a specific task in accordance with the contractual services being performed/provided by the vendor as described in the contract. Completion due dates and fees are specified in the LOA.

Per Site – Per Site includes all ITS devices, equipment, components, etc. for the operations of a complete ITS site. For example, at a Ramp Signal System (RSS) site, all signal heads, controllers for those RSS, ITS cabinets, and all devices inside the cabinets including Ethernet switches and UPS shall be collectively referred to as per site when the term Per Site is used.

Per Unit – Per Unit includes only specific ITS devices, equipment, components, etc. For example, if multiple VDS units and/or cameras are collocated on one pole, then each VDS unit/camera shall be separately referred to as per unit when the term Per Unit is used.

Transition Period - For this Contract, the Transition Period is a one-month period following the issuance of a LOA for the Contract Start Date. This one-month period is to allow the Vendor to mobilize and transition from any prior contract to this Contract.

3 USE OF APPROVED PRODUCTS

The Vendor shall follow the Department's latest *Standard Specifications for Road and Bridge Construction*. The Vendor shall review the Department's *Approved Product List (APL)* for devices required as part of the work and must utilize approved products or products approved by the Department. All devices furnished by the Vendor shall be new and unused.

4 SERVICES TO BE PROVIDED

4.1 Overview of Maintenance Services Required

The objective of services required under this Contract is to ensure continuous 24 hours a day, 7 days a week, year-round system operation and functionality of all components of the System. The Department will assign a Project Manager responsible for oversight of this Contract and assignment of tasks to the Vendor. References to the Department or the Department's Project Manager within this scope include the Department's Project Manager or designees.

The Vendor will be evaluated periodically based on performance evaluation criteria specified in this Contract. The Vendor will be required to perform new device and other minor installations as needed and as requested by the Department, including but not limited to: all System support, scheduled maintenance, preventive maintenance, and failed or destroyed component replacement. All services shall be performed on a LOA as directed by the Department's Project Manager.

The Vendor shall be on-call 24 hours a day, 7 days a week, year-round for the duration of the Contract to respond to emergency repair and/or replacement work, including but not limited to hurricane watches and warnings. If a State of Emergency is declared by the

Governor of Florida or the FDOT State Secretary, the Vendor may be called upon to provide repair and replacement services associated with disaster recovery. The Vendor shall provide the Department's Project Manager with a list of telephone numbers that will be answered always by the Vendor's personnel. The Vendor shall maintain staffing levels required by this Scope of Services document always to ensure services required by the Scope of Services document and appendices under this Contract are met.

Throughout the term of this Contract, the Department's Project Manager will conduct reviews of the Vendor's work and daily operations. The Vendor shall cooperate and assist the Department's Project Manager throughout the review process.

4.1.1 Applicable Specifications and Standards

All work shall be prepared using English units in accordance with the latest editions of standards and requirements utilized by the Department, which include, but are not limited to, publications such as:

- 29 Code of Federal Regulations (CFR), Part 1910.1101 – Asbestos Standard for Industry, U.S. Occupational Safety and Health Administration (OSHA)
- 29 CFR, Part 1926, 1101 – Asbestos Standard for Construction, OSHA
- 40 CFR, Part 61, Subpart M - National Emission Standard for Hazardous Air Pollutants (NESHAP), Environmental Protection Agency (EPA)
- 40 CFR, Part 763, Subpart E – Asbestos-Containing Materials in Schools, EPA
- 40 CFR, Part 763, Subpart G – Asbestos Worker Protection, EPA
- Americans with Disabilities Act Accessibility Guidelines
- CADD (Computer-Aided Design and Drafting) Manual
- CADD Production Criteria Handbook
- Ch. 469, F.S. – Asbestos Abatement, Florida Department of Business and Professional Regulation
- Ch. 62257, Florida Administrative Code – Asbestos Program, Florida Department of Environmental Protection
- Code of Federal Regulations
- Florida Administrative Codes
- Florida Department of Business & Professional Regulations Rules
- Florida Department of Environmental Protection Rules
- Florida Department of Transportation Basis of Estimates Manual
- Florida Department of Transportation Design Standards for Design, Construction, Maintenance, and Utility Operations on the State Highway System
- Florida Department of Transportation Instructions for Structures Related Design Standards
- Florida Department of Transportation Materials Manual
- Florida Department of Transportation Plans Preparation Manual
- Florida Department of Transportation Standard Specifications for Road and Bridge Construction
- Florida Statutes

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- Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways
- Manual on Uniform Traffic Control Devices, Federal Highway Administration
- Standard Highway Signs Manual, Federal Highway Administration
- Florida Department of Transportation Traffic Engineering Manual
- National Electrical Safety Code
- National Electrical Code
- Florida Department of Transportation Structures Manual
- Florida Department of Transportation Structures Design Office Temporary Design Bulletins (available on Florida Department of Transportation Structures web site only)
- Florida Department of Transportation Preferred Details (available on Florida Department of Transportation Structures web site only)

4.1.2 Scheduled Preventive Maintenance

Typical scheduled preventive maintenance includes system inspection and other activities recommended by equipment manufacturers to be performed at periodic intervals. During the term of the Contract, the Vendor shall perform scheduled, periodic preventive maintenance based upon the District Four ITS Maintenance Standard Operating Guidelines (SOGs) document and manufacturer recommendations and as authorized by the Department's Project Manager. Scheduled preventive maintenance also includes periodic inspections and cleaning as well as documentation of these actions. The Department has provided preventive maintenance checklists as part of the ITS Maintenance SOGs to ensure that consistent and comprehensive maintenance activities are executed correctly and documented by the Vendor. As part of the ITS Maintenance SOG document update, the Vendor shall update the preventive maintenance checklists and submit them for Department's review and approval. The Vendor shall follow the most up to date version of the Department's preventive maintenance checklists in performing the preventive maintenance services. At a minimum, the Vendor shall be responsible for performing adequate preventive maintenance services as per manufacturer's recommendation and to ensure that the manufacturer warranties remain valid.

Scheduled preventive maintenance may include, but is not limited to:

1. General cleaning and dust removal from equipment, cabinets, and enclosures, including air filter replacement as well as general operational checks such as operational checks of fans and other system components;
2. Cleaning of CCTV camera housing, including application of rain repellent, re-pressurization, and video feed quality verification;
3. Checking door locks (Cyber Keys if equipped), entry detection sensors, and lubricating locks and other mechanisms;
4. Visually inspecting devices, cabinets, and enclosure exteriors, and checking for corrosion, punctures, graffiti, and vandalism;
5. Ensuring that cabinet labels and other equipment identification is affixed properly to equipment and clearly visible;

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6. Visually inspecting equipment status light-emitting diodes, light fixtures, light bulbs and wiring;
7. Physical testing and inspection of grounding system, surge protective devices, connections, and cable assemblies;
8. Inspecting UPS functionality by simulating power failure at a disconnect, inspecting UPS batteries for corrosion and/or swelling and battery replacement when necessary;
9. Cleaning and removal of debris;
10. Pest control, including placement of barriers to prevent rodent entry;
11. Ensuring that cabinet documentation is available within the cabinet, such as in a clear document holder or within a document drawer, and that it provides comprehensive and accurate information, including wiring diagrams, service log, and other equipment information;
12. Providing weed and grass control around devices and technician pads;
13. Performing generator inspection (including fluids) testing, and checking fuel level;
14. Cleaning solar panels and batteries;
15. Checking antennas and mounting hardware for structural integrity and alignment; and
16. Adjusting and calibrating vehicle detection systems, including, but not limited to:
 - a) Inductive loop detection systems
 - b) Microwave vehicle detection systems
 - c) Video vehicle detections systems
 - d) Wireless magnetometer detection systems

The Vendor shall provide Preventive Maintenance services during off-peak hours in weekdays, typically from 10:00 AM to 3:00 PM or 8:00 PM to 5:00 AM, and weekends when the preventive maintenance activities involves MOT/lane closures or equipment downtime for the term of the Contract. Based on the location of an ITS device, the actual peak hours may vary, and the Vendor shall coordinate with the Department and modify the above timings for performing Preventive Maintenance services. The Department may change or extend these hours at its discretion. For all other instances, the Vendor may choose to perform the Preventive Maintenance services at any time.

The Vendor shall contact the TMC Operations staff to report any downtime prior to performing the preventive maintenance at the field site. Field technicians shall take all essential parts, and tools necessary to perform the preventive maintenance, and repair any minor deficiencies observed at the site. Minor deficiencies include but not limited to, a device cable being unplugged, tripped circuit breaker, loose connector, etc. Such deficiencies shall be corrected as part of the preventive maintenance services. For all major deficiencies such as, but not limited to, a non-functional device site with damaged equipment, components exposed to weather, exposed power cabling, or items constituting a safety hazard such as structural damages, the Vendor shall work with Department's

Project Manager (or his/her designee) for work authorization to rectify those issues. For all infrastructure deficiencies identified during the Preventive Maintenance services, regardless of major or minor, the Vendor shall report to the Department within 24 hours in writing and include it as part of the Monthly Preventive Maintenance Report.

4.1.2.1 Assignment of Preventive Maintenance Work

The Department shall assign the preventive maintenance services work to the Vendor using a Work Order based on fixed fee (unit rate) costs as identified in the Exhibit “C”-Contract Price Proposal. Before performing any Preventive Maintenance services, the Vendor shall prepare and submit to the Department’s Project Manager (or his/her designee) for review and approval, a detailed Preventive Maintenance Plan on an annual basis.

4.1.2.2 Preventive Maintenance Plan

The Preventive Maintenance Plan developed by the ITS Maintenance Vendor shall include detailed preventive maintenance procedures along with checklists of the preventive maintenance tasks to be performed for all ITS devices deployed in the District. The plan shall include an annual time schedule of all preventive maintenance activities scheduled and periodic interval of each activity during the fiscal year. The Preventive Maintenance Plan shall include at a minimum, all preventive maintenance procedures described in the District Four ITS Maintenance SOG document. The Preventive Maintenance Plan shall be printed and bound, per system and per corridor, sorted by device ID in ascending order. The final approval will be given by the Department by the end of the fiscal year, each year. For ensuring that the Preventive Maintenance Plan is finalized and approved by the Department by the end of the fiscal year, each year, the Vendor shall submit a draft report to the Department for review and comments by May 1 of each year. The Vendor shall include all preventive maintenance plan development costs within the on-site project management staffing unit rate section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

4.1.2.3 Monthly Preventive Maintenance Schedule

The Vendor shall prepare and submit a Monthly Preventive Maintenance Schedule as part of the Monthly Status Report to the Department for review and approval. The Monthly Preventive Maintenance Schedule shall be submitted at least 2 business days prior to the Monthly Contract Meeting. The Monthly Preventive Maintenance Schedule shall be printed and bound, per system and per corridor, sorted by device ID in ascending order and delivered to the Department. The Monthly Preventive Maintenance Schedule shall describe all scheduled Preventive Maintenance activities for the upcoming month. For any deviations from the schedule, the Vendor shall request approval from the Department. In addition to the schedule, the Vendor shall coordinate with the SunGuide TMC Operations staff prior to performing the actual preventive maintenance work at least 72 hours but, not more than 7 calendar days in advance of any scheduled maintenance work. The Department shall reserve the right to request the Vendor reschedule the dates if the SunGuide TMC Operations is utilizing a device site scheduled for Preventive Maintenance services. Should this happen, the Vendor shall reschedule the preventive maintenance services for another day. The Vendor shall notify the TMC Operations from the field at the time of performing

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the preventive maintenance activities which may result in equipment being offline. Based on the preventive maintenance schedule, the ITS Maintenance Vendor shall identify all Maintenance of Traffic (MOT) and lane closure requirements necessary to perform preventive maintenance services on the selected devices and submit the necessary information to the Department's Project Manager (or his/her designee) for approval as detailed in MOT Requirements section of this Scope of Services document. The Monthly Preventive Maintenance Schedule shall at a minimum include:

- Proposed dates of Preventive Maintenance visits;
- Proposed locations of site visits;
- Device ID number;
- MOT applicability;
- Other items as requested by the Department.

The Vendor shall include all monthly preventive maintenance schedule development costs within the on-site project management staffing fixed price section of the Exhibit "C", Contract Price Proposal and in the manner described under Exhibit "B", Method of Compensation.

4.1.2.4 Monthly Preventive Maintenance Report

The Vendor shall prepare and submit a Monthly Preventive Maintenance Report as part of the Monthly Status Report to the Department for review and approval. The Preventive Maintenance Report shall include the details the preventive maintenance activities performed at each device site, completed checklists, listing of all parts or materials used, and the MIMS database reports. The Monthly Preventive Maintenance Report shall be printed and bound, per system and per corridor, sorted by device ID in ascending order and delivered to the Department. The Monthly Preventive Maintenance Report shall be submitted to the Department's Project Manager (or his/her designee) on a monthly basis at least 2 business days prior to the Monthly Contract Meeting. The Monthly Preventive Maintenance Report shall include all field observations gathered, all items checked, verified and repairs made during each Preventive Maintenance visit. The Vendor shall take pictures before and after each Preventive Maintenance visit and include the pictures in the Monthly Preventive Maintenance Report. Each picture shall be clear and in focus and shall include a timestamp showing the date and time when the picture was taken. The Vendor shall include all monthly preventive maintenance report development costs within the on-site project management staffing fixed price section of the Exhibit "C", Contract Price Proposal and in the manner described under Exhibit "B", Method of Compensation.

4.1.2.5 Compensation for Preventive Maintenance Services

The Department shall compensate the Vendor based on fixed fee (unit rate cost) at the amounts established under Exhibit "C", Contract Price Proposal and in the manner described under Exhibit "B", Method of Compensation. Below are the work descriptions for various items but not necessarily all listed under this work category.

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CCTV Camera System: The CCTV camera system preventive maintenance fixed fee (unit rate) includes all preventive maintenance services to be provided at the CCTV camera site. This includes but not limited to, CCTV camera, camera lowering device, camera pole, mounting brackets, associated cabinet, communications and network equipment, power equipment, grounding, lightning protection, surge protection devices, cables, UPS and batteries, PDU and other ancillary equipment. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

Dynamic Message Sign (DMS) System: The DMS preventive maintenance fixed fee (unit rate) includes all preventive maintenance services to be provided at the DMS site. This includes but not limited to, using a bucket truck to service DMS panel, DMS controller, mounting brackets, associated cabinet, communications and network equipment, power equipment, grounding, lightning protection, surge protection devices, cables, UPS and batteries, PDU and other ancillary equipment. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

Microwave Vehicle Detection System (MVDS): The MVDS preventive maintenance fixed fee (unit rate) includes all preventive maintenance services to be provided at MVDS site including **full lane by lane calibration as per the latest District Four's MVDS calibration procedures as referenced in the ITS Maintenance Process and Procedures**. This includes but not limited to, the detector unit, detector pole, mounting brackets, associated junction box/cabinet, communications and network equipment, power equipment, grounding, lightning protection, surge protection devices, cables, UPS and batteries, PDU and other ancillary equipment. For locations where a MVDS unit is collocated with other ITS components like a CCTV camera, DMS Sign structure etc., the Vendor shall be compensated separately for each device. For locations with multiple MVDS units, the Vendor shall be compensated separately for each unit serviced. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

Communications Hub Building: The communications hub building preventive maintenance fixed fee (unit rate) includes all preventive maintenance services to be provided at the hub building site. This includes but not limited to, hub building, AC units, generator units, fuel tanks, UPS and batteries, PDU, communications and network equipment, power equipment, grounding, lightning protection, surge protection devices, cables, and other ancillary equipment. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

Ramp Signalling System (RSS): The RSS preventive maintenance fixed fee (unit rate cost) includes all preventive maintenance services to be provided at the Ramp Signalling site, and the corresponding advisory sign flashing beacon sites. This includes but not limited to, all ramp signals (pole and heads), detection system supporting the ramp signal operations (typically inductive loops), supporting flashing beacon assemblies, cameras located on top of the signal heads (if applicable), cables, associated cabinet, controller, communications and network equipment, power equipment, grounding, lightning protection, surge protection devices, cables, UPS and batteries, PDU and other ancillary equipment. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C

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unit rate. The mainline MVDS that are integrated with the RSS shall be paid separately using the MVDS preventive maintenance pay item.

Variable Speed Limit Signs (VSLS): The VSLS preventive maintenance fixed fee (unit rate cost) includes all preventive maintenance services to be provided at the speed check sign site. This includes but not limited to, sign, speed detectors, electronic display panel, controller, associated cabinet, communications and network equipment, power equipment, solar panel assembly and batteries, UPS and batteries, PDU, grounding, lightning protection, surge protection devices, cables, and other ancillary equipment. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

Wireless Access Points (WAP): The WAP preventive maintenance fixed fee (unit rate cost) includes all preventive maintenance services to be provided at the wireless access point site. This includes but not limited to, antenna, wireless radio unit, power injector, controller, associated cabinet, communications and network equipment, power equipment, solar panel assembly and batteries, UPS and batteries, PDU, grounding, lightning protection, surge protection devices, cables, and other ancillary equipment. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

Portable Generators: The portable generators preventive maintenance fixed fee (unit rate) includes all preventive maintenance services to be performed to the portable generators such as replenishing the fuel, oil, filters, and other system components. The Vendor shall perform preventive maintenance services only on the portable generators that are in use.

Permanent Mount Generators: The permanent mount generators preventive maintenance fixed fee (unit rate cost) includes all preventive maintenance services to be performed to the permanent mount generators such as replenishing the fuel, oil, filters, and other system components, and running the generator to ensure proper operation, and pest control. **The Vendor shall include the annual permit fee for each permanent mount generator in the preventive maintenance fixed fee.** All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

Road Weather Information System: The RWIS preventive maintenance fixed fee (unit rate cost) includes all preventive maintenance services to be provided at the RWIS site. This includes but is not limited to, cleaning and inspecting all sensors for proper operation, mounting brackets, associated cabinet, communications and network equipment, power equipment, grounding, lightning protection, surge protection devices, cables, UPS and batteries (if applicable), PDU and other ancillary equipment, and pest control. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

BlueTooth Travel Time System (BTTS): The BTTS preventive maintenance fixed fee (unit rate cost) includes all preventive maintenance services to be provided at the BTTS site. This includes but is not limited to, cleaning and inspecting all sensors for proper operation, mounting brackets, associated cabinet, communications and network equipment, power equipment, grounding, lightning protection, surge protection devices, cables, UPS and batteries (if applicable), PDU and other ancillary equipment, and pest control. All MOT

and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

Portable Traffic Monitoring Station (PTMS): The PTMS preventive maintenance fixed fee (unit rate cost) includes all preventive maintenance services to be provided at the BTTS site. This includes but is not limited to, cleaning and inspecting all sensors for proper operation, mounting brackets, associated cabinet, communications and network equipment, power equipment, grounding, lightning protection, surge protection devices, cables, UPS and batteries (if applicable), PDU and other ancillary equipment, and pest control. All MOT and lane closure costs for PM services shall be included in Category 8 of Exhibit C unit rate.

4.1.2.6 Device Site Deficiencies

If the Vendor encounters minor and/or major device deficiencies while performing preventive maintenance services as outlined above, the Vendor shall correct such deficiencies during the preventive maintenance site visit whenever possible.

The Department considers minor deficiencies to be items such as, but not limited to, an unplugged device cable, tripped circuit breaker, or loose connector. The Department considers major deficiencies to be items such as, but not limited to, a non-functional device site with damaged equipment, components exposed to weather, exposed power cabling, or items constituting a safety hazard. The VENDOR shall immediately contact the Department's Project Manager to report major deficiencies.

4.1.2.7 Non-Scheduled Maintenance and Repairs

Non-scheduled maintenance includes reactive maintenance, replacements, and diagnostic work necessary to correct deficiencies and keep the SYSTEM operational. This work is not scheduled but is often generated by failures caused by acts of God, construction, or accidents. Non-scheduled maintenance may include, but is not limited to:

1. Field repair or replacement of ancillary parts or equipment for any ITS device;
2. Resetting DMSs;
3. Resetting and focusing CCTV lenses;
4. Resetting VDS controllers;
5. Configuring or repairing the communications network, including switches and terminal servers;
6. Configuring or repairing CCTV video transmission equipment, including encoders and decoders;
7. Testing fiber optic cable (FOC) for optical budget requirements; and
8. Repairing damage caused by vandalism or accidents.

If the cause of a failure is unknown, the Department may have the Vendor perform diagnostic work as required to determine the cause of the failure.

4.1.3 Diagnostic and Troubleshooting Services

Non-scheduled maintenance includes reactive maintenance, replacements, repairs, and diagnostic work necessary to correct deficiencies and keep the System operational. The Vendor shall provide diagnostic and troubleshooting services when equipment is inoperable and field troubleshooting is needed to identify the problem, 24 hours a day and 7 days a week, year-round for the term of the Contract.

4.1.3.1 Assignment of Diagnostic Services Work

The SunGuide TMC Operations Staff identifies failures and notifies the ITS Maintenance Vendor through the MIMS software. The Vendor shall perform a field visit to identify and diagnose the repairs as follows:

Minor Repairs: Minor repairs for this Contract are repairs/replacement of ITS components due to equipment malfunction or end of service life. Minor repairs also include, but are not limited to, reattaching loose cable connections, power reset of all equipment, and other incidental repair work. Minor repairs are repairs that require less than 4 hours of labor, as described in this Scope of Services document and for those repairs listed under minor repair section of the Exhibit “C”, Contract Price Proposal. The Vendor shall perform the necessary repair/replacement work, which includes the diagnostic services. A diagnostic report is not required for Minor Repairs.

Major Repairs: Major repairs for this Contract are defined as non-typical repairs that need diagnostic services to identify the problem and perform extensive repair services. Typically, major repairs may require maintenance of traffic (MOT) and lane closures, utility coordination and regional agency coordination. Major repairs can be damages caused by crashes, vandalism, theft, weather events and third-party Vendors; fiber cuts; power loss from the utility service point; etc. Typical major repairs and parts replacement consist of, but are not limited to, repair or replacement of damaged, missing, or malfunctioning equipment to maintain the ITS operation and functionality. Major repairs are repairs that require more than 4 hours of labor and any repairs not listed in either the minor repair services section of this scope of services document or those listed in the minor repair section of the Exhibit “C”, Contract Price Proposal. For all major repairs, the Vendor shall contact the Department’s Project Manager (or his/her designee) to report the field findings. The Vendor shall document troubleshooting and repair activities and services performed at the site. Depending on the criticality of the repair, and nature of the device site or component malfunction or failure, the Department may issue the Vendor written authorization for diagnostic services to expedite the repair process. The Vendor shall prepare and submit a diagnostic report and a final repair report for each major repair for the Department’s review and approval.

Upon receiving the Vendor’s diagnostic report, the Department’s Project Manager (or his/her designee) will review the diagnostic report and will provide concurrence or additional direction on how to proceed with the repair. Diagnostic report for major repairs

shall be approved by the Department’s Project Manager (or his/her designee) in writing before any repair services can be performed by the Vendor.

4.1.3.2 Diagnostic Report and Final Repair Report

For all major repairs, the Vendor shall prepare and submit to the Department, a diagnostic report and a final repair report identifying the cause of the malfunction, the equipment/device that failed and the type of repair required to restore operability of the component or device site.

The **diagnostic report** at a minimum shall include the following information:

- Date and time the Vendor is notified of the failure;
- Name of the person preparing the preliminary diagnostic report;
- Equipment/device that failed and location;
- Brief description of the failure;
- Technician(s) responding to the failure;
- Arrival time at the site of the reported failure;
- Brief description of the proposed repair work;
- Repair cost estimate consisting of labor hours and material cost

The **final repair report** at a minimum shall include the following information:

- Date and time the Vendor is notified of the failure;
- Name of the person preparing the final repair report;
- Equipment/device that failed and location;
- Detailed description of the failure and impacts to overall system operations, including if the failure is due to a weather-related event, materials, workmanship defect, power failure, leased communications problem, electrical and mechanical components, hardware malfunctions, software failures, etc.;
- Operational status of all devices connected to the site/cabinet location;
- Site conditions noted, i.e. submerged, structure down, no power;
- Technician(s) responded to the failure;
- Arrival time at the site of the reported failure;
- Repair completion time;

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- Breakdown for repair time and final repair report preparation time;
- Name of the person from TMC operations contacted to verify the working condition of the device upon repair completion;
- Detailed description of the proposed repair work, including type of repair needed to restore the device(s) to 100% operational status;
- Model number, serial number, FDOT Asset Management number, MIMS ID number of the equipment needing repairs and/or replacement, new spare parts used, and documentation of all warranty covered equipment for return material/merchandise authorization (RMA) process and inventory tracking purposes e.g. device not covered by warranty, new unit to be purchased or replaced with stock item. The Vendor shall follow parts inventory process detailed in the District Four ITS Maintenance SOG;
- Updated ITFSM report;
- Digital photographs required for documentation, including timestamps showing date and time when the photo was taken;
- Total repair cost consisting of actual labor hours and material cost expended for the complete repair.

4.1.3.3 Compensation for Diagnostic Services

For minor repairs, no additional compensation shall be made for diagnostic services. The Vendor shall include all diagnostic service costs within the Minor Repair fixed fee (unit rate) section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. For major repairs, the Vendor shall include all diagnostic services costs within the Repair Services costs. The diagnostic services including the diagnostic report and final repair report costs shall be based on the actual hours spent, using the fixed fee (unit rate) per hour established under the Staffing Rates section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

4.1.4 Repair Services

Repairs and/or parts replacement will be covered under LOAs. Prior to providing additional services, the Vendor shall submit written request(s) to the Department’s Project Manager for approval of any additional labor usage and expenditures that are not covered under a LOA. Descriptions of additional labor, materials, and equipment shall be included as part of a work request as well as a justification for the work. Repairs that require expertise and/or specialized equipment of the manufacturer shall be considered original equipment manufacturer (OEM) repairs. OEM repairs are those specialized repairs that cannot be made by the Vendor and must be made by a manufacturer or Vendor of the equipment/component. On an as-needed basis, the Vendor shall notify the Department’s Project Manager of OEM repairs necessary for the continued safe and efficient operation of the System. The Department’s Project Manager will review the proposed OEM repair(s),

and approval shall be required in order for the Vendor to proceed to ship the equipment and coordinate with the OEM for the repair. If a device manufacturer is no longer producing, selling, or repairing a specific device, the Vendor shall research, price, and present an alternate product to the Department's Project Manager.

The Vendor is required to assure the Department that warranties are not voided by Vendor repair services or other actions of the Vendor at any point during the contract. If a device warranty expires, the Vendor shall notify the Department Project Manager for the option to renew and/or replace the device if the unit is non-operational.

4.1.4.1 Minor Repair

Minor repairs for this Contract are repairs/replacement of ITS components due to equipment malfunction or end of service life. Minor repairs also include, but are not limited to, reattaching loose cable connections, power reset of all equipment, and other incidental repair work. The Vendor shall perform the necessary repair/replacement work, which includes diagnostic services. Minor repairs are generally considered to be repairs that require less than 4 hours of labor and less than \$3,000 in material. There are 2 types of minor repair services in this Contract:

- Troubleshoot, reset and reboot services
- Device replacement services

4.1.4.1.1 Troubleshoot, Reset and Reboot Services

For each of the troubleshoot, reset and reboot service items listed in Exhibit "C" Contract Price Proposal, the Vendor shall perform either one or a combination of the following troubleshooting, reset, and reboot procedures:

- Reattach loose cable connections;
- Communications equipment power reset i.e. video encoder, terminal server, Ethernet switch, wireless radio, media converters, etc.;
- Electrical equipment power reset i.e. circuit breakers, main breaker, GFCI outlet, power connections, UPS, PDU, etc.;
- Reset/reboot of CCTV camera and camera settings;
- Reset/reboot of DMS controller;
- Reset/reboot MVDS units;
- Upload/upgrade software/firmware;
- By-pass UPS;
- Repair above ground conduits;

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- Change Ethernet port on media converter;
- Clean camera lens;
- Seal components to prevent water intrusion;
- Clean fiber connector;
- Change UPS batteries;
- Clean CLD connectors;
- Reprogram CSU/DSU;
- Conduct pixel test for DMS;
- Change IP configuration for serial ports;
- Trim and reconnect corroded cables;
- Trim tree obstruction;
- Repair/terminate network cables;
- Adjust flashing beacons at Ramp Signal site;
- Reset Controller;
- Reset watchdog;
- Drill and tap hole for the installation of screws into the junction box;
- Reset Simple Network Management Protocol (SNMP) card;
- Check and reset alarm;
- Verify fiber connection;
- Any repair work not identified above which requires less than 4 hours of labor.

For locations with multiple devices collocated at the same site, the compensation for minor repair services shall be for the fixed fee (unit rate) bid amount of the master device e.g. for a location with CCTV camera and MVDS at same site, and both components are reported as failures, the Vendor performs troubleshoot, reset and reboot work for items in the cabinet, the Vendor will get paid fixed fee (unit rate) for the Master component for performing the repair services, which is typically the CCTV camera.

For locations where, multiple devices located at various locations but connected to one master device cabinet, the compensation for the minor repair services shall be for fixed fee

(unit rate) bid amount of the master device, if the repair work at the master device cabinet rectifies the issue and all connected devices are back to operational status. The Department will pay separate minor repair fixed fee (unit rate) for individual devices, if the Vendor must perform individual minor repair services to each of the other connected devices, in addition to the Master device.

Certain equipment may require power to be recycled in order to resume normal operation. This includes restarting the field equipment power reset (turning power off/on) remotely using SunGuide software or third-party Vendor software. The Vendor shall be responsible for performing the power reset procedures in the field. The Vendor shall evaluate such devices that frequently require power recycle to restore operation and provide a recommendation to the Department to rectify the problem.

MOT/Lane closures costs shall be included in the fixed fee (unit rate).

4.1.4.1.2 Device Replacement Services

For failures that are not rectified by the troubleshooting, reset and reboot procedures, the Vendor shall replace the failed device/component with a new device/component from the parts inventory. This work includes but not limited to, troubleshooting, removal of existing device, installation of new device, integration, testing and calibration where applicable. The Vendor shall not be paid separately for troubleshoot, reset and reboot services when device replacement services are performed at a site. All troubleshoot costs shall be included in the device replacement fixed fee (unit rate).

Repairs involving replacing an existing MVDS unit or adjusting an existing MVDS unit aiming shall be accompanied with MVDS calibration using District Four's MVDS calibration procedure. All such repairs are considered major repairs and are not part of the minor repair services. For all such repairs, the Vendor shall complete MVDS calibration within 7 calendar days of failure notification.

MOT/Lane closures costs shall be included in the fixed fee (unit rate).

4.1.4.1.3 Repairs using Spare Parts

This work includes shop and field repair of devices using component parts. New replacement parts for repairs are to be used unless otherwise directed by the Department's Project Manager. The Vendor shall not purchase or install spare parts that have not been approved by the Department's Project Manager. The Vendor shall be responsible for inventory control of all parts held in inventory for repair of devices that they have responsibility to maintain.

4.1.4.1.4 Testing Repair Work

Before departure from the field site, the Vendor shall notify the SMART SunGuide TMC immediately upon completion of the repair work to verify that the operation of failed component(s) has been restored. The Vendor shall follow the post-repair operations verification steps in the ITS Maintenance SOGs document for repairs verification and closing. Upon completion of the repair work, the Vendor shall perform diagnostic testing to ensure the System is fully functional and operational. The Vendor shall document the test results and provide them to the Department’s Project Manager (or his/her designee) for inspection upon request. The Vendor shall include all testing costs within the fixed fee (unit rate) for minor repair services. The Department conducts random review of the Vendor’s repair work. Any work that is deemed unacceptable by the Department shall be re-done by the Vendor at the Vendor’s expense. The Vendor shall rectify any deficiencies identified by the Department within five business days of initial notification.

4.1.4.2 Major Repair

Major repairs for this Contract are defined as non-typical repairs that need diagnostic services to identify the problem, extensive repair services, maintenance of traffic (MOT) and lane closures, utility coordination, or other regional agency coordination, such as damage caused by crashes, vandalism, theft, weather events, fiber cuts, power loss from the utility service point, and construction activity. Typical major repairs and parts replacement consist of, but are not limited to, repair or replacement of damaged, missing, or malfunctioning equipment to maintain the ITS operation and functionality.

For all major repairs, the Vendor shall contact the Department’s Project Manager to report field findings and receive instruction and authorization for related work. Depending on the criticalness of the repair and nature of the device site or component malfunction or failure, the Department may issue written authorization to the Vendor for diagnostic services to expedite the repair process. The Vendor shall prepare and submit a diagnostic report, including damage assessment, cost estimates, and recommendations for repair. The Vendor shall not make major repairs prior to issuance of a LOA covering specific corrective actions necessary for restoration. If an immediate repair order is needed, the Department may issue a pre-approved, limited amount LOA to start the work. The Vendor must receive approval prior to executing this LOA. The Vendor must document any verbal approvals issued for service/repair orders including the date, time, reason, and the name of the Department Project Manager who issued and approved the work order.

Major repairs are generally considered to be repairs that require more than four hours of labor and more than \$3,000 in material.

All major and minor repairs shall be performed using procedures and repair times established under this Contract.

4.1.4.2.1 Testing of Repair Work

Before departure from the field site, the Vendor shall notify the SMART SunGuide TMC immediately upon completion of the repair work to verify that the operation of failed component(s) has been restored. The Vendor shall follow the post-repair operations

verification steps in the ITS Maintenance SOGs document for repairs verification and closing. Upon completion of the repair work, the Vendor shall perform diagnostic testing to ensure the System is fully operational and functional. The Vendor shall document the test results and provide them to the Department’s Project Manager (or his/her designee) for inspection upon request. The Vendor shall be compensated for testing costs based on the time expended using the fixed fee (unit rate) per hour for major repair services. The Department conducts random review of the Vendor’s repair work. Any work that is deemed unacceptable by the Department shall be re-done by the Vendor at the Vendor’s expense. The Vendor shall rectify any deficiencies identified by the Department within 5 business days of initial notification.

4.1.4.3 Compensation for Repair Services

The Department shall compensate the Vendor based on the fixed fee (unit rate) amounts established under Minor Repair Services section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor’s Minor Repair Services fixed fee (unit rate) shall include all labor required to perform the service, mobilization costs, MOT costs including both materials and labor, equipment, tools, ITSFM update, vehicles, machinery necessary to perform the work, travel time to the site, overhead, profits, insurance, Vendor’s warranty, operating margin, administrative costs, and all other incidentals necessary to perform the required services. The Vendor shall use components or parts from the spare parts inventory for performing these services.

The Vendor shall provide fixed fee (unit rate) per hour for the major repair services. The Department shall compensate the Vendor based on the fixed fee (unit rate) per hour established under Staffing Rates section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor shall use components or parts from the spare parts inventory for performing these services. The Vendor shall be compensated separately for all MOT related costs per location on a case-by-case basis upon Department’s approval.

4.1.5 Equipment Logs

The Vendor is required to document equipment and activities performed at each ITS device location. The Vendor must maintain an equipment log that documents preventive scheduled maintenance and repair services, including repair logs, parts replacement, special notes, recommendations, and equipment warranty records. Device records must include, but are not limited to:

1. Device location, number, and type;
2. Model and serial number;
3. Firmware version;
4. Manufacturer;
5. Date, time, and description of failure;
6. Report of failure source;
7. Response details including arrival time, site conditions, and actions taken;

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8. Resolution details with documentation;
9. Spare part used - including type, model, serial, and control number; and
10. Replacement part notes and repair actions.

The Vendor must provide these reports upon request from the Department’s Project Manager (or his or her designee).

4.1.6 Interstate General Purpose Lanes (GPL) ITS Maintenance Services

The Vendor shall provide preventive maintenance services, diagnostic and troubleshooting services, and repair services for District Four Interstate GPL ITS equipment, 24 hours a day, 7 days a week, and 365 days a year for the term of the Contract. The District Four Interstate GPL system consists of I-95 and US 27 that are in Palm Beach and Northern 3 Counties (N3C) Counties.

The GPL ITS components include DMS System (which includes arterial DMS approaching Interstate entrances on selected major arterial corridors), Microwave Vehicle Detection System, CCTV Camera System, Variable Speed Limit Signs (VSLS), Roadway Weather Information System (RWIS), Wireless Access Points (WAP), ITS Power back-up system including UPS, PDU’s and Generators, and supporting fiber optic communications infrastructure. The fiber optic communications infrastructure includes conduit, pull boxes, splice boxes, fiber optic cable laterals, communications equipment and other ancillary equipment. All GPL ITS Components are integrated with the SunGuide software and are operated from the SMART SunGuide TMC.

Table below shows District Four’s ITS infrastructure quantities along interstate GPLs in Palm Beach and N3C. These ITS device quantities are not intended to be an exhaustive list and are provided for reference only. The Vendor shall field verify all devices independently.

Table 4.1.5-1 D4 GPL ITS Infrastructure

ITS Infrastructure	Number of ITS Devices
CCTV Cameras	148
DMS	25
Arterial DMS	14
MVDS	213
Communications Hubs	5

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ITS Infrastructure	Number of ITS Devices
WAP	58
VSLs	0
RWIS	16
Permanent Generators	16

The as-built plans for existing and project plans for ongoing construction projects are available to the Vendor upon request.

4.1.6.1 GPL Preventive Maintenance Services

All Preventive Maintenance requirements described previously under the Preventive Maintenance Services section shall apply for the GPL Preventive Maintenance Services.

4.1.6.2 GPL Diagnostic and Troubleshooting Services

All Diagnostic and Troubleshooting Service requirements described previously under the Diagnostic and Troubleshooting Services section shall apply for the GPL Diagnostic and Troubleshooting Services.

4.1.6.3 Compensation for GPL ITS Maintenance Services

The Vendor shall provide fixed fee (unit rate) for GPL ITS equipment preventive maintenance services. The Department shall compensate the Vendor based on the fixed fee (unit rate) amounts established under the GPL ITS Maintenance Services section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor’s Preventive Maintenance Services fixed fee (unit rate) shall include all labor required to perform the service, mobilization costs, equipment/tools/vehicles/machinery necessary to perform the work, travel time to the site, MOT costs including both materials and labor, overhead, profits, insurance, Vendor’s warranty, operating margin, administrative costs, and all other incidentals necessary to perform the required services. The Vendor shall use components or parts from the spare parts inventory for performing these services.

The Vendor shall provide fixed fee (unit rate) for the Minor Repair Services. The Department shall compensate the Vendor the amounts established under the GPL ITS Maintenance Services of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor’s Minor Repair Services fixed fee (unit rate) shall include all labor required to perform the service, mobilization costs, equipment/tools/vehicles/machinery necessary to perform the work, travel time to the site, MOT costs including both materials and labor, overhead, profits, insurance, Vendor’s warranty, operating margin, administrative costs, diagnostic and troubleshooting services and all other incidentals necessary to perform the required services. The Vendor shall use components or parts from the spare parts inventory for performing these services.

The Vendor shall provide fixed fee (unit rate) per hour for the Major Repair Services. The Department shall compensate the Vendor the amounts established under Staffing Rates section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. For major repairs, the Vendor shall include all diagnostic services costs within the Repair Services costs. The diagnostic services including the diagnostic report and final repair report costs shall be based on the actual hours spent, using the fixed fee (unit rate) per hour established under the Staffing Rates section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor shall use components or parts from the spare parts inventory for performing these services. The Vendor shall be compensated separately for all MOT related costs per location on a case-by-case basis upon Department’s approval for all Major Repairs.

4.1.7 Express Lanes (EL) ITS Maintenance Services

The Department anticipates the opening of Express Lanes in Palm Beach County during the term of this contract. Upon issuance of a Letter of Authorization, the Vendor shall provide preventive maintenance services, diagnostic and troubleshooting services, and repair services for District Four Express Lanes ITS equipment, 24 hours a day, 7 days a week, and 365 days a year for the term of the Contract. The District Four Express Lanes system will consist of I-95 Express Lanes that are will be located in Palm Beach. The Express Lanes ITS components include DMS System (which includes toll amount DMS, lane status DMS, incident management DMS), Vehicle Detection System (which includes MVDS and BlueTooth), CCTV Camera System, Ramp Signaling System (RSS), ITS Power back-up system including UPS, PDU’s and Generators, and supporting fiber optic communications infrastructure. The fiber optic communications infrastructure includes conduit, pull boxes, splice boxes, fiber optic cable laterals, communications equipment and other ancillary equipment for Express Lanes ITS and Toll components. All Express Lanes ITS Components are integrated with the SunGuide software and are operated from the SunGuide TMC.

Express Lanes Projects also installed overhead toll gantry structures consisting of toll equipment, communications hubs housing toll communications equipment, ITS communications equipment, UPS, and generators for providing back-up power. The toll equipment is operated and maintained by the Florida’s Turnpike Enterprise (FTE). The Vendor shall maintain the communications hubs, generator, and other ITS equipment located within the hub.

Table below shows District Four’s ITS infrastructure quantities for the currently operational and/or under construction for I-95 in Palm Beach County. These ITS device quantities are not intended to be an exhaustive list and are provided for reference only. The Vendor shall field verify all devices independently.

Table 4.1.5-1 D4 Express Lanes ITS Infrastructure

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ITS Infrastructure	Number of ITS Devices
CCTV Cameras	11
Incident Management DMS	2
Lanes Status DMS	1
Toll Amount DMS	37
MVDS	63
BlueTooth	0
RSS	14
Communications Hubs	0

The project plans for the ongoing I-95 Express Lanes Phase 3 construction projects can be provided to the vendor of this Contract. As-built plans will be provided once the projects are completed. The Vendor shall refer to those plans for ITS infrastructure information.

4.1.7.1 Express Lanes Preventive Maintenance Services

All Preventive Maintenance requirements described previously under the Preventive Maintenance Services section shall apply for the Express Lanes Preventive Maintenance Services.

4.1.7.2 Express Lanes Diagnostic and Troubleshooting Services

All Diagnostic and Troubleshooting Service requirements described previously under the Diagnostic and Troubleshooting Services section shall apply for the Express Lanes Diagnostic and Troubleshooting Services.

4.1.7.3 Compensation for Express Lanes Maintenance Services

The Vendor shall provide fixed fee (unit rate) for Express Lanes ITS equipment preventive maintenance services. The Department shall compensate the Vendor based on the fixed fee (unit rate) amounts established under the Express Lanes ITS Maintenance Services section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor’s Preventive Maintenance Services fixed fee (unit rate) shall include all labor required to perform the service, mobilization costs, equipment/tools/vehicles/machinery necessary to perform the work, travel time to the site, MOT costs including both materials and labor, overhead, profits, insurance, Vendor’s warranty, operating margin, administrative costs, and all other incidentals necessary to perform the required services. The Vendor shall use components or parts from the spare parts inventory for performing these services.

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The Vendor shall provide fixed fee (unit rate) for the Minor Repair Services. The Department shall compensate the Vendor the amounts established under the Express Lanes ITS Maintenance Services of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor’s Minor Repair Services fixed fee (unit rate) shall include all labor required to perform the service, mobilization costs, equipment/tools/vehicles/machinery necessary to perform the work, travel time to the site, MOT costs including both materials and labor, overhead, profits, insurance, Vendor’s warranty, operating margin, administrative costs, diagnostic and troubleshooting services and all other incidentals necessary to perform the required services. The Vendor shall use components or parts from the spare parts inventory for performing these services.

The Vendor shall provide fixed fee (unit rate) per hour for the Major Repair Services. The Department shall compensate the Vendor the amounts established under Staffing Rates section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. For major repairs, the Vendor shall include all diagnostic services costs within the Repair Services costs. The diagnostic services including the diagnostic report and final repair report costs shall be based on the actual hours spent, using the fixed fee (unit rate) per hour established under the Staffing Rates section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor shall use components or parts from the spare parts inventory for performing these services. The Vendor shall be compensated separately for all MOT related costs per location on a case-by-case basis upon Department’s approval for all Major Repairs.

4.1.8 Arterial Management System (AMS) Maintenance Services

The FDOT funded portion of the District Four AMS includes fiber optic communications infrastructure; CCTV cameras; Arterial DMS (ADMS); Microwave Vehicle Detection Sensors (MVDS); Bluetooth based Arterial Travel Time System (TTS); Portable Traffic Monitoring Stations (PTMS); and associated cabinets, communications devices, and system electronics both in the field and within the Traffic Management Centers. The FDOT funded portion of the Palm Beach and N3C District Four AMS System covers the following arterial roadways but not limited to:

- PGA BLVD/AVENUE OF CHAMPIONS TO US-1
- SR-809/MILITARY TRL FROM LAKE WORTH RD TO S OF SR-80/SOUTHERN BL
- SR-80/SOUTHERN BLVD. FR. ROYAL PALM BEACH BLVD TO DIXIE HIGHWAY

As the FDOT expands its AMS infrastructure to new roadway segments in Palm Beach County and N3C, the Vendor shall provide maintenance services for new locations and along new roadway segments at the discretion of the FDOT.

The Maintenance Vendor shall provide maintenance services as described herein for the ITS devices and infrastructure covered by the FDOT funded portion of the District Four AMS. Due to funding and contractual requirements, the requirements for the District Four

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AMS shall be the same as described within the overall document unless otherwise noted within this document. The lines of authority and all other project management related items for the overall contract will hold true for this portion of the Contract. Any items appearing to conflict between the overall ITS Maintenance Contract and the District Four AMS portion shall be held to the more stringent requirement unless otherwise directed by the FDOT Project Manager. Project reporting requirements for the Maintenance of the FDOT funded portion of the District Four AMS are consistent with those requirements as set forth within other sections of this document.

The table below shows AMS infrastructure quantities for the current operational and/or under construction projects for District Four. These ITS device quantities are not intended to be an exhaustive list and are provided for reference only. The Vendor shall field verify all devices independently.

Table 4.1.5- AMS Infrastructure

ITS Infrastructure	Number of ITS Devices
CCTV Cameras	0
ADMS	15

4.1.8.1 AMS Preventive Maintenance Services

All Preventive Maintenance requirements described previously under the Preventive Maintenance Services section shall apply for the AMS Preventive Maintenance Services.

4.1.8.2 AMS Diagnostic and Troubleshooting Services

All Diagnostic and Troubleshooting Service requirements described previously under the Diagnostic and Troubleshooting Services section shall apply for the AMS Diagnostic and Troubleshooting Services.

4.1.8.3 AMS ON-CALL DUTIES/RESPONSIBILITIES

It has been determined that there will not be a need for after business hours support for the AMS portion of this contract. Therefore, there will be no on-call duties or responsibilities for the arterial roadway system devices or infrastructure. All on-call duties, responsibilities, and penalties noted within other portions of this document are not applicable to the AMS portion of the contract.

4.1.8.4 Compensation for AMS Maintenance Services

The Vendor shall provide fixed fee (unit rate) for AMS equipment preventive maintenance services. The Department shall compensate the Vendor based on the fixed fee (unit rate) amounts established under the AMS Maintenance Services section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor’s Preventive Maintenance Services fixed fee (unit rate) shall include all labor required to perform the service, mobilization costs, equipment/tools/vehicles/machinery necessary to perform the work, travel time to the site, MOT costs including both materials and labor, overhead, profits, insurance, Vendor’s warranty, operating margin, administrative costs, and all other incidentals necessary to perform the required services. The Vendor shall use components or parts from the spare parts inventory for performing these services.

The Vendor shall provide fixed fee (unit rate) for the Minor Repair Services. The Department shall compensate the Vendor the amounts established under the AMS Maintenance Services of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor’s Minor Repair Services fixed fee (unit rate) shall include all labor required to perform the service, mobilization costs, equipment/tools/vehicles/machinery necessary to perform the work, travel time to the site, MOT costs including both materials and labor, overhead, profits, insurance, Vendor’s warranty, operating margin, administrative costs, diagnostic and troubleshooting services and all other incidentals necessary to perform the required services. The Vendor shall use components or parts from the spare parts inventory for performing these services.

The Vendor shall provide fixed fee (unit rate) per hour for the Major Repair Services. The Department shall compensate the Vendor the amounts established under Staffing Rates section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. For major repairs, the Vendor shall include all diagnostic services costs within the Repair Services costs. The diagnostic services including the diagnostic report and final repair report costs shall be based on the actual hours spent, using the fixed fee (unit rate) per hour established under the Staffing Rates section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation. The Vendor shall use components or parts from the spare parts inventory for performing these services. The Vendor shall be compensated separately for all MOT related costs per location on a case-by-case basis upon Department’s approval for all Major Repairs.

The Department shall compensate the Vendor for all work associated with maintenance of the FDOT Funded Portion of the District Four AMS in a consistent manner with the

remaining portion of the contract. The work performed on the FDOT Funded Portion of the District Four AMS must be invoiced separately.

4.1.9 Special Projects

4.1.9.1 Assignment of Minor Design and Installation Project Services

The Department shall assign all Special Projects work to the Vendor using a new Work Order based on fixed fee (unit rate) per hour as identified in the Exhibit “C” Contract Price Proposal. The Department envisions the need during this Contract for Special Projects such as minor design and installation projects which primarily consist of, but not limited to, technical analysis, planning, design, project development, procurement, project construction, system replacement, system integrations, testing and other support systems. The Vendor shall provide these above-mentioned services and others for the term of the Contract, when requested by the Department.

Some of the other services that have been identified as a potential need of the Department are:

- Annual System Renewal and Replacement

FDOT District Four (D4) has developed a TSM&O infrastructure Replacement Plan to prioritize the replacement of equipment and devices throughout D4 for the next ten (10) FDOT fiscal years based on factors such as age, life-cycle, and the scope of other planned projects such as I-95 Express which will extend through Palm Beach County. This TSM&O Replacement Plan will primarily focus on devices such as CCTV cameras, Microwave Vehicle Detections Systems (MVDS), and Dynamic Message Signs (DMS) that are installed along freeways and arterials. These devices have a set life-cycle and need to be replaced, on average, at the end of the life-cycle. The Department may request the Vendor’s production and installation services for the system renewal/replacement.

- Representing FDOT and Coordination with Third Party Vendors

- Providing access to existing ITS equipment to third party Vendors
- Performing final acceptance on Department’s behalf
- Providing technical support as requested by the Department’s staff

- Plans Review Services:

- Review and comment on plans submitted to the ITS Office by other entities, including other FDOT Offices; and
- Attend meetings related to plans review.

- Additional Maintenance Services

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- If requested by the Department, develop and update maintenance plans and working procedures based on a need basis.
- ITS Reports and Analyses Services
 - Prepare before-and-after studies to evaluate the effectiveness of ITS infrastructure; and
 - Prepare cost effectiveness analyses of existing or proposed equipment and any other initiatives related to ITS infrastructure and maintenance.
- Design Support Services
 - Developing ITS plans to support Maintenance activities and functions;
 - Requirements review for any existing and proposed minor installation projects related to ITS Maintenance;
 - Shop drawings and design review;
 - Infrastructure development, installation and cut over plans; and
 - Final system test plan.
- Any other Services as requested by the Department.

The Department may request the Vendor's services on an as-needed basis. There is no guarantee that any or all the services described will be assigned during the term of this Contract.

The Department shall compensate the Vendor the amounts established in Exhibit "C", Contract Price Proposal and in the manner described under Exhibit "B", Method of Compensation.

4.2 Control of Materials

The Vendor shall maintain and store the Department's System equipment and spare parts including portable generators in a location(s) approved by the Department's Project Manager. The location(s) shall be marked specifically for this contract and shall not be used for any other purposes. Storage of parts or equipment outside of this storage area(s) must be approved by the Department's Project Manager. The Vendor shall maintain and have readily available an up-to-date inventory of all the Department's equipment and/or parts that are under the Vendor's supervision.

The Department reserves the right to store devices and/or parts at an independent storage area within Palm Beach County and Northern 3 Counties. The Vendor is responsible for picking up parts as needed from Department storage areas under the terms of this Contract.

Any equipment purchased by the Vendor on behalf of the Department, using Department funds, belongs to the Department and shall be entered into the inventory list maintained

by the Vendor. Upon termination or ending date of the Contract, all Department property shall be transferred to the Department.

4.2.1 Existing TMC and Field Site Device Inventory

The Vendor shall maintain and have readily available an up-to-date inventory of all the Department’s equipment that the Vendor is responsible to maintain and all spare parts and devices (existing and future) in the Vendor’s or Department’s possession. The Vendor shall be responsible for the inventory of all existing and future ITS devices in District Four in Palm Beach County and N3C. The initial inventory shall be submitted to the Department’s Project Manager at the end of the Transition Plan and shall continually be updated monthly to reflect all changes to the equipment inventory.

The Vendor shall maintain and have readily available an up-to-date inventory of all the Department’s field equipment and/or parts that are under the Vendor’s supervision. The inventory shall contain, but not be limited to:

1. Manufacturer,
2. Model number,
3. Descriptive name,
4. Manufacturer serial number,
5. Current location and condition (new, used or damaged),
6. If the equipment is a spare,
7. The site where it belongs and type of site (CCTV, DMS, etc.), if applicable,
8. Location of site, if applicable,
9. Date of purchase,
10. Date of repair,
11. Date when scrapped or disposed of,
12. Warranty status,
13. SunGuide name, and
14. APL number, if applicable

The Vendor shall include inventory service costs within the on-site project management and utility services unit rate section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

4.2.2 Parts Procurement

The Vendor shall coordinate and assist the Department in purchasing the parts. The Vendor shall be responsible for recommending to the Department, the parts that need replenishment along with anticipated dates when these parts will become depleted, if the inventory is not replenished.

When requested by the Department, the Vendor shall purchase and furnish the parts as needed to maintain and repair the System with minimal equipment downtime. All parts purchased by the Vendor shall be approved by the Department prior to the Vendor furnishing any part. All parts shall be new, equal to or better in function and quality to the

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component, device or equipment being replaced. The Vendor shall submit cut sheets (when necessary) of all new parts for Department approval prior to furnishing the part. The proposed part shall be the latest compatible technology, equal to or better in function and quality to the existing System component or equipment.

The ITS Maintenance Vendor shall procure parts on an as-needed basis and as directed by the Department and/or to maintain sufficient quantity (minimum of 10% or more in some cases) to minimize equipment downtime. The Vendor shall evaluate the stock level periodically, at a minimum once a month, and increase or decrease the stock levels when approved by the Department. The Vendor shall obtain approval from the Department, prior to changing the minimum stock levels.

The ITS Maintenance Vendor shall develop and submit a Monthly Parts Purchase Projection Report as part of the Monthly Status Report to the Department for review and approval. The Parts Projection Report shall at a minimum include:

- parts to be purchased
- purchase schedule
- cost estimate

Such projection shall be developed based on current stock level, project needs and schedule, Department's funding availability and schedule, parts delivery time, and other Department needs. When developing the parts purchase projection, the Vendor shall take into consideration approval time for purchasing parts using Department's funds. The intent of this projection is to ensure that most of the parts, if not all, will be procured using Department's funds. A minimum of 10% shall be maintained for stock levels always.

When submitting any invoice to the Department where the Vendor incurred an expense from the supply list, it is the Vendor's responsibility to provide the Department with a copy of the invoice from each supplier used. Items with poor descriptions that are not easily discernable in plain English shall be explained in writing to the Department's Project Manager or designee in detail to the Department's Project Manager's satisfaction before the invoice will be approved.

Any item with a unit cost of \$1,000.00 or more, shall require three quotes from three vendors. If an item being obtained from the APL cannot have three quotes, a justification shall be submitted to the Department in writing as to why there are not three quotes and there is no other option.

All parts purchased by the Vendor shall be tied to a specific LOA. Failure to follow a LOA shall result in non-payment or reimbursement to the vendor. All reimbursements to the Vendor will follow Exhibit B Method of Compensation Section 6.

The Department reserves the right to reject any or all charges on any reimbursement request and/or invoice. The Department reserves the right to enforce payment reductions, in accordance with Exhibit B, Section 8, Financial Consequences.

4.2.3 Parts Inventory

The ITS Maintenance Vendor shall be responsible for storing all ITS related parts. The Department currently has two designated locked storage facilities on FDOT property for storage of spare parts, which the Vendor may use for storing spare parts authorized for purchase under this contract. One facility is located inside the District Four Palm Beach Operations Maintenance Yard and the other is located in the TIMSO Yard. The Vendor shall be responsible for supplementing these existing FDOT storage facilities with new additional storage facilities as necessary to maintain the minimum stock levels. The Vendor may choose to obtain new storage facilities closer to Express Lanes, to store MOT related equipment, and other critical equipment, as needed to support the Express Lanes Maintenance Response Times. All such additional storage facilities shall have proper insurance coverage for the parts stored and shall be approved by the Department before use of the facility and storing of parts.

All such additional storage facilities shall be marked specifically for this Contract and shall not be used for any other purposes. The Vendor can store a small amount of parts inside an ITS maintenance technician's field truck for ease of access. The Vendor will not be compensated for any storage facilities separately but shall be included in the various bid items.

All spare parts shall be stored and secured in a manner that will ensure parts are not damaged or prematurely degraded because of exposure to weather, excess moisture or heat or any inappropriate conditions not suitable for safe storage of the ITS equipment. The Vendor shall be responsible for all spare equipment in their possession. For any lost or destroyed spare parts, the Vendor shall replenish the inventory with a new item of the same type, manufacturer and model at Vendor's own expense. For cases when the Vendor fails to replenish, the Department may choose to assess at its discretion an invoice payment reduction based on the unit price of the lost/destroyed item.

The Vendor shall develop and submit a Monthly Spare Parts Report as part of the Monthly Status Report to the Department for review and approval. The monthly spare parts report shall include at a minimum the following information:

- Manufacturer, model number and descriptive name of each spare part;
- Stock quantity at each storage facility;
- RMA quantity;
- Surplus quantity;
- Baseline quantity; and
- Procurement status.

4.2.4 Parts Tracking

The Vendor shall maintain complete records of the location and status of all spare equipment utilizing the Department’s MIMS software. It is the responsibility of the Maintenance Vendor to ensure that the exact location of all parts is constantly updated in the MIMS whether the location is a storage facility in the Maintenance Yards, in a maintenance field truck or installed in the field. If the parts location in MIMS are shown as field, the Vendor shall supplement that with corresponding device SunGuide ID and actual field location in MIMS. The ITS Maintenance Vendor shall provide a unique MIMS identification number to existing parts which do not have one. This can be done, when an existing part is brought back to the TMC for repair. The ITS Maintenance Vendor shall follow any additional steps detailed in the latest ITS Maintenance SOGs document on parts tracking and inventory.

4.2.5 Parts Repair Process and Warranty Tracking

The ITS Maintenance Vendor shall assess the cost feasibility for repairing a failed part and advise the Department on the repair process. Upon the Department Project Manager’s (or his/her designee) approval, the ITS Maintenance Vendor shall ship all failed parts to the manufacturer’s Return Material/Merchandise Authorization (RMA) facilities for repair. During this process, the ITS Maintenance Vendor will also verify the warranty and inform the manufacturer’s RMA facility, if the warranty is applicable. The Vendor shall use MIMS software for tracking equipment sent to RMA facilities and for tracking the warranty information. The ITS Maintenance Vendor shall follow any additional steps detailed in the latest ITS Maintenance SOGs document on parts repair process and warranty tracking.

4.2.6 Inventory Database/Facilities Management System

The Department is using the ITS Facility Management (ITSFM) system to support the long-term ITS asset and configuration management needs of the ITS Program statewide. The ITSFM compiles System asset information in a single, web-accessible repository, allowing the Department to collectively manage the entire system in a coordinated manner. The ITSFM is hosted/provided by the FDOT’s Central Office to the Districts and other regional partners.

The ITS Maintenance Vendor shall use the ITSFM for inventory and facilities management purposes. The Vendor shall update ITSFM data used to inventory the ITS field equipment including, but not limited to, outside plant cabling, duct, splice points, terminations, field devices, and other field installed assets.

The information contained within the ITSFM is confidential material; therefore, the Vendor must ensure that staff working under this Contract has passed the Florida Department of Law Enforcement (FDLE) background check and other necessary background checks as determined by the Department so the Department can issue user login credentials to the ITSFM. The results of background checks shall be submitted to the Department within 24 hours upon request.

The Vendor shall ensure all ITS maintenance staff who will have access to ITSFM receive at a minimum ITSFM maintainer-level training within 1 month of Contract Start Date.

During the term of the Contract, all staff who have previously received ITSFM maintainer-level training or above shall attend an ITSFM refresher training at least once a year for skills upkeep purposes. All ITSFM-related training expenses including but not limited to staff labor cost shall be the ITS Maintenance Vendor's own expense.

For any new staff member added to this Contract during the Contract's term that need access to ITSFM, will ensure that the new staff member receive at a minimum, the ITSFM maintainer-level training within one month of the new staff member's start date on this Contract. During this time, the Vendor shall continue to use other staff members to perform the required ITSFM updates.

The Vendor shall provide field staff with an ITSFM-compatible laptop computer with direct Internet access from the equipment site to ensure that the maximum benefit from the ITSFM is available to the user. Asset changes to the system shall be updated to the database in real-time or as otherwise directed by the Department. The Vendor will be responsible for recurring usage cost including computer hardware, connection to the Internet, etc.

The Vendor shall include the resources required to populate the database and routinely update the database as maintenance work changes the inventory and configuration. Information populated in the ITSFM shall meet the positional accuracy and content defined in the latest version of the ITSFM technical memorandum "ITSFM Functional Requirements for the District Four District-wide Implementation", which an be provided to the vendor of this Contract.

4.2.7 Utility Locating Services

The Vendor shall provide all necessary services to designate and locate existing surface and subsurface utilities to support the maintenance and operations of the System as indicated by the Department. The Vendor must register with the Sunshine 811 System within 30 days of Contract execution.

The Vendor shall provide locations of the System underground facilities as required by the Department or others and shall accommodate schedules of other agencies requesting such locations. The Vendor shall be responsive to all requests received from the Sunshine 811 System, and if deemed necessary by the Department, more accurate location information may be required than required by Sunshine 811 standards. A file will be maintained on all calls and their respective reference numbers, date, time of arrival, and personnel conducting locates. This shall be in a spreadsheet format. If the Vendor damages System underground facilities, either directly or indirectly, by incorrect locates, the Vendor shall repair the System underground facilities at the sole cost of the Vendor. In this case, the Vendor shall make any temporary repairs within 24 hours and any permanent repairs within 60 days of the damage unless the damage is classified as an emergency by the Department which will then require repair within four hours.

The Vendor shall be available for the location and verification services during construction of other roadway projects which could impact the System, if required.

- Designate, record, and mark the approximate horizontal location of the existing utilities and their major laterals by a method approved by the Department. The

horizontal designating of the underground utility line shall be within two feet of either side of the underground utility line as shown on the plan sheets.

- Determine and provide the Department with the approximate depth of all existing utilities. This depth indication is understood by both the Vendor and the Department to be approximate only and is not intended to be used in designing the right-of-way and construction plans.

The Vendor shall include utility locating service costs within the on-site project management and utility services staffing fixed price section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

4.2.7.1 Utility Coordination

The Vendor shall fully cooperate with all utility owners during construction, installation or repair associated with this Contract. The Vendor shall call the Sunshine 811 System a minimum of 48 hours and a maximum of 96 hours before any excavation work. The Vendor shall furnish and install all equipment and materials and perform all work in accordance with all applicable utility owner standards and procedures. The Vendor is responsible for ascertaining the exact location of all utilities prior to the beginning of work in an area. Utility locations shown on Department plans are approximate and may not include all utilities.

The Vendor shall be responsible for coordinating and meeting with all utility companies having overhead or underground facilities in proximity with the Vendor installations.

The Vendor shall be responsible for determining and performing any needed subsurface utility engineering (SUE) work. The Vendor shall be responsible for all damages incurred when performing work under this contract.

The Vendor shall include utility coordination costs within the on-site project management and utility services staffing fixed price section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

4.3 General Requirements for Execution of Work

The Vendor shall be responsible for all labor, materials, and incidentals required to execute and complete the requirements of this Contract including, but not limited to, the following:

1. Project management and contract administration;
2. Communications and coordination between the Department and the Vendor;
3. Communications and coordination with other Vendors and Consultants;
4. Staffing services and Personnel requirements;
5. Project documentation and recordkeeping;
6. Progress reports and Invoicing;
7. Contract Status meetings, including meeting minutes and agendas;

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8. Preventive maintenance and diagnostic and troubleshooting services;
9. Repair services;
10. Mobilization and MOT services;
11. Special Projects services;
12. Inventory and Asset Management services;
13. Warranty services
14. Utility coordination;
15. Emergency power support, and
16. Hurricane Response Services and Disaster reporting.

Device failures can be described as emergency, priority, and routine. Each failure type has specific requirements for response times depending on the severity and extent that the failure impacts the operation of the System. Non-performance penalties shall be assessed for failure to acknowledge or respond to device failures as described in this Contract. The Vendor shall fully cooperate with all utility owners during activities such as, but not limited to, construction, installation, or repair associated with this Contract. The Vendor shall call Sunshine 811 a minimum of 48 hours and a maximum of 96 hours before any excavation work requiring locate services from member operators of Sunshine 811.

The Vendor shall furnish and install all equipment and materials and perform all work in accordance with all applicable standards and procedures. The Vendor is responsible for ascertaining the exact location of all utilities prior to beginning work in an area. Utility locations as shown on Department plans are approximate and may not include all utilities. If any utility damages are incurred as a result of Vendor's operations, it shall be the Vendor's sole responsibility to repair such damages or bear the cost of repairs performed by others.

The Vendor shall be responsible for coordinating and meeting with all utility companies having overhead or underground facilities in proximity with work performed under this Contract. The Vendor shall be responsible for determining and performing any needed SUE work.

The Vendor shall be responsible for providing the Department with a diagnostic report after the occurrence of a disaster, natural or otherwise when notified and requested by the Department. The diagnostic report by the Vendor shall be per site and include all devices connected to the cabinet location. The Vendor shall develop a mutually agreed schedule with the Department for submittal of diagnostic reports for disasters depending on the severity of the disaster. The Vendor shall provide fixed fee (unit rate) per hour for this service. The Department shall compensate the Vendor based on the fixed fee (unit rate) per hour established under Staffing Rates section of the Exhibit "C", Contract Price Proposal and in the manner described under Exhibit "B", Method of Compensation.

4.3.1 Scheduling and Execution of Work

All work shall be scheduled with and approved by the Department's Project Manager (or his/her designee). The Vendor shall work with the Department's Project Manager (or his/her designee) under this Contract to establish normally scheduled activities. Work not

covered under the scope of agreed upon scheduled activities must be authorized in writing by the Department’s Project Manager (or his/her designee) or by an issued LOA.

4.3.2 Mobilization

Work under this contract will require movement of personnel, equipment, supplies, and incidentals. The Vendor shall include all mobilization cost into respective bid items under Exhibit “C” Contract Price Proposal. The Vendor will not be compensated for any additional and separate mobilization costs.

4.3.3 Maintenance of Traffic

MOT shall include the planning, furnishing, installing, maintaining, and removing of traffic control and safety devices. The Vendor shall utilize the applicable Traffic Control Plans as approved by the Department for all maintenance and repair activities for equipment on the highway and arterials. The Vendor is responsible for identifying all MOT requirements necessary to perform preventive maintenance, diagnostic and repair services.

The need for lane closures shall be determined on a case-by-case basis as requested by the Vendor. The Vendor shall submit all required lane closure requests via the Department’s Lane Closure Information System (LCIS).

Approval for all lane closures, mobile operations, and traffic pacing operations is required. Submit routine requests fourteen calendar days in advance of planned lane closures, mobile operations, and traffic pacing operations at the following URL address: <https://lcis.dot.state.fl.us/>. Confirm at least once every two weeks that information entered within LCIS reflects current planned operations and update as necessary. For unforeseen events that require cancelling or rescheduling lane closures, mobile operations, and traffic pacing operations, revise the lane closure request as soon as possible.

For all critical failures during the Department’s regular working hours (8:00 AM to 5:00 PM), the Vendor shall seek approvals from the FDOT Project Manager (or his/her designee) and the SMART SunGuide TMC, Palm Beach Vista TMC, and TIMSO prior to performing any work. For all critical failures during holidays and after hours, the Vendor shall input all lane closure information into LCIS and choose the request as emergency MOT request. The Vendor shall deploy emergency MOT immediately to provide failure repair services for any failures deemed necessary by the Department.

The Vendor will be given a notification list by the Department containing all contacts that shall be notified of the lane(s) closure by the Vendor. The Vendor shall coordinate MOT activity with RTMC operations and any other governing operations Center

The Vendor shall have at least one individual on its staff throughout the term of this Contract with a Florida Advanced Maintenance of Traffic certification.

Because of the unique nature of this contract and the work specified herein, MOT shall be paid for according to the work level assigned. The level shall be determined by the Vendor and approved by the Department Project Manager and assigned with each LOA. In

instances where no MOT operations are anticipated, there will be no MOT level assigned. The level shall be determined according to the following measures:

Level 1: Where at least a portion of the work assigned on the LOA is to be performed off the roadway, but in close enough proximity to the traveled way to require signing but does not require lane closure.

Level 2: Where at least a portion of the work assigned on the LOA is to be performed within the paved surface of a rural or low volume urban two-lane, two-way roadway (day work, flagging).

Level 3: Where at least a portion of the work assigned on the LOA is to be performed within the paved surface of a non-limited access, multi-lane divided or undivided roadway, such as a rural or urban state or United States (US) route (day or night work, off-duty law enforcement not required).

Level 4: Where at least a portion of the work assigned on the LOA is to be performed within the paved surface of a non-limited access, multi-lane divided or undivided roadway such as a rural or urban state or US route (day or night work, off-duty law enforcement required).

Level 5: Where at least a portion of the work assigned on the LOA is to be performed within the paved surface of a limited-access facility (Interstate or Turnpike), rural or lower volume urban (day or night work, off-duty law enforcement not required).

Level 6: Where at least a portion of the work assigned on the LOA is to be performed within the paved surface of one or more lanes of a multi-lane, divided or undivided limited-access roadway (Interstate or Florida's Turnpike), daylight or nighttime hours where off-duty law enforcement is required.

Level 7: This level may be used in conjunction with any of the above levels where additional signage or additional law enforcement are required to detour traffic around work zones to alternate roadways.

4.3.3.1 Compensation for Maintenance of Traffic Services

The Vendor shall include all MOT costs for preventive maintenance visits within the fixed fee (unit rate) established under preventive maintenance services section and minor repair services section of the Exhibit “C”, Contract Price Proposal. No separate MOT costs shall be paid for any preventive maintenance visits or minor repair service visits.

The Vendor shall prepare and submit cost estimates for MOT costs for all major failure repair services to the Department for review and approval. The Department shall compensate the Vendor, in a manner as agreed by both parties in the LOA, and as described under Exhibit “B”, Method of Compensation.

4.3.4 Warranty for Vendor Services and Materials

The Vendor warrants to the Department that all services, materials, parts, and supplies furnished under this Contract shall be free from defects in material or workmanship and in accordance with good trade practices and local, state, and federal codes.

The Vendor guarantees that upon completion of the services required by the Contract, the work areas shall be left in a clean, sanitary, and safe condition.

The Vendor agrees that each job assignment performed will be reviewed and approved by the Vendor's Project Manager before the Department's Project Manager (or his/her designee) is requested to approve and process invoices for payment.

The Vendor will correct deficient work and replace defective material provided and supplied or credit the Department for the inadequate services and materials. The Department's Project Manager (or his/her designee) shall have the right to determine which course of correction must be taken.

Upon completion of a repair/installation, the Vendor shall warranty the labor for a period of 90 calendar days from the date of acceptance by the Department for all repairs. Within the warranty period, if the device/equipment fails for the same reason, the Vendor shall make all necessary repairs at the Vendor's expense. As part of the ITS Maintenance Vendor oversight, the Department's representatives will perform Field Equipment Quality Control Audits and reports are submitted monthly. Any discrepancies identified in these reports shall be rectified by the Vendor within five business days of notification from Department at no additional cost to the Department.

The Vendor shall assure the Department that device equipment manufacturer warranties are not voided by repair services or other actions of the Vendor at any point during the Contract. If a device warranty expires, the Vendor shall notify the Department's Project Manager (or his/her designee) for the option to renew and/or replace the device if the unit is non-operational.

The Vendor shall act on behalf of the Department to track manufacturer warranties and pursue warranty repairs from device manufacturers when failures are covered by the manufacturer's warranty. The Vendor is responsible for coordinating warranty repairs with the Department's Project Manager (or his/her designee) and the device manufacturer/reseller. In the event warranty or insurance coverage is applicable, the Vendor shall identify the proper procedure for contacting the entity responsible for coverage, secure the proper forms used for claim notification, and coordinate the repair, return, and disposition of equipment. Repaired Department equipment returned from the manufacturer shall be held in inventory as spare parts if it is not to be immediately reinstalled. The Vendor shall support the Department in pursuing claims until each claim is resolved to the satisfaction of the Department.

4.3.5 Lost, Stolen, or Damaged Department Owned Resources

The Department's Project Manager will provide a list of Department owned resources for the Vendor. The Vendor shall acknowledge receipt and responsibility of the Department

owned resources by executing a State of Florida Department of Transportation “Property Transfer Receipt” form.

In the event Department owned resources have been lost, stolen, or damaged, and had been in exclusive possession and control of the Vendor, the Vendor shall replace the Department owned resources at its own expense within 15 calendar days of the time when the item(s) was known to be lost, stolen, or damaged. If the item is not directly replaceable due to non-availability of identical models, the Vendor will replace the item with a functionally equal or better item or directly compensate the Department. The risk of loss to any equipment being repaired or replaced shall be the responsibility of the Vendor having possession or control of the equipment at the time of the loss.

4.3.6 Use of Subcontractor(s)

The support of the System may require a multi-disciplinary team made up of a prime Vendor and subcontractors to successfully fulfill the obligations of this Contract. The Vendor must provide contact information for all subcontractors and indicate their areas of expertise and responsibility. Use of subcontractors must be coordinated with, and approved by, the Department’s Project Manager.

4.4 Working Hours, On-call Responsibilities, Response Times, and Limitations

4.4.1 Standard Hours of Operation

The Vendor shall have maintenance personnel available 24 hours a day, 7 days a week and 365 days a year for the duration of the Contract. The Department’s business hours are Monday through Friday from 8:00 a.m. – 5:00 p.m. The Department’s offices are typically closed at 5:00 pm on weekdays, on holidays and weekends.

The following holidays are observed by the Department. The Department may have other holidays issued by the State of Florida. If any of these holidays fall on a Saturday, the preceding Friday is observed. If any fall on a Sunday, the following Monday is observed:

- New Year’s Day
- Martin Luther King Day
- Memorial Day
- Independence Day
- Labor Day
- Veteran’s Day
- Thanksgiving Day and the following day
- Christmas Day

4.4.2 On-call Responsibilities

The Vendor shall provide on-call staff with vehicles, equipment, tools, materials, supplies, cellular phones and other incidentals required to respond to any repair work issued by the Department always. On-call staff assignments shall be coordinated with the Department's Project Manager and clearly communicated to staff responsible for TMC operation. Qualified maintenance staff shall be on-call during afterhours, weekends, Department-observed holidays and always for the term of this Contract to respond to calls and issues. The Vendor shall be required to perform repairs and maintenance 24 hours a day, 7 days a week, year-round.

The Vendor shall provide the Department's Project Manager (or his/her designee) with a list of telephone numbers that will be answered 24 hours a day, 7 days a week by the Vendor's personnel to satisfy this Contract requirement. The Vendor shall also provide an e-mail addresses to which all the Department's electronic correspondence shall be sent.

4.4.3 Response Times

The Vendor shall respond to Department's notifications, mobilize and be present at the work site within the time frames established in Section 4.4.3.2. of Exhibit A Scope of Services.

Failure by the Vendor to meet the required response times shall result in the Vendor being assessed a financial consequence, receive a poor performance evaluation and/or may cause the Department to terminate the Contract.

4.4.3.1 Device Failures

Failures shall be characterized as *Emergency*, *Urgent*, *Priority*, or *Routine* as defined below:

- *Emergency failures* are failures that represent an immediate risk to the public, failures that cause a closure of the public travel-ways, or failures to the communications network that render the ITS System inoperable.
- *Urgent failures* are failures results in more than one device being down or unusable that are required for the complete operation of the ITS System.
- *Priority failures* are failures of individual cameras, sensors, signs, etc. that are required for the complete operation of the ITS System.
- *Routine failures* are failures that, while requiring attention, are not adversely affecting the immediate operation of the ITS System.

4.4.3.2 Repair Services Response Time

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Response times for the failures characterized above are defined below and the notification shall be in writing for emergency and urgent failures through the daily/weekly maintenance check for priority and routine failures:

- Upon notification of an ***Emergency System failure*** by the Department, the Vendor shall respond and complete repairs or eliminate the instant danger ***within four (4) hours*** of the reported incident.
- Upon notification of an ***Urgent System failure*** by the Department, the Vendor shall respond and complete repairs or eliminate the instant danger ***within twelve (12) hours*** of the reported incident.
- Upon notification of a ***Priority System failure*** by the Department, the Vendor shall respond and complete repairs ***within 24 hours*** of the reported incident. The notification may be verbally by telephone
- Upon notification of a ***Routine System failure*** by the Department, the Vendor shall respond and complete repairs ***within 7 days*** or a longer timeframe approved by the Department’s Project Manager of the reported incident.

4.4.3.3 Acknowledgement Times

The Vendor shall be responsible for acknowledgement of all notifications of device failures within the times listed below:

- Emergency – 10 minutes from receipt of the notification or LOA
- Urgent – 15 minutes from receipt of the notification or LOA
- Priority – 30 minutes from receipt of the notification or LOA
- Routine – 90 minutes from receipt of the notification or LOA

The Department reserves the right to enforce a financial consequence for times not met.

4.5 Security and Safety Requirements

The Vendor shall utilize proper safety measures to ensure the proper protection for persons and property always.

The Vendor shall be responsible for ensuring that all equipment used is maintained in a safe and efficient manner in accordance with all local, state, and federal laws, safety organizations, regulations, and guidelines pertaining to providing the required services.

The Vendor shall follow all safety requirements outlined in the National Electric Safety Code, OSHA, and any standards or practices for safe installation or maintenance of required equipment per this Contract.

The Vendor shall be responsible for any injury to person(s) or damage to property that occurs as a result of Vendor activities under this Contract. The Vendor shall notify the Department immediately after any injury incurred by person(s) working under this Contract.

At the conclusion of a workday, the Vendor's personnel must leave the work area free of safety hazards. The Department assumes no liability for any equipment or personal belongings or effects left unattended on Department property.

The Vendor shall be solely responsible for the safety of all its personnel.

The Vendor shall be solely responsible for maintaining the safety required and providing safety equipment and procedures for the protection of employees and the public throughout the area(s) where work is performed under this Contract.

If any deficiency may cause harm to life or property, or violate any rules or regulations such as, but not limited to, Americans with Disabilities Act, OSHA, or otherwise contained herein, the Department may take immediate corrective action(s), and the Vendor shall be responsible for the burden of any associated direct and/or indirect costs.

4.6 License and Insurance Qualifications

The Vendor shall hold the licenses and certifications necessary to provide the services described in this Contract in the counties specified and be required to submit proof of licenses and certifications prior to work being performed.

The Vendor shall certify that skilled employees and/or subcontractor(s), who possess the necessary specialty licenses, as required by law to perform the work, shall provide the services being performed and provided by the Vendor as described in this Contract.

All records, insurance, and licenses must be current. The Vendor must provide the Department's Project Manager with evidence of current records, insurance, and licenses and copies must be kept on file in the ITS Maintenance Vendor's office at the Palm Beach Vista TMC for the duration of this Contract and all renewals and will be provided within 24 hours upon request by the Department.

The Vendor shall be required to submit proof of the following licenses and certifications along with the Technical Proposal:

- CISCO network certifications e.g. CCNA Certification (Cisco Certified Network Associate Certification);
- MOT Certifications: The Vendor is responsible for the work zone traffic control plan development and the work zone traffic control supervisor must be certified in the advanced training category by a Department approved training Provider.
- Fiber Optic Cable Certifications: Technicians should have fiber training from at least one of the fiber optic cable manufacturers e.g. Corning Fiber training, Light Brigade Fiber training, BICSI Fiber training, etc.

The Vendor shall certify that skilled employees and/or Subcontractor(s) possess the necessary specialty licenses, as required by law to perform the work. The Vendor shall be required to provide the Department with the required types of insurance in the limits as stated in the Contract Standard Written Agreement. The Vendor shall carry and keep in

force the required types of insurance during the period of the Contract and any subsequent renewals.

All records, insurance and licenses must be current and will be kept on file within the ITS Maintenance Vendor's office at the Palm Beach Vista TMC for the duration of this Contract and will be provided within 24 hours upon request by the Department.

4.7 Location of the Work

The Vendor shall be responsible for maintenance of all existing, under-construction, and future District Four owned and operated ITS infrastructure located in Palm Beach County and Northern 3 Counties.

4.7.1 SMART SunGuide Transportation Management Center

The Department has a video wall system operating inside the TMC. The SunGuide TMC video wall system consists of video wall monitors, processor, communications equipment, and software. The Barco software vendor-based video wall control system consists of both software licenses and commercially off the shelf (COTS) available hardware equipment (e.g. servers, graphics cards, Ethernet switches, monitors, computer peripherals, cables, etc.) that are located within the IT Server Room.

For all TMC video wall system failures, staff from the ITS Operations contract will be the primary point of contact to perform the initial diagnostics to determine the area of failure. The Department may utilize this Contract to support the primary point of contact for video wall system failure diagnosis and repairs.

4.7.2 Field Sites

The Vendor shall provide maintenance services for ITS infrastructure located at existing and future field sites throughout the geographic coverage area of the Contract.

4.8 Required Qualifications

4.8.1 Staffing Requirements

Support of the System will require a multi-disciplinary team. The following areas of expertise are the minimum necessary to successfully fulfill the obligations of this Contract. Subcontractors submitted with the response are allowed.

- Project management / administration;
- Electrical trades;
- Electronic and electro-mechanical component diagnostics, troubleshooting, and repair;
- Computer hardware troubleshooting and repair;
- Local area network and wide area network design, operation, and maintenance;

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- Ethernet, serial, and wireless communications;
- Networking and network protocols, including switching, routing, VLANs, OSPF, PIM, SNMP, IGMP, IGRP, DVMRP, DNS, etc.;
- Computer applications / database management;
- Analog and digital video transmission;
- Fiber optic network configuration and administration;
- FOC termination, splicing, testing, and management;
- Installation, configuration, troubleshooting, and maintenance of analog and digital video equipment, network devices, DMSs, HAR systems, RWIS, and VDS;
- Programming and operation of traffic controllers;
- Grounding and surge protection systems and related equipment;
- Configuration management;
- Security devices for System installations;
- Installation of ITS poles and structural supports according to Department procedures; and
- MOT
- The following staff positions will wear long or short sleeve shirts with the SunGuide Logo and FDOT District Four underneath the logo. The logo shall be on the left chest side of shirt.
 - ITS Maintenance Technician
 - ITS Electrician
 - ITS Fiber Technician
 - Interstate (General Purpose Lanes and Express Lanes) Utility Technician
 - AMS Utility Technician

At all times during the term of this Contract, the Vendor shall keep the required staff to respond to all requirements of this Contract. The Vendor shall provide on-site maintenance staff in the Department's designated location(s). The Vendor shall develop a staffing plan indicating how absences and vacations will be covered, and the expected activities of each proposed staff member. The Vendor shall provide suitable replacement staff during vacations or sick periods of primary staff.

The Vendor must provide resumes for all personnel proposed for this Contract in their bid package. Any changes to staff identified in the bid package submitted by the Vendor shall be subject to review and approval by the Department in writing before any billable services are authorized. Requests to add or change staff must be accompanied with accurate and current resumes for proposed individuals, including information on their licenses and certifications as well as a description of their expected duties.

The Department will conduct Vendor performance reviews on a quarterly basis. When deficiencies are identified with Vendor employees assigned to the Contract, the Vendor will immediately implement remedial action. Remedial actions may include further training of the employee, subdivision or reassignment of the employee, addition of staff, and removal of the employee from the Contract. All Vendor employees working on this Contract are understood to be working under the direction and at the will of the Department's Project Manager.

4.8.1.1 Maintenance Staff Location and Availability

Vendor staff whose primary function is performing work associated with this Contract shall be located within the geographic coverage area designated by the Department. The Vendor shall supply additional skilled staff from other locations, as requested by the Department. The Department may provide work space at the Palm Beach Vista Transportation Management Center (TMC) located at 2300 North Jog Road, West Palm Beach, Florida 33411, TIMSO, located at 3601 Oleander Ave, Fort Pierce 34982, or any other Department locations within the geographic coverage area at no cost for on-site staff. The Vendor must coordinate staff locations and schedules with the Department's Project Manager.

4.8.1.2 On-site Staffing

At a minimum and upon written authorization, the Vendor shall provide:

- One part-time Project Manager,
- One part-time Interstate General Purpose Lanes Maintenance Supervisor,
- Two full-time Utility Technicians for Interstate General Purpose Lanes,
- Two full-time Utility Technicians for Interstate Express Lanes,
- One full-time Utility Coordinator for Interstate General Purpose Lanes and Express Lanes

The Department anticipates Express Lanes will open within the project limits during the term of this Contract. At a minimum and upon written authorization, the Vendor shall provide:

- One part-time Express Lanes Maintenance Supervisor,

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The Department, during the term of this Contract, may require Arterial Management Systems services. The Vendor shall, upon written authorization and unless otherwise specified in writing by the Department, provide:

- One part-time Arterial Management Systems (AMS) Maintenance Supervisor,
- Two full-time Utility Technicians for AMS,
- One full-time Utility Coordinator for AMS.

The Vendor may provide additional support staff as needed to perform the services as described within this Scope of Services document. When requested by the Department, the Vendor shall provide additional on-site maintenance staff to be collocated at the Palm Beach Vista TMC, TIMSO, or any other locations designated by the Department.

The on-site staff shall adhere to all FDOT rules and regulations when working at the Palm Beach Vista TMC and TIMSO. The Vendor shall provide the on-site staff with all necessary computers, printers, phones, and other office supplies that enable them to perform their job at the TMC. The on-site staff shall report to their respective offices during the Department's regular working hours (8:00 am to 5:00 pm, Monday through Friday). It is expected that the on-site staff provide on-call response during after-hours for the duration of this Contract. The Vendor shall provide suitable backup for on-site maintenance staff during vacation and other time-off periods.

4.8.1.3 Position Descriptions

The Vendor-provided maintenance staff shall have the minimum qualifications as described in the Contract documents. The Vendor and/or Department shall have the ability to add staff that is not defined herein, at any time under the term of this Contract, as requested by the project requirement and staffing needs change.

4.8.1.3.1 Vendor Project Manager

The Vendor shall designate a half-time Project Manager who shall respond to all authorizations for services under this Contract. The Vendor's Project Manager shall be responsible for all work necessary to provide for the general management, oversight, quality control, and administration of all Contract activities and support personnel. The Vendor's Project Manager ensures that the requirements of the Contract are met daily at all times. The Vendor's Project Manager is responsible for ensuring that maintenance activities for District Four ITS are in accordance with this Contract, Standard Operating Procedures (SOP) and SOG's, protocols, and policies.

The responsibilities include, but are not limited to, the following:

- Provide oversight of all work performed under this Contract;
- Follow direction set by the Department's Project Manager (and/or his Designee);
- Perform project-related assignments to include the planning, organizing, and developing of maintenance tasks as assigned by the Department;

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- Direct oversight of project professionals and staff;
- Direct training of workers to improve performance and acquaint workers with Contract requirements, policies, and procedures;
- Recommend changes, review progress, and approve work products for the Maintenance Program;
- Recommend ITS equipment specifications and assist in developing operating procedures for ITS devices;
- Requisition tools, spare parts, equipment, and supplies required for maintenance operations;
- Train assigned staff in proper work methods and techniques and in the set up and use of equipment;
- Monitor allocated budget for spare parts and supplies and manage spare parts consumption and usage to ensure that budget levels are met;
- Track project budget, inventory, and tasks assigned, and provide monthly updates, status of work, and cost summaries;
- Prepare and submit monthly invoices, progress reports and other documents;
- Provide sufficient staff and resources for all tasks and activities throughout the duration of the Contract;
- Ensure that maintenance staff have the required qualifications and background check documentation before being employed by the Vendor;
- Meet with the Department’s Project Manager when requested to review and discuss tasks completed during the previous week, task assignments for the current week, and two-week “look ahead” schedule;
- Provide summary minutes within 5 business days after each meeting for review and approval by the Department;
- Coordinate activities of workers repairing, upgrading, modifying, or installing equipment or systems to improve existing equipment;
- Interact with the Department’s staff, equipment manufacturers, and consultants to review issues pertaining to equipment or systems performance and status;
- Attend meetings as directed by the Department to ongoing phase(s) of ITS construction meeting, utility coordination meeting, and others as directed; and
- Perform other tasks as assigned by the Department.

Knowledge, Skills and Abilities

The Vendor’s Project Manager shall have a college degree in a related field such as engineering, construction or business management, and a minimum of 10 years of hands-on experience in related ITS Maintenance. The Vendor’s Project Manager shall possess but not limited to, the following qualifications:

- Understanding of ITS, construction and maintenance principles;
- Good leadership and interpersonal skills;

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- Have an excellent understanding of key management concepts;
- Ability to clearly communicate technical information in layman’s terms;
- Ability to be on-call 24 hours/day;
- Create project schedules using Microsoft Windows applications;
- Create project related presentations using Microsoft PowerPoint application;
- Provide presentations to the Department’s staff and others, when requested by the Department;
- Skill in the use of all Windows operating systems;
- Ability to write technical reports and correspondence;
- Obtain ITSFM maintainer-level training within 1 month of Contract Start Date;
- Ability to coordinate real time activities and priorities;
- Direct experience with the day-to-day operations of an ITS maintenance program;
- Knowledge and ability to create monthly invoice and all project related reports;
- Knowledge and ability to create and document procedures for timely completion of preventive maintenance activities; and
- Knowledge and ability to evaluate the performance of equipment and systems and make recommendations.

4.8.1.3.2 Express Lanes Maintenance Supervisor

The Vendor shall designate a part-time Express Lanes Maintenance Supervisor who shall respond to all Express Lanes related ITS Maintenance activities under this Contract. The Express Lanes Maintenance Supervisor shall be responsible for all work necessary to provide for the general management, oversight, quality control, and administration of all Express Lanes ITS Maintenance activities and support personnel. The Express Lanes Maintenance Supervisor shall ensure that the Express Lanes ITS Maintenance requirements of the Contract are met on a daily basis at all times. The Express Lanes Maintenance Supervisor shall be responsible for ensuring that the Express Lanes ITS maintenance activities for District Four ITS are in accordance with this Contract, Standard Operating Procedures (SOP) and SOG’s, protocols, and policies.

The responsibilities include, but are not limited to, the following:

- Provide oversight of Express Lanes ITS Maintenance work performed under this Contract;
- Direct oversight of Express Lanes technician staff;

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- Follow direction set by the Department’s Project Manager (and/or his Designee);
- Update the SOGs, develop diagnostic repair reports, develop final repair reports, develop progress reports and other Project documentation as relating to Express Lanes
- Perform project-related assignments to include the planning, organizing, and developing of maintenance tasks as assigned by the Department;
- Respond to MIMS tickets for Express Lanes related failures;
- Dispatch field and/or office staff for Express Lanes related repairs;
- Recommend ITS equipment specifications and assist the Vendor’s Project Manager in developing operating procedures for ITS devices in Express Lanes;
- Verify proper device and system operation;
- Conduct inspections and schedule periodic preventive maintenance for Express Lanes ITS devices;
- Monitor ITS device operation through the use of a computer in the TMC or field; use ITS software, both proprietary and non-proprietary;
- Requisition tools, spare parts, equipment, and supplies required for Express Lanes maintenance operations;
- Train assigned staff in proper work methods and techniques and in the set up and use of equipment;
- Track Express Lanes project budget, inventory, and tasks assigned, and provide monthly updates, status of work, and cost summaries;
- Participate in Contract Monthly Meetings and other meetings as requested by the Department’s Project Manager (and/or his Designee);
- Coordinate activities of workers repairing, upgrading, modifying, or installing equipment or systems for Express Lanes in order to improve existing equipment;
- Interact with the Department’s staff, equipment manufacturers, and consultants to review issues pertaining to equipment or systems performance and status;
- Attend meetings as directed by the Department to ongoing phase(s) of ITS construction meeting, utility coordination meeting, and others as directed; and
- Perform other tasks as assigned by the Department.

Knowledge, Skills and Abilities

The Vendor’s Express Lanes Maintenance Supervisor shall have a college degree in a related field such as engineering, construction, and/or business management with 5 years of ITS Maintenance experience, or a total of 10 years of hands-on supervising experience in related ITS Maintenance. The Vendor’s Express Lanes Maintenance Supervisor shall possess but not limited to, the following qualifications:

- Understanding of ITS, construction and maintenance principles;
- Good leadership and interpersonal skills;
- Have an excellent understanding of key management concepts;

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- Ability to clearly communicate technical information in layman’s terms;
- Ability to be on-call 24 hours/day;
- Create project schedules using Microsoft Windows applications;
- Create project related presentations using Microsoft PowerPoint application;
- Provide presentations to the Department’s staff and others, when requested by the Department;
- Skill in the use of all Windows operating systems;
- Ability to write technical reports and correspondence;
- Certified in FDOT Intermediate Maintenance of Traffic (MOT);
- Obtain ITSFM maintainer-level training within 1 month of Contract Start Date;
- Ability to coordinate real time activities and priorities;
- Direct experience with the day-to-day operations of an ITS maintenance program;
- Express Lanes knowledge;
- Knowledge and ability to create and document procedures for timely completion of preventive maintenance activities; and
- Knowledge and ability to evaluate the performance of equipment and systems and make recommendations.

4.8.1.3.3 Interstate General Purpose Lanes Supervisor

The Vendor shall designate a part-time Interstate General-Purpose Lanes (GPL) Supervisor who shall respond to all GPL related ITS Maintenance activities under this Contract. The GPL Supervisor shall be responsible for all work necessary to provide for the general management, oversight, quality control, and administration of all GPL activities and support personnel. The GPL Supervisor shall ensure that the GPL ITS Maintenance requirements of the Contract are met daily at all times. The GPL Maintenance Supervisor shall be responsible for ensuring that the GPL ITS maintenance activities for District Four ITS are in accordance with this Contract, Standard Operating Procedures (SOP) and SOG’s, protocols, and policies.

The responsibilities include, but are not limited to, the following:

- Provide oversight of General Purpose Lanes Maintenance work performed under this Contract;
- Direct oversight of General Purpose Lanes technicians;
- Follow direction set by the Department’s Project Manager (and/or his Designee);

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- Update the SOGs, develop diagnostic repair reports, develop final repair reports, develop progress reports and other Project documentation as relating to Express Lanes
- Perform project-related assignments to include the planning, organizing, and developing of maintenance tasks as assigned by the Department;
- Respond to MIMS tickets for General Purpose Lanes related failures;
- Dispatch field and/or office staff for General Purpose Lanes related repairs;
- Direct training of General Purpose Lanes technicians to improve performance and acquaint workers with Contract requirements, policies, and procedures;
- Recommend ITS equipment specifications and assist the Vendor’s Project Manager in developing operating procedures for ITS devices;
- Verify proper device and system operation;
- Conduct inspections and schedule periodic preventive maintenance for General Purpose Lanes ITS devices;
- Monitor ITS device operation through the use of a computer in the TMC or field; use ITS software, both proprietary and non-proprietary;
- Requisition tools, spare parts, equipment, and supplies required for General Purpose Lanes maintenance operations;
- Train assigned staff in proper work methods and techniques and in the set up and use of equipment;
- Track General Purpose Lanes project budget, inventory, and tasks assigned, and provide monthly updates, status of work, and cost summaries;
- Participate in Contract Monthly Meetings and other meetings as requested by the Department’s Project Manager (and/or his Designee);
- Coordinate activities of workers repairing, upgrading, modifying, or installing equipment or systems for General Purpose Lanes in order to improve existing equipment;
- Interact with the Department’s staff, equipment manufacturers, and consultants to review issues pertaining to equipment or systems performance and status;
- Attend meetings as directed by the Department to ongoing phase(s) of ITS construction meeting, utility coordination meeting, and others as directed; and
- Perform other tasks as assigned by the Department.

Knowledge, Skills and Abilities

The Vendor’s GPL Maintenance Supervisor shall have a college degree in a related field such as engineering, construction, business administration with 5 years of ITS Maintenance experience, or a total of 10 years of hands-on supervising experience in related ITS Maintenance. The Vendor’s GPL Maintenance Supervisor shall possess but not limited to, the following qualifications:

- Understanding of ITS, construction and maintenance principles;
- Understanding of ASCT and traffic signal operations;

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- Good leadership and interpersonal skills;
- Have an excellent understanding of key management concepts;
- Ability to clearly communicate technical information in layman’s terms;
- Ability to be on-call 24 hours/day;
- Create project schedules using Microsoft Windows applications;
- Create project related presentations using Microsoft PowerPoint application;
- Provide presentations to the Department’s staff and others, when requested by the Department;
- Skill in the use of all Windows operating systems;
- Ability to write technical reports and correspondence;
- Certified in FDOT Intermediate Maintenance of Traffic (MOT);
- Obtain ITSFM maintainer-level training within 1 month of Contract Start Date;
- Ability to coordinate real time activities and priorities;
- Direct experience with the day-to-day operations of an ITS maintenance program;
- Knowledge and ability to create and document procedures for timely completion of preventive maintenance activities; and
- Knowledge and ability to evaluate the performance of equipment and systems and make recommendations.

4.8.1.3.4 Arterials Management System (AMS) Maintenance Supervisor

The Vendor shall designate a part-time Arterials Management Systems (AMS) Maintenance Supervisor who shall respond to all Arterials related ITS Maintenance activities under this Contract. The AMS Maintenance Supervisor shall be responsible for all work necessary to provide for the general management, oversight, quality control, and administration of all Arterials ITS Maintenance activities and support personnel. The Arterials Maintenance Supervisor shall ensure that the Arterials ITS Maintenance requirements of the Contract are met daily always. The Arterials Maintenance Supervisor shall be responsible for ensuring that the Arterials ITS maintenance activities for District Four ITS are in accordance with this Contract, Standard Operating Procedures (SOP) and SOG’s, protocols, and policies.

The responsibilities include, but are not limited to, the following:

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- Provide oversight of Arterials ITS Maintenance work performed under this Contract;
- Direct oversight of Arterials technicians;
- Follow direction set by the Department’s Project Manager (and/or his Designee);
- Update the SOGs, develop diagnostic repair reports, develop final repair reports, develop progress reports and other Project documentation as relating to Express Lanes
- Perform project-related assignments to include the planning, organizing, and developing of maintenance tasks as assigned by the Department;
- Respond to MIMS tickets for Arterials related failures;
- Dispatch field and/or office staff for Arterials related repairs;
- Direct training of Arterials technicians to improve performance and acquaint workers with Contract requirements, policies, and procedures;
- Recommend ITS equipment specifications and assist the Vendor’s Project Manager in developing operating procedures for ITS devices;
- Verify proper device and system operation;
- Conduct inspections and schedule periodic preventive maintenance for Arterials ITS devices;
- Monitor ITS device operation through the use of a computer in the TMC or field; use ITS software, both proprietary and non-proprietary;
- Requisition tools, spare parts, equipment, and supplies required for Arterials maintenance operations;
- Train assigned staff in proper work methods and techniques and in the set up and use of equipment;
- Track Arterials project budget, inventory, and tasks assigned, and provide monthly updates, status of work, and cost summaries;
- Participate in Contract Monthly Meetings and other meetings as requested by the Department’s Project Manager (and/or his Designee);
- Coordinate activities of workers repairing, upgrading, modifying, or installing equipment or systems for Arterials to improve existing equipment;
- Interact with the Department’s staff, equipment manufacturers, and consultants to review issues pertaining to equipment or systems performance and status;
- Attend meetings as directed by the Department to ongoing phase(s) of ITS construction meeting, utility coordination meeting, and others as directed; and
- Perform other tasks as assigned by the Department.

Knowledge, Skills and Abilities

The Vendor’s AMS Maintenance Supervisor shall have a college degree in a related field such as engineering, construction, business administration, with 5 years of ITS Maintenance experience, or a total of 10 years of hands-on supervising experience in related ITS Maintenance. The AMS Maintenance Program Manager shall possess but not limited to, the following qualifications:

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- Understanding of ITS, construction and maintenance principles;
- Good leadership and interpersonal skills;
- Have an excellent understanding of key management concepts;
- Ability to clearly communicate technical information in layman’s terms;
- Ability to be on-call 24 hours/day;
- Create project schedules using Microsoft Windows applications;
- Create project related presentations using Microsoft PowerPoint application;
- Provide presentations to the Department’s staff and others, when requested by the Department;
- Skill in the use of all Windows operating systems;
- Ability to write technical reports and correspondence;
- Certified in FDOT Intermediate Maintenance of Traffic (MOT);
- Obtain ITSFM maintainer-level training within one month of Contract Start Date;
- Ability to coordinate real time activities and priorities;
- Direct experience with the day-to-day operations of an ITS maintenance program;
- Knowledge and ability to create and document procedures for timely completion of preventive maintenance activities; and
- Knowledge and ability to evaluate the performance of equipment and systems and make recommendations.

4.8.1.3.5 ITS Maintenance Technician

The ITS Maintenance technician shall be responsible for installing, maintaining, and repairing ITS control devices; to assist in the ITS design review and the development of standard operating procedures; and to perform a variety of technical tasks related to assigned area of responsibility. The ITS Maintenance technician shall receive general supervision from the Vendor’s Project Supervisor and Department’s Project Manager or designee. The technician shall document and photograph the work performed on all abnormal site conditions and daily activities.

The responsibilities and duties may include, but are not limited to, the following:

- Installing and maintaining a wide variety of ITS devices such as vehicle detection systems, dynamic message signs, solid state equipment, fiber optic equipment,

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trailblazers, computerized communication cables, light emitting diode lamps, and related devices and equipment for freeway;

- Troubleshoot malfunctions, isolate defects and repair devices and equipment using a bucket truck on high speed, high volume roads and freeways; verify proper device and system operation; conduct inspections and periodic preventive maintenance.
- Monitor ITS device operation using a laptop computer in the field or a desktop computer in the TMC; use ITS software, both proprietary and non-proprietary; recommend and safely complete appropriate changes for effective system operation.
- Perform repair, removal, and replacement of poles, cabinets, controllers, and other equipment; repair conduit and pull wires and cable, as needed; perform emergency repairs as needed.
- Modify or update existing ITS devices and equipment to improve traffic flow.
- Read diagrams, blueprints, manuals, and specifications for new installations and continual maintenance of ITS devices; make corrections to schematics and blueprints;
- Perform the field and bench testing procedures on a variety of ITS equipment, such as closed-circuit television systems, traffic system control units, trailblazer signs, dynamic message signs, radio communication facilities, conflict monitors, vehicle detection systems, and others; test, troubleshoot, and repair ITS equipment to component level of micro processing systems; maintain and service a variety of test and repair equipment.
- Assist TMC network administrator with repairs and connection of intercommunication cable and related equipment.
- Document work performed on all ITS devices and daily activities
- Obtain DMS manufacturer's certification to perform maintenance on DMS sign assembly no less than 30 days prior to DMS installation.
- All other tasks assigned by Department

Knowledge, Skills and Abilities

- The ITS Maintenance Technician must have a high school diploma or General Education Degree (GED), or Military Electronic training, and at least 3 years of increasing responsibility and experience in ITS or traffic control system installation, repair, and maintenance.
- Knowledge of principles and practices of the use of diagnostic and utility software to locate problems and repair system equipment.

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- Knowledge of cable and component color coding, ability to distinguish color.
- Tools, equipment, practices, and methods used in installing, maintaining, and repairing electronic solid state ITS devices and associated equipment.
- Practices and techniques of field and bench testing of electronic devices and components.
- The relationship of the various components of a computer-controlled traffic control system.
- Interpretation of design schematics, site plans, maps, engineering drawings and fiber optic diagrams.
- Techniques and methods of record keeping.
- Possession of a valid Class B commercial driver's license during the life of the Contract.
- Certified by the DMS manufacturer to perform maintenance on the DMS sign assembly.
- Familiar with CCTV camera and microwave sensor installation, configuration and integrations.
- Computer literate in the use of MS Office products.
- Familiar with various communication methods and protocols, including Ethernet, Internet Protocol, Point to Point and Wireless Communications Support, Layer 2 Switching, Layer 3 Routing and VLAN configuration, Serial and Video Communications.
- Familiar with fiber optic installation procedures; certified to perform the fiber optic installation, splicing, terminations and OTDR testing.
- Maintaining physical condition necessary for light to moderate lifting, bending, stooping, kneeling, climbing, and standing for prolonged periods of time;
- operating motorized equipment and vehicles;
- Work independently without direct supervision.
- Communicate in English clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted during work.
- Maintain effective audio-visual discrimination and perception needed for:

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- Making observations;
- Communicating with others;
- Reading and writing; and
- Operating assigned equipment.
- Maintain mental capacity which allows the capability of:
 - Making sound decisions;
 - Effective interaction and communication with others; and
 - Demonstrating intellectual capabilities.
- Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
 - Sitting and/or standing for extended periods of time; and
 - Operating assigned equipment and utility vehicles.

4.8.1.3.6 ITS Maintenance Electrician

The ITS Maintenance Electrician shall be responsible for installing, maintaining, and repairing ITS devices; to assist in the ITS design review and the development of standard operating procedures; and to perform a variety of technical tasks related to assigned area of responsibility. The ITS Maintenance Electrician shall receive general supervision from the Vendor's Project Supervisor and Department's Project Manager or designee. The electrician shall document and photograph the work performed on all abnormal site conditions and daily activities.

The responsibilities and duties may include, but are not limited to, the following:

- Direct and participate in a wide range of functional electrical tasks on ITS components; isolate prime power malfunctions and coordinate repairs with Power Company; replace power service points as needed.
- Perform the field and bench testing procedures on a variety of ITS and power equipment, such as automatic transfer switches, generators, load switches, power service assemblies, closed circuit television systems, vehicle detection systems, dynamic message signs, radio communication facilities, vehicle detection systems, and others; test, troubleshoot, and repair ITS equipment to component level of micro processing systems; maintain and service a variety of test and repair equipment.
- Installing and maintaining a wide variety of ITS devices such as vehicle detection systems, dynamic message signs, solid state equipment, trailblazers, computerized

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communication cables, light emitting diode lamps, and related devices and equipment for freeway;

- Troubleshoot malfunctions, isolate defects and repair devices and equipment using a bucket truck on high speed, high volume roads and freeways; exposure to electrical energy, high voltage, computer screens, heat, cold, noise, dust, fumes, inclement weather conditions.
- Verify proper device and system operation; conduct inspections and periodic preventive maintenance.
- Monitor ITS device operation using a laptop computer in the field or a desktop computer in the TMC; use sophisticated ITS software, both proprietary and non-proprietary; recommend and safely complete appropriate changes for effective system operation.
- Perform repair, removal, and replacement of poles, cabinets, controllers, and other equipment; repair conduit and pull wires and cable, as needed; perform emergency repairs as needed.
- Read diagrams, blueprints, manuals, and specifications for new installations and continual maintenance of ITS devices; make corrections to schematics and blueprints;
- Document work performed on all ITS devices and daily activities
- All other tasks assigned by the Department

Knowledge, Skills and Abilities

- The ITS Maintenance Electrician must have a high school diploma or GED, supplemented by vocational/technical training which includes an electrical apprenticeship; supplemented by three (3) years previous ITS experience and/or training as a journeyman electrician or electrical inspector; or any equivalent combination of education, training, and experience which provides the requisite knowledge, skills, and abilities.
- Must possess and maintain a valid Electrical Journeyman License. Experience to include all aspects of power distribution systems, both high and low voltage systems, transformers, generators, automatic transfer switch, electrical wiring, bending conduit, pulling wire, changing breakers, working on motors and gear boxes, preventative maintenance, assisting operational maintenance of automated systems or Programmable Logic Circuits (PLC's), distributed electrical systems and electrical control systems.
- Principles and practices of the use of diagnostic and utility software to locate problems and repair system equipment.
- Cable and component color coding; the ability to distinguish color.

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- Tools, equipment, practices, and methods used in installing, maintaining, and repairing electronic solid state ITS devices and associated equipment.
- Practices and techniques of field and bench testing of electronic devices and components.
- Interpretation of design schematics, site plans, maps, and engineering drawings.
- Certified by the DMS manufacturer to perform maintenance on the DMS sign assembly.
- Familiar with CCTV camera and microwave sensor installation, configuration and integrations.
- Computer literate in the use of MS Office products.
- Soldering skills are required
 - Familiar with the use of Oscilloscopes, Function Generators, digital multimeter (DMM) and standard lab equipment.
- Techniques and methods of record keeping.
- Possession of a valid Class B commercial driver's license during the life of the Contract.
- Work independently without direct supervision.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted during work.
- Maintain effective audio-visual discrimination and perception needed for:
 - Making observations;
 - Communicating with others;
 - Reading and writing; and
 - Operating assigned equipment.
- Maintain mental capacity which allows the capability of:
 - Making sound decisions;
 - Effective interaction and communication with others; and
 - Demonstrating intellectual capabilities.

- Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
 - Sitting and/or standing for extended periods of time; and
 - Operating assigned equipment and utility vehicles.

4.8.1.3.7 Utility Technician

The utility technician shall be responsible for identifying the underground location and delineating and marking on the ground of existing utilities, per the requests from Sunshine State One Call, Vendor Project Supervisor, or FDOT Project Manager or designee. The utility locates shall include, but not limited to, fiber optic cables, power cables, composite cables that constitute Department ITS underground utilities. The utility technician shall also meet with Utility Locates Requesting Party as necessary in the field to supplement marking ITS utilities. Whenever available, the utility technician shall assist the ITS Maintenance technician and electrician in performing the installing, maintaining, and repairing ITS devices. The utility technician shall be able to respond to emergency utility locate ticket(s) as per requested by Vendor Project Supervisor and/or Department's Project Manager or designee. The utility technician shall document and photograph the work performed on all utility locating and daily activities.

KNOWLEDGE, SKILLS AND ABILITIES

- High school diploma or GED
- Two (2) years of experience in a position of similar requirements or equivalents.
- Principles and practices of the use of diagnostic tools to locate utility problems.
- Interpretation of site plans, maps, and engineering drawings.
- Basic principles and practices of utility theory; use and operation of various scopes, meters, and counters.
- Familiar with Department's *Utility Accommodation Manual 2017 version and subsequent revisions* (FDOT Rule 14-46.001 F.A.C.)
- Familiar with Florida State Sunshine One Call policies and procedures.
- Basic principles and practices of computer operations.
- Basic interpretation of site plans, maps, and engineering drawings.
- Basic mathematical principles.
- Computer literate in the use of MS Office products.
- Techniques and methods of record keeping.

- Possession of an appropriate, valid driver’s license.
- Work independently without direct supervision.
- Understand and follow oral and written instructions.
- Communicate in English clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted during work.
- Good interpersonal and telephone skills.
- Maintain effective audio-visual discernment and perception needed for:
 - Making observations;
 - Communicating with others;
 - Reading and writing; and
 - Operating assigned equipment.
- Maintain mental capacity which allows for effective interaction and communications with others.
- Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
 - Walking, sitting or standing for extended periods of time; and
 - Operating assigned equipment and utility vehicles.
- All other tasks assigned by the Department.

4.8.1.3.8 Utility Coordinator

The Utility Coordinator position is responsible for supporting the Vendor’s Maintenance Staff and Department’s Project Manager or designee on day to day business matters regarding to maintenance services and utility locate coordination. The Utility Coordinator shall possess but not limited to the following qualifications:

- Supplies administrative support services to the Maintenance staff and assumes the role as an administrative liaison with internal and/or external sources.
- Performs routine office or clerical support tasks according to well established procedures. Examples of work performed may include sorting and distributing

mail, photocopying, filing, posting or proofing data, or answering telephone calls and recorded messages.

- Work performed may also include composing routine correspondence, preparing routine reports, scheduling meetings or appointments, screening and directing incoming calls, providing information, maintaining files, or transcribing dictation.
- Prepares documents using Microsoft applications; formats, proofs, edits for errors.
- Assist Project Supervisor on the data entry of the inventory tracking database.
- All other tasks assigned by the Department.

KNOWLEDGE, SKILLS AND ABILITIES

- Two (2) years of experience in a position of similar requirements or equivalents.
- Understanding of office principles.
- Good interpersonal and telephone skills.
- Communicate in English clearly and concisely, both orally and in writing.
- High level of skill in the use of all Windows based applications.
- Ability to write meeting minutes and file all materials based on ISO 9001 standards.
- Ability to coordinate real time activities and priorities.
- Proficiency of all office related equipment.
- Familiar with Florida State Sunshine One Call policies and procedures.
- Prepares documents using Microsoft applications; formats, proofs, edits for errors.
- Maintain a valid driver's license.

4.8.1.4 General Appearance, Uniform Requirements and Conduct

Vendor staff shall exercise good judgment in carrying out their duties and conduct themselves in such a manner that will reflect favorably upon the Department. The Department reserves the right to require removal of any Vendor employee from this Contract who cannot perform their duties to the satisfaction of the Department or damages the reputation of the Department and/or the Vendor.

All maintenance staff listed below are required to be outfitted with the following approved maintenance gear. All uniforms and gear must be replaced when signs of damage, wear and tear, or unreparable items can't be fixed.

- Lime green and/or yellow long or short sleeve shirts with the SunGuide Logo and FDOT District Four, in words, underneath the logo. The logo shall be on the left chest side of shirt. A minimum of five shirts shall be provided to staff.

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- Lime green Class III American National Standards Institute (ANSI) approved safety vest for work done on the interstate or arterial roadway systems. A minimum of one safety vest to be provided.
- Lime green hard hat. A minimum of one hard hat to be provided.
- Work pants of a dark color.
- Steel toe work boots.
- Approved FDOT issued picture ID (to be worn during established work days and times).

The following staff positions that are required to wear the established uniform in this section:

- ITS Maintenance Technician
- ITS Electrician
- ITS Fiber Technician
- Interstate (General Purpose Lanes and Express Lanes) Utility Technician
- AMS Utility Technician

The Vendor shall obtain the Department’s Project Manager’s approval of uniforms prior to the Vendor’s usage.

The Vendor shall continuously monitor personnel performance as part of its own management activity. The Vendor shall ensure that its personnel restrict their access to only those Department areas they are authorized to have access to as part of their work duties. The Vendor shall guarantee to the Department that its personnel shall not spend excessive time at any Department location socializing during work hours or when they are off the clock.

4.8.1.5 Training

The Vendor shall provide qualified instructors and all materials for training Vendor staff in the maintenance, operation, and troubleshooting of equipment, hardware, software, and firmware for all System devices. Department staff may participate in training with Vendor staff. Training shall be conducted on an as-needed basis and shall consist of formal classroom lectures as well as “hands-on” training that consists of working with actual equipment and testing of ITS devices and the entire system.

4.8.2 Personnel Vetting

During the term of the Contract, the Vendor shall provide resumes of all proposed primary maintenance staff and all new hires along with certification or documentation of the following: drug test results, criminal background check, drivers’ licenses, and other

information for approval prior to hiring. The Vendor shall be responsible for any costs associated with personnel vetting, background checks, criminal record checks, drug-free workplace certifications and other certifications required per the Contract documents for the term of the Contract.

4.8.2.1 Background Check

Each of the Vendor's staff assigned to service this Contract must pass an FDLE background check to access the TMC for repair and coordination/progress meetings. The Vendor shall provide the Department's Project Manager with proper documentation, and the Department will coordinate the FDLE background check with the Florida Highway Patrol.

All staff assigned to work on-site at the Palm Beach Vista TMC or TIMSO shall complete and submit to the Joint Task Force Manager of the FHP, the Joint Task Force (JTF) for Law Enforcement communications application for security clearance to the State Law Enforcement Radio System (SLERS) prior to providing on-site services under the terms of this Contract. The Vendor shall submit to the Department the application results for all staff. Vendor's staff not receiving security clearance to the SLERS system by the JTF shall not provide on-site services under this Contract.

It shall be the responsibility of the Vendor's Project Manager to ensure coordination of the background checks for the term of this Contract.

The Department and Vendor reserve the right to reject any staff prior to being assigned duties.

4.8.2.2 Criminal Record Check

Individuals with felony conviction records shall not be hired. A criminal history record check shall be conducted by an approved Department agency and shall be provided by the Vendor to the Department for each employee before hire or access to the TMC. These criminal record checks shall go back 10 years. The Vendor shall perform criminal checks annually for all Vendor staff. Additionally, the Department may elect to have Vendor perform periodic criminal record checks on Vendor staff.

4.8.2.3 Drug-Free Workplace Certification

The Vendor shall provide proof, by a licensed medical practitioner or technician, that all Vendor staff is drug-free in accordance with Section 112.0455, *Florida Statutes*, prior to beginning operations. The Vendor shall submit the proof described above for staff every year thereafter.

4.9 Materials to be Furnished

4.9.1 Vendor Facilities

The Vendor shall provide warehouse support as needed to meet the Contract requirements to store the Department's spare parts and MOT related equipment.

4.9.2 TMC Devices, Field Devices, and other Hardware

All equipment and component parts that are furnished will be new, unused, will meet all requirements of this Contract, and will be in operable condition at the time of delivery. All parts will be of high-quality workmanship and no part or attachment will be applied contrary to the manufacturer's recommendations or standard practice. If authorized by the Department, working parts recovered from damaged Department equipment may be used if such use does not negatively impact the warranty of equipment in which it is installed.

The Vendor shall follow the ITS Maintenance SOGs for additional information.

4.9.3 Software

For the performance of work described in the contract, the Vendor is expected to use, purchase, or have available computer software at no additional cost to the Department, including, but not limited to:

- SunGuide software (to be provided by the Department);
- MIMS software (to be provided by the Department);
- FiberTrak Software (to be provided by the Department)
- ITSFM software (to be provided by the Department);
- ITS device manufacturer/vendor software;
- Various Microsoft Office Products and software required to perform ITS Maintenance services;
- Other software as requested by the Department

4.9.4 Incidental Materials

The Vendor shall be responsible for providing incidental materials that are necessary to perform the general nature of work described in this Contract.

4.9.5 Equipment, Machinery, Tools, and Vehicles

The Vendor shall provide on-site equipment including, but not limited to, bucket trucks, cranes, inspection/maintenance trucks/vehicles, field engineering equipment, air compressor, machinery, tools, materials, cellular phones, and other equipment necessary to perform the service required under this Contract. The Vendor shall provide all the machinery, equipment, tools and vehicles necessary to provide the Preventive Maintenance, Diagnostic and Repair Services described in this Scope of Services document.

The Vendor shall have at a minimum two (2) on-site (at the Palm Beach Vista TMC) bucket trucks capable of reaching 40 feet in height exclusively for use under this Contract. In

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addition, the Vendor shall provide a bucket truck capable of reaching 60 feet in height within 24 hours of the request by the Department's Project Manager (or his/her designee). The Vendor shall also provide a bucket truck capable of reaching 100 feet in height within 10 calendar days of the request by the Department's Project Manager (or his/her designee).

The Vendor shall provide maintenance and inspection vehicles for the ITS Maintenance Vendor staff who perform field services. The Vendor shall provide one (1) on-site environmentally controlled van or trailer accustomed for conducting fiber optic fusing splicing and other similar type of work inside the van or trailer. All vehicle(s) shall have sufficient towing and hauling capabilities to carry out the tasks specified in this Contract.

Vendor logos shall be required on vehicles and equipment dedicated for use and performance of work under this Contract. Vendor vehicles that are regularly used to perform work under the Contract must have the following markings: Vendor logo, SunGuide logo, and any other safety messages required for vehicles stopping on limited-access facilities to conform to all safety agency regulations. Vehicles shall be outfitted with the appropriate strobe and safety lights required to perform their field duties.

The Vendor shall be responsible to provide a new laptop computer with docking station for each primary maintenance staff. The laptop shall be compatible with the TMC network. Computers and individuals using Department technology resources shall comply with the Security and Use of Information Technology Resources policy of the Department.

The cost of all typical machinery, equipment tools, and vehicles including, but not limited to pliers, multi-meters, crimp tools, Ethernet packet sniffers, hammers, shovels, battery or electrical power tools, laptop computers, video monitors, vehicles and other equipment necessary to perform the services required under this Contract shall be the Vendor's responsibility. The Vendor shall be responsible for maintaining their equipment, machinery, tools, and vehicles, and all fixed and recurring costs for these items throughout the term of this Contract.

The cost of consumable parts required for maintenance, such as but not limited to: electrical tape, paint, cat 5 cables, fiber optic cable jumpers, markers, screws, steel bands, weed killer chemicals, degreasers, rain-X ®, etc., shall be included in the Vendor's fixed fee (unit rate) amounts.

The Vendor's individual personnel communication devices (i.e. Cellular phones, beepers, wireless internet access devices, etc.) and recurring cost shall already be included in the Vendor's Billing Rates as overhead. This cost is not an allowable Contract charge and shall not be billed as direct expenses to the Department.

All measurement equipment and tools shall be calibrated by the manufacturer's certified calibrator and be calibrated on the frequency required by the manufacturer. These equipment and tools include, but are not limited to:

- OTDR,
- Oscilloscopes,
- Waveform and video generators,

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- Multi-meters,
- Inductance Meters;
- Power Meters;
- Earth ground testers,
- Spectrum Analyzers;
- Fiber splicing equipment; and
- Network Analyzers.

The Department may, at its sole discretion, provide certain maintenance and measurement tools/equipment for the Vendor to use under this Contract.

The Vendor shall maintain and inventory all equipment and tools associated with this Contract, including items provided by the Department. The Vendor shall ensure that all warranties remain valid on all equipment and that they are properly calibrated for the duration of the Contract.

4.9.6 Special Tools

When the Vendor encounters a repair or for any installation project that requires a special tool or machinery, the Vendor shall request approval from the Department to purchase the required tool or rent the tool/machinery, which shall then be compensated by the Department as an expense, using a LOA. If purchased using the Department's funds, after the completion of the repair, the tool shall be tagged and turned-over to the Department for storage in the Department's Palm Beach Vista TMC or another other location requested by the Department.

4.9.6.1 Control of Equipment

The Vendor shall maintain, and store equipment associated with this Contract at the Palm Beach Vista TMC or other location(s) approved by Department's Project Manager. Storage locations shall be marked specifically for this Contract and shall not be used for any other purposes. Parts or equipment to be stored outside the Department's storage area shall be authorized by Department's Project Manager; by default, all spare parts or equipment not installed, and operating shall be stored at the storage area dedicated to this project as approved by Department's Project Manager.

The Vendor shall secure a new storage container(s), as necessary, under this Contract to store spare parts at the location(s) designated by the Department. The Department may elect for the Vendor to pick-up and deliver parts as needed to locations in the geographic coverage area of this Contract.

4.10 Performance Evaluation (Performance Measures)

Throughout the term of the Contract, the Department will conduct reviews of various phases of the Vendor's operations to determine compliance with the Contract and the sufficiency with which control procedures are applied to assure activities are in conformity with Contract provisions and Department procedures. Activities include ITS maintenance

device availability (uptime), data management and general performance measures. The frequency of the Vendor performance review shall be on a quarterly basis.

Immediate remedial action is required for deficiencies to correct work that is not at the level of accepted performance. Failures to correct deficiencies shall result in assessment of non-performance penalties.

4.10.1 Staff Performance

Vendor staff performance shall be reviewed about work quality, professionalism, reliability, and punctuality, and other performance assessments consistent with Department policy.

4.10.2 Vendor Staff Availability and Responsiveness

The Vendor shall be evaluated with respect to overall responsiveness to Department’s requests. Vendor staff assigned to this Contract shall be evaluated with respect to reliability and responsiveness. Failure to response within allowed time per Section 4.4.3 will negatively impact the performance evaluation and the Vendor will be subject to non-performing penalties.

4.10.3 ITS Maintenance Device Availability/Device Uptime

ITS maintenance device availability is an important Contract performance indicator. The ITS maintenance device availability shall be calculated using the Department’s MIMS software. At a minimum, the ITS maintenance device availability percentages shall be monitored and reported for the following:

- CCTV cameras
- DMS
- VDS
- RSS
- Speed Check Signs
- Flashing Beacons

The Vendor shall ensure that the ITS maintenance device availabilities for repairs classified as routine, shall meet or exceed the goals in the tables below for both Express Lanes and Non-Express Lanes devices.

Table 4.10.3-1: Express Lanes ITS Maintenance Device Availability Goals

ITS Device	ITS Maintenance Device Availability Goal
CCTV Cameras	98.5%

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ITS Device	ITS Maintenance Device Availability Goal
DMS	98.5%
VDS	97.0%
RSS	99.0%

Table 4.10.3-2: Non-Express Lanes ITS Maintenance Device Availability Goals

ITS Device	ITS Maintenance Device Availability Goal
CCTV Cameras	98.0%
DMS	98.0%
VDS	95.0%
RWIS	95.0%
VSLs	95.0%

The ITS maintenance device availability shall be categorized separately for express lanes, general purpose freeway/expressway facilities and arterial facilities.

Anything less than 100 percent functional is considered “down.” The Vendor shall be responsible for developing an availability report and submit it for approval to the Department’s Project Manager monthly. Availability reports using a tabular format with line charts that display average monthly ITS device availability is acceptable. The Vendor shall coordinate the final format of reports with the Department’s Project Manager. The Vendor shall develop the report using data from MIMS and in conjunction with information collected through TMC operations and the Department’s Project Manager. ITS device availabilities for routine and non-routine repairs shall be logged and tracked separately by the Vendor.

4.10.4 Response and Repair Times

The Vendor shall be evaluated with respect to both response and repair times specified in Section 4.4.3.2. Exhibit A Scope of Services.

4.10.5 General Performance Measures

General performance measures shall be used to indicate how well the Vendor is adhering to their proposal for this Contract and complying with the requirements of this Contract. General performance measures include, but not limited to:

- Quality of the work performed by the ITS Maintenance Vendor staff;
- Adherence to proposed staffing plan;
- Adherence to operating hours and Contract schedules;
- On-time contract reports and invoices submittals;
- Prompt response to Express Lanes maintenance requirements;
- Prompt response to failure responses;
- Adherence to Preventive Maintenance Plan;
- High upkeep of the ITS Maintenance Device Availability metrics;
- Overall adherence to Contract requirements;
- Flexibility and adaptability of the ITS Maintenance Vendor to Department’s needs;
- Other measurements as deemed necessary by the Department.

5 SERVICES AND MATERIALS PROVIDED BY THE DEPARTMENT

5.1 Contract Management

The Department will assign a Project Manager to be responsible for coordination with the Vendor and the direct management of their personnel as required performing work on behalf of the Department under this Contract.

The Department’s Project Manager (or his/her designee) will administer this Contract to assure the Vendor is complying with the work described in the Contract. The Department’s Project Manager (or his/her designee) will enforce the terms of the Contract.

The Department’s Project Manager (or his/her designee) will assess penalties/invoice reductions based on Vendor’s performance as per the Contract terms. The Department’s Project Manager (or his/her designee) will perform Vendor Performance Evaluations on recurring basis for the term of the Contract.

5.2 Coordination

The Department’s Project Manager will assist the Vendor with coordination of activities and maintenance activities with other stakeholders and work performed on behalf of the Department under this Contract.

5.3 Access to Facilities

The Department will provide access to Department facilities and resources in accordance with Department policies and procedures.

5.4 Spare Parts and incidental materials

The Department may choose to directly purchase ITS devices, parts, and other materials. The Vendor will take full responsibility for safeguarding materials provided by the Department in accordance with the requirements of this Contract.

5.5 Property of the Department

All work performed by the Vendor pursuant to this Contract, including, but not limited to, the preparation of all plans, specifications, maps, schedules, estimates, software products, electronic computer files, reports prepared or obtained under this Contract, as well as all data collected, together with summaries and charts derived there from, shall be considered works made for hire and shall become the property of the Department upon completion or termination without restriction or limitation on their use and shall be made available, upon request, to the Department or the Department’s Project Manager (or his/her designee) at any time during the performance of such services and/or upon completion or termination of this Contract. Upon delivery to the Department or the Department’s Project Manager (or his/her designee) of said document(s), the Department shall become the custodian thereof in accordance with Chapter 119, Florida Statutes. The Vendor shall not copyright any material and products or patent any invention developed under this Contract.

The Vendor guarantees that upon termination of any personnel under this Contract that they shall bear the responsibility of immediately returning all Department property (if applicable) to the Department or the Department’s Project Manager (or his/her designee). If the Vendor is unable to return the said items, they shall notify the Department or the Department’s Project Manager (or his/her designee) and bear any costs associated with ensuring the security of the Department.

Works for Hire

The Department shall retain all rights and interests in, and title to, all intellectual property and products which are developed in whole, or in part, under this Contract. The Department reserves the right to waive all rights and interests in, and title to, any and all intellectual property and products which are developed in whole, or in part, under this Contract if it is deemed by the Department to be in the best interest of the Department.

6 CONTRACT MONITORING, PROGRESS REPORTING, COORDINATION AND SUBMITTALS

The Department will use Vendor reports and periodic contact with the Vendor to monitor the Contract and Vendor compliance with agreement terms and conditions, applicable laws, and regulations. Contract monitoring will also be used to verify that activities are being or have been performed in accordance with this agreement; that reports have been completed; that funds have been accounted for and used appropriately; and that the goals and objectives of this Contract are being met by the Vendor.

The Vendor is required to develop and maintain a two-week “look ahead” schedule to assist with coordination and monitoring of work performed under the Contract. Coordinate the format of the schedule and the frequency of updates with the Department Project Manager.

Every month, the Vendor shall prepare and attend at a minimum, 2 contract progress reporting meetings, which are the bi-weekly meeting and the monthly meeting. The Vendor shall also attend other meetings as requested by the Department.

6.1 Status Meetings and Reports

The Vendor shall maintain complete and accurate records, in hard copy and electronic file acceptable to and approved by the Department for all System maintenance activities and any other events relating to the Contract. All documentation shall be kept in Vendor's office or other Department-designated location(s).

Upon the completion or termination of the Contract, all project records and files shall be delivered to the Department within 30 calendar days prior to submittal of the final invoice to the Vendor. Final payment shall not be rendered by the Department until all the conditions of the Contract have been met. The Vendor shall provide all reports and information as stated in this Scope of Services document and as determined by the Department during the term of the Contract

It shall be the Vendor's responsibility to maintain complete and accurate records of all work activities and all other events relating to this Contract. Project records shall include, but not be limited to, such items as status reports, meeting notes, cost proposals, invoices, current and historical inventory records, updated as-built plans, time sheets, and Vendor's staff records. Project files shall contain all correspondence to and from the Vendor and subcontractors; consultants; manufacturers; equipment Vendors; local, state, and federal agencies; etc., as related to this Contract. These files shall also include all materials information obtained by or given to the Vendor. All records shall be categorized and organized by date, activity, and subject. Paper documentation shall be scanned into an electronic format and become part of an electronic document repository for the Contract.

The project files shall be established such that they can be delivered to the Department's Project Manager.

6.1.1 Bi-Weekly Meeting and Report

The Vendor and the Department's Project Manager shall schedule a bi-weekly contract status meeting on a mutually agreed upon time for the term of this Contract. On occasions, when the Department is closed for a holiday, the Vendor shall reschedule the meeting to the next business day. The Vendor shall supply a bi-weekly Status Report describing all activities to the Department's Project Manager. The bi-weekly status report along with meeting agenda shall be submitted to the Department for review at a minimum two business days prior to the bi-weekly meeting to ensure sufficient review time for the Department staff.

The Vendor shall provide preliminary meeting minutes within five business days of the bi-weekly meeting for review and approval by the Department. The Vendor shall provide final meeting minutes within 10 business days of the bi-weekly meeting incorporating all comments made by the Department. The bi-weekly status reports, meeting agendas and minutes shall commence at Contract Start Date and shall continue for the duration of the Contract. The bi-weekly status report shall include descriptions of all services performed and results of testing conducted during the report period, which is typically the first two weeks of that month. The report format shall be coordinated with the Department's Project Manager. The bi-weekly status report shall include at a minimum, but not be limited to, the following information:

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- All repair services information including the location, date and time of each failure;
- Description of failure or issue and impacts;
- Failure reporting time;
- Failure reporting source i.e. TMC operations or IT staff;
- Technician responding;
- Arrival time at device location;
- Repair completion time;
- Major or minor repair;
- Routine or non-routine repair;
- Actions taken (successful or otherwise);
- Parts used: type, model, serial and inventory control number;
- Action for replaced parts i.e. in-house repair, return to factory;
- MOT submittal and deployment information;
- General system status and/or potential issues;
- General notes;
- Preventive maintenance work details;
- Miscellaneous work details;
- Test results for work performed; and
- Any other information as deemed necessary by the Department.

The Vendor shall include all meeting documents development and meeting scheduling and attendance costs within the on-site project management staffing fixed price section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

6.1.2 Monthly Meeting and Report

The Vendor and the Department’s Project Manager shall schedule the monthly meeting on a mutually agreed upon time for the term of this Contract. On occasions, when the Department is closed for a holiday, the Vendor shall reschedule the meeting to the next business day. The Vendor shall supply a Monthly Status Report describing all activities to the Department’s Project Manager. The monthly status report along with meeting agenda shall be submitted to the Department for review at a minimum two business days prior to the monthly meeting to ensure sufficient review time for the Department staff. The Vendor shall provide preliminary meeting minutes within five business days of the monthly meeting for review and approval by the Department. The Vendor shall provide final meeting minutes within 10 business days of the monthly meeting incorporating all comments made by the Department. The monthly status reports, meeting agendas and minutes shall commence at Contract Start Date and shall continue for the duration of the Contract. The monthly status report shall include descriptions of all services performed and results of testing conducted during the report period, which is typically the previous calendar month. The report format shall be coordinated with the Department’s Project

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Manager. The monthly status report shall include at a minimum, but not be limited to, the following information:

- Monthly average ITS maintenance device availability for ITS subsystems e.g. CCTV cameras, DMS, VDS, RSS, RWIS, network devices, etc.;
- All repair services information including the location, date and time of each failure;
- Description of failure or issue and impacts;
- Failure reporting time;
- Failure reporting source i.e. TMC operations or IT staff;
- Technician responding;
- Ticket acknowledgement time;
- Arrival time at device location;
- Repair completion time;
- Major or minor repair;
- Routine or non-routine;
- Actions taken (successful or otherwise);
- Parts used: type, model, serial and inventory control number;
- Action for replaced parts i.e. in-house repair, return to factory;
- MOT submittal and deployment information;
- Photo documentation with date and time picture taken shown when requested by the Department;
- General system status and/or potential issues;
- General notes;
- Preventive maintenance work details;
- Miscellaneous work details;
- Special Projects;
- ITS FM updates;
- Inventory updates;
- Vandalism or theft activity updates;
- Vendor Staffing and personnel updates;
- Test results for work performed; and
- Any other information as deemed necessary by the Department.

The Vendor shall include the monthly preventive maintenance schedule and monthly preventive maintenance report as part of the monthly status report. The Vendor shall refer to Scheduled Preventive Maintenance section of this Contract for report requirements.

The Vendor shall include the monthly parts purchase projection and monthly spare parts report as part of the monthly status report. The Vendor shall refer to the Parts Procurement and Inventory sections of the Contract for report requirements.

The Vendor shall include all meeting documents development and meeting scheduling and attendance costs within the on-site project management staffing fixed price section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

6.1.3 Annual Meeting and Report

The Vendor shall prepare and organize an annual contract status meeting every year during the term of the Contract at the Palm Beach Vista TMC before July 31 each year. The Vendor shall submit the draft Annual Contract Status Report before July 31 each year for Department’s review and approval. The Vendor shall submit the final Annual Contract Status Report before September 1 each year incorporating all comments made by the Department. The reporting period of the annual contract status report shall be from July 1 of previous year through June 30 of current year. The annual contract status report shall include an overall summary of the ITS maintenance activities within that year. At a minimum, the annual contract status report shall describe the major accomplishments and lessons learned during the reporting period, as well as planned activities for the upcoming year of the District Four ITS Maintenance Program. The report format shall be coordinated with the Department’s Project Manager. The Vendor shall include all meeting documents development and meeting scheduling and attendance costs within the on-site project management staffing fixed price section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

6.2 ITS Maintenance SOG Update

The Vendor shall review and provide annual updates to the FDOT District Four ITS Maintenance Standard Operating Guidelines (SOG) document. The District Four ITS Maintenance SOG will be provided to the vendor of this Contract upon execution. During the Contract’s Year 1, the Vendor shall update and submit the ITS Maintenance SOG document on or before December 15, 2019 to the Department for review and approval. Thereafter, the Vendor shall perform annual updates for new device/component additions, changes in maintenance procedures and other updates as directed by the Department. The Vendor shall submit the draft updated Annual ITS Maintenance SOG document before July 31 each subsequent year for Department’s review. The Vendor shall submit the final updated Annual ITS Maintenance SOG document before September 1 each subsequent year incorporating all comments made by the Department. The Vendor shall include all ITS Maintenance SOG initial update and annual update development costs within the on-site project management staffing fixed price section of the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

6.3 Monthly Invoicing and Progress Reports

The Vendor shall prepare and submit monthly invoices and progress reports (**official deliverables**) to the Department for review and approval. The invoice and progress reports shall be prepared and organized with all necessary backup information as requested by the Department. The Invoice and Progress Report shall contain at a minimum, but not limited to, the following:

- Contract number;

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- LOA number;
- Purchase order number if applicable;
- MIMS ticket information for repairs;
- Employee timesheets (if applicable);
- Subconsultant invoices;
- Vendor invoices;
- All receipts of all materials purchased; and,
- Others as requested by the Department.

The Department's Project Manager (or his/her designee) may require other back-up information from the Vendor to justify the services provided and invoiced to the Department e.g. hours being invoiced, materials purchased, clarification in taxes paid, etc. The Department shall assess a lower grade in the monthly performance evaluations for late invoice submittals. Invoice period shall be for a month and invoices shall be submitted to the Department by the Vendor within 30 calendar days from the end of the previous invoice period.

When the Vendor's invoice includes billing of the Vendors' staff hours for any services performed, the Vendor shall submit the timesheets for all staff including Sub-Vendor staff. The Vendor shall ensure that the hours submitted on the timesheets include a description for the work performed i.e. approved LOA number so that when the Vendor and Sub-Vendor staff work on various LOA's can be tracked via the timesheets. The Vendor shall be responsible for all back-up information submitted with each invoice including information provided by their Subcontractor.

Within 15 calendar days of Contract Start Date, the Vendor shall coordinate and seek approval of the invoice and progress report format from the Department's Project Manager. However, during the term of the Contract, the Department may request the Vendor to adjust or modify the invoice and progress report formats and the Vendor shall accommodate all such requests.

6.4 Transition Plan

The Vendor shall be responsible for developing a Transition Plan and submitting it for approval to the Department's Project Manager within seven calendar days after Contract execution, unless otherwise authorized in writing by the Department. The transition plan shall detail how the Vendor will work with the incumbent ITS Maintenance Vendor to ensure a seamless transfer of maintenance service and to ensure continuous 24 hours a day, 7 days a week system operation and functionality of all components of the System. The transition period is a 1-month period (anticipated start date: 6/1/2019 and end date: 6/30/2019, actual transition period shall be specified by LOA). During the transition period, all ITS Maintenance tickets will be responded by the existing Vendor and all ITS

Maintenance activities will be conducted by the existing Vendor. However, it is expected that the new ITS Maintenance Vendor will begin the required transition services including completing any pending training, and provide staffing resources including onsite and field personnel to take over maintenance responsibilities and learn the intricacies of the existing System.

The new ITS Maintenance Vendor will be paid for the minimum required staffing identified below during the Transition Period.

Required staffing for transition period:

- Vendor Project Manager
- General Purpose Lanes Maintenance Supervisor
- Arterial Management System Maintenance Supervisor

Upon the completion of the transition period, (anticipated start date: 7/1/2019, shall be specified by LOA), the new ITS Maintenance Vendor will assume all responsibilities of District Four ITS Maintenance and provide services as per the Contract documents. The Transition Plan development shall not be paid for separately but shall be part of the fixed fee for Transition Services of the Exhibit “C”, Contract Price Proposal and compensated in the manner described under Exhibit “B”, Method of Compensation.

If the incumbent is the new Vendor, there shall be no transition period.

6.5 Project Management Plan

The Vendor shall be responsible for developing a Project Management Plan and submitting it for review and approval to the Department’s Project Manager within 7 calendar days after issuance of first LOA. The Project Management Plan shall include, but not be limited to, the Vendor’s staffing plan, hiring plan, tiered staff support plan, hurricane evacuation plan, emergency response plan, generator maintenance and refuelling plan, field and office staff internet access, cellular phones, computer and vehicle maintenance plan, and other topics as requested by the Department. The Project Management Plan development shall not be paid for separately but shall be part of the fixed fee for Transition Services of the Exhibit “C”, Contract Price Proposal and compensated in the manner described under Exhibit “B”, Method of Compensation.

7 HURRICANE RESPONSE SUPPORT SERVICES

The ITS Maintenance Vendor shall be knowledgeable of the latest FDOT District Four Strategic Hurricane Emergency Management Plan (SHEMP) and shall work with the Department to provide the information related to the ITS maintenance prior to, during and after the hurricane event as called for in the SHEMP. The District Four ITS Maintenance hurricane response requirements are detailed in the ITS Maintenance SOG document. The Vendor shall review and provide all required support to the Department as stated in the SOG and as directed by the Department. The SHEMP will be provided to the vendor of this Contract upon execution. The Vendor shall be compensated based on the fixed fee

(unit rate) per hour and other fixed fee (unit rate) established in the Exhibit “C”, Contract Price Proposal and in the manner described under Exhibit “B”, Method of Compensation.

8 FINANCIAL CONSEQUENCES

8.1 Non-Performance Financial Consequences

This Contract contains non-performance penalties. The Vendor acknowledges that failure to complete the services by the completion date designated on the Contract document or LOA, or failure to meet the requirements and performance metrics established in the Contract shall cause the Department to incur damages and seek compensation. Therefore, the Department shall reserve the right to assess the Vendor penalties that shall be deducted from the monthly Vendor invoice. Application of this non-performance reduction in payment will not waive the Department’s right to terminate this Contract in the interest of the Department. All financial consequences can be found in Exhibit B Method of Compensation Section 8.