038-19 Appendix A - Sample System Diagram

Solution Architecture Design – Design Integrate

JEA User

9/8/2015

Contents

3 Integrate 2
3.1 Primary System Design 2
3.1.1 Description 2
3.1.2 Data Flow Diagram 3
3.1.3 Functional Requirements 3
3.1.4 Software Inventory Matrix 5
3.1.5 Custom System Components (Optional) 6
3.1.5.1 User Interfaces (Optional) 6
3.1.5.2 Database (Optional) 6
3.1.5.3 Web Services (Optional) 8
3.1.5.4 Reports (Optional) 8
3.2 Interface Design (Optional) 8
3.2.1 Description 8
3.2.2 Data Flow Diagram 8
3.2.3 Interface List 11
3.3 Security 12
3.3.1 Security 12
3.3.1.1 Secure Message Queue 12
3.3.1.2 Roles and Responsibilities /Separation of Duties 13

3 Integrate

3.1 Primary System Design

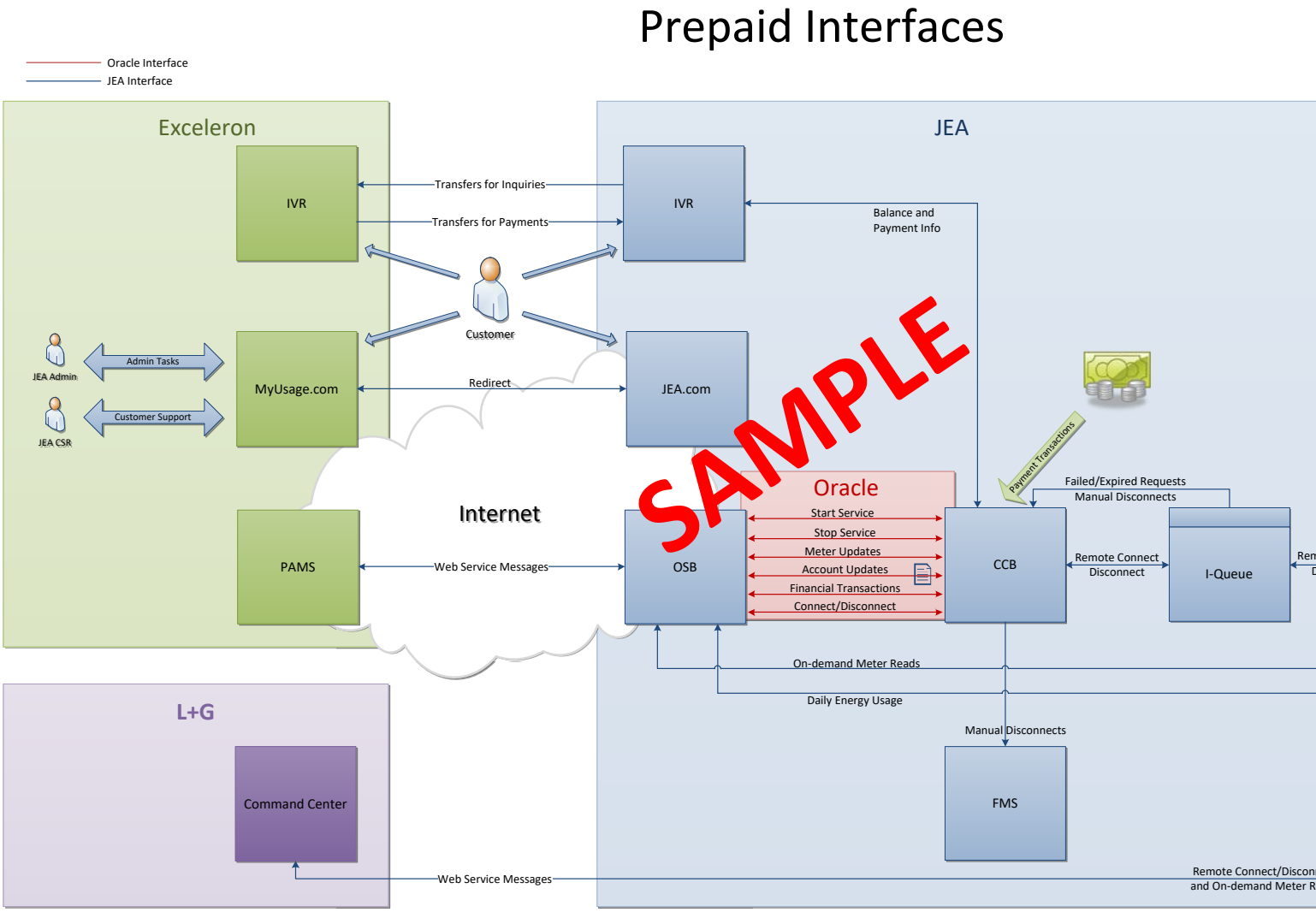
3.1.1 Description

<Instructions. Give a brief high-level overview of the system's functionality and interfaces.>

3.1.2 Data Flow Diagram

This diagram should depict a high-level data flow among all the interfaces being implemented. References to specific hardware components should be excluded, however every application system touched by this implementation should be depicted. Two examples are show below.

Example 1:



3.1.3 Functional Requirements

List the functional requirements being met by the system implementation. This will act as a checklist for verification that the system is addressing a specific set of needs and may act as input for testing and verification of the sytem.

ID	Description
1	The system must …
2	The system must …

3	The system must …

3.1.4 Software Inventory Matrix

<Add 1 row for each software component installed or retired as part of application installation; this should include developer tools. "Infrastructure" software will be itemized separately in the "Build" Section.>

Vendor	Product	Version	Purpose	Environment	Tier	GA Date	Mainstream Support Ends	Extended Support Ends	Required	Licensing Model (ex. per user, per socket, per core)	Note

3.1.5 Custom System Components (Optional)

This section applies to custom applications, not Commercial-off-the-shelf (COTS) products. If this is not a COTS system, list the major components of which the system is comprised. Typically these may be databases, web services, scheduled batch jobs or Windows services, reports, etc. Provide details of each major component as shown below. If the system consists of a component that is not listed below, add another sub-bullet and list accordingly.

3.1.5.1 User Interfaces (Optional)

Depict and describe the user interfaces for the custom components. This includes all screens or web pages for desktop, web, or mobile applications.

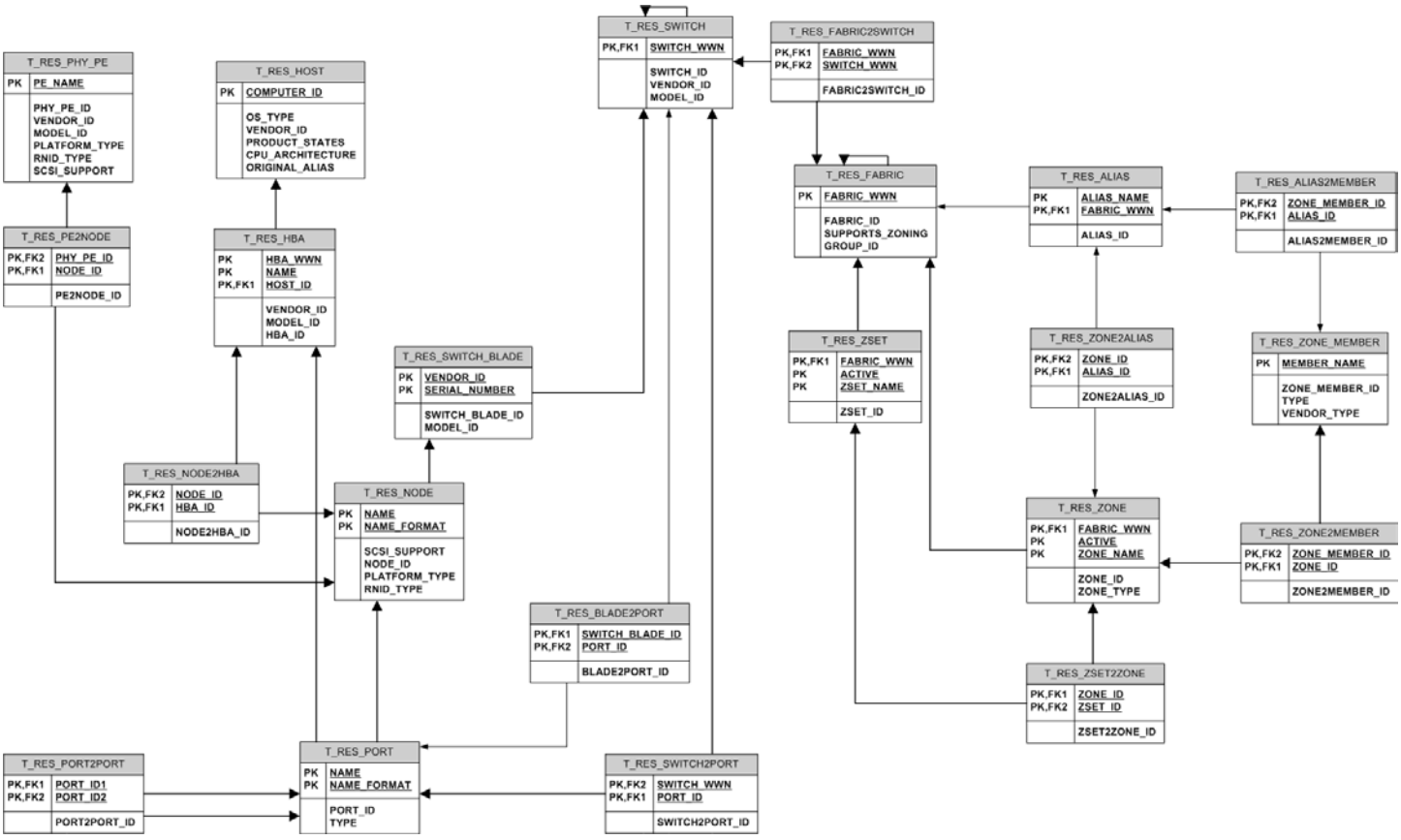
3.1.5.2 Database (Optional)

3.1.5.2.1 User Accounts

Account	Description	Privileges
APPADDMIN	This account will be the schema owner for all RCD objects in the database.	CREATE SESSION CREATE PROCEDURE CREATE SEQUENCE CREATE SESSION CREATE TABLE CREATE TRIGGER CREATE VIEW
APPUSER	This account will be used when performing application-centric functions like executing stored procedures.	CREATE SESSION SELECT, INSERT, UPDATE, DELETE on all tables EXECUTE on all stored procedures and packages
APPREPORT	This account will be used for reports.	CREATE SESSION SELECT on all tables and views in the RCDCUST schema

3.1.5.2.2 Entity Diagram

Provide an entity diagram detailing the application tables and the relationships among them.



3.1.5.2.3 Packages and Stored Procedures

List all stored procedures used and developed in this solution.

Database	Package	Procedure	Description	New Construction?

3.1.5.3 Web Services (Optional)

List any web services used or developed in this solution.

Web Service Name	Description	Location	New Construction?

3.1.5.4 Reports (Optional)

List any reports that were developed for the system. List should include a description of the report, the location where the report will be housed, and the tool(s) used to develop/needed to maintain the report.

Report ID	**Description**	**Location**	**Development/Maintenance Tool**
1	Report 1 …	.NET Web application	SQL Reporter
2	Report 2 …	Data Warehouse	Report Writer
3	Report 3 …	SharePoint	Visual Studio 2012
4	Report 4 …	Maximo	Actuate

3.2 Interface Design (Optional)

If this project contains any interfaces to other systems, complete this section. Otherwise, skip this section.

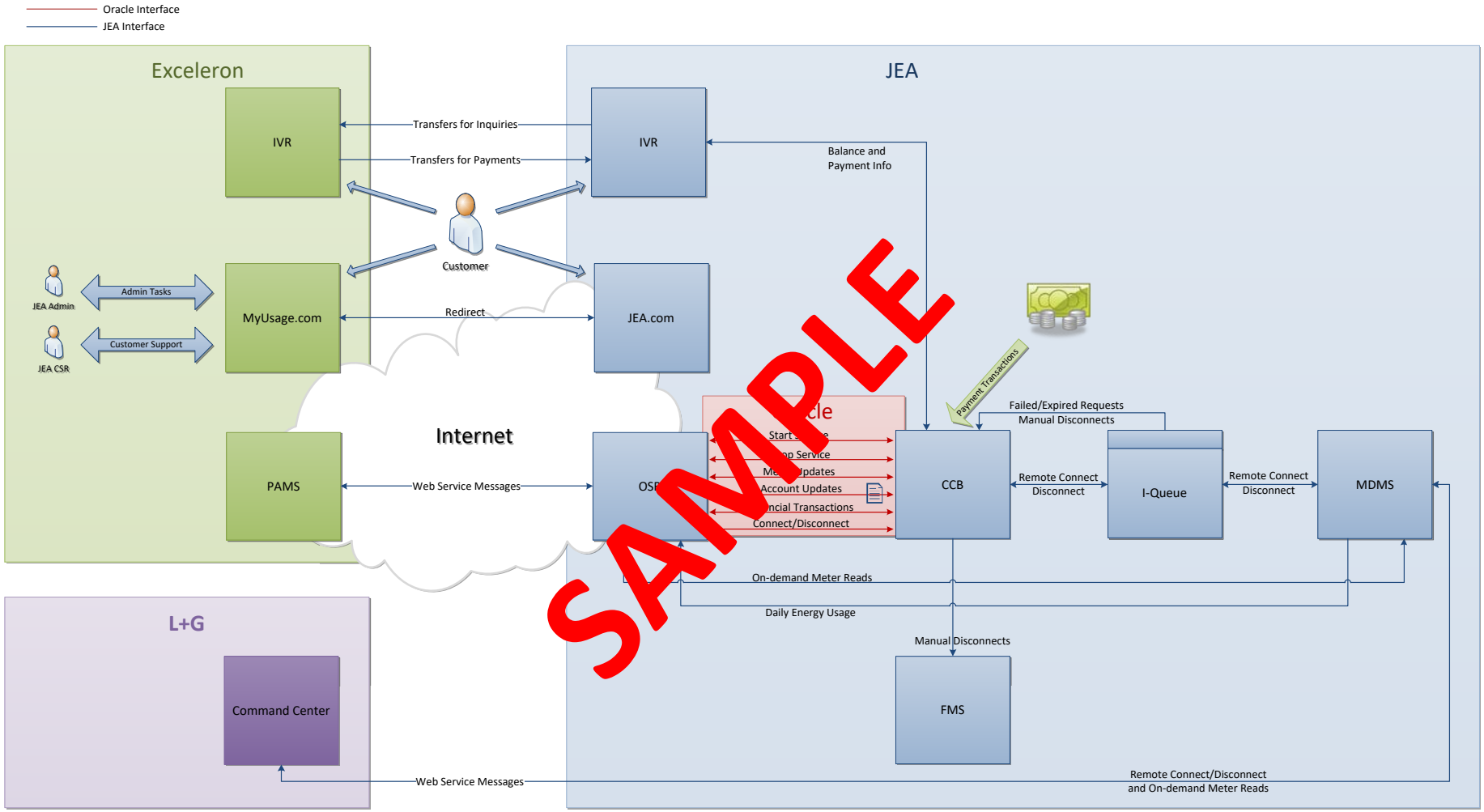
3.2.1 Description

<Instructions. Give a brief high-level overview of the system's interfaces.>

3.2.2 Data Flow Diagram

This diagram should depict a high-level data flow among all the interfaces being implemented. References to specific hardware components should be excluded, however every application system touched by this implementation should be depicted. Two examples are show below. Each interface should be labeled with a unique name or identifier, which will be used in the next section.

Prepaid Interfaces



3.2.3 Interface List

*Each interface should be documented according to the type and standards of that interface. For example, a team implementing a Business Intelligence interface(s) would use the standard **BI Design Document template** while a team implementing a SOA interface would use the **SOA Design Document template**. Existing documentation may also be referenced here.*

*If there is no specific template for the interface, use this **default interface template**.*

ID	Name	Description	Reference
1	Interface 1	Description 1	(e.g. Appendix, SharePoint Location)
2	Interface 2	Description 2	(e.g. Appendix, SharePoint Location)
3	Interface 3	Description 3	(e.g. Appendix, SharePoint Location)
4	Interface 4	Description 4	(e.g. Appendix, SharePoint Location)

3.3 Security

3.3.1 Security

List/describe/diagram security configurations being put in place for each interface component. Four examples are shown below:

Example: Message Queues

The Microsoft Message queues will be secured using a combination of concealment and ACL's. The queues will be created as private so they will not be published to Active Directory and will only be displayed on the local server that contains them. The steps below describe how permissions will be delegated to Active Directory groups and users.

3.3.1.1 Secure Message Queue

1. In the Control Panel, double-click Administrative Tools, and then double-click Computer Management.
2. Expand Services and Applications, and then expand Message Queuing and Private Queues.
3. Right-click on the queue (e.g. rcdccbrequests), and then click Properties.
4. On the General tab, check Authenticated.
5. Go to the Security tab and click Add to add the following user and security groups:

Account/Group	Permissions
Middle Tier Group	Full control
RCD Service Domain User	Receive Message Peek Message Receive Journal Message Get Properties Set Properties Get Permissions Set Permissions Send Message
[SERVER NAME]$	Get Permissions Get Properties

6. Revoke all permissions from every other group or user

Example: Web Services

Basic Authentication will be used to secure the WCF web services. Microsoft .NET WCF web services actually support several more secure authentication protocols including Digest Authentication, NTLM, Integrated Windows Authentication, and Certificate Authentication, however neither the interface with MDMS or CCB could be implemented without a great deal of customization to those systems. However, both systems support Basic Authentication.

Example: Database

The following steps will be taken to secure access to the database:

1. Database access will be restricted to the IP address(es) of the expected production client(s).
2. Developers will not have access to the production RCDCUST or RCDUSER passwords.
3. Schema object grants as detailed in **Error! Reference source not found.** in the **Error! Reference source not found.** section.

Example: Windows Services

Each Windows service will have a Microsoft .NET configuration file which will contain a custom section with service-specific settings, among them the database connection strings and queue locations. The custom sections in each configuration file will be encrypted using Microsoft configuration protection tools.

3.3.1.2 Roles and Responsibilities /Separation of Duties

All roles and responsibilities must be clearly defined and include IT responsibilities.Duties need to be separated to ensure that collusion can not occur and is a Least privilege approach is taken**. Explain how this is accomplished and show a matrix detaining what each role is responsible for**.

#038-19 APPENDIX A TECHNICAL SPECIFICATIONS

GLOBAL POSITIONING SYSTEM (GPS) & TELEMATICS WITH MOBILE HOTSPOT

1. Introduction and Project Overview

The purpose of this Invitation to Negotiate (the "ITN") is to evaluate and select a Respondent that can provide GPS, Telematics, and a Mobile Hotspot, as well as provide the best value to JEA. "Best Value" means the highest overall value to JEA with regards to pricing, quality, design, maintenance, and workmanship.

JEA is seeking a hosted fleet services GPS and Telematics automated technology data collection system that will allow JEA to capture critical data on asset use and location. The Respondent shall furnish the necessary personnel, material, equipment, software, and services necessary to install a Mobile Hotspot with associated GPS Technology, in addition to providing monitoring services with GPS devices and asset diagnostics. JEA has targeted installation to be completed by November 1, 2019.

2. Scope of Work

The following expectations represent a general statement of the work required of the final selected Contractor. After Contract award, JEA intends to work with the Contractor to develop a detailed Statement of Work (SOW) that is divided into major project phases with specified deliverables for each phase. Upon approval of the detailed SOW, it shall become part of the contract.

The Contractor will be responsible for all the following requirements, defined in the following subsections:

- Project Management
- System Documentation
- Component and System Level Testing
- System Implementation
- System Training
- System Warranty, Maintenance, and Support

2.1 Project Management

JEA recognizes that the implementation of the enterprise-wide GPS system is a major undertaking that requires significant planning as well as comprehensive project management. Project management shall be the responsibility of the Prime Contractor. The contractor is required to provide a dedicated resource to JEA to serve as the primary liaison for all project related matters. The contractor will be expected to work with a JEA project manager.

2.1.1 Detailed Statement of Work

As an initial part of the project, the Contractor will develop a detailed project SOW for review and acceptance by JEA. The detailed SOW is a major project deliverable for the management and control of the project and shall be incorporated as part of the contract with JEA. The SOW must be finalized and accepted within 2 weeks.

The detailed SOW shall include at least the following level of detail:

- For each project track, a detailed list of all tasks and subtasks to be performed.

- Clear statement of purpose, description, deliverables, key project assumptions, beginning and ending dates.
- Identification of person(s)/organization(s) assigned to perform each task/subtask.
- Clearly defined Contractor, Subcontractor, and JEA responsibilities for each task/subtask.
- Key project assumptions associated with each task/subtask.
- Identification of dependent task/subtask.
- Critical milestones and deliverables.
- Single point of contact for implementation and installation progress, issues, planning, etc. with an alternate contact provided if the primary is unavailable.

As part of the detailed SOW, the Contractor will define the means and procedures it will use to ensure compliance with deadlines. The Contractor will also identify the project management tools used to help the project manager adhere to deadlines and track the progress of the project by primary tasks and all associated subtasks. With the detailed SOW, JEA and the Contractor will develop a Schedule of Payments that will be tied to specific project deliverables and milestones.

In responding to this ITN, Proposers shall specify their approach to project management as well as describe the project management tools they shall use to help them adhere to deadlines and track and report on project progress. The response must also include the mechanism used to make the project schedule available to JEA.

2.1.2 Implementation Phases

JEA desires that the overall effort be divided and managed in separate phases. Each phase is a separate logical unit of work, managed and implemented independently. It is necessary to implement all phases if JEA is to realize the benefits of the systems described in this document.

During each phase, the Respondent shall also submit a written status report to JEA on a weekly basis. The status report shall include: (a) a statement of work completed to date, (b) a list of work in process with degree of completion, (c) details concerning those work tasks which are behind schedule with an explanation of the delay, (d) a plan for correcting those delays, and (e) a review of remaining work to be completed.

The following phases are proposed by JEA:

2.1.2.1 Pilot Phase

During this phase, the Contractor will install and test functionality on a small, diverse selection assets, determined by JEA. The system will be evaluated by JEA to verify the documented requirements stated in this ITN are met. It is anticipated that all installations and setup for this phase will be completed no later than 2 months after acceptance of the SOW. Setup will include all the components of the system including the control center, Hot Spot communications, GPS, and software. The testing period will occur over a 1 month period once all units are installed. Upon fulfillment of the requirements, the Contractor will continue onto the deployment phase.

2.1.2.2 Deployment Phase

The deployment phase occurs after the acceptance of the Pilot Phase. It may be segmented by location of assets, type of asset, or other logical structure as determined by JEA based on the results of the Pilot Phase and the proposed implementation plan. This phase shall take no longer than four (4) months following the acceptance of the pilot phase.

In responding to this ITN, Proposers shall specify their agreement with the proposed implementation phases or any necessary modifications. If modifications are required, provide the basis for these modifications.

2.2 System Documentation

Documentation is crucial to both the initial, and long-term success of this project. To the greatest extent possible, JEA desires to see documentation produced as a by-product of the tasks defined in this detailed SOW, not as a separate effort.

The Contractor shall grant JEA the right to reproduce unlimited quantities of any documents for use by the JEA and its users. The Contractor shall provide a minimum of two printed copies of each manual unless otherwise specified. In addition to printed copies of each document, the Contractor shall also deliver an electronic master copy of all documents using MS Office products, i.e. Word, PowerPoint and Visio (diagrams). The JEA requires the ability to reproduce copies as deemed necessary and to modify the documentation as required.

Throughout this project, the Contractor shall deliver, as a minimum, the documents described in the following subsections:

- System Specifications
- Test Plans and Reports
- Training Material
- System Manuals
- System Diagram (logical representation of systems, transaction flows including TCP/UDP ports) pursuant to JEA's As-Built Design document. See Appendix A – Sample System Diagram.

All documentation shall be developed and approved according to the following process:

- The Contractor shall produce a draft version of the document.
- JEA will have at least 30 days to review and provide comments.
- The Contractor shall incorporate JEA's comments if any.
- The Contractor shall produce a final version of the document for JEA's approval and acceptance.
- The Contractor shall deliver the approved document to JEA before the implementation phase and prior to installation rollout.

2.3 System Specifications

The specifications shall serve as a blueprint to the installed systems. These documents should be useable by JEA for the implementation of additional systems and to modify existing ones as may be necessary.

Proposers shall provide samples of system specifications similar to the system they intend to install.

2.4 System Source Code

JEA requires source code for any modifications that are specific to JEA GPS system, or as an alternative, the source code must be made available. The source code must contain appropriate internal documentation.

In responding to this ITN, Proposers shall provide an agreement for providing source code.

2.5 Test Plan Documents and Reports

As part of the testing effort required by this SOW, the Contractor shall deliver a Test Plan document. The Test Plan must ensure the requirements of the project have been met throughout each phase of implementation. The Test Plan will be used to conclude each phase and will be reviewed before proceeding to the next phase. Each time a test or retest is conducted by the Contractor, the Contractor shall also produce a Test Report detailing the results.

In responding to this ITN, Proposers shall provide representative examples of test plan documents and reports.

2.6 Training Plan Documentation and Training Course Materials

As part of the training effort required by this SOW, the Contractor shall provide a comprehensive Training Plan for the entire project and detailed plans for each course. The training course material shall be included as part of the system testing to ensure that it reflects the system as installed.

In responding to this ITN, Proposers shall provide representative sample Training Plans and the course material typically provided to clients. Proposers shall specify whether these documents should be characterized as custom or generic documents and explain why they should be so characterized.

2.7 System Manuals

To ensure operational efficiency, JEA will need extensive system documentation. To fulfill this need, Contractors shall provide 1 unbound original copy and 4 bound copies of the following manuals:

- System Administrator's Manual
- System Programmer's Manual to include API documentation for Third Party Application Integration
- System Operator's Manual

These documents shall be delivered in their final approved form before training.

In responding to this ITN, Proposers shall provide samples of system manuals for different levels of users. Proposers shall also describe their processes and procedures for maintaining the system manuals after initial implementation and future updates.

2.8 System Implementation

This section discusses the following implementation issues:

- System Specification
- Customization of Application Software
- System Integration
- System Installation and Configuration

2.8.1 System Specification

The intent of the system specification is to ensure that the system works seamlessly throughout JEA and to document the integration of systems. Although JEA is asking for a number of diverse configurations, JEA desires an off-the-shelf system. If an off-the-shelf system cannot be provided, the least amount of customization is desired.

The requirements for each configuration are included as part of this ITN. These requirements are the result of a high-level functional requirement analysis conducted by JEA.

After Contract award, the Contractor is expected to verify these requirements and to develop a detailed System Specification. The required level of detail for this document must suffice to serve as the foundation for system integration, testing, and product acceptance.

The System Specification is a major project deliverable and shall become a part of the project contractual agreement. It will serve as the blueprint for the systems to be installed. The System Specification should include conceptual design layouts, visual aids, and models. The Contractor should develop schematic designs and block-level diagrams defining the requirements for all system interfaces.

The System Specification will be reviewed and formally accepted by JEA and will be included as part of the contractual agreement between JEA and the Contractor.

A key part of the System Specification will be the identification and specification of any customization required either to meet the particular needs of JEA or to interface with internal or external systems.

In responding to this ITN, Proposers shall describe their approach to eliciting, documenting, organizing, and tracking system requirements and any software tools that will be used. The response must also include the process used to upgrade and patch software/firmware.

2.8.2 Customization of Application Software

Where customization is required, the Contractor shall customize the baseline system as defined by the System Specification. The customization shall be included in the detailed SOW, system documentation and testing documentation.

2.8.3 System Integration

Vendor shall provide an Open API that allows for integration to many of JEA's core systems in subsequent phases of this project and to provide the ability for JEA to integrate after the initial system is active and all users are provisioned. Example technologies could include:

- XML
- CGI's FMS
- ESRI's ArcGIS Suite
- Energy Management System (EMS) – The following formats are acceptable, RDBMS, Rest JSON, Text JSON, GIF, GRIB2. Preferable format is JSON.
- 3rd Party JEA Software

The Contractor shall also be responsible for providing requirements for accessing data collected from the GPS system. This will allow the JEA to integrate the GPS system with additional third party software if required.

JEA has configured its ArcGIS Server to utilize Web Map Services and there is a potential integration point. JEA shall provide Shape Files for import into the GPS Solution. In addition, as a standard point of integration between systems JEA utilizes Oracle Service Bus (SOA) for Intranet communications. JEA will be willing to provide shape files after award.

2.8.4 System Installation and Configuration

The Contractor shall install and configure all critical hardware and software in JEA assets. JEA expects all existing GPS equipment removed and all new hardware installed upon completion of one visit per asset to minimize downtime.

2.9 System Training

JEA views training as key to a successful implementation. The training needs for a project of this size are substantial and require a significant effort on the part of both the Contractor and JEA. All members of JEA who will be using any of the installed systems require training on the use of those systems.

The Contractor shall be responsible for developing and delivering training as described in this ITN and as approved by JEA. Training must also include basic troubleshooting and support escalation processes.

JEA requires that the Contractor develop a detailed Training Plan. The Training Plan should consist of training for hardware installation and maintenance and software training sessions for each level of user.

2.9.1 Training Methods and Schedules

Contractors shall provide classroom training for all identified personnel. The Contractor should develop objectives for classroom training. Training shall be a combination of literature, presentations, hands-on tutorials, onscreen demos, and user manual examples. Using a combination of materials will allow the users to fully understand the system. The Contractor will demonstrate each component of the system and how it works during several training sessions. Demonstrations will be followed with users being able to do hands-on exercises including troubleshooting. The user manual will be referenced throughout the training sessions to get users familiar with the support documentation.

During JEA normal operating hours of 7:00 am to 5:00 PM EST Monday through Friday, the Respondent shall provide technical support to answer questions and provide solutions for technical issues that may arise during the full performance period of this contract. Technical support shall include a process for managing hardware repairs and provide JEA with a single point of contact for technical and hardware issues.

In responding to this ITN, Proposers shall fully describe their approach to training and how the above-described training goals shall be met. They must also detail the amount of time required to train personnel at each of the specified levels.

2.10 Component and System Level Testing

Testing is a critical component to the implementation of these systems. Before transitioning to a system operational status, JEA wants to be sure that the Contractor has thoroughly tested the system to avoid as many problems as possible. To ensure appropriate testing, JEA requires the Contractor to provide a comprehensive Test Plan for each phase of the implementation. Testing shall include newly installed components and software. JEA requires the use of local data for all testing. The Contractor shall perform all testing at JEA's facilities. System installation shall not be considered complete until the JEA approves of all testing. When installation is complete, JEA shall perform acceptance testing with technical support from the Contractor. Acceptance testing will include full operation of the system for a specified period of time to convince JEA that the system functions as required in JEA's on-going operating environment. The length of time will be negotiated with the Contractor.

The Test Plan should include the validation and testing of the system documentation. JEA needs to ensure that the system documentation accurately and comprehensively reflects the system to be implemented.

The Contractor shall produce a Test Report following the completion of each test. In these reports, the Contractor shall list all deficiencies discovered during the test and the manner in which they will be resolved. Depending on the severity of a deficiency, a retest may be required. JEA shall use Test Reports database to retest deficiencies to ensure they were corrected before system sign-off.

In responding to this ITN, Proposers shall fully describe their approach to testing and how the above-described testing goals shall be met. Proposers shall also describe the process, procedures and software tools they shall use in identifying, tracking, testing, and correcting deficiencies in system software and associate documentation.

2.11 Warranty, Maintenance, and Support

JEA requires a minimum comprehensive, warranty on all software and hardware provided for the entire term of the Contract starting from the date of final system acceptance by JEA including software support. The warranty, maintenance, and support agreements should include any third-party software and hardware to be provided as part of the system.

In the event a GPS tracking device, hardware to support a mobile hotspot or any related hardware malfunctions, the Respondent shall supply a replacement part(s) at no additional cost to JEA. In the event a unit is damaged beyond repair as a result of JEA employee tampering, JEA shall pay for the replacement unit or parts. A replacement unit shall not be charged above the price stated in the Response workbook. Respondent will be responsible to deliver/pick-up replacement part(s) at a designated JEA facility.

A single point of contact shall be provided to JEA for any issues or repairs with the GPS/hotspot hardware.

The proposed solution shall include hardware and software updates as necessary to maintain continuous service and remain compatible with the most current software. The contractor is required to notify JEA of any software patches, updates, or firmware upgrades within (10) business days of release. This notification shall include the release notes for updates and the contractor's recommendation for implementation. JEA will review the notification and determine if acceptable for implementation. JEA does not expect there to be any additional charges for updates.

In responding to this ITN, Proposers shall specify their maintenance and support programs during and after the warranties for both hardware and software. Proposers must specify each maintenance and support option offered and provide the cost of each option in the pricing section. If parts of the system will be maintained and updated by anyone other than the Prime Contractor, the Proposer should discuss how system maintenance and updates will be incorporated into the turnkey system after the initial installation.

3. **Service Level Requirements** *(Pricing for this shall be captured under Base Unit GPS Pricing of Appendix B Response Workbook)*

After system installation has been completed, the following service levels will be required:

a. Maintains appropriate application availability limiting downtime to not exceed 3.6 hours for any rolling 30 day period but not go below 99.6% uptime per year.
b. Respondent must provide JEA with a 5-day notice of planned maintenance downtime, point of contact for scheduled outage and immediate notice of completion of maintenance. Maintenance window hours 6PM to 5AM.

c. Outages shall not exceed three (3) times per calendar year. An unplanned outage shall not last longer than twelve (12) hours. Unplanned outages longer than twelve (12) hours shall count as a second outage. Exceeding three total unplanned outages in one (1) calendar year will constitute a breach of contract.
d. Respondent shall notify JEA of any outage or interruption in service, regardless of length, within one (1) hour of the occurrence.
e. Provide data and reporting that is accurate, timely, and complete.
    i. At any given time, there shall be no less than 98% of the fleet accurately tracking, unless JEA caused the event. Accurate tracking is defined as an asset that can be tracked in the vendor provided system continuously with correct data, free of errors, and correct reports can be generated on the data.
    ii. All assets shall accurately track without interruption for more then 50% of each calendar month in order to be billed for that asset's calendar month's service unless JEA caused the event. Assets that track accurately less then 50% of the month will not be billed. No asset shall be without the full system functionality for more than 10 consecutive calendar days.
f. Provide invoices within fifteen (15) days of previous month and adheres to JEA Purchase Order/Line Item format 100% of time.
g. Provide monthly reporting on system functionality, vehicle availability, issue resolution, and functionality improvement initiatives.
    i. As an express condition of this project, Respondent shall meet with JEA representative at JEA's request, to review the progress of the SOW. Respondent shall comply with JEA documentation requirements by submitting completed documentation in form and substance satisfactory to JEA prior to receiving payment.

4. Security Requirements *(Pricing for this shall be captured under Base Unit GPS Pricing of Appendix B Response Workbook)*

a. The Respondent and its subcontractors associated with this work must be SSAE 16 SOC Type 2 compliant, and an auditor's report shall be required to be sent to JEA annually.
b. All JEA Data must be stored in the continental United States. Respondent shall also provide JEA its plan for disaster recovery and business continuity upon award.
c. As this solution is a cloud-based platform, the Respondent must provide evidence of compliance with industry security standards to JEA's Information Security department upon award.

5. System Requirements

a. Device Hardware
    i. The Respondent shall provide and install GPS tracking devices on all JEA mobile assets (currently estimated at 1,400 units) as well as any and all related hardware, harnesses, panic buttons and installation kits needed to install the devices into JEA's assets to provide no less than 98% accurate availability, unless JEA caused the event. The accuracy percentage will be determined by the total of properly functioning tracking units of the fleet at any given time. (*Pricing related to the GPS tracking devices shall be included in Base Unit GPS Pricing on Appendix B Response Workbook*)
        a) Hardware installed on each asset should be appropriate to the type of asset. For instance, portable assets without a power source shall have a battery or solar powered unit. JEA's current asset list is provided for reference. The list provided at the time the solicitation is released for reference only, an up – to

– date list will be provided to the successful respondent at the time of award that supersedes all previous versions. Hardware shall be compatible with OBDII and J-BUS ports.

b) Hardware installed on each asset should be tamper proof and/or have the ability to alert or provide notification of tampering from the system.

c) Hardware to support a mobile hotspot will be required for system data backhaul, as well as Internet connectivity. The hotspot and GPS components can be integrated or separate. The hotspot will be required to run over a WiFi private Verizon LTE-A connection back to JEA's network. The hotspot will be used to support not only the GPS functionality, but will allow for mobile connectivity of devices to JEA's private network. JEA will handle provisioning of devices on the cellular network. Respondents should provide estimates per unit for GPS data per device per month (Ex: Laptop, Phone, Peripherals). Configuration should also allow for an isolated guest WiFi network in the event of storm restoration support services. Connectivity should include Bluetooth, WiFi, and Physical Ethernet. (Pricing related to the mobile hot spot devices shall be included in Mobile Hot Spot Device Pricing on Appendix B Response Workbook)

d) The hotspot must be managed via a central console that provides the ability to control access of devices that are permitted to connect to each device in addition to global settings such as permitted certificates that are installed on JEA issued devices. The central management console must also provide the ability to configure the hotspot device with current security protocols/settings for locally connected devices. JEA requires a hotspot to connect to the internet, then to access its network via Netmotion (VPN) / Citrix . The final solution will require a detailed design.

e) Driver identification upon entering a vehicle is required.
   - The Driver Identification shall accurately link the driver to the vehicle for which the driver is operating. Reports shall indicate who is driving a vehicle each time it is operating.
   - The driver identification process of showing the driver's information in the GPS software shall be an automated process between the JEA and contractor's system. The act of manual uploading information shall be restricted to initial startup and testing of the database connections.
   - An audible alert shall sound if the driver does not log into the vehicle at least (ten) 10 seconds after the engine starts. The audible sound must shut off after the driver logs into the system.
   - Driver identification using a JEA badge is preferred method, but not required. JEA currently uses HID ISOProx II (37-bit) cards with an AMAG Symmetry system.
   - Additional option to integrate dashboard and/or body cameras into their solution may be submitted but is not required.

f) Panic Button installed on identified vehicles. Any hardware that may assist with this (i.e. button, wiring connectors, etc.) shall be included as part of this proposal. (*Pricing related to the Panic Button shall be included in Unit Pricing on Appendix B Response Workbook)*

g) A distinct process for installation or transition of units from retiring JEA assets to new JEA assets shall be outlined in the Respondent's Response.
h) Hardware that relies on the asset battery power in order to operate shall have the lowest static electrical drain as possible, not to exceed one-half amp of power. The level of static draw shall be included in the proposal. Additionally, the amperage draw should be recorded and measured prior to and after each installation.

b. Installation Requirements *(Pricing for this shall be captured under Installation and Training Unit Pricing of the Response Workbook)*
   i. A detailed implementation plan is required as part of the SOW Response submission and must include, at a minimum, the process and timeframe for installation of all related hardware on JEA owned assets.
   ii. If the Respondent shall not be the servicer on any installation or maintenance issues, they shall identify those servicers within the City of Jacksonville, FL that are capable of servicing the units.
   iii. All hard-wired GPS tracking devices shall be installed in consistent manner in a secure location in the asset, which shall not allow asset operators to remove or tamper with the unit.
   iv. A hardware installation guide must be provided and approved by JEA prior to the start of installation.
   v. GPS units shall be installed in a manner that is compatible with the asset and does not interfere with asset operations.
   vi. As new assets are replaced in the JEA fleet during the term of the contract, a systematic plan for the de-installation and reinstallation of hardware must be discussed and detailed. **This transfer of hardware shall not interfere with the warranty of the product.** The devices must be able to be removed and reinstalled by service technicians or deactivated as needed. The Respondent must uninstall the existing GPS equipment currently in JEA's fleet and provide the equipment back to JEA. This must be included in cost of installation. Current devices are plugged into the OBDII or JBus ports
   vii. Installation shall ensure that all tracking devices and software function properly and do not interfere with the fuel tracking system in order to be deemed a successful installation event by JEA.
   viii. The majority of JEA vehicles operate approximately from 6:00am – 4:00 pm After hours and weekends are available. JEA shall collaborate with awarded vendor to make vehicles available.

c. Tracking Capabilities *(Pricing for this shall be captured under Base Unit Pricing of the Response Workbook)*
   i. At a minimum, each GPS tracking device shall provide the ability to track the following real-time data elements for each asset:
      a) Speed management (including speeds above a pre-determined and set limit);
      b) Stop to start timing;
      c) Run to stop time (hard stops);
      d) Idling habits (duration and trends) and differentiate between a true idle and a working idle;

e) Asset location; and an asset's location must be able to be tracked at all times despite whether the asset's ignition is on to include the street location and closest street address and GPS coordinates;
f) Mileage and routes driven, to include a bread crumb trail, ignition changes, and stops;
g) Customizable ping rates by asset type.

ii. Each GPS tracking device shall record driver tendencies while operating the asset and display those events that are outside of customizable, user-defined ranges for each asset, to include:
h) Asset idle times;
i) Fuel usage;
j) Excessive speed; and
k) Severe driving such as hard turns, hard braking, and rapid acceleration.

iii. Each GPS tracking device shall track the location of each asset in the JEA asset fleet on a daily basis. The tracking record shall indicate all stops longer than a customizable, user-defined time, e.g., ten (10) minutes, and shall provide the closest street number address and GPS coordinates of the stop. The GPS tracking devices shall capture all routes taken by any JEA fleet asset and shall display the entire route of each asset in the tracking software.

iv. All GPS tracking devices shall have the ability to assign drivers to assets at the time they initiate their personal driver identification.

v. Respondent shall be able to integrate with all major automotive platforms. This shall include any and all diagnostic capabilities with, at a minimum but not limited to, Ford, Dodge, Kenworth, Sterling, Mack, Chevrolet/GMC, Cummins, Detroit Diesel, Allison Transmission, International On Command, JD Link, etc.

d. User Interface and Compatibility *(Pricing for this shall be captured under Base Unit Pricing of Appendix B Response Workbook)*

i. The Respondent shall provide a web-based application that can provide online, real-time access to all tracking information through a password-protected web page.

ii. The Respondents system will support all "modern" web and mobile devices.

iii. The software shall allow customizable asset groups and permission levels.

iv. The software shall allow users to be assigned to one or more groups.

v. The software shall allow assets to be assigned and viewed by one or more groups

vi. The software shall provide a method of accurately capturing asset data and engine diagnostics automatically. At a minimum this must include:
a) Odometer readings and engine hours
b) Idle times
c) Start and Stop times
d) Ignition on/off
e) Fuel levels
f) Disconnected or tampered units
g) Seatbelt usage
h) Engine failure codes

vii. The Respondent shall provide applications or web-based mobile sites for Android and iOS devices that can:

a) Provide JEA authorized personnel access to the data available to the web-based application.
b) Provide JEA authorized personnel the ability to track the location of JEA assets in real-time.
c) Allow individual drivers to track their personal driver records.
d) The mobile application must mimic permission level roles as the web-based software.
e) The mobile application must show time of ignition off.

viii. Ability to store logs (system operational) for a minimum of one (1) year. State maximum period in proposal.

ix. The software shall provide the ability to upload fixed assets into the system so that they may be compared to moving assets.

x. Ability to provide on demand "all asset location" files.

xi. The software shall have the ability to set up geo-fencing based on GIS data or other personalized geo-fencing.

xii. The Respondents System in general provides multi-layered viewing capabilities of the map territory.

xiii. It allows for zooming and panning, allowing for high-level views as well as detailed views with various levels of information shown on the display, or removed with cluttering / de-cluttering techniques.

xiv. Mapping displays to show at minimum but not limited to roads, road names, building outlines, parks, and major bodies of water available through the standard field interface.

xv. Available GIS data will be incorporated to show JEA territories and fixed assets as an overlay onto the mapping software.

xvi. It will show the vehicle location as accurate as possible based on available vehicle position data.

xvii. The GPS tracking devices shall capture all routes taken by any JEA fleet asset and shall display the entire route of each asset in the tracking software.

xviii. Vehicle information will be shown through pop-up windows by selecting the respective vehicle symbol on the display. Vehicle information should show at minimum but not limited to:

f) Vehicle Number
g) Vehicle Speed
h) Location Street Address
i) Vehicle Type
j) Driver Information
k) Fuel Level
l) Vehicle Status (idle, driving, stopped, off, etc.)
m) Odometer
n) Engine Hours

xix. Respondent should provide satellite / geographic views of a region.

xx. Software should have the capability to utilize flexible ping times for different assets or different user groups, as needed.

The software shall have the capability to display all assets with a tracking device on the map simultaneously.

e. Reporting and Alerts *(Pricing for this shall be captured under Base Unit Pricing of Appendix B Response Workbook)*
    i. The software shall have the ability to accurately report on the accurately captured asset data and engine diagnostics. At a minimum this must include:
        a) Odometer readings and engine hours.
        b) Idle times
        c) Start and Stop times
        d) Ignition on/off
        e) Fuel levels
        f) Disconnected or tampered units
        g) Seatbelt usage
        h) Engine failure codes
        i) Low Battery
    ii. The software shall have the ability to set up geo-fencing based on GIS data or other personalized geo fencing.
        a) Geo-fences shall have the capability of reporting assets that pass through the geo-fences and not require a start or stop within the fence.
    iii. Reporting shall be customizable and provide JEA with the ability to run detailed and summary reports on driver and asset performance that contains daily, weekly, and monthly statistics without long delays in generating the report. These should also be customizable by individual department within the organization.
    iv. Reports must be downloadable into MS Excel.
    v. Reports must be able to run for daily, weekly, and monthly increments at one time.
    vi. Reports must be accurate, in that the data must reflect the true location, speed, and diagnostics of the asset.
    vii. The software shall have the ability to report on the bread crumb trail.
    viii. The software must all the user to save report criteria and rerun that report in the future.
    ix. The software must have the capability to schedule reports.
    x. The software shall have the capability to set up and send real-time alerts to designated employees via text and/or email. The report shall include notifications of all instances in which an asset has been operated outside of the pre-defined limits or in the event a tracking device has been tampered with or ceases to report.
    xi. Data from the system shall be available to run reports for one (1) year, including up to one (1) year after contract expiration at no additional cost to JEA.
    xii. Respondent shall provide a solution for capturing pre and post trip reports electronically.

f. System Accuracy and Functionality Minimum Thresholds *(Pricing for this shall be captured under Base Unit Pricing of Appendix B Response Workbook)*

Requirement	Type	Tolerance
Odometer readings	Miles	+ / - 0.1 Miles
Engine hours	Hours	+ / - 1 hour
Stop to start timing;	Time	+ / - 5 seconds
Vehicle idle times;	Time	+ / - 5 seconds
Idling habits (duration and trends);	Occurences	+ / - 1 Occurence

Vehicle location; and a vehicle's location must be able to be tracked at all times despite whether the vehicle's ignition is on.	Distance	+ / - 3 meters
Mileage and routes driven, to include a bread crumb trail	Distance	+ / - 3 meters
Battery Voltage	Amp	+ / - 0.1 Volt
Engine Speed	RPM	+ / - 100 RMP
Fuel Level	Volume	+ / - 3 gallons
Fuel Usage	Volume	+ / - 1 gallon
Speed	Speed	+ / - 1mph
Speed management (including speeds above or below speed limit)	Speed	+ / - 8mph
Vehicle location; street and closest numeric address details and GPS Coordinates.	Functionality	Yes or No
Run to stop time (hard stops);	Functionality	Yes or No
Severe driving such as hard turns, hard braking, and rapid acceleration	Functionality	Yes or No
Each GPS tracking device shall track the location of each asset in the JEA fleet on a daily basis. The tracking record shall indicate all stops longer than a customizable, user-defined time, e.g., 10 minutes, and shall provide the street address and GPS coordinates of the stop. The GPS tracking devices shall capture all routes taken by any JEA fleet asset and shall display the entire route of each asset in the tracking software.	Functionality	Yes or No
Software should have the capability to utilize flexible ping times for different assets or different user groups, as needed.	Functionality	Yes or No
The software shall have the capability to display all vehicles with a tracking device on the map simultaneously.	Functionality	Yes or No
The Respondent shall provide applications or web-based mobile sites for Android and iOS devices.	Functionality	Yes or No
Panic Button Solution Provided	Functionality	Yes or No
Driver Identification Solicitation Provided	Functionality	Yes or No
Driver Scorecard Functionality	Functionality	Yes or No
All GPS tracking devices shall have the ability to assign drivers to vehicles at the time they initiate their personal driver identification.	Functionality	Yes or No
Reporting shall be customizable and provide JEA with the ability to run detailed and summary reports on driver and vehicle performance that contains daily, weekly, and monthly statistics. These should also be customizable by individual department within the organization.	Functionality	Yes or No
Reports must be downloadable into MS Excel.	Functionality	Yes or No
The tracking software shall send real-time alerts to designated JEA employees via text and/or email. The report shall include notifications of all instances in which a vehicle has been operated outside of the pre-defined limits or in the event a tracking device has been tampered with or ceases to report.	Functionality	Yes or No

Data from the system shall be available and reportable for one (1) year, including up to one (1) year after contract expiration at no additional cost to JEA..	Functionality	Yes or No
Mobile Hotspot shall connect Wi-Fi via private Verizon LTE Advanced Connection (up to 300Mbps downlink)	Functionality	Yes or No
Mobile Hotspot shall allow connections for GPS Device , as well as other mobile devices (i.e. Laptop, Phone, Peripherals)	Functionality	Yes or No
Mobile Hotspot shall provide isolate Guest Wi-Fi Network	Functionality	Yes or No
Mobile Hotspot Router must be Cloud Management Capable	Functionality	Yes or No
Mobile Hotspot Router must have SMA external antenna	Functionality	Yes or No
External Antenna – MIMO (2x2 minimum) Rooftop mount for LTE / WIFI/ GPS	Functionality	Yes or No
Mobile Hotspot will meet these environmental standards - IP64 for resistance to dust and water ingress, and is tested to meet and exceed the MIL-STD-810G specifications for shock, vibration, temperature and humidity.	Functionality	Yes or No
Hotspot power supply should have built-in surge protection that exceeds E-Mark, ISO 7637-2 and SAEJ1455 requirements	Functionality	Yes or No
Hotspot shall operate within the following temperatures -30°C to +70°C / -22°F to +158°F. Humidity range: 90% RH @ 60°C	Functionality	Yes or No
Hotspot will provide the ability to run accessories (ie.laptops, tablets, and scanners) for specified period after ignition shutdown.	Functionality	Yes or No
The Respondent must be SSAE 16 SOC Type 2 compliant (An auditor's report will be required annually).	Functionality	Yes or No
The Respondent Data must only be stored within the Continental United States.	Functionality	Yes or No
Ability to store logs (system operational) for a minimum of one (1) year.	Functionality	Yes or No

Appendix B-Minimum Qualification Form
038-19 JEA Fleet Services GPS and Telematics

GENERAL

THE MINIMUM QUALIFICATIONS SHALL BE SUBMITTED ON THIS FORM. IN ORDER TO BE CONSIDERED A QUALIFIED BIDDER BY JEA YOU MUST MEET THE MINIMUM QUALIFICATIONS LISTED BELOW, AND BE ABLE TO PROVIDE ALL THE SERVICES LISTED IN THIS SOLICITATION.

THE RESPONDENT MUST COMPLETE THE RESPONSE INFORMATION SECTION BELOW AND PROVIDE ANY OTHER INFORMATION OR REFERENCE REQUESTED. THE RESPONDENT MUST ALSO PROVIDE ANY ATTACHMENTS REQUESTED WITH THIS MINIMUM QUALIFICATIONS FORM.

PLEASE SUBMIT THE ORIGINAL AND THREE (3) COPIES AND ONE (1) CD OF THIS FORM AND ANY REQUESTED ADDITIONAL DOCUMENTATION WITH THE RESPONSE SUBMISSION.

RESPONDENT INFORMATION

COMPANY NAME:_____

BUSINESS ADDRESS:_____

CITY, STATE, ZIP CODE:_____

TELEPHONE:_____

FAX:_____

E-MAIL:_____

PRINT NAME OF AUTHORIZED REPRESENTATIVE:_____

SIGNATURE OF AUTHORIZED REPRESENTATIVE:_____

NAME AND TITLE OF AUTHORIZED REPRESENTATIVE:_____

MINIMUM QUALIFICATIONS FOR SUBMISSION

- The Respondent shall provide evidence of successful completion of one (1) similar GPS & telematics contract within three (3) years of the Response Due Date. A similar contract is defined as:
    - The contract shall be of similar complexity as specified in Appendix A – Technical Specifications for a fleet of no less than 1,000 assets (i.e. vehicles, trailers, equipment etc.) and a minimum user (driver/operator) count of 500.

    AND

    - Experience with Light Duty (LD), and Heavy Duty (HD) vehicles.

- The Respondent shall provide evidence of successful completion of one (1) similar Mobile Hot Spot contract within three (3) years of the response due date. The contract shall be either self-performed by the Respondent, subcontracted by the Respondent, or may be a contract of the subcontractor which the Respondent shall use for this engagement with JEA. A similar contract is defined as:
    - The contract shall be of similar complexity as specified in Appendix A – Technical Specifications for a fleet of no less than 500 assets (i.e. vehicles, trailers, equipment etc.)

Appendix B-Minimum Qualification Form
038-19 JEA Fleet Services GPS and Telematics

SIMILAR FLEET SERVICES GPS AND TELEMATICS CONTRACT 1

Reference Name_____

Reference Phone Number_____

Reference E-Mail Address_____

Contract Year/Amount _____

Project Title _____

Address of Work _____

GPS and Telematics Services Asset Count_____

GPS and Telematics Services User Count_____

Contract Experience – (check all that apply) ☐ LD ☐ HD

Description of Project _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

PROPOSED MOBILE HOT SPOT SUPPLIER'S CAPABILITY

Reference Name_____

Reference Phone Number_____

Reference E-Mail Address_____

Contract Year/Amount _____

Project Title _____

Appendix B-Minimum Qualification Form
038-19 JEA Fleet Services GPS and Telematics

Address of Work _____

Fleet Count_____

Description of Project _____

_____

_____

_____

_____

_____

_____

_____

_____

APPENDIX B - RESPONSE FORM

#038-19 JEA Global Positioning System and Telematics with Mobile Hot Spot Capability

The Respondent shall submit one (1) original Proposal, three (3) duplicates (hardcopies), and one (1) CD. If there is a discrepancy between the electronic copy and hard copy, the hard copy will prevail. JEA will not accept Proposals transmitted via email.

RESPONDENT INFORMATION:

RESPONDENT'S COMPANY NAME:_____

BUSINESS ADDRESS:_____

CITY, STATE, ZIP CODE:_____

TELEPHONE:_____

FAX:_____

EMAIL OF CONTACT:_____

WEBSITE:_____

1.4.1 QUOTATION OF RATES

Maximum points for this criterion: 50 points

Respondent shall provide a firm-fixed price quote for all Work in this ITN by completing the enclosed Appendix B Response Form and Response Workbook. The prices shall include all profit, taxes, benefits, travel, and all other overhead items.

Please note, the prices quoted by Respondent on the Response Form must be firm-fixed prices, not estimates.

This Amount Should Be Transferred From Appendix B – Response Workbook

	Description	**Customer Call Center Language Interpretation Services**
	TOTAL THREE YEAR PRICE GPS & HOTSPOT & DRIVER IDENTIFICATION	**<Insert "TOTAL BID PRICE" from "Appendix B – Response Workbook" here>**

1.4.2 ABILITY TO MEET THE FUNCTIONALITY REQUIREMENTS

Maximum score for this criterion: 35 points

Respondents will be evaluated and points will be assigned according to the requirements contained in Appendix A – Technical Specifications contained herein. This document includes the requirements that have been identified by JEA as important to its selection as a qualified Bidder.

Respondents shall include in their Response their ability to satisfy each of the Requirements in each of the categories contained in Appendix A – Technical Specifications.

1.4.2.1 IMPLEMENTATION PLAN (REQUIREMENT) (12.5 POINTS)

The Respondent will be rated on the complete implementation plan that will be used to execute installation, training, and support following installation. This should include, at a minimum, all outlined requirements in Appendix A Technical Specification of this ITN. Respond in your own format

1.4.2.2 GPS AND TELEMATICS WITH HOT SPOT CAPABILITY VENDOR SOLUTION (REQUIREMENTS) (12.5 POINTS)

The Respondent will be rated on the solution provided to the listed GPS and Telematics with Mobile Hot Spot Capability and all other requirements as described in Appendix A Technical Specifications. Respond in your own format

1.4.2.3 LONG TERM SUPPORT PLAN (10 POINTS)

The Respondent will be rated on the solution provided on how well the long-term support after the initial implementation period ends such as but not limited to account management, program management, and change. Respond in your own format

1.4.3. ABILITY TO MEET THE FUNCTIONALITY PREFERENCES
Maximum score for this criterion: 5 points

Respondents shall include in their Response their ability to satisfy these supplemental business preferences listed in Appendix A Technical Specifications. In this section, Respondents will be evaluated and points will be assigned according to these business preferences below:

* JEA's business prefers the ability to integrate its existing JEA ID Badge Reader technology into the Respondent's proposed User ID technology. JEA currently uses HID ISOProx II (37-bit) cards with an AMAG Symmetry system.

* The ability to integrate body and/or dash cameras into the technology solution.

1.4.2.3 PAST PERFORMANCE/COMPANY EXPERIENCE
Maximum score for this criterion: 10 points

In addition to the one (1) similar GPS & telematics and the one (1) similar Mobile Hot Spot contract reference provided in Section 1.2.1, Minimum Qualifications, provide a list of all similar projects/contracts within the last five (5) years as of the Response due date.

Additional points will be given for projects/contracts similar to JEA's requirements as further defined in the Technical Specifications of this ITN.

At a minimum, include the following information:
o Reference Company Name
o Reference Contact Person Name
o Reference Contact Person Name Phone and Email Address
o Describe how the project/contract is similar to JEA's Technical Specifications

For maximum scoring, the provided reference(s) should demonstrate the capabilities seen below:
- o Successful demonstration of long-term support after the initial period ends such as but not limited to account management, program management, and change management.
- o Successful demonstration of implementation including but not limited to installation, vendor collaboration, and training.

Respondent may provide this information in its own format.

☐ **I have read and understood the Sunshine Law/Public Records clauses contained within this solicitation. I understand that in the absence of a redacted copy my proposal will be disclosed to the public "as-is".**

Respondent's Certification

By submitting this Response, the Respondent certifies (1) that it has read and reviewed all of the documents pertaining to this ITN and agrees to abide by the terms and conditions set forth therein, (2) that the person signing below is an authorized representative of the Respondent, and (3) that the Respondent is legally authorized to do business and maintains an active status in the State of Florida. The Respondent certifies that its recent, current, and projected workload will not interfere with the Respondent's ability to work in a professional, diligent and timely manner.

The Respondent certifies, under penalty of perjury, that it holds all licenses, permits, certifications, insurances, bonds, and other credentials required by law, contract or practice to perform the Work. The Respondent also certifies that, upon the prospect of any change in the status of applicable licenses, permits, certifications, insurances, bonds or other credentials, the Respondent shall immediately notify JEA of status change.

We have received addenda _____through_____

_____ _____

Signature of Authorize Officer of Respondent or Agent Date

_____ _____

Printed Name & Title Phone Number