



City Of Memphis

**Request for Proposal for Computer Aided
Dispatch System for Police Services**

REQUEST FOR PROPOSAL # 26221

**Prepared By: City of Memphis, Division of Police Services
Closing Date for Proposals: October 11, 2013
Proposals Accepted at Attn: Purchasing Agent
RFP # 26221 for Computer Aided Dispatch System
125 N. Main Street, Suite 354
Memphis, TN 38103**



**CITY OF MEMPHIS, TENNESSEE
POLICE DEPARTMENT
Shelby County, Tennessee**

**Request for Proposal
for Computer Aided Dispatch (CAD)
RFP # 26221**

REQUEST FOR PROPOSALS (RFP)

The City of Memphis (“City”) is accepting proposals from qualified vendors to acquire a Computer Aided Dispatch (CAD) system, described in the following sections of this procurement document, to support the operations of Memphis Police Department.

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1. DEMONSTRATION OF PROJECT UNDERSTANDING

In order to demonstrate total project knowledge and an understanding of the requirements, Vendors shall provide a paragraph-by-paragraph response for each of the sections where indicated in the Request for Proposal (RFP).

- Required features are indicated by the use of the words *will, shall, must, requirement* or *required*. If in compliance, Vendors must detail how they will meet the requirement. If non-compliant, Vendors must detail why they cannot comply and address whether any part of a requirement can be met.
- Some of the features are listed as desirable. They are represented by the words *should, desired* or *desirable*. Desirable feature responses will be considered when evaluating proposals, but only after requirements are addressed. These features are not required but desirable, and may be taken into consideration by the City in determining whether to award a contract.

Understood

2. MAIN BODY OF REQUEST FOR PROPOSAL

The responses can only be:

- **Understood.**
The Vendor understands the statement.
- **Comply**
The Vendor's proposal complies with the requirement and the product/service is currently developed and available for shipment and installation.
- **Partial Comply or Alternative**
The Vendor's proposed system either does not fully meet the described requirement or addresses the requirement through methodology other than that described in the statement. (Additional comments or supporting documentation are recommended.)
- **Does Not Comply.**
The Vendor's proposed system does not/cannot meet the requirement.

Below each requirement will be either one "Understood" check box or three check boxes – "Comply," "Partial Comply or Alternative" and "Does Not Comply." The response in a check box relates to the compliance of the statement or statements above the box, up to the previous check box.

When responding, Vendors must utilize the Electronic Response Forms provided by the City of Memphis. The selections on the Electronic Response Forms correspond to the check boxes on

the RFP. Vendors should not make selections on the RFP itself and submit that either in print or electronically as the official response. The Evaluation Team will only consider responses in the Electronic Response Forms.

Vendors are also required to provide details to support their answer where noted. Where appropriate, an area for narrative will be available on the electronic form. The details must be concise, yet sufficient to properly convey the Vendor's intentions. Marketing materials are not considered appropriate in-line responses, but will be accepted if attached as separate documents.

Response Example 1:

Understood

Response Example 2:

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

Understood

2.1. Statement Responses

A response is required for each statement. The addition of a detail statement is not required for "Comply" or "Partial Comply or Alternative." However, to receive positive consideration for a "Partial Comply or Alternative" response, a concise explanation of the alternative or partial compliance is expected. Vendors must provide a detail statement for a "Does Not Comply" response.

Vendors must not refer to other sections as a response. Even if the response is an exact duplicate, it must be provided in the section(s) associated with each relevant requirement.

Understood

3. MANDATORY ITEMS

The City of Memphis, Tennessee, (City) has determined the following items are mandatory elements for proposal submission and acceptance. Without the inclusion or compliance to mandatory submission items, a proposal will be deemed non-compliant.

3.1. Requirements for Integrated CAD/Mapping Systems

The proposal must meet all aspects of the Shelby County Emergency Communications District “Requirements for Integrated CAD/Mapping Systems” document, dated November 10, 2011. (Attachment A)

Understood

3.2. Pre-proposal Meeting

All Vendors expecting to respond to this RFP must attend the mandatory pre-proposal meeting at the time and location described herein.

Understood

4. FUNCTIONAL REQUIREMENTS SPREADSHEET – ATTACHMENT C

4.1. Functional Requirements Spreadsheet

The Functional Requirements spreadsheet, printed as Attachment C, is a Microsoft Excel document listing the detailed expectations for the proposed system. The electronic version of the spreadsheet will be provided to all Vendors attending the mandatory pre-proposal meeting.

Understood

4.2. Functional Requirements Response

The City expects Vendors will respond to each specification, in a manner described below, and return the completed spreadsheet as an item of the response package as a Microsoft Excel document, unlocked and not password protected.

Understood

4.3. Functional Requirements Elements

The elements of the Functional Requirements spreadsheet are described below:

Spec ID

The unique identifier associated with each requirement.

Specification Description

The functional requirement.

Priority

M – **Mandatory** requirements express a minimal acceptable level of performance, and Vendors must meet the requirement as written. If a Vendor cannot comply with a Mandatory requirement, they may be judged “non-responsive” and their proposal will be rejected in its entirety.

I – **Important** requirements represent core capabilities or functions that the City has a compelling need to fulfill. In order to be evaluated as highly responsive, Vendors must provide some means to satisfy the requirement. The process to meet the requirement may not match precisely with how the requirement is written, but the expressed outcome or an equivalent is achieved.

Response

Entry of responses to an individual specification is accomplished through the selection of an item from a drop down list. The responses can only be:

- **Comply**
The Vendor’s proposed system complies with the requirement and the product/service is currently developed and available for shipment and installation.
- **Partial Comply or Alternative**
The Vendor’s proposed system either does not fully meet the described requirement or addresses the requirement through methodology other than that described in the statement. (Additional comments or supporting documentation are recommended.)
- **Does Not Comply**
The Vendor’s proposed system does not/cannot meet the requirement.

Additional Comments

Supportive information and explanations can be provided. Please be concise.

Example:

Spec ID	Specification Description	Priority	Response	Additional Comments
1	System data tables are maintained via GUI-based forms.			

Note: Additional information, additional explanations, illustrative materials, etc. can be provided in a separate electronic spreadsheet provided by the City. The additional information must clearly reference the related Spec ID. Vendors should specifically identify any limitations.

Understood

5. CITY OF MEMPHIS REQUEST FOR PROPOSAL TERMS

The City of Memphis encourages the participation of small and minority businesses in the purchasing process.

The City of Memphis is an Equal Opportunity Employer and does not discriminate on the basis of race, color, national origin, sex, religion, age, or handicap status in employment or in the provision of services.

In addition to other terms and conditions contained herein, **the successful Vendor will be required to comply with and execute an agreement specifying the following terms and conditions, as may be modified and/or supplemented at the City's sole discretion:**

REPORTS – Upon request, the Contractor shall prepare and submit reports of its activities, funded under this agreement, to the originating department of the City. The reports shall include an itemization of the use of the City's funds, inclusive of specific services delivered by the Contractor. Any such reports provided to the City shall be prepared with the understanding that the City may make such reports available to the public. The City shall have the right to withhold future disbursement of funds under this Agreement and any future Agreements until the requirements of this provision have been met.

ENTIRE AGREEMENT – This Agreement constitutes the full and final understanding of the parties with respect to the subject matter hereof and supersedes and replaces any and all prior or contemporaneous agreements or understandings, whether written or oral, express or implied, between the parties with respect to the subject matter of the Agreement.

STANDARD OF PERFORMANCE – All services by the Contractor shall be performed in compliance with the specified requirements, in a manner satisfactory to the City, and in accordance with the generally accepted business practices and procedures of the City and pursuant to the governing rules and regulations of the industry, based on the type of services performed hereunder.

HEADINGS – Titles and headings used herein are for the convenience of reference only and shall be disregarded completely in the interpretation and validity of this Agreement or any of its terms.

MODIFICATION AND AMENDMENT – Any changes, modifications or amendments to this Agreement shall not be considered agreed to or binding on the other party, unless such modification(s) have been agreed to in writing and approved by the appropriate City officials in accordance with applicable laws and regulations.

CONFIDENTIALITY – While performing work under this Agreement, the Contractor may gain access to proprietary and/or confidential information that, if disclosed to third parties, may be damaging to the City or its officials or employees. Such information shall include materials considered to be confidential information as a matter of law (e.g., personnel records), and shall also include (i) all materials in any form developed or created by the City related to funding and financial and business information; (ii) all information owned, possessed or used by the Contractor, which is communicated to, learned, developed or otherwise acquired by the Contractor in the performance of the Services for the City; (iii) the terms, conditions and pricing contained herein; and (iv) any other information that the Contractor has been advised by the City is confidential, privileged or proprietary. Confidential information, as used in this Agreement, shall not include (i) information in the Contractor's possession prior to disclosure by the City; (ii) information generally available to the public or that becomes available to the public through a source other than the City, or (iii) information that was rightfully obtained by the Contractor from a third party who is under no obligation of confidentiality to the City with respect to such information. The Contractor agrees that it will accept and hold confidential information obtained from the City in confidence at all times during and after termination of this Agreement. The Contractor shall neither use nor disclose or communicate such information, except as provided in this Agreement or as required by law, without the prior written permission of the City.

The Contractor acknowledges and agrees that a breach by the Contractor of this section will cause the City irreparable injury and damage; therefore, the Contractor expressly agrees that the City shall be entitled to injunctive or other equitable relief in any court of competent jurisdiction to prevent or otherwise restrain a breach of this Agreement. The Contractor agrees that it shall disclose confidential information only to those employees who have a right to know, and shall require its employees, agents, and subcontractors to comply with the requirements of this provision and the requirements of the provisions titled "Public Statements" and "Rights in Data."

PUBLIC STATEMENTS – The Contractor shall not make any announcement, release any information, or authorize or participate in any interview concerning this Agreement and the Services, without first obtaining written consent from the City. The Contractor shall require its employees, agents, and subcontractors to comply with the requirements of this provision. This provision shall survive the expiration or termination of this Agreement.

RIGHTS IN DATA – The Contractor agrees that all reports, studies, plans, models, drawings, specifications, and any other information or data of any type produced under this Agreement, whether or not the same is accepted or rejected by the City, shall remain the property of the City and shall not be published by the Contractor or any other party without the express prior written consent of the City. In implementing the foregoing, the Contractor hereby grants and assigns to the City all rights and claims of whatever nature, whether now or hereafter, arising in and to any and all of such reports, studies, plans, models, drawings, specifications, and other information or data and shall cooperate fully with the City in any steps the City may take to obtain copyrights, trademark or like protections with respect thereto. The signing of this Agreement shall constitute a complete transfer of ownership, intellectual property and copyright of all documents from the Contractor to the City upon the Contractor's delivery of such documents and/or information to the City or upon completion of the Project, whichever occurs first. The Contractor shall not construe such transfer as a grant for usage nor can the Contractor revoke it.

COMPENSATION FOR CORRECTIONS – No compensation shall be due or payable to the Contractor pursuant to this Agreement for any of the Contractor's services performed by the Contractor in connection with the City effecting corrections to the services, when such corrections are required as a direct result of negligence by the Contractor to properly fulfill any of its obligations herein.

CITY'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF – If evidence is produced before the final settlement of all or any balances that the Contractor has failed to pay laborers employed on his work or failed to pay for materials used therein, or if the City has reason to suspect the same, the City may withhold such balances and upon evidence satisfactory to the City as to the amount due for such labor and materials, the City, acting as the agent of the Contractor, may settle and pay for the same and charge the amounts to the Contractor and deduct the same from the said balance or balances.

REMEDIES CUMULATIVE – All remedies available to the City provided herein are cumulative and shall be in addition to all other rights and remedies provided by law. The termination, expiration, or suspension of this Agreement shall not limit the City from pursuing other remedies available at law or in equity.

CONFLICT OF INTEREST – Neither party shall engage in any conduct or activity in the performance of this Agreement that constitutes a conflict of interest under applicable federal, state or local laws, rules and regulations.

The Contractor covenants that it has no public or private interest, and shall not acquire, any interest, directly or indirectly, which would conflict in any manner with the performance required under this Agreement, and the Contractor covenants that no gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the Contractor or any agent or representative of the Contractor, to any officer, official, agent or employee of the City, in an effort to secure the Agreement or favorable treatment with respect to any determinations

concerning the performance of the Agreement. The Contractor warrants that no part of the total contract amount provided herein shall be paid directly or indirectly to any officer or employee of the City as wages, compensation, or gifts in exchange for acting as officer, agent, employee, subcontractor or consultant to the Contractor in connection with any work contemplated or performed relative to this Agreement. For breach or violation of this provision, the City shall have the right to recover or withhold the full amount of such gratuities.

COVENANT AGAINST CONTINGENT FEES – The Contractor warrants that it has not employed or retained any company or person other than a bona fide employee working solely for the Contractor, to solicit or secure this Agreement, and that it has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the Contractor any fee, commission, percentage, brokerage fee, gift, or any other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this provision, the City shall have the right to recover the full amount of such fee, commission, percentage, brokerage fee, gift, or other consideration.

NON-DISCRIMINATION – The Contractor hereby agrees to comply with Title VI and Title VII of the Civil Rights Act of 1964 and all other federal, state or local laws prohibiting discrimination, which provide in whole or in part, that no person shall be excluded from participation in, or be denied benefits of, or be otherwise subjected to discrimination in the performance of this Agreement or in the Contractor's employment practices on the grounds of handicap and/or disability, age, race, color, religion, sex, national origin, or any other classification protected by Federal, State or statutory law. The Contractor shall, upon request, show proof of such nondiscrimination, and shall post in conspicuous places available to all employees and applicants notices of nondiscrimination. In the event the Contractor fails to comply with the City's non-discrimination policy and any and all other laws prohibiting discrimination, this Agreement may be canceled, terminated or suspended in whole or in part by the City.

The City reserves the right to investigate any claims of illegal discrimination by the Contractor and in the event a finding of discrimination is made and upon written notification thereof, the Contractor shall take all necessary steps to cure and rectify such action to the reasonable satisfaction of the City. The Contractor's failure or refusal to do so shall be cause for termination of this Agreement in accordance with the terms of this Agreement.

EMPLOYMENT OF ILLEGAL IMMIGRANTS – The Contractor hereby certifies to comply with all applicable federal and state laws prohibiting the employment of individuals not legally authorized to work in the United States. Contractor shall not knowingly (i) utilize the services of illegal immigrants; or (ii) utilize the services of any subcontractor who will utilize the services of illegal immigrants in the performance of the contract. In the event the Contractor fails to comply with any and all local, state and federal laws prohibiting the employment of individuals not legally authorized to work in the United States, this agreement may be canceled, terminated or suspended in whole or in part by the City, and the Contractor may be prohibited from contracting to supply goods and/or services to the City for a period of one (1) year from the date

of discovery of the usage of illegal immigrant services in the performance of a contract with the City.

CONTRACTING WITH SMALL AND MINORITY FIRMS AND WOMEN'S BUSINESS ENTERPRISE – The Contractor shall take affirmative action to ensure that Small and Minority Businesses, which have been certified by the City, are utilized when possible as sources of supplies, equipment, construction and services, and shall, in addition, take similar appropriate affirmative action in support of Women's Business Enterprises.

ORGANIZATION STATUS AND AUTHORITY – The Contractor represents and warrants that it is a corporation, limited liability company, partnership, or other entity duly organized, validly existing and in good standing under the laws of the state of Tennessee; it has the power and authority to own its properties and assets and is duly qualified to carry on its business in every jurisdiction wherein such qualification is necessary.

The execution, delivery and performance of this Agreement by the Contractor has been duly authorized by all requisite action and will not violate any provision of law, any order of any court or other agency of government, the organizational documents of the Contractor, any provision of any indenture, agreement or other instrument to which the Contractor is a party, or by which the Contractor's respective properties or assets are bound, in conflict with, result in a breach of, or constitute (with due notice or lapse of time or both) a default under any such indenture, agreement or other instrument, or result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever upon any of the properties or assets.

Each person executing this Agreement represents that: he/she is lawfully authorized to sign the Agreement on behalf of the party he/she represents and execution of the Agreement was duly and regularly authorized by the party's governing body.

WARRANTY – The Contractor warrants to the City that all goods/work shall be free from defects in design and faulty or improper workmanship and shall be in strict compliance with the terms of this Agreement. This warranty shall be effective for a period of not less than one year from the date of acceptance by the City of such goods and/or services as satisfactorily complete, and shall be in addition to all other warranties, expressed, implied or statutory.

RECORDS AND AUDITS – The Contractor shall make and keep as the same accrue, full and complete books, documents, accounting records and other evidence, that specifically relate to this Agreement, in accordance with generally accepted accounting principles. The Contractor shall retain such records, and shall make available to the City, upon reasonable request, during the term of this Agreement, and for a minimum period of three (3) full years after completion of the contract obligations or from the date of final payment under this Agreement, whichever is later. In the event any litigation, claim or audit is instituted prior to the expiration of the required three-year retention period, such records shall be retained until such litigation, claim or audit finding has been resolved. Copies of said records shall be furnished to the City upon request.

Upon reasonable notice, the Contractor shall permit the City, any other governmental entity, any agency participating in the funding of this Agreement, or any of their duly authorized representatives, to enter the Contractor's offices, during regular business hours, to interview employees and to inspect and/or copy said records and books of accounts together with any and all documents pertaining hereto that may be kept, maintained or possessed by the Contractor. Reviews may also be accomplished at meetings that are arranged at mutually agreeable times and places.

FORCE MAJEURE – The City shall not be deemed in default hereunder, nor shall the City be responsible for any delay, interruption, or cessation in the performance of its obligations under this Agreement where such failure of performance is the result of any force majeure event, including, but not limited to, acts of God, riots, wars, strikes, epidemics, acts, governmental authorities or acts of nature or other similar cause.

NOTICES – All notices and other communications required or permitted to be given hereunder shall be written and hand delivered with signed receipt; delivered by facsimile; delivered by a nationally recognized overnight courier; or mailed via certified U.S. mail, postage prepaid and return receipt requested. All notices shall be deemed received and effectively given as follows: (i) if by hand delivery, on the date of delivery; (ii) if by fax, on the day the fax transmission is received at the receiving location and receipt is telephonically confirmed by the sender; (iii) if by delivery via U.S. mail, on the date of receipt appearing on a return receipt card; or (iv) if by overnight courier, on the date receipt is confirmed by such courier service. All notices must be addressed to the respective party at the following addresses or to such other person or address as either party may designate in writing and deliver as provided herein.

CITY LIABILITY – The City shall have no liability except as specifically provided in this Agreement.

Understood

6. INTRODUCTION

6.1. Project Overview

The City of Memphis, Tennessee (City) seeks to acquire a Computer Aided Dispatch (CAD) system, described in the following sections of this procurement document, to support the operations of Memphis Police Department (PD). The component systems, sub-systems and any third-party elements, together, will function to provide the services to effectively and efficiently manage the information, resources, records, and interfaces needed to quickly and safely respond to law enforcement-related calls for service and the safety needs of the citizens of the Memphis.

Mission Critical Partners, Inc. (MCP) has been selected to assist the City with the procurement process in the development of this RFP, response to Vendor questions and responding to requests for clarifications.

In addition, the City will entertain proposals for the integration of an Automatic Vehicle Location (AVL) system within the overall law enforcement CAD function. Vendors will be permitted to submit a proposal for an integrated CAD and AVL system, including specified interfaces, or for an AVL system as a separate component, which must be integrated with the chosen CAD vendor.

Understood

6.2. Project Expectations

6.2.1. The City expects to utilize a commercially available CAD and mapping system, which has been successfully deployed by other public safety communications agencies to perform the core mission-related functions required of an emergency communications center. The City does not wish to embrace any software or systems that have not been fully tested and deployed in major live operational environments. The City will require Vendors to provide interfaces to the following systems:

- Motorola SmartZone radio system (for radio identifier display interface)
- Customer premise equipment (CPE) for E9-1-1 interface and Telecommunications Device for the Deaf (TDD) interface
- City geographic information system (GIS)/mapping system for map-related updates
- KIOSK Public Safety Information System (used by the Memphis PD and surrounding agencies)
- Existing Memphis PD TriTech/VisionAir Inform Law Enforcement Records Management System (LERMS)
- Existing City of Memphis Oracle Personnel/payroll system
- National Crime Information Center (NCIC) state and federal databases

- Currently utilized personal digital assistant (PDA) devices for display of CAD incident information
- Master Clock

Comply Alternative or Partial Comply Does Not Comply

Detail Statement:

- 6.2.2.** The City is interested in procuring an AVL system either as a third-party solution that must be integrated with the CAD system being procured, or as an integrated component of the CAD system being proposed as part of this procurement. The specifications are listed in Attachment C.

In any event, the CAD–AVL solution must be highly integrated as specified in Attachment C.

Vendors must respond to the AVL section. However, the City reserves the right not to implement the AVL component even if the CAD module is the selected CAD system.

The City reserves the right to implement a third-party AVL solution if it is in the best interest of the City. All vendors responding to the AVL portion of the procurement must enter the required information in Attachment D and describe previous integration projects with CAD systems.

- Vendors must respond to the AVL system component in either of two ways:
- a. As an integrated component of the proposed system. Pricing to be listed in a separate section as indicated on Attachment E - CAD/AVL Cost Data Forms.
 - b. A third-party AVL system implementation to be highly integrated with the selected CAD system. Responses to specifications recorded in Attachment D - AVL Functional Requirements.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 6.2.3.** The City requires an interface from the respondent's CAD system to a Vision/TriTech Inform RMS. The interface will export event data from the CAD system to the Inform RMS database at an interval determined by the Memphis PD. The interface will provide inquiry capabilities to the Inform RMS database from the CAD system, with the result returned to the initiating workstation in a separate window. The CAD system will automatically initiate

an inquiry based on key information in the CAD event, including, but not limited to name, vehicle tag and location.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 6.2.4.** The City will require that static table data and Call for Service data associated with the current Intergraph CAD system be converted and migrated to the CAD system of the successful Vendor. At a minimum, 18 months of data is expected to be migrated from the current Intergraph CAD system to the new system by the successful Vendor. Data Migration specifications are included in Attachment B – Data Migration. The costs associated with Data Migration should be entered as part of the Cost Data Forms.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 6.2.5.** Vendors must provide an interface to an ESi Companies SkyCop real-time streaming video network hosed at the City of Memphis Real Time Crime Center (RTCC). The CAD system will enable viewing of the streaming video based on the location of the CAD event and association of the video file with the CAD event. The CAD system will export CAD event data to the SkyCop video network to enable alerts at the RTCC of an active CAD event.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 6.2.6.** The City expects to take advantage of the most current functionality offered by a vendor, which may encompass functional features that other similar agencies have requested and the Vendor has included as part of its current offering.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 6.2.7.** The City requires that the source code for the software being offered is available on-site or in a mutually agreed upon escrow account to be paid for by the successful Vendor.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 6.2.8.** Vendors must also provide to the City a site license or equivalent licensing option for all software applications deployed as part of this procurement. The City may consider the option of unlimited CAD/RMS access in an inquiry mode or via a browser-based application that provides for some system interaction as a potential equivalent or additional functional option. The proposal shall be all-inclusive, and no future costs shall be incurred for the licensing of software related to stability releases or for future software upgrades.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

7. GENERAL CHARACTERISTICS

7.1. Proposal Characteristics

- 7.1.1.** The City reserves the right to select any proposal that, in their opinion, provides the best value and lowest risk or reject any proposal that in their opinion would require them to assume unnecessary risk, regardless of price, without discussion. Proposals shall include:
- Presentation of a firm, fixed price for a fully integrated, turnkey system.
 - Clearly defined deliverables that coincide with the functionality and time frame specified in this RFP.
 - Participation by a Vendor or Vendors who have demonstrated their ability to successfully deliver systems of comparable size and complexity on schedule and within budget.

Understood

7.2. System Characteristics

- 7.2.1.** The selected system will have the following general characteristics. It will:
- Meet the specified functional requirements as outlined in this RFP document.
 - Meet or exceed the performance requirements as stated in this RFP.
 - Be expandable and flexible enough to meet future functional requirements as projected in this RFP.
 - Be highly configurable, allowing the City to meet current and future needs without extensive software customization.

- Utilize a commercially available CAD and mapping system.
- Meet all security requirements of NCIC, Tennessee and the City of Memphis.
- Utilize an open systems-based Relational Database Management System.
- Utilize commercial off-the-shelf (COTS) components.
- Provide a hardware solution that is scalable.
- Provide a high level of availability, security and reliability.
- Allow secure access to both short-term and long-term stored data for the purposes of reporting and analysis.
- Provide an intuitive user interface for accessing stored data.
- Be installed and operating successfully at sites of equivalent size and complexity.

Understood

7.3. Vendor Characteristics

- 7.3.1.** All Vendors responding to this RFP must possess the requisite qualifications as described in this RFP to perform successfully under the terms and conditions set forth for this proposed procurement. It is also required that the Vendor provide qualified management, support and technical staff to work on this project, with a proven track record implementing the proposed solution.

The City may make such reasonable investigations as deemed proper and necessary to determine the ability of Vendors to perform the work. Vendors shall furnish the City all such information and data for this purpose as may be requested. The City reserves the right to inspect Vendor's physical facilities, and require demonstrations at the Vendor's or City's facilities prior to award to satisfy questions regarding Vendor capabilities. Costs for site visits and demonstrations shall be the sole expense of the Vendor.

Final contract negotiations and award (Notice to Proceed) will only be made with the responsible Vendor who possesses the ability to meet the requirements at a price and schedule considered to be acceptable to the City.

Understood

- 7.3.2.** The successful Vendor will:
- Have a proven track record of successful implementations of similar systems in similarly-sized agencies.
 - Have a long-term commitment to development and support of software in the public safety market.

- Have a history of involvement in the public safety market, demonstrating proactive improvements to its product line.
- Have a proven track record for 24/7 customer support.
- Propose and provide skilled, knowledgeable staff throughout the proposal, implementation and maintenance phase of this procurement.
- Have a method of logging, reporting and escalating software trouble reports.
- Provide documentation suitable to demonstrate financial stability to the City.

Understood

- 7.3.3.** Consideration will also be given to such matters as software quality, contractor integrity, record of past performance, Vendor financial resources and the ability to deliver the proposed software and functionality at the current facility in a timeframe not to exceed 32 months of contract signing. Each Vendor submitting a response to this proposal must have proven experience and an established reputation (and document same within the proposal to the City) at the state, City and/or national level for their ability to plan, supply, install, integrate, train (end users), support, and maintain their systems. Vendors shall provide information detailing their credentials and provide a list of references of other public safety communications entities for which they have provided similar services.

Understood

8. PREFERRED VENDOR SOLUTION/SINGLE POINT OF CONTACT

8.1. Preferred Vendor Solution

- 8.1.1.** The preferred solution is for a single prime Vendor to provide an integrated suite of products. However, consideration will be given to solutions that involve a partnership of vendors with a tightly integrated and seamless solution that has been effectively implemented in agencies of similar size to that of the City. Nevertheless, a single prime Vendor will be responsible for the success of such a proposed solution, and the successful Vendor must be responsible for the complete definition, delivery, integration, testing, implementation, and maintenance of the system.

Understood

8.2. Single Point of Contact

8.2.1. The single prime Vendor will be the single point of contact for all communications with the City regarding this project and be responsible for the success of the complete solution.

Understood

9. RFP SUBMISSION REQUIREMENTS

9.1. Schedule of Events

The City will attempt to carefully observe, but not guarantee, the following schedule:

<u>EVENT</u>	<u>SCHEDULED DATE</u>
Release of RFP:	August 20, 2013
Mandatory Pre-proposal Meeting*:	September 10, 2013, 2pm CST
Vendor Proposal Questions Due:	September 13, 2013
Response to Vendor Questions:	September 27, 2013
Proposal Due Date:	October 11, 2013, 2pm CST
Oral Presentations:	If necessary, week of Oct 28, 2013
Short List Identified:	Week of November 4, 2013
Demonstrations:	Week of December 2, 2013
Site Visits:	If necessary, week of Dec 9, 2013
Date of Award Notice (on or before):	Week of January 20, 2014
Target Date for Completion of Contract Negotiations:	Week of February 17, 2014
Target Date for System Delivery:	Summer 2015

*Attendance at the pre-proposal meeting is mandatory. The pre-proposal meeting will be held on September 10, 2013 at the Auditorium at 600 Jefferson Avenue, Memphis, TN at 2:00pm CST. Vendors will be able to tour the facility and the equipment room at that time. Any proposal submitted by a Vendor who failed to attend the pre-proposal meeting will not be considered for award.

Understood

9.2. Obtaining the RFP Document

Prospective vendors may obtain a copy of the RFP from the City's website:
www.memphistn.gov.

Understood

9.3. Questions about the RFP Document

- 9.3.1.** Vendors shall submit all questions or concerns related to this RFP by e-mail to the City of Memphis' Purchasing agent specified below. No oral requests for clarification or information will be accepted.

City of Memphis
Office of Purchasing Agent
Attn: Mr. Eric Mayse, Purchasing Agent
125 North Main St., Room 354
Memphis, TN 38103

Vendors shall identify all e-mail inquiries in the subject line as "RFP Inquiry" and shall submit questions by the date specified in Section 9.1, Schedule of Events. To ensure the fair and consistent distribution of information, all questions will be answered by a Question-and-Answer (Q&A) document, which will be posted on the City's website (www.memphistn.gov) No individual answers will be given. The only official answer or position of the City will be the one posted via the City's website.

Any revisions to the solicitation will be made only by an addendum issued by the City, which will be posted on the City's website (www.memphistn.gov).

Understood

9.4. Vendors Examination of the RFP

- 9.4.1.** Vendors shall examine all information and materials contained in this RFP. Failure to do so will be at the Vendor's risk.

Understood

- 9.4.2.** No objections with regard to the application, meaning, or interpretation of the specifications will be considered after the opening of the subject proposals. A Vendor submitting the request shall be responsible for the prompt delivery of the request. Any interpretation in response to the written request will be made only by addendum duly issued and posted on the City's website (www.memphistn.gov). No individual answers will be given. The only official answer or position of the City will be the one posted via the City's website. The City of Memphis will not be responsible for any other explanation or interpretation of the proposed documents.

Understood

9.5. Functional Requirements Response Selection

- 9.5.1.** If the Vendor's system (including any and all proposed third-party subcontractors) software complies with the requirements listed, it must be so noted on the Functional Requirements spreadsheet by selecting "Comply" from the list of responses in the drop down box in the Response column.

Understood

- 9.5.2.** If the Vendor's system (including any and all proposed third-party subcontractors) software does not comply with the mandatory requirements listed, it must be so noted on the Functional Requirements spreadsheet by selecting "Does not Comply" from the list of responses in the drop down box in the Response column.

Understood

- 9.5.3.** If the Vendor believes the desired functionality is partially met or present in another form other than as stated; it must be so noted on the Functional Requirements spreadsheet by selecting "Partial Comply or Alternative" from the list of responses in the drop down box in the Response column.

Understood

- 9.5.4.** To receive maximum consideration, the Vendor may furnish additional documentation to support alternative ways their system might meet the requirement by adding comments into the Comments column to the right of the requirement Response.

Understood

- 9.5.5.** For the purposes of this RFP, Response items returned as "Not Answered" will be interpreted as "Does Not Comply" and will be factored accordingly for evaluation purposes.

Understood

9.6. News Release

- 9.6.1.** Vendors shall at no time make any news or advertising releases or announcements pertaining to this RFP or any resulting agreement for any purpose without the prior written approval of the an authorized representative

of the City of Memphis. Vendors shall require their employees, agents and representatives to comply with the requirements of this provision.

Understood

9.7. Evaluation and Award Criteria

9.7.1. The City seeks a prime Vendor to provide a CAD system, integrated mapping, and possibly an AVL system. The City is seeking a functioning turn-key solution, which includes all services, user training and maintenance for the systems identified herein and at the location(s) specified. Any contract award as a result of any proposal, will not be solely based on the concept of the “lowest responsible bidder,” but will be based on the concept of the “Best Value,” as determined by the City. In determining the Best Value bid, the City will consider, but not be limited to, the quality, price, various elements of the proposed goods or services, the responsiveness of the Vendor to the proposal, and the Vendor’s responsibility.

Understood

9.7.2. Evaluation of submitted proposals will be conducted as follows, listed in order of importance:

9.7.2.1. Factor 1 - Functional Specification

Based on the evaluation of the Vendor-submitted Functional Specifications

Understood

9.7.2.2. Factor 2 – Proposed Solution/RFP Narrative Section

Vendors will be evaluated on the quality of the proposed CAD system solution, to include, but not limited to:

A. Management Plan

1. Provide sufficient information to evaluate the Vendor’s approach to managing, designing and implementing the project. At a minimum, Vendor’s should provide the information listed below:
 - a. Provide an organizational chart with information sufficient to understand and evaluate the Vendor’s organizational structure.

- b. Describe the portions of the work that will be undertaken directly by the Vendor and that which will be subcontracted (if applicable).
- c. Provide specifics regarding project management areas such as a communications plan, risk assessment and mitigation, issue tracking, punchlist development, change control and escalation process.

B. Project Schedule

1. Provide a proposed project schedule, in Microsoft Project format, beginning at the Notice to Proceed and ending at Go-Live (as defined herein). The timeline should be expressed in terms of calendar days or weeks from the issuance of the Notice to Proceed rather than actual dates and should include specific major events, milestones and deliverables. Identify any assumptions used that support this timeline.

C. Training Plan

1. Provide details regarding the training plan for the CAD system solution.
 - a. Detailed outline for training classes for CAD
 - b. Detailed schedules for training with consideration of maintaining staffing requirements
 1. Number of classes
 2. Class size
 3. Class schedule

D. City Required Resources

1. Provide a list and numbers of City supplied resources (including staff and materials) required to support the implementation of the CAD system solution.
2. Vendors must clearly identify tasks that are the responsibility of the City and communicate required completion dates to fulfill the project schedule. A matrix of tasks versus responsibility (Vendor, City or other) is a preferred approach.
3. Provide a description of the training and skills needed for City resources in order to properly support the system. For example, DBA level skills, SQL training, Microsoft Active Directory certification, etc.

E. Maintenance and Operation

Proposals will be evaluated on the useful life expectancy of the CAD system solution, particularly guarantees against early obsolescence. The City will not accept acquisition of a solution which the Vendor does not intend to support for the next 10–15 years.

1. Provide details regarding the operation and maintenance of the CAD system solution.

F. Proposed Solution

1. The degree to which the proposal addresses the stated goals
2. Adherence to the solicitation requirements
3. The extent to which the components of the CAD system solution are integrated to provide a single-system appearance to the end users
4. The extent to which the CAD system solution incorporates effective processing methods, state-of-the-art technology and programming languages, and well defined system interfaces
5. General ease of use, future modification/expansion and change
6. Detailed security rights and ease of administration
7. Comprehensiveness of the documentation (e.g., training materials and manuals)
8. Product life expectancy. (Vendor should identify the version of the CAD system solution, how many versions there have been since its inception and any on-going research and development efforts)
9. Third-party hardware and software selection
10. Intuitiveness and aesthetic appeal of the software

Understood

9.7.2.3. Factor 3 – Company Qualifications

G. General Company Information

11. Company Profile

- a. Identify all company locations
- b. Identify the number of employees
 - i. Employed by the company in total
 - ii. Dedicated to sales
 - iii. Dedicated to technical support
 - iv. Dedicated to research and development

12. Company Longevity

- a. Indicate the number of years in business.
- b. Indicate the number of years in business selling the CAD system solution solicited herein (minimum of five years of experience).
- c. Subcontractors, if applicable, will be required to have a minimum of three years of experience in their respective discipline.

13. Financial Stability

- a. Provide certification of current bonding capacity.
- b. Provide audited financial statements for the past two years.
- c. Provide current booked work.
- d. Provide projected volume for the next two years.
- e. List any litigation initiated by or against the Vendor; include a brief discussion of the issues involved and the outcome.
- f. Indicate if the Vendor has been in bankruptcy, reorganization or receivership in the last five years and, if applicable, provide an explanation.
- g. Indicate if the Vendor, or any of its Principals, has been disqualified from participation in public contracting opportunities and, if applicable, provide an explanation.

H. Capacity

1. Time is of the essence for this project; therefore, the successful firm must be able to perform the work in a timely manner. Present an outline of the Vendor's current workload, present capacity for additional work and projected future

workload, demonstrating ability to respond to City project requirements.

I. Research and Development

1. Provide the percentage of overall revenue that is being allocated back into Research and Development.

Understood

9.7.2.4. Factor 4 – Reference Checks/Site Visits

A. References

Consideration will be given to input from other clients of the Vendor's solutions and services, including ability to manage a project of this size and scope, past performance and the ability to provide the desired solution in the necessary timeframe.

1. Provide a list of all installations that the Vendor has implemented during the past five years that are relevant to the scope of this project. Each project reference shall include:
 - a. Project title and location.
 - b. Project start and finish dates.
 - c. Client point of contact (name and title).
 - d. Current telephone number and e-mail address of point of contact.
 - e. Description of the work/services provided.
 - f. Percentage of the overall project actually performed by the Vendor.
 - g. Initial bid price, and final contract amount, including the quantity and dollar value of contract modifications.
2. The City may contact client references to validate the information provided by the Vendor and to determine the client's overall satisfaction with the solutions and services provided; therefore, it may prove beneficial to the Vendor to contact its referenced clients to ensure their contact information provided is up-to-date and that the reference will be available during the period of time that the City will be validating references.
3. Vendors may include letters of commendation from customers.

B. Past Performance

1. Vendor

- a. Provide a list of any projects completed within the last five years that were more than two months behind schedule and an explanation of why.
- b. Provide a list of any projects that Vendor failed to complete and an explanation of why.

2. Subcontractors

If applicable, identify all subcontractors to be used for this project and provide a list of their installations completed within the last five years that are relevant to the scope of this project.

Each project description shall include:

- a. Project title and location.
- b. Project start and finish dates.
- c. Short description of subcontracted work.
- d. Subcontract value.

3. The City reserves the right to contact the listed owners for confirmation or clarification of the information submitted.

Understood

9.7.2.5. Factor 5 - Cost

Based on the evaluation of the Vendor-submitted Cost Proposals; Reminder that the all cost information must be separated from the other proposal items.

Understood

9.7.2.6. Specific Criteria

Specific criteria may include, but is not limited to the quality, clarity and responsiveness of the proposal in conformance with instructions, conditions and format relating to:

- Qualifications and references
- Quality of software
- Quality and extent of the documentation to be provided
- Stability and growth and expandability of technical hardware architecture proposed
- Quality of implementation and integration services
- Product demonstrations and site visits
- Integrated system functionality

- Implementation approach and training plans
- Demonstrated successful performance of proposed software and implementation services elsewhere in the public sector at agencies of similar size, populations serviced and call volume
- Ease of understanding and use
- System maintenance and support, upgrades and ongoing technical support
- Vendor's financial stability and industry reputation

Understood

- 9.7.3.** Award will be made to the best responsive and responsible Vendor meeting the requirements specified in this RFP and offering a service deemed acceptable to the Memphis PD. The final contract shall be awarded as a firm fixed price contract.

Understood

- 9.7.4.** Any protest of award must be filed in writing with the Purchasing Agent within five calendar days of the award announcement at the following address:

City of Memphis Purchasing Agent
125 North Main
Room 354
Memphis, Tennessee 38103.

Understood

9.8. Rights and Responsibilities of the City

- 9.8.1.** The City reserves the right to reject or not select any and all proposals that may be submitted, if it is determined by the City to be in its best interest to so reject.

Understood

- 9.8.2.** The City additionally reserves the right to negotiate a change in planned scope of services with the apparent successful Vendor so as to make such scope of services more favorable to the City. However, such negotiations shall not increase the cost or amend the proposal such that the apparent successful Vendor no longer offers the best proposal.

Understood

- 9.8.3.** The City may procure any service or equipment by other means. Submission of a proposal does NOT commit the City to accept any terms of the proposal. Final terms of any agreement are subject to the approval of the City.

Understood

- 9.8.4.** The City reserves the right to reject the proposal of any Vendor if the City believes that it would be in the City's best interest to do so, whether because the proposal is not responsive, or the Vendor is determined unqualified, or if the City is doubtful of the financial ability of the Vendor, or if the Vendor fails to meet any other pertinent standard or criteria established by the City, or for no other expressed reason announced at all. The City reserves the right to waive any informality in any proposal.

Understood

- 9.8.5.** To assure full understanding of a proposal, the City reserves the right to conduct discussions with Vendors or to request clarification of information submitted and to request additional information of one or more Vendors at a schedule determined by the City.

Understood

- 9.8.6.** The City may terminate the negotiated contract without cause by giving 30 calendar days written notice.

Understood

9.9. Pricing, Payments and Retainage

- 9.9.1.** Negotiated prices shall be firm and not subject to increase during the term of any contractual agreement between the City's authorized representative and the successful Vendor as a result of the RFP. Requests for payment will be initiated by the Contractor's submission of an invoice with description of deliverable-based milestones completed and referenced therein. The payment schedule will be percentage based on milestones reached during the contract period. The City of Memphis, through its authorized representative, shall determine if the milestones have been achieved in its sole discretion. Failure to agree to the proposed payment milestones will result in a significant penalty in the overall evaluation of the proposal, pursuant to Section 19.29.

Understood

9.9.2. Payments will be processed according to the following schedule:

<u>Milestone Reached</u>	<u>Percentage Payment</u>
Contract Signing and Agreement of a Statement of Work	10%
Installation and Completion of Readiness Test	20%
Completion of Operating System and Application Software Install	10%
Draft Delivery of Integration and Acceptance Test Plan	5%
Successful Software Acceptance Testing	10%
Completion of User Training	5%
Successful System Cutover	10%
Successful Completion of 45-day Software Reliability test	30%

Hardware can be invoiced when received and inventoried by the City.

Understood

9.9.3. The City of Memphis, through its authorized representative, agrees to pay all uncontested amounts due under this agreement within 45 days after receipt of an accurate invoice. In the event of a dispute regarding the amounts and items due, the Parties will use all reasonable efforts to resolve the disputed items.

Understood

9.10. Proposal Format

9.10.1. The proposal shall contain the following sections, in the order and format described:

1. Letter of Conveyance or transmittal, signed by a principal of the Vendor authorized to negotiate on behalf of the Vendor.
2. Executive Summary.
3. A statement indicating the RFP, including all appendices and exhibits, has been read and understood.
4. Hardcopy and an electronic version of the proposal submitted.
5. All Electronic Response forms, electronic Functional Specifications and Cost Data Forms are to be completed as indicated on the forms or in the RFP. The submitted version will have no additional locking or protection other than that of the original form.

6. Hardcopy of all completed Electronic Response Forms.
7. Vendors take note, Attachment D is directed to Vendors responding with an integrated CAD and AVL system; Attachment E is directed to vendors responding as third-party AVL vendors not associated with a CAD vendor.
8. Details or explanation of any "Partial Comply or Alternative" taken in the Functional Specification spreadsheet may be included on the Specification Comments or the RFP Comments worksheet as applicable. Each item must reference a specification number, in order to relate the comment with the requirement
9. Complete description of the proposed system software and hardware platform(s).
10. Company description and qualifications, which shall include, but not be limited to: Dun & Bradstreet number, Federal Tax ID Number, and Bank reference.
11. Discussion of all Evaluation Factors described in Section 9.7.2.
12. Proposed services, including implementation, documentation and training.
13. M/WBE Participation Plan.
14. A project management plan.
15. Delivery and implementation schedule.
16. Completed electronic Cost Data Forms included as Attachment E, with comprehensive, itemized pricing for each element of the Vendor's proposal and any other price-related information will be included in the response, but separated and sealed. No other cost information will be considered that is not included on the electronic Cost Data Form, Attachment E.
17. Resumes of key staff involved in the design, implementation and management of the project, including those of project management staff for consideration by the City.
18. Any service and maintenance requirements and warranties, sample contracts, etc.

Understood

9.11. Proposal Submission

- 9.11.1.** Vendors shall submit their proposal in a sealed container indicating on the outside: the company name and the RFP number.

Proposals submitted and accepted by the City become the property of the City of Memphis and will not be returned.

All proposals must be signed by an authorized representative of your organization. Unsigned proposals will be considered non-conforming.

Two (2) signed originals and ten (10) copies of the complete proposal shall be delivered to the office of the Purchasing Agent (see below) no later than 2:00 p.m. CT on the "Quote Due Date."

City of Memphis
Office of Purchasing Agent
Attn: Mr. Eric Mayse, Purchasing Agent
125 North Main St., Room 354
Memphis, TN 38103

LATE PROPOSALS WILL BE CONSIDERED NON-CONFORMING AND WILL NOT BE CONSIDERED IN THE EVALUATION PROCESS.

Incomplete proposals will not be considered for selection if the omission(s) are determined, in the City's sole discretion, to be significant.

Understood

9.12. General Guidelines for Proposal Preparation

Proposal Format

The format in which proposals shall be submitted is included in this RFP. Proposals that do not conform to this format will be declared non-responsive and will not be considered for an award from the City.

Amendments to RFP

The City reserves the right to re-issue or change any portion of this RFP, in its sole discretion. In the event it is necessary to revise any part of the RFP after the initial issue date, the City will make modifications by issuing a written amendment, which will be posted on the City's website. (www.memphistn.gov)

Withdrawing RFP

The City reserves the right to withdraw this solicitation at any time prior to making an award based on this solicitation.

Preparation and Presentation Costs

Vendors shall bear the total costs for any and all appearances and the costs associated with preparing the proposal or responding to the RFP. The City shall not, in any event, be liable for any expenses incurred by Vendors in the preparation and/or submission of the proposals. Proposals shall not include any such expenses as part of the proposed budget.

Deadline Extension

The City reserves the right to extend the submission deadline, if such action is considered necessary by the City. In the event the deadline is extended, Vendors will have the right to retrieve and revise their proposals.

Failed Competition

The City reserves the right to reject any or all proposals which are not responsive to the specifications of this RFP. Competitive negotiation requires that at least two responsive proposals for the same scope of work and service area be received in response to the RFP. A competition is considered failed if only one responsive proposal is received. If a competition has been declared failed, the City then has the option to reopen the procurement or enter into a negotiated agreement with the sole Vendor.

Withdrawing or Amending a Proposal

At any time prior to the scheduled deadline for receipt of proposals, Vendors may withdraw or amend their proposal by submitting a written request from the authorized representative whose name and signature appears on the proposal. A written request to withdraw or amend the proposal must be submitted in writing to:

City of Memphis
Office of Purchasing Agent
Attn: Mr. Eric Mayse, Purchasing Agent
125 North Main, Rm 354
Memphis, TN 38103

Acceptance/Rejection of Proposals

The City reserves the right to accept or reject, in whole or in part, any or all proposals submitted. The City shall reject the proposal of any Vendor that is determined to be non-responsive.

Informalities/Minor Irregularities

The City reserves the right to waive minor irregularities or informalities in a Vendor's proposal when the City determines that it will be in the City's best interest to do so. Any

such waiver shall not modify any remaining RFP specifications or excuse the Vendor from full compliance with the RFP specifications and other contract requirements if the Vendor is awarded the contract.

Oral Presentations

Vendors may be required to give an oral presentation of their proposal to City representatives for the purpose of clarification to assure the City's full understanding of the proposal. Oral presentations are an option of the City, at the City's sole discretion; however, no proposal may be altered or enhanced during an oral presentation.

Vendors Indebted to the City

No contract will be awarded to any organization which, in the City's sole discretion, is in arrears to the City of Memphis upon any debt or contract, or which is a defaulter as surety or otherwise under any obligations to the City of Memphis, or which has failed to perform faithfully on any previous contract with the City of Memphis.

Validity of Proposals

All proposals shall be valid for a minimum period of 120 days from the opening date of the RFP.

Compliance with the RFP

The submission of a proposal shall be taken as prima facie evidence that the Vendor has familiarized itself with the contents of the RFP and with these terms and conditions, in particular. The failure or omission by the Vendor to receive or examine this RFP shall in no way relieve the Vendor of any obligation with respect to its submission or of any term or condition of this RFP and may result in disqualification. In order to be deemed responsive, Vendors must provide responses to address all items in the RFP.

Lengthy Proposals

The City discourages overly lengthy and costly proposals; however, in order for the City to evaluate proposals fairly and completely, Vendors should follow the format set out herein and provide all information requested. Proposals shall be as thorough and detailed as possible, but prepared simply, providing a straightforward, concise description of the Vendor's capabilities to provide the services and satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

Local Preference

This procurement may be subject to the requirements of Ordinance No. 5114 which establishes a local preference for local businesses located within the City of Memphis. A copy of the Memphis and Shelby County Tennessee Business Tax Receipt shall accompany the bid for consideration of this ordinance.

9.13. Minority and Women Business Enterprise Participation (M/WBE)

This project is subject to the requirements of the City of Memphis Ordinance #4388, which establishes the Minority and Women Business Enterprise Procurement Program. Vendors shall ensure that all requirements of this ordinance are met. The Ordinance may be accessed on the City's website at www.memphistn.gov under "Doing Business." The intent of the M/WBE Program is to increase the participation of M/WBEs in the City's purchasing activities. Toward achieving this objective, the M/WBE participation is defined as the dollar value of subcontracts awarded to certified minority and/or women business enterprises divided by the total proposed base bid amount.

Participation Plan

The Participation Plan must include: (1) level and dollar amount of participation your firm anticipates to achieve in the performance of the contract resulting from this RFP; (2) the type of work to be performed by the M/WBE participation; and (3) the names and addresses of the M/WBEs the Vendor plans to utilize in the performance of the contract resulting from this RFP. Vendors must complete the Participation Plan document included in this solicitation.

Eligible M/WBE Firms

To qualify as an M/WBE firm, per the requirements of City of Memphis Ordinance #4388, a firm must be included on the City's list of certified M/WBE firms. If the Vendor is a certified M/WBE, then the participation goal for this solicitation shall be deemed met. One or a combination of several M/WBEs may be utilized to meet the established goal. A list of eligible firms is included in this solicitation.

If a Vendor desires to utilize an M/WBE firm not included on the list included in this RFP, it is the Vendor's responsibility to confirm that the desired firm is certified by the City of Memphis. Such confirmation must be obtained from the City's Contract Compliance Office, in writing, before the proposal/response due date. Requests for verification must be submitted to the City's Contract Compliance Office listed below:

Mary Bright.
City of Memphis
Contract Compliance Office
125 North Main Street, Suite 440
Memphis, TN 38103
Phone: (901) 636-6210
Fax: (901) 576-6560
E-mail: mary.bright@memphistn.gov

Good Faith Efforts Documentation

If a Vendor proposes a percentage less than the established M/WBE goal, the Vendor must, at the time of the response, submit a Good Faith Efforts statement, accompanied

by the appropriate documentation, justifying its submitted M/WBE percentage. The ability of the Vendor to perform the work with its own work force will not in itself excuse the Vendor from making good faith efforts to meet participation goals.

The Good Faith Efforts statement must include the following documentation:

- A. Completed Good Faith Efforts form, which is included in this solicitation; and
- B. Documentation which shall include, but not be limited to, the following:
 - (1) Attendance at the pre-bid/pre-proposal conference.
 - (2) Copies of written solicitations sent to all City of Memphis certified M/WBEs that perform the type of work to be subcontracted, in sufficient time to allow said M/WBEs to participate effectively. Said solicitation shall note:
 - (a) The specific work the Vendor intends to subcontract;
 - (b) That their interest in the project is being solicited; and
 - (c) How to obtain information for the review and inspection of the plans, specifications and requirements of the RFP.
 - (3) A written statement that economically feasible portions of work were selected to be performed by M/WBEs, including, where appropriate, segmenting elements of work or combining elements of work into economically feasible units.
 - (4) A statement of the efforts made to negotiate with M/WBEs, including:
 - (a) The names, addresses, and telephone number of M/WBEs, who were contacted;
 - (b) The date negotiations took place; and
 - (c) A description of the information provided to M/WBEs regarding the plans, specifications, and requirements for portions of the work to be performed.
 - (5) A statement of the efforts made to assist M/WBEs contacted who need assistance in obtaining bonding, insurance, financing, or in reviewing the plans, specifications, and requirements of the RFP.
 - (6) A statement that the Vendor submitted all quotations received from M/WBEs and, for those quotations not accepted a statement of the reasons why the M/WBE will not be used to work on the project.
 - (7) As to each M/WBE contacted which the Vendor considered not to be qualified, a statement of the reasons for the Vendor's conclusion based on a thorough investigation of said M/WBEs' capabilities.

The determination of whether a Vendor has made a good faith effort will be made by the City's Contract Compliance Officer, Director of Finance and the Purchasing Agent, prior to the award of the project.

Supplemental Submittal Requirements after Contract Award Notification

Within ten (10) days after contract notification of award, the Vendor shall submit Letters of Intent from the certified M/WBE subcontractors identified in the M/WBE Participation Plan.

- (1) Within ten (10) days after receipt of an executed contract from the City, the Vendor shall submit copies of executed subcontracts with the certified M/WBE contractors identified in the proposal/response documents.
- (2) At the completion of the work, the Vendor shall submit to the City a final schedule of participating certified M/WBE subcontractors, showing the final amount of each subcontract and payments.
- (3) With the submittal of Application for Payment, the Vendor shall provide certification that it has paid all previous progress payments to M/WBE subcontractors.

Failure to Submit Required Information

A Vendor's failure to submit any of the information required by this section may render the proposal/response non-responsive and ineligible for consideration.

Understood

**CITY OF MEMPHIS
MINORITY/WOMEN BUSINESS ENTERPRISE PROGRAM PARTICIPATION PLAN**

PROJECT TITLE: Computer Aided Dispatch (CAD) system

Project MWBE Goal: 5%

The following sections must be completed by Vendor. A certified subcontractor or supplier is defined as a firm from the list of certified firms provided with this solicitation.

Vendor's Name: _____

Section A - If the Vendor is a certified firm, so indicate here with a check mark.
_____ MBE _____ WBE

Section B - Identify below those certified firms that will be employed as subcontractors or suppliers on this project. By submitting this proposal/response, the Vendor commits to the use of the firms listed below.

\$ = Show the dollar value of the subcontract to be awarded to this firm

% = Show the percentage this subcontract is of your base bid

M/WBE = Show by inserting an M or W whether the subcontractor is an MBE or WBE

\$/%	M/WBE	SERVICE	CERTIFIED SUBCONTR. NAME, ADDRESS, TEL.#

Total	\$	%
MBE		
WBE		

THIS COMPLETED FORM MUST BE SUBMITTED WITH THE PROPOSAL/RESPONSE OR THE RESPONSE WILL BE CONSIDERED NON-CONFORMING.

10. BACKGROUND

10.1. Current Environment

10.1.1. CAD

The CAD system currently in use by the City of Memphis Police Communications Center (MPCC) is Intergraph, initially installed in 1998. Through updates and upgrades, the CAD system is now at Version 8.1, installed in 2009. MPCC utilizes the Intergraph I/Calltaker, I/Dispatcher and I/Netdispatcher modules.

MPCC is the primary public safety answering point (PSAP) in the City of Memphis for 9-1-1 calls. The center operates in an Enhanced 9-1-1 environment and is able to process 9-1-1 calls with data and wireless callers with Phase I and II location information. If the response requires fire or emergency medical services (EMS) resources, the caller is transferred to the City's secondary PSAP at the City of Memphis Fire Communication Bureau.

MPCC distinguishes operational CAD workstations by function with 21 Calltaker, 14 Dispatcher (10 primary Dispatcher, 1 Police index with dispatching capabilities, 1 Dispatch Supervisor and 2 Dispatcher spares), 2 Supervisor workstations and 9 full access administrative workstations. The Center also has a 25 concurrent user license for web-based CAD.

MPCC operates a backup/training site located at 79 Flicker Street, Memphis, Tennessee.

Understood

10.1.2. CAD Operating Environment

The operating system used as the host for the CAD application is Microsoft Server 2003, Release 2, Service Pack 2 and database management service is provided by Oracle Corporation, Version 10G. The Center operates five servers in support of CAD: a primary server; a secondary mirrored server; a backup server; a communication server to process Division of Motor Vehicles (DMV) lookups, automatic number identification/automatic location identification (ANI/ALI) and net viewer; and a CAD map server.

The CAD workstations in the Center are Dell Precision T3400 with 2 gigabytes (GB) of random-access memory (RAM) with Microsoft Windows XP purchased about three years ago. The workstations operate using two 23-inch monitors.

The CAD workstations and operational servers communicate over an Internet Protocol (IP)-based network within a domain local to MPCC. Access is provided to the City network through a City-controlled gateway with access to non-MPCC sites restricted to those listed as named sites.

The Center maintains all CAD-related workstations and servers and the local communications network. The City maintains all firewalls and gateways.

Understood

10.1.3. Telephone

MPCC receives all wireline and wireless 9-1-1 calls initiated within the City of Memphis. 9-1-1 calls are routed to the Center's Cassidian Vesta M1 CPE.

Intrado manages the ALI lookup database for caller location.

The Center utilizes Meridian CSM1000 telephone workstations.

Understood

10.1.4. Mapping

Mapping functionality is integrated with the current Intergraph CAD implementation.

Supplemental map functionality is accomplished using internet-based Google Maps.

Updates to the Intergraph maps are provided by the City CAD support section.

Understood

10.1.5. RMS

Memphis PD utilizes the TriTech/VisionAir Inform RMS, Version 4.5. There is no current interface between the MPCC CAD and the TriTech/VisionAir Inform RMS.

Understood

10.1.6. PDAs

Memphis PD uses smart phone technology over approximately 1,700 Android-based devices to take reports using Watson. The data captured is uploaded to a web server, which imports the data to TriTech/VisionAir Inform RMS.

PDA devices also have access to the Memphis PD KIOSK web site and the Shelby County, Tennessee, Wireless Apprehension & Search Program (WASP).

There is currently no interface from CAD to the PDAs.

Understood

11. SPECIFICATIONS

11.1. Description of Functional Specifications Spreadsheet (Attachments C and D)

The attached Functional Specification spreadsheets (Attachments C and D) list the functional requirements for features and functions for the Memphis PD CAD system, AVL (optional selection by the City), interfaces and GIS requirements (Attachment A).

Electronic copies of the spreadsheets are included with this RFP. Based on whether a Vendor is responding with an integrated CAD/AVL system or a third-party AVL system, Vendors must electronically provide detailed function-by-function compliancy responses using the appropriate electronic spreadsheet, and also include a hard copy of their responses in their printed proposal. The response provided by the Vendor will indicate in the spreadsheet whether the functions exist in the current version of their product in the compliance columns.

Any details and clarifications regarding the numbered requirements specified in the Functional Specification spreadsheets (Attachments C or D) may be described in one of the following ways:

1. By adding a concise statement in the Additional Comments field; or
2. By indicating in the Additional Comments field that a separate document will be included, noting where the document will be found in the Vendor response. In this case, the additional documentation must cite the Spec ID of the item being clarified.

All functional criteria are not considered “mandatory.” The full list is intended to determine the overall capabilities of a Vendor’s solution, both in the current environment and in anticipating future requirements. Mandatory requirements are labeled accordingly.

Understood

12. IMPLEMENTATION

12.1. Project Management

- 12.1.1.** The City will assign a Project Manager that will work on behalf of the City for this implementation project. The City’s Project Manager will be the point of contact with the successful Vendor’s designated Project Manager in all areas indicated in this RFP. The City’s Project Manager will be empowered to:
- Resolve disputes and make decisions about any changes to the implementation plan or technical aspects of the system.
 - Serve as a liaison with City departments.
 - Assist in coordinating work with the successful Vendor.

Understood

- 12.1.2.** The Vendor will assign one dedicated Project Manager to this project that is familiar with similar projects, the proposed solution, and 9-1-1 solution requirements. This Project Manager must be available for on-site meetings as required by the City. The Vendor must provide the Project Manager’s resume, references and experience with like projects.

Understood

- 12.1.3.** Key expectations for the Vendor’s Project Manager include:
- Will be empowered to authorize project changes
 - Will act as the single point of contact for the successful Vendor and sub-contractors required by the Vendor for implementation of the project
 - Will name an Assistant Project Manager to act in their place with full authority when the Vendor’s Project Manager is not available
 - Will be expected to escalate any problems or issues that cannot be immediately resolved by the on-site implementation staff
 - Must carry out all the responsibilities noted in this RFP, such as scheduling, supervision, inspection, and status reporting
 - Will provide written status reports to the City’s Project Manager that recap work done during the week and preview the next week’s tasks at regular intervals as agreed by both parties

- Will utilize the Microsoft Project software package to provide project status reports
- Will bring to the City's Project Manager's attention anything that may cause a delay in completing implementation as planned
- Will conduct regular status meetings (on-site or via conference call) to report and assess overall project progress at intervals as agreed by both parties.

Understood

12.2. Schedule

- 12.2.1.** All proposals must include a preliminary plan and schedule, prepared in Microsoft Project 2007, or later version, for the complete implementation of all phases of the project and their proposed system components.

The preliminary proposal schedules must include clearly identified milestones and tasks for each phase, major activities and events that are planned for completion of the system through system acceptance. The plan must include the payment milestones identified in Section 9.9.2.

Understood

- 12.2.2.** After contract award, a detailed plan and schedule must be provided at least two weeks in advance of the project kick-off meeting so that the City's Project Manager and staff have an adequate amount of time to review and become familiar with all phases, tasks, subtasks, activities, and dates of the plan. All schedules must be provided to the City in Microsoft Project 2007, or a later version. The successful Vendor and the City shall finalize a detailed schedule and implementation plan as part of the project kick-off session.

Understood

- 12.2.3.** The detailed schedules must be maintained by the Vendor and updated and reviewed with the City's Project Manager and staff at regular intervals as part of normal project management functions provided by the Vendor.

Understood

- 12.2.4.** All scheduled changes must be subject to the prior written approval of the City and coordinated with the City's Project Manager. The City is not responsible for any extra costs in the implementation phase that are caused

by failure on the Vendor's part to coordinate with the City's Project Manager or any omissions or lack of understanding on the part of the Vendor.

Understood

- 12.2.5.** Installation of the main system components must also be coordinated with the City's Project Manager. In these instances, the Vendor must specify what specific interactions will be required with City, state or other agency personnel in order to complete the milestones identified in the project schedule within the timeframes allocated. Installation of user equipment in occupied areas must minimize disruption to normal business activities.

Understood

- 12.2.6.** During testing and cutover (start-up) of the new systems on-site, the Vendor must provide technical staff on-site to support system cutover.

Understood

12.3. Project Coordination

- 12.3.1.** The successful Vendor will review the project plan in each scheduled or City-requested weekly and monthly briefing. This briefing will include a review of the tasks accomplished and items delivered or installed. The Vendor's Project Manager will keep the City's Project Manager informed of any change in schedule and must provide a modified project plan using Microsoft Project for each schedule change of more than one week and for each project phase.

Understood

- 12.3.2.** Vendors must deliver written notice to the City's Project Manager no less than two weeks prior to the completion of each milestone. The purpose of this notice is to allow the City to schedule personnel who may be required to participate in testing or other activities associated with a pending milestone.

Understood

- 12.3.3.** The City requires, at a minimum, weekly written progress reports. The weekly progress report must contain details related to the following tasks:

- Installation progress
- Testing and acceptance performed
- Adherence to the Gantt chart and adjustments, if necessary

- Punch list items, outstanding issues and progress report on outstanding issues

Understood

12.4. Site Planning

- 12.4.1.** Promptly after award, the successful Vendor will verify the condition of facilities available for project implementation and proper installation of the proposed system. The Vendor will recommend in writing any appropriate action(s) and detail the consequences if requirements are not met. Failure to provide written recommendations will constitute a binding acknowledgement that the facilities are acceptable as is. The Vendor must then incorporate the time required for any alterations into the project schedule.

Things to be considered may include:

- Alterations of walls or partitions
- Adequacy of dispatch console furniture
- Need for conduit
- Fire and safety precautions
- Acoustics
- Lighting
- Air Conditioning
- Special furniture
- Other applicable items

The Vendor should describe in writing any other facility considerations deemed to be applicable.

Understood

12.5. Power and Grounding

- 12.5.1.** The successful Vendor shall conduct a power, environmental and grounding survey of each site within a mutually agreed upon interval prior to installation. The Vendor's report will identify all power, environmental and grounding issues that could affect the operation of the Vendor's solution. The City shall make final determination as to the disposition of the issues identified.

Understood

12.6. Change Orders

- 12.6.1.** A Change Order process will be established as mutually agreed upon between the City and the successful Vendor. Any changes or adjustments to

the contract must be preceded by the submission of a Change Order in writing approved prior to performing work or to the making the purchase.

Understood

12.7. Limited Interruption

12.7.1. During installation and cutover of equipment, the successful Vendor must inform the City, and receive prior authorization, for any interruption to the normal business operations of MPCC. The City reserves the right to alter or suspend the intended schedule for any reason as determined by the City.

Understood

12.8. Responsibility for Damages

12.8.1. The successful Vendor will be responsible for damages caused by the Vendor, its subcontractors or delivery personnel to any City facility through the receiving, delivery, installation or test of the entire solution.

Understood

12.9. Vendor Personnel

12.9.1. Qualifications

The Vendor's implementation staff must be fully trained and certified by the manufacturer(s) of the proposed system(s). Their training must be up-to-date for the specific systems being installed. In addition, all key implementation staff must be experienced in similar installations. Resumes must be provided for all staff on the implementation team, including references for recent customer sites.

Understood

12.9.2. Background Check

The Vendor's personnel and subcontractors must submit to and pass a Criminal Justice Information Services (CJIS) background check and will be issued a District ID card. They shall be professional at all times while on-site and working with and around City personnel and its Consultants. The City will

aid the Vendor in obtaining the clearances, but any cost associated with background checks will be the responsibility of the Vendor.

Understood

12.9.3. Removal of Vendor Personnel

If issues arise, the City reserves the right to request any of the Vendor's personnel to be replaced at any time. The request will be made in writing to the Vendor's Project Manager and the Vendor has 24 hours to remove the party from the project.

Understood

12.10. Storage

12.10.1. The Vendor is accountable for the storage of materials until such time that the items are to be installed. Neither the City nor the MPCC facilities may be used as a warehouse for uninstalled equipment unless prior approval has been obtained.

Understood

12.11. Staging

12.11.1. The Vendor will coordinate with the City for the shipping, staging and testing of equipment prior to installation.

Understood

12.12. Delivery

12.12.1. The Vendor must arrange for equipment to be delivered on site, with inside delivery, on an as-needed basis. The cost for delivery will be borne by the Vendor. The receipt, inventory and movement of materials are the responsibility of the Vendor.

Understood

12.13. Work Site Cleanliness

The successful Vendor is responsible for the disposal of shipping material, as well as the daily removal of other day-to-day refuse. The successful Vendor will maintain cleanliness of the worksite on a daily basis.

Understood

12.14. Inventory Control

12.14.1. The successful Vendor will provide the City a detailed inventory of all equipment provided in the installation of the solution. At a minimum, the inventory data must include the location of the item, manufacturer, part number, serial number, model number, and quantity. The inventory will be maintained in hard and soft copy using Microsoft Excel, accessible by the City, and updated as items are relocated due to staging, storage, placed into service, or returned.

Upon Final Project Acceptance, the inventory control document will be provided to the City for the City's use.

Understood

13. TRAINING

13.1. Training Methods

13.1.1. The City requires both "All User Training" and "Train-the-Trainer" training plans to be proposed. Either or both training methods may be required, at the discretion of the City. Costs for each method will be listed separately on the Cost Data Form.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.1.2. Training schedules will have to consider the number, class size, function and the fact that operational staffing will have to be maintained throughout the training time period. CAD related training will cover 180 call

takers/dispatchers, 20 supervisors, 8 administrators and 30 Train-the-Trainers.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.1.3. Training will be performed on the version of the application to be installed.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.1.4. Training will be performed using the City's data.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.1.5. A training schedule must be submitted by the successful Vendor for approval by the City.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.1.6. The training schedule will be created so as to be completed within two weeks of the proposed go-live date.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.1.7. Remedial training capabilities will be furnished by the successful Vendor, which can include workstations at the MPCC site running the training software to facilitate practice of system functions by operators already receiving system training.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.1.8. Training plans will include training necessary to allow City technical staff to support the workstations, network, databases, and security components of

the proposed system. Plans can include third-party training facilities and programs.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.1.9. Training plans will include Administrative and System Operations training.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

13.2. Training Location

13.2.1. Training will occur at the training facility at 79 Flicker Street, Memphis, Tennessee.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

14. TESTING

14.1. Test Plans Submitted with the RFP

14.1.1. Sample test plans will be provided with each proposal. The plans provided will include, at a minimum, the following:

- Functional test plan
- Integration test plan
- Performance test plan
- Acceptance test plan
- Reliability test plan

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

14.2. Test Plans Submitted Post Contract Award

14.2.1. Upon selection, the successful Vendor must, as one of the early milestones, submit detailed test plans for the City's review and approval. This test plan must document how each of the functional specifications will be tested and how integration testing of all functional elements that are outside of the CAD and other procured applications will be accomplished. Vendors are advised

that the City may elect to review and modify the acceptance criteria test during contract negotiations based upon specifics of Vendor's proposals.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 14.2.2.** Beginning with the first day after the completion of each phase (phases will be specified in the implementation plan), the proposed system phase shall be functional and available for testing.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 14.2.3.** The successful Vendor must include in these plans reasonable remedies for the City to exercise if failures are not corrected in a timely manner.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 14.2.4.** The test plans submitted post award must also include scenarios that demonstrate to City personnel that the system will operate as a fully integrated system (hardware/software/interfaces) under operational conditions.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 14.2.5.** During functional testing, the Vendor must exercise the system to demonstrate that each function in this RFP has been delivered and is operational prior to go-live.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 14.2.6.** During integration testing, the Vendor shall demonstrate that each system interface operates in concert with the CAD system to provide information and details related to an event or inquiry.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 14.2.7.** Prior to system go-live, the successful Vendor will present a detailed Acceptance Test Plan (ATP), testing all system components, demonstrating that the system is ready for live operation. The items of the Functional Specification spreadsheet in this RFP must be included in the ATP and the test case covering each requirement in the matrix must be identified. After review of the test plan and agreement by the City, testing will be scheduled for a time prior to the scheduled system go-live date.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

14.3. Post Go-live 45-Day Reliability Test

- 14.3.1.** The reliability test will proceed after successful go-live to demonstrate the operational capability and reliability of the system.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 14.3.2.** After go-live, the system must undergo a 45-day reliability test. The purpose of this test is to demonstrate that the system and services, as delivered, perform under live operational conditions without the occurrence of critical priority software errors, as that term is defined in Section 17.2.7.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 14.3.3.** If, during the first 20 days of the reliability test, the system experiences a critical priority software error, once the problem has been corrected or a workaround provided, a new 45-day period will begin. If a critical software error is detected on or after day 21 of the initial 45-day test period, once corrected or a workaround has been provided, the test will start over from day 21 and go for the remainder of the test period.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

15. GO-LIVE PERFORMANCE

15.1. Certification

- 15.1.1. On successful completion of the Acceptance Test, the system must be certified for live operation by the successful Vendor in writing and agreed to by the City prior to system go-live.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

15.2. Warrant

- 15.2.1. The Vendor shall warrant that all software supplied under this contract will be operational and available 99.999 percent of the time during the warranty period or the warranty period must be extended on a day-for-day basis for each day the system performance falls below this level.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

16. ACCEPTANCE

16.1. Final Acceptance and Final Payment

- 16.1.1. Final acceptance and final payment for the system shall not occur until the testing requirements as agreed by the parties are met.

- Passed Acceptance Test
- Go-live
- Passed 45-day Reliability Test
- All deliverables
- All Punch List items resolved

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

17. WARRANTY PERIOD

17.1. General and Specific Requirements

17.1.1. This section of the RFP contains general and specific requirements related to the provision of system maintenance and repair and other services throughout the life of the contract between the City and the successful Vendor. Services described are both warranty and non-warranty services for any equipment and software whose warranty or maintenance is provided by the Vendor. At the discretion of the City, the City may purchase hardware separately and arrange for maintenance with the manufacturers.

Understood

17.2. Maintenance and Repair Requirements

The following requirements are applicable to all maintenance and repair services supplied by the Vendor or Vendor's subcontractors, both under and outside of warranty.

17.2.1. The Vendor shall warrant that all hardware and software supplied by the Vendor and the integration thereof will be free from defects in material, design and workmanship for the warranty and maintenance period purchased.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

17.2.2. The Vendor shall provide a minimum one-year warranty period from the date of final system acceptance. The Vendor shall warrant that all hardware and software supplied will be free from defects in material, design and workmanship for the warranty period and any extended warranty or maintenance period purchased. This warranty shall cover all parts, labor and travel necessary to affect a repair related to all the hardware and software supplied under this contract.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

17.2.3. The Vendor shall provide a detailed description of the offered warranty and any available extended warranty. This description must include a description of hardware and software support services and system upgrades to be provided. The names, addresses, telephone numbers, and contact person for

all service facilities must be identified in the proposal. During the warranty period, the Vendor must provide support services 24 hours a day and seven days a week (24/7). This service must be available any hour of the day via a toll-free dial-up number. The Vendor or its subcontractors must have the ability to access the system remotely for troubleshooting and to perform system diagnostics.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.4.** For all critical system problems reported, the Vendor shall provide an immediate response to the incident and shall initiate corrective action no longer than 30 minutes from time of notification. Within two hours of any major failure, reporting personnel must be either on-site or logged into the system to analyze the cause of the problem and to effect corrective action. Equipment or components required on-site for emergency maintenance must be specified and provided.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.5.** Any hardware procured for this system through the Vendor will require hardware support in the same manner as the software support described in this section.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.6.** In all instances of a major system failure, whether hardware or software related, the Vendor, and/or the provided network support partner, must effect corrective action within four hours of problem reporting or escalate the problem to their senior support staff for their immediate resolution at no added cost to the City.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.7.** Critical system failures (critical software errors) are defined by the City as the inability of telecommunicators to take calls or dispatch emergency responders to any reported event or the inability of field units to receive call information or

transmit service/status notifications. One printer, call taker, dispatcher or mobile unit/position down will not constitute a critical or major system failure.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.8.** The Vendor must provide documentation of its escalation policies and procedures to be followed if either a hardware or software problem is not responded to or resolved within the timeframes referenced above. The escalation policy will include the names and contact information of supervisors and/or managers of increasing levels of responsibility within the Vendor's organization, up to and including the Chief Executive Officer (CEO).

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.9.** The Vendor shall warrant that the system supplied under this contract will be operational and available 99.999 percent of the time during the warranty period or the warranty period shall be extended on a day-for-day basis for each day the system performance falls below this level.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.10.** The cost of an extended warranty shall be itemized in the cost sheets if applicable. The City of Memphis reserves the right to purchase one or more additional years of warranty. The proposed system must include, at a minimum, first year warranty, and specify the availability of a multi-year support and maintenance agreement.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.11.** The Vendor shall also provide a detailed statement of warranty exclusions. The City of Memphis reserves the right to reject any proposal based upon stated exclusion of warranties.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 17.2.12.** The City of Memphis reserves the right to accept or reject any and all proposed services, Vendors or Vendors' subcontractors, and/or the use of any proposed service facilities, at the sole discretion of the City.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

18. SUPPORT/MAINTENANCE

18.1. Maintenance and Repair Services

The following requirements are applicable to all maintenance and repair services supplied by the Vendor or Vendor's subcontractors, both under and outside of warranty.

- 18.1.1.** The Vendor shall provide a five-year system maintenance plan to commence at the expiration of the warranty or, if purchased, after the extended warranty period. This maintenance plan shall be renewable, at the City's option, for an additional three years. This maintenance plan shall cover all parts, labor and travel related to all of the hardware and software supplied under this contract and shall provide financial rebates to the City if the terms of the maintenance agreement are not met.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.2.** The Vendor shall provide a detailed description of the offered maintenance plan. This description must include a description of hardware and software support services and hardware and software upgrades to be provided. The names, addresses, telephone numbers, and contact person for all service facilities must be identified in the proposal. The equipment or components required on-site for emergency maintenance must be specified.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.3.** During the maintenance plan period, the successful Vendor must provide support services 24 hours a day and seven days a week (24/7). This service must be available any hour of the day via a toll-free dial-up number. The Vendor shall have the ability to remotely access the system via modem or

comparable system access methodology, supplied with the system, to troubleshoot and perform system diagnostics.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.4.** For all critical system problems reported, the successful Vendor shall provide an immediate response and shall initiate corrective action no longer than 30 minutes from time of notification. Within two hours of any reported major failure, if the problem has not been corrected, Vendor personnel must be available on-site or logged into the system to analyze the cause of the problem and to effect corrective action.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.5.** In all instances of a major system failure, whether hardware- or software-related, the successful Vendor must effect corrective action within four hours of problem reporting or escalate the problem to the next higher tier of support for immediate resolution at no added cost to the City.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.6.** Critical system failures are defined by the City as the inability of telecommunicators to take calls, monitor and status units, or dispatch emergency responders to any reported event. One printer, call taker, dispatcher or mobile unit/position down will not constitute a critical or major system failure.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.7.** The successful Vendor shall provide all labor, equipment, materials, and expenses necessary to ensure that the system is in good operating condition for any period covered under the maintenance agreement. All services provided shall be in conformance with the manufacturer's specifications. The Vendor shall provide software and other materials and expenses necessary to maintain the application software system in good operating condition,

including upgrades, as part of the price for maintenance for those years for which the City has purchased maintenance from the Vendor.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.8.** Operating software updates for corrections, enhancements and refinements to purchased capabilities shall be provided by the Vendor as part of the price for maintenance for those years for which the City has purchased maintenance from the Vendor.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.9.** Hardware updates for the purpose of correcting errors, or "engineering changes" updates to hardware required routinely by the manufacturer, shall be provided by the Vendor as part of the price for network support for those years for which the City purchases maintenance and network support from the Vendor and/or their chosen network support partner. Manufacturer support may also be offered.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.10.** The Vendor shall warrant that all software supplied under this contract will be operational and available 99.999 percent of the time during the maintenance period or the maintenance period shall be extended on a day-for-day basis for each day the system performance falls below this level.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.11.** There shall be no system downtime for routine maintenance or system back-ups. Vendors shall explain in detail any required (scheduled) system processes that may require downtime.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.12.** The cost of the maintenance plan shall be itemized on the cost sheets. The City may purchase one or more additional years of support and maintenance, and other specified on-going services on a year-by-year basis or purchase a multi-year support agreement.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

- 18.1.13.** The City of Memphis reserves the right to accept or reject any and all proposed services, Vendors or Vendors' subcontractors, and/or the use of any proposed service facilities, at the sole discretion of the City.

Comply Partial Comply or Alternative Does Not Comply

Detail Statement:

19. CONTRACT TERMS AND CONDITIONS

The following contractual terms and conditions are required to be met along with those previously inferred or expressly mentioned in this document. The successful Vendor shall comply with all terms and conditions herein stated unless otherwise stated as optional.

- a. Any agreement or contract resulting from the acceptance of a proposal shall be in a format and on forms approved by the City and shall contain, as a minimum, applicable provisions of the RFP, unless the City agrees in writing to waive the requirement during the negotiation process.
- b. The written agreement(s) between the successful Proposer and the City shall include language to the effect that neither the agreement(s), nor any portion thereof, nor any other facet of the relationship between the parties will create or be deemed to create a partnership, joint venture, joint enterprise or any other agency relationship, or employer / employee leasing relationship and will further reflect the City's intent that the legal relationship between the parties will be that of an independent solution provider.
- c. The City will attach to the implementation services contract the Proposer's responses to the mandatory system requirements and any other information provided in the proposal determined at the City's discretion to be pertinent to this procurement. Therefore, the Proposers are expected to provide responses that are accurate.

19.1. Contract

The contract between the City and the selected Proposer will be for products and services provided on a ***firm fixed price*** basis. The entire agreement with the selected Proposer supersedes any verbal or written agreements. The Contract shall consist of this RFP and the successful Proposer's proposal in response and the order of precedence for all documents pertaining to the Agreement shall be as follows:

- a. The agreed upon Statement of Work
- b. The signed contract between the City and the successful Proposer
- c. The successful Proposer's response to the RFP
- d. This Request for Proposals, including any amendments thereto and responses to the questions submitted by Vendors and responded to and published by the City.

The City of Memphis reserves the right to clarify any contractual relationship or term in writing with the Contractor and such written clarification will govern in case of conflict with the applicable requirements stated in the RFP or the contractor's responsive proposal. In all other matters not affected by the written clarification, if any, the RFP and all amendments thereto will govern. The Proposer is cautioned that its proposal will be subject to acceptance without further clarification.

For contract purposes, the following terms may be used as long as the meaning of the term used adheres to the following:

- a. "Proposer," "Vendor" "Contractor" or "Solution Provider" in this section means the selected prime vendor whose name and principal address appear on the proposal and signature page, to whom the contract is awarded by the City.
- b. "System" will mean the totality of the prescribed hardware configuration, software elements, including subsystems (e.g. mapping and mobile data system), servers, workstations, application and operating software and any other element save services acquired through this contract.
- c. "Services" will mean the professional and technical work provided by the Proposer to effect the implementation of hardware and software, and the provision of training and documentation for those elements.
- d. "Integrated" An integrated system is considered to be one where data are entered once and become available in all application modules within CAD, mapping, RMS and mobile data devices without re-keying. It also means the

ability to execute and retrieve information via inquiry from all local, state and federal data bases identified in this RFP.

- e. “City” or “the City” in this proposal and subsequent contracts means the City of Memphis, Tennessee.

19.2. Incurring Costs

The City shall not be liable for any costs incurred by the Proposers in preparing, submitting or presenting proposals to The City or in satisfying any other requirements. The City shall not reimburse any costs incurred by Proposers in anticipation of being awarded the contract under this RFP.

19.3. Contract Period

The fully executed contract will be effective immediately for a period of three years with two additional 1-year options for a total of up to five years, subject to the availability of funds to fund same, except as extended by contract amendment, warranty, maintenance contract or unless terminated earlier. The contemplated project schedule for CAD and mapping shall not exceed 12 months from contract signing. The schedule for the implementation of the mobile data system shall not exceed 18 months following the cutover of the CAD and mapping system.

19.4. Amendments and Change Orders

Amendments may involve a contract extension or an expansion or decrease in contract scope, resulting in an increase or reduction in contract price. All amendments, however, shall be at the mutual consent of both the City and the Proposer. Any amendment or change order must be in writing and signed by authorized representatives of both Proposer and the City. As part of contract negotiations the Proposer shall specify in writing the name(s) of the person(s) authorized to sign contract amendments and change orders on its behalf.

19.5. Errors and Omissions

The Proposer will not be allowed to take advantage of any errors and/or omissions in these specifications or in the Proposer's proposal. Full disclosure shall be made and full instructions shall always be given when such errors or omissions are discovered. Should any Proposer find discrepancies in, or omissions from, the response(s) to this RFP, documents provided, or be in doubt of their meaning, the Proposer should request at once, in writing, an interpretation from the project manager. Since the Proposer is the expert and most knowledgeable of the products they are proposing, the City expects that all responses submitted are for a completely operational system that meets the needs and requirements set forth in this RFP.

19.6. Complete System

Notwithstanding the details presented in the RFP, proposal, or resulting contract it is the responsibility of the Proposer to verify the completeness of the devices, hardware and software to meet the intent of the specifications. Any additional device and hardware or software required (even after installation or even if not specifically mentioned herein), which is reasonably needed to make the system work as intended, shall be provided by the Proposer without claim for additional payment. It is therefore, incumbent upon the Proposer to ensure the full system is detailed in the proposal.

19.7. Variation in Quantities and Configuration

The City reserves the right, at its sole discretion, to purchase more or less of each item or service at the unit price offered by the Proposer. If the City, however, elects to purchase the proposed hardware and equipment from the Proposer, any increase in quantities shall be offered to the City at the unit prices quoted during the term of the contract. Any decision by the City to purchase the proposed hardware or equipment off a valid State contract does not diminish or alleviate the Proposer's responsibility to provide a valid working hardware and equipment configuration.

The City reserves the right to negotiate with Proposer regarding variations to the original proposal(s) that may be in the best interest of the City.

19.8. Personnel

Proposer's personnel essential to the continuity and successful and timely completion of the project shall be available for the duration of the project unless substitutions are approved in writing by the City. All personnel assigned to the project by the Proposer must be available for meetings and testing during normal business hours of the City regardless of their location. The Proposer's project manager and the City project manager shall be responsible for communications between the parties regarding the subject matter of this agreement.

The City may make such reasonable investigations as deemed proper and necessary to determine the ability of solicited and unsolicited Proposers to perform the work. Proposers shall furnish the City all such information and data for this purpose, as may be requested. The City reserves the right to inspect Proposers' physical plants prior to award to satisfy questions regarding Proposer capabilities. The City further reserves the right to reject any proposal if the evidence submitted by or investigations of such Proposer fails to satisfy the City that such Proposer is properly qualified to carry out the obligations of the contract and to complete the work contemplated herein.

The City will perform background checks and pre-screening of project personnel to the extent the City deems it necessary to protect its interests and duties owed to its employees, agents and the public at large. If the City determines in good faith that any such individual is not so qualified, the selected Proposer shall substitute such individual with a qualified replacement subject to the City's review and approval. Further, the Contractor shall not engage, on a full, part-time or any other basis during the term of this Agreement, any professional or technical personnel who are or have been at any time during the term of this Agreement in the employ of the City.

The selected Proposer shall not reassign or replace its personnel without written 45-day advance notice to the City, except for extenuating circumstances. Should personnel replacement occur, the selected Proposer shall credit the City with the labor cost of 80 hours of services, which the City views as the minimum time required to acquaint and acclimate new personnel to the project. The selected Proposer shall provide sufficient personnel to complete its obligations. The Proposer represents and warrants that its personnel will have sufficient skill, knowledge, and training to perform the services requested by City and proposed by Proposer. While on the City's premises, selected Proposer's personnel shall comply with all City-written site rules and regulations.

The City may also ask the selected Proposer to remove an individual performing services if, in the City's opinion, the person does not have the ability to perform the task assigned or conducts himself / herself in an unprofessional manner. The selected Proposer shall replace any person removed from the City's premises under this paragraph as soon as practicable with an individual acceptable to the City.

19.9. Non-Discrimination in Employment and Affirmative Action

The Proposer must have an Affirmative Action Plan that includes the following:

1. A non-discrimination clause that indicates that as part of their hiring practices they do not discriminate against any employee or applicant for employment because of race, religion, color, age, disability, sex or national origin, except where religion, sex, or national origin is a *bona fide* occupational qualification reasonably necessary to the normal operations of the Proposer.
2. That the plan includes the posting, in conspicuous places available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.
3. Statement indicating that all solicitations or advertisements for employees placed by or on behalf of the Proposer, will state that such Proposer is an equal opportunity employer.

4. Statement indicating that all notices, advertisements and solicitations will be placed in accordance with federal law, rule, or regulations deemed sufficient for the purpose of meeting the requirements of this RFP.

19.10. Insurance Requirements

The Company shall not commence any work under this contract until it has obtained and caused its subcontractors to procure and keep in force all insurance required. The Company shall require all subcontractors to carry insurance as outlined below, in case they are not protected by the policies carried by the Company. The Company is required to provide copies of the insurance policies upon request. The Company shall furnish the Risk Manager a Certificate of Insurance and/or policies attested by a duly authorized representative of the insurance carrier evidencing that the insurance required hereunder is in effect. All insurance companies must be acceptable to the City of Memphis and licensed in the state of Tennessee.

If any of the Insurance Requirements are non-renewed at the expiration dates, payment to the company may be withheld until those requirements have been met, or at the option of the City. The City may pay the renewal premiums and withhold such payments from any monies due the Company.

The Company shall indemnify, defend, save and hold harmless the City, its officers, employees, and agents, from and against any and all claims, demands, suits, actions, penalties, damages, settlements, costs, expenses, or other liabilities of any kind and character arising out of or in connection with the breach of this Agreement by Company, its employees, subcontractors, or agents, or any negligent act or omission of Company, its employees, subcontractors, or agents, which occurs pursuant to the performance of this Agreement, and this indemnification shall survive the expiration or earlier termination of this Agreement. The provisions of this paragraph shall not apply to any loss or damage caused solely by the acts, errors, or omissions of the City, its officers, employees and agents.

Each certificate or policy shall require and state in writing the following clauses:

Company shall provide notice to the City within three (3) business days following receipt of any notice of cancellation or material change in Company's insurance policy from Company's insurer. Such notice shall be provided to City by registered mail, to the following addresses:

City of Memphis
Attn: Risk Management
2714 Union Extended, Suite 200
Memphis, TN 38112

City of Memphis
Attn: Purchasing Agent
125 North Main, Room 354
Memphis, TN 38103

The Certificate of Insurance shall state the following: “The City of Memphis, its officials, agents, employees and representatives shall be named as additional insured on all liability policies.” The additional insured endorsements shall be attached to the Certificate of Insurance and the Certificate of Insurance shall also state: “The additional insured endorsement is attached to the Certificate of Insurance.”

19.10.1. Workers Compensation

The Company shall maintain in force Workers’ Compensation coverage in accordance with the Statutory Requirements and Minimum Limits of the State of Tennessee and shall require all subcontractors to do likewise.

Employer’s Liability	\$100,000	Each Accident
	\$500,000	Disease-Policy Limit
	\$100,000	Disease-Each Employee

This coverage will also include a waiver of subrogation clause in favor of the City of Memphis.

19.10.2. Automobile Liability

Covering owned, non-owned, and hired vehicles with Minimum LIMITS OF:
\$1,000,000 Each Occurrence – Combined Single Limits

This coverage will also include a waiver of subrogation clause in favor of the City of Memphis

19.10.3. Commercial General Liability

Comprehensive General Liability Insurance, including Premises and Operations, Contractual Liability, Independent Contractor’s Liability, and Broad Form Property Damage Liability Coverage with Minimum Limits of:

\$2,000,000	General Aggregate (Per Project / Per Location)
\$2,000,000	Products-Completed Operations
\$2,000,000	Personal and Advertising Injury
\$2,000,000	Each Occurrence (Bodily Injury & Property Damage)
\$ 50,000	Fire Damage any One Fire
\$ 5,000	Medical Expense any One Person

This coverage will also include a waiver of subrogation clause in favor of the City of Memphis

19.10.4. Errors and Omissions Liability

The Company shall maintain such coverage for at least three (3) years from the termination or expiration of this agreement with MINIMUM LIMITS OF:

\$5,000,000 Each Occurrence / Aggregate

19.10.5. Umbrella Liability with Minimum Limits of:

\$5,000,000 Each Occurrence Combined Single Minimum Limits

19.10.6. Property Insurance

The Company shall be responsible for maintaining any and all property insurance on their own equipment and shall require all subcontractors to do likewise.

Company shall be responsible for maintaining any and all property insurance on their own equipment and shall require all sub-contractors to do likewise. The Company shall require all sub-contractors to carry insurance as outlined above, in case they are not protected by the policies carried by the Company.

The Company is required to provide copies of the insurance policies upon request.

19.11. Indemnification

The Proposer shall indemnify and hold harmless the City, its officers, agents, officials and employees from and against any and all claims, costs, losses and damages (including but not limited to all fees and charges of attorneys, and other professionals, and all court or other dispute resolution costs), liabilities, expenditures, or causes of action of any kind (including those promised upon negligent, reckless, or willful or intentional acts or omissions of the Proposer and any person or organization directly or indirectly employed by the Proposer to perform or furnish any work or anyone for whose acts any of them may be liable), arising from, relative to, or caused by the performance of the project. Such indemnification shall specifically include but not be limited to claims, damages, losses, liabilities and expenses arising out of or from:

- Any act, omission or default of the Proposer or its employees or agents, (including negligent, reckless, willful or intentional acts or omissions);
- Any and all bodily injuries, sickness, disease or death;
- Any injury to or destruction of tangible property, including the loss of use resulting there from;
- Any other such damages, liabilities, or losses received or sustained by any person or persons during or on account of any operations connected with the project;
- Any violation of any federal, state, City or the City laws, by-laws, ordinances or regulations by the Proposer or employees;
- Any patent or copyright infringement.

In the event of any such claim or action for damages regarding any matter resulting from or relating to the Contractor's obligations under the agreement, the City will supply written notice to Proposer of such claim. In the event the Proposer chooses not to pay the claim and the claim is adjudged as falling within the scope of this indemnity, then the Proposer shall promptly reimburse the City for same, together with interest from the date the City may have otherwise paid the claim and all attorney's fees and costs incurred in securing any such payment from the Proposer.

Proposer agrees, at Proposer's expense after receipt of written notice from the City, to defend any action against the City that falls within the scope of this indemnity, or the City, at the City's option, may elect to secure its own attorney to defend any such action

and the reasonable cost and expenses, including attorney's fees incurred in defending such action shall be payable by Proposer. If Proposer, after receipt of written notice from the City, fails to make any payment due hereunder to the City, Proposer shall pay any reasonable attorney's fees and costs incurred by the City in securing any such payment from the Proposer.

Nothing contained herein is intended nor shall it be construed to waive the City's rights and immunities under the law of the State of Tennessee, which from time to time may be amended. This obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity, which would otherwise exist in the City's favor.

19.12. Performance Bond

Proposer shall furnish a non-expiring Performance and Payment Bond, in a format prescribed by the City, in an amount equal to 100 percent of the contract amount and shall furnish proof acceptable to the City within 10 days from the issuance of the notice of the award.

The Proposer shall furnish separate surety bonds as a security for faithful performance of the contract and for the payment of all persons performing labor on the project under the contract and furnishing materials in connection with the contract. The sureties on such bonds shall be authorized surety companies satisfactory to the City. The Proposer shall pay any expenses related to the bonds.

To be acceptable to the City as a surety for performance and payment bonds, the surety company shall comply with the following provisions:

- 1) The surety company must be admitted to do business in the State of Tennessee.
- 2) The surety company must have been in business and have a record of successful continuous operation for at least five years.
- 3) Be acceptable to the Law Department of the City of Memphis.
- 4) The surety company shall have at least the following minimum:

Policy Holder's Contract Amount	Best Rating	Financial Ratings
0 to 100,000	B	Class VII
100,000 to 500,000	A	Class VIII
500,000 to 750,000	A	Class IX
750,000 to 1,000,000	A	Class X
1,000,000 to 2,250,000	A	Class XI
1,250,000 to 1,500,000	A	Class XII
2,000,000 to 2,500,000	A	Class XIII
2,500,000 or more	A	Class XIV

19.13. New Equipment and Software Version

The City will accept only new equipment and the latest version of the Proposer's software and/or operating systems that is in current operations in public safety communications centers of comparable size and complexity. Used and/or remanufactured equipment will not be accepted by the City.

Proposals must provide detailed specifications of all proposed equipment and hardware to allow the City to purchase the hardware proposed by the Proposer.

19.14. Documentation

Proposer shall provide three copies of up-to-date industry standard system, user and training documentation for each component or module before acceptance testing commences. Proposer shall furnish to the City, prior to the final testing or the acceptance of the system, whichever is earlier, complete and up to date manuals and documents. Such manuals and documents shall include the latest revisions to the hardware and software and any changes that have occurred during the installation and testing process. Documentation shall be provided using both paper and electronic media. All documentation contained on electronic media shall be on CD or DVD / ROM or flash drive in the most recent Microsoft Word format.

19.15. Transportation

Any Proposer specific shipping and delivery charges for equipment and hardware shall be made at the Proposer's expense, F.O.B. destination with inside delivery. Any storage or staging costs shall also be at the expense of the Proposer. The Proposer shall make all arrangements for transportation and coordinate with the City in order to ensure access to the appropriate facilities.

19.16. Delivery, Unpacking and Inventorying of Equipment

The Proposer shall furnish supervision and labor as may be necessary for unpacking, inventorying and placement of furnished equipment pursuant to this contract when initially delivered to the City. Supervision shall be furnished by the Proposer without additional charge to the City to ensure the proper placement of the equipment. The Proposer, at no additional cost to the City, shall remove all debris generated in the performance of work during the installation. Proposer's project manager shall verify all these actions are completed in writing.

19.17. Risk of Loss or Damage to Equipment

The City shall not be responsible for any risks of loss or damage to any of the equipment purchased by or through the Proposer, pursuant to the Agreement, prior to final system

acceptance, except when such loss or damage is due to the fault or negligence of the City.

19.18. Subcontractors

Proposer warrants that all subcontractors identified in their Proposal shall participate in the proposed project and that they shall conform to the requirements of this Contract. Proposer shall be responsible for carrying out its obligation and responsibilities pursuant to this Contract and all related agreements, and ensuring that the obligation and responsibilities of its subcontractors are also carried out in accordance with the requirements of this Contract in the timeframe specified. Proposer shall be the only entity to receive payment for same from the City. Nothing contained in this Contract shall create any obligation on the part of the City to pay, or to see to the payment of any moneys owed to any subcontractor, agent, employee, laborer, or material man of Proposer. All subcontractors must be approved by the City. No contract shall be made by the Proposer with a Sub-Contractor for supplying any of the products or services herein contained without the prior written approval of the City. If granted approval to subcontract, the Contractor shall not subcontract more than **25%** of the work required hereunder. The computation for percentages will be based on monetary values.

19.19. Non-Assignment of Contractor Successors

The Proposer shall not assign or transfer the Contract or its rights, title or interest therein without the City's prior written approval. The obligations undertaken by Proposer pursuant to the Contract shall not be delegated or assigned to any other person or firm without the City's consent in writing to the assignment. No assignment, transfer, or delegation shall relieve Proposer of its liability or obligations with respect to this contract. The City is relying upon the apparent qualifications and expertise of Proposer, and such Proposer's familiarity with the City's site, circumstances, and desires. In the event that the City is not for any reason or no reason at all, satisfied with such substitute, Proposer shall be considered in breach of this Contract. Violation of the terms of this Paragraph shall constitute a breach of Contract by Proposer. The City may, at its discretion, cancel the Contract and all rights, title and interest of Proposer shall thereupon cease.

The rights and obligations of Proposer in connection with this project shall be binding upon its heirs, successors, mother or holding company. The City reserves the right to terminate this Contract if Proposer, in whole or significant part, is acquired by another entity during the term of this Contract.

Since the procurement and deployment of CAD, mapping and mobile system is critical to the future growth and operational effectiveness of the center, upon termination, the City shall be entitled to a refund of all monies paid to the Proposer and the payment of all expenses related to system re-procurement.

19.20. Confidential Information

Confidential Information is defined as information, which is confidential, proprietary, and/or trade secrets when presented in printed, written, graphic or photographic or other intangible form and may be exempt from public disclosure. All such information provided by the Proposer that may be considered as falling in any of the aforementioned categories must be properly marked using **bold print** (top / bottom of page), as "***Proprietary Information***".

The Proposer and the City shall use reasonable care to protect the Confidential Information from other competitors. Reasonable care is defined as each party using the same methods that it uses to protect its own confidential information, provided the information is marked accordingly and is deemed exempt from public disclosure. Access to proprietary information shall be restricted to the selected Proposer personnel and authorized third parties engaged in a use permitted under this agreement. The selected Proposer and the City may provide access to proprietary information to authorized third parties that have a need to access the information to provide Services to the City on behalf of selected Proposer and has also agreed in writing to the terms contained in this agreement.

The selected Proposer acknowledges this agreement and the terms and conditions herein will become a matter of public record and are not subject to any nondisclosure or confidentiality provision herein or any other document supplied to the City. The Proposer further acknowledges the City is a public entity and is subject to certain open records laws of the state of Tennessee. As a result, the City cannot guarantee in advance that such information related to the RFP response, or any other documents provided by the Proposer, will not be subject to public scrutiny.

19.21. Applicable Regulations

The Proposer and all systems provided by Proposer shall comply with all applicable federal, state and local laws, regulations, and building, fire, safety and electric codes and all relevant industry standards in performing its obligations under the Agreement. Proposer shall obtain, at its own expense, all licenses, permits, insurance, and governmental approvals, if any, necessary to the performance of its obligations under this Agreement. Such permits and licenses shall be made available to the City, upon request. Proposer and any of its employees, agents, subcontractors, laborers, or material men, during its work, construction, and component installation shall meet or exceed current standards of the following:

- Federal Communications Commission (FCC)
- Electronic Industries Association (EIA)
- Institute of Electrical and Electronic Engineers, Inc. (IEEE)
- Environmental Protection Agency (EPA)
- Proposer Work Hours and Safety Standards Act

- Equal Opportunity Act
- American National Standards Institute (ANSI)
- Federal Aviation Authority (FAA)
- Occupational Safety and Health Administration (OSHA)
- Trade Practices Act (71 P.S. 773.101)
- Tennessee Workers' Compensation Act (77 P.S. 1)
- Tennessee Human Relations Act
- Resident Labor on Public Works Act (43 P. S. §151)

The Proposer shall not be reimbursed for any additional costs, which the Proposer incurs as a result of laws enacted after the effective date of this Contract, nor be entitled to an extension of the scheduled date of final completion as a result of laws, except as set forth in this section.

19.22. Contract/Payment

A contract will be generated by the City and be submitted to the Proposer for execution by the Proposer, then by the necessary officials of the City. The contract number must appear on all itemized invoices. Invoices shall be mailed directly to the City and shall contain the following information:

- a. Address of successful Proposer
- b. Name and address of receiving department and/or delivery location
- c. The City contract and purchase order numbers
- d. Descriptive information as to the service and/or items delivered, including serial number, quantity, number of containers
- e. Sign-off from the City's project manager that the milestone has been met, services have been rendered or equipment has been delivered and installed

Vendor will invoice the City. Properly submitted invoices pursuant to this Agreement shall be due and payable by the City thirty (30) days after receipt thereof, subject to receipt of an accurate and timely invoice delivered to the following address:

*Memphis Police Department
9-1-1 Communications
Attention: Lt. Colonel Patricia Burnett
201 Poplar Avenue, Room 12-29
Memphis, TN 38103*

19.23. Appropriations of Funds

The City, as a government entity, is subject to the annual appropriation of funds by the Memphis City Council in an amount sufficient to allow continuation of its performance in accordance with the terms and conditions of any contract entered into as a result of this

request for each and every fiscal year following the fiscal year in which this contract is executed and entered into and for which the contract shall remain in effect.

The City will, in the event that sufficient funds are not available to continue its full and faithful performance under the contract, provide prompt written notice of such event and effective 30 calendar days after the giving of such notice, or upon the expiration of the period of time for which funds were appropriated, whichever occurs first, terminate the contract and be thereafter released of all further obligations in any way related to such contract. In the event of such termination, the Proposer shall be entitled to receive just and equitable compensation for any satisfactory work performed as of the termination date. Such termination shall not be deemed a breach of contract by City, and the Proposer shall have no right to any actual, general, specific, incidental, consequential or other damages whatsoever of any description or amount.

19.24. Termination for Cause by City

The contract may be canceled or annulled by the City, in whole or in part, by written notice of default to the Proposer upon non-performance or violation of contract terms. An award may be made to the next best responsive and responsible Proposer for services specified, or services similar to those so terminated may be purchased on the open market. Failure of the Vendor to deliver services within the time stipulated in these specifications, unless extended in writing by the City of Memphis, will constitute contract default.

Proposers who default on contracts may be removed from the bidders lists maintained by the City and may be excluded from future contracts.

If the Proposer defaults, City may give written notice to the Proposer and its surety specifying the Proposer is in default. The following is a non-exclusive list of what will constitute default:

- a. Failing to perform the professional services required under the Contract and within the time required;
- b. Failing to begin the project under this contract within the time specified;
- c. Failing to perform the work with sufficient workers and equipment or with sufficient materials to ensure completion of the project within the specified time;
- d. Failing to perform the work using the persons identified and set forth, and to the degree specified in the contract documents, subject to substitutions approved by the City in accordance with the contract documents;
- e. Discontinuing the prosecution of the work, for reasons other than issuance of a stop work order or other reasons allowed under the contract;
- f. Disregarding City, state or federal laws or regulations that may be in force and having jurisdiction;
- g. Proposer or any of its principals, partners or corporate officers, if a corporation, including the corporation itself, has plead nolo contendere, or has plead guilty or

been found guilty of a criminal violation, whether state or federal, involving but not limited to, governmental sales or purchases, including but not limited to bid rigging, price fixing, misappropriation of funds, or any other collusive and illegal activity pertaining to bidding and governmental contracting; or

- h. Violating in any way any provisions of the contract documents.

If, after notice of termination of the contract, it is determined for any reason that the Proposer was not in default under the provisions of this contract, or that the delay was excusable, the rights and obligations of the parties will be the same as if the notice of termination had been issued pursuant to "*Termination of the Contract For Convenience*" clause.

Under the rules of termination for cause, the Proposer shall be liable for all costs sustained by the City by virtue of Proposer's breach, including but not limited to re-procurement costs incurred by the City to negotiate and secure services from the next qualified Proposer, attorney's fees, court costs, etc. The City may withhold any payments to the Proposer, for the purpose of setoff, until such time as the exact amount of damages due the City from the Proposer is determined.

19.25. Termination for Convenience by City

Upon 30 day written notice to the Proposer, City may, without cause and without prejudice to any other right or remedy, terminate this agreement for convenience, if the City determines that such termination is in the best interests of City. Upon receipt of the notice of termination for convenience, Proposer shall promptly discontinue all work at the time and to the extent indicated on the notice of termination and contract to the extent they relate to the terminated portion of the Contract and refrain from placing further orders. Such termination by the City shall not be deemed a Breach of Contract by the City, and the Contractor shall not be compensated for any anticipatory profits, or other damages of any description, that have not been earned as of the date of termination.

The Proposer will be entitled to recover from the City upon appropriate documentation the costs of all materials and supplies which have been purchased and labor performed pursuant to the contract, up to and including the effective date of the termination. Proposers shall not be paid on account of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

19.26. Mutual Termination

This agreement may also be terminated by mutual written agreement at any time and under any terms.

Upon expiration/termination of the Agreement, the Contractor shall deliver to the City all hard copy and electronic files maintained on behalf of the City within thirty (30) days of

termination of this Agreement. Upon reasonable request, the City reserves the right to obtain such information prior to the termination of this Agreement.

19.27. Contract Dispute Resolution

The City reserves the right to clarify any contractual relationship in writing with the Proposer, and such written clarification will govern in case of conflict with the applicable requirements stated in the RFP or the contractor's response to the RFP. In all other matters not affected by the written clarification, if any, the RFP document will govern. The Proposer is cautioned that its proposal shall be subject to acceptance without further clarification.

In the event that any dispute between the City and the Proposer concerning questions or issue arising under this Contract that have not been resolved, or for any items that are in dispute, the parties shall work in good faith in an attempt to settle the dispute through negotiation. In the event negotiations are not successful, a written request for resolution shall be submitted by the Proposer to the City for determination. Request for such determination shall be made in writing. All disputes will be subject to mediation subject to the City rule. The City's decision will be rendered in writing no more than 30 days after receipt of a fully documented request for a determination. The City's decision will be conclusive, final and binding on all parties, unless the Proposer seeks a judicial determination in accordance with the provisions set forth below.

No later than 30 days after the Proposer's receipt of the City's determination, the Proposer shall respond to the City in writing, either accepting the determination or stating the Proposer's factual or legal objection to the determination. If the Proposer's response is an objection, the City will respond in writing to the objection within 30 days after receipt of it. No further response by either party will be required. Thereafter, the Proposer may seek a judicial determination of the dispute. In the event that the Proposer intends to seek judicial determination of a matter decided by the City, the Proposer shall notify the City of its intent to do so within 30 days of the City's final decision.

If required by the City, the Proposer shall continue to perform the work required under the Contract during this resolution period, including during any judicial resolution. The City shall make all payments due (other than those for the portions of payments in dispute, if any) during the resolution period.

The continued performance of the Contract by either party shall not constitute an admission as to any factual or legal position in connection with the dispute, or a waiver of its rights under the Contract or at Law.

19.28. No Waiver of Legal Rights

Any waiver by the City of any breach of any one or more of the terms of the agreement shall not be construed to be a waiver of any subsequent or other breach of the same or of any other term hereof. Failure on the part of the City to require exact, full and complete compliance with any terms of this agreement shall not be construed as in any manner changing the terms hereof or stopping the City from enforcement hereof. No approval required to be given by the City under the terms of the contract, shall serve to relieve the Proposer from any of its responsibilities or obligations under the contract or be construed by the Proposer as an approval by the City of any deviation from the provisions or requirements of the contract unless such approval has been specifically approved in writing by an amendment or 'change order' to the contract.

Unless the City has specifically approved in writing, a deviation from the contract or a waiver of any breach of the contract shall not be held to be a waiver of any other breach whether prior to or subsequent to it. The City's delay in declaring that a breach has occurred or otherwise asserting its rights under this contract shall not constitute a waiver of the breach or limit any of the City's rights under this contract.

No remedy under the terms of this contract is intended to be exclusive of any other remedy available to the City, but each and every remedy shall be cumulative and will be in addition to any other remedies, existing now or later, at law, in equity or by statute.

19.29. Liquidated Damages

The time requirements and system availability specified herein are material and of essence to the contract. The parties acknowledge and agree that the damages sustained by the City due to an unapproved delay in performance by Proposer are difficult to ascertain. As such, it is mutually agreed that should the system fail to be available, the system's response fails to comply within the time specified herein, or Proposer fails to timely complete or deliver all components in time for the City to inspect, test, and accept such products and services by the agreed-upon acceptance date, the City shall be entitled to liquidated damages in the form of contract price reductions of one thousand dollars (\$1,000) per day for each delay after the scheduled acceptance date for each major system (CAD, mapping or mobile) or phase of the project.

The aforesaid specified amount(s) shall not be construed as a penalty, but as liquidated damages for any such failure on the part of Proposer and is a reasonable estimate of the damages to be suffered by the City in the event of any delay by the Proposer. In any suit involving assessment or recovery of liquidated damages, the reasonableness of the charge shall be conclusively presumed, and the amount assessed shall be in addition to every other right or remedy now or hereinafter enforceable at law, in equity, by statute, or under this contract. Any such charges assessed against Proposer may be deducted

from monies due to or to become due to Proposer, or may be collected from the surety bond.

19.30. Perpetual Software License/Source Code

The software license shall not have a termination date. All software licenses shall be perpetual, surviving bankruptcy, sale, merger or dissolution of any of the entities providing software to the City. The City seeks a full site license, operations that will be housed in their primary site and their back-up site.

Source code for the purpose of safe guarding the City's investment shall be delivered to the City upon system acceptance or put into an escrow account by the Proposer naming the City as the recipient of the account if the Proposer or its subcontracts cease to exist at some point as a viable business entity. If the Proposer elects to establish an escrow account for this purpose, such expenses incurred to set-up and maintain the account shall be incurred by the Proposer and shall not be passed on to the City.

19.31. Hardware Sizing

It is understood that Proposer is responsible to warrant the sizing of the system as configured for satisfying the requirements of this RFP. All Proposers must warrant that the system is fit for the City's particular and intended purposes and further shall perform in accordance with the response time and other performance criteria listed or set forth in this contract. If the system is unable to accommodate response times and acceptance criteria, the Proposer shall furnish at no charge to the City additional memory, processors or other upgraded or replacement hardware as is required. In the event the hardware is determined by the City to be insufficient in size or capacity, or power, Proposer shall, within 30 days of determination of under sizing, provide at no additional cost to the City upgrade to the system hardware or full replacement to satisfy the sizing and performance requirements as outlined by the City.

19.32. Software Acceptance

The City will conduct whatever tests it deems necessary to determine satisfactory software performance and will have 90 days after the completion of each project phase to conduct such tests. Software acceptance testing will occur in accordance with the proposed plan to be submitted by the Proposer.

The City will notify the Proposer in writing of deviations from proposed or documented standards. Acceptance of the principal application systems will take place following the documentation of satisfactory software performance by the City as determined through the execution of the software performance tests.

19.33. City Responsibilities

The City will make available to Proposer a staff member, hereinafter referred to as "the City's project manager," who will have limited authority to act on behalf for the City, assist with operations and activities, and have the authority to enforce implementation decisions and schedules within the framework of contract compliance.

The City will provide minimal office workspace, training space and telephone access to support Proposer personnel during the contract period. The City will provide, on request, information, data, records and documents and make such decisions as may be reasonably required by Proposer to perform under this contract.

The City will provide, on request, liaison and coordination with other units within the City's organization such as purchasing, information technology (IT), common carriers and other government agencies as may be reasonably required for the efficient completion of the system. This will be coordinated through the City's assigned project manager or his/her designee.

The City will endeavor to respond, in writing, within 15 working days to all designs, specifications, planning documents and updates to all of those items delivered and designated as final and complete by Proposer. The City will endeavor to provide supporting information to aid in solution of any problems discovered during acceptance testing and warranty periods.

The City and Proposer understand that the scope and schedule of services to be provided by Proposer under this contract may depend upon the timely fulfillment of City responsibilities.

19.34. Applicable Laws Governing Project

The laws of the State of Tennessee shall govern the validity, construction and effect of this contract. All actions, whether sounding in contract or in tort, shall be instituted and litigated in the state or federal courts of the state of Tennessee, located in Shelby County, Tennessee, without regard to conflict of laws principles. To the extent that a provision of the contract is contrary to the State Constitution or laws of the State of Tennessee, or of the United States, the provision will be void and unenforceable. However, the balance of the contract shall remain in force between the parties.

Should any part, term, provision, clause, sentence or section of this agreement be by the courts decided to be invalid, illegal or in conflict with any law of the State of Tennessee or the United States, the validity of the remaining terms provision, clauses, sentences and sections shall not be affected thereby.

If, however, the clause determined to be invalid materially affects the performance of the parties, or materially impacts the parties' expectations or positions with respect to the contract, the parties shall negotiate in good faith to modify the contract on some fashion so as to, as near as possible, place the parties in the same position they were in, consistent with, their intent, performance expectations, and economic position.

If after such good faith negotiations, no modifications are reached, the contract may be terminated by either party. All claims, counter claims, disputes and other matters in question between the City and Proposer arising out of, relating to, or pertaining to this agreement, or the breach thereof, or the services thereof, or the standard of performance therein required, will be determined by litigation. Proposer shall fully comply with all federal, State and local laws applicable to and specifically those covering Equal Opportunity Employment, American Disabilities Act (ADA), and all City and state building codes. The City reserves the right to verify compliance with the various laws. Failure to comply with any laws will be grounds for termination of the contract.

19.35. Independent Contractor

The Proposer is an independent contractor over the details and means for performing the services under the contract. Neither the Proposer nor its employees, agents or representatives shall be deemed or construed to be employees, agents or representatives of the City, and neither the Proposer nor its employees, agents or representatives shall hold itself contrary to the terms of this provision.

19.36. Procedures for Substantial Completion

The City has established the following prerequisites that must be met prior to submission of a request for substantial completion:

Comply with the general conditions and complete the following before requesting the City's inspection of the work, or a designated portion of the work, for certification or substantial completion:

- Submit executed warranties, workmanship bonds, right to use documents, software licenses, maintenance agreements, inspection certificates and similar required documentation for specific units of work, enabling the City's unrestricted use
- Submit record documentation, maintenance manuals, tools, spare parts, keys, codes, passwords and similar operational items
- Complete instruction of the City's operating and administrative personnel, on system start-up, use and maintenance of the systems.
- Complete final clearing and removals of temporary facilities, tools, temporary files and temporary login accounts.

Successfully complete the Go-live and Reliability Test as described herein.

Upon receipt of the Proposer's request, the City will either proceed with evaluation/inspection or advise the Proposer of prerequisites not fulfilled. Following initial evaluation/inspection, the City will either prepare certificate of substantial completion, or notify the Proposer of work, which must be performed prior to issuance of the certificate of substantial completion. The City will repeat the evaluation/inspection when requested to assure that the work has been substantially completed. Results of the completed evaluation/inspection will form the initial "punch list" for final acceptance.

19.37. Price Requirements

Proposers must submit pricing on the Cost Data Forms included in the Appendices. All pricing information must be submitted with the Proposal, but in a separate, sealed container.

Proposers can attach additional details or notes regarding how each price was derived in the proposal to assist the City in their review and subsequent evaluation. Use duplicate or additional sheets as necessary. However, costs must be included in the Cost Data Forms in the format described on the forms. No additional costs, other than those on the Cost Data Forms will be considered.

Only proposals submitted on the form(s) provided, with no changes, additions or deletions to the terms and conditions will be considered. Bids containing terms and conditions other than those contained herein may be considered nonconforming.

19.38. Evaluation Period

The City will review each Proposer's pricing to ensure that it includes all the items requested.

Proposer warrants by virtue of submitting the proposal that costs as outlined are firm and fixed for all phases of the project and include all costs to meet terms of the contract and the Statement of Work. Proposers are reminded that installation of the requested system may occur in multiple phases and at different points in time as agreed to in the Statement of Work.

Understood

APPENDIX A

Acronyms

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RFP 26221 Computer Aided Dispatch (CAD)

Term	Definition
ADA	Americans with Disabilities Act
ATP	Acceptance Test Plan
ALI	Automatic Location Identification
ANI	Automatic Number Identification
API	Application Program Interface
ASCII	American Standard Code for Information Interchange
AVL	Automatic Vehicle Location
AVRR	Automatic Vehicle Recommendation and Routing
CAD	Computer Aided Dispatch
CAMA	Centralized Automated Message Accounting
CJIS	Criminal Justice Information Services
COTS	Commercial Off-The-Shelf
CPE	Customer Premises Equipment
CPU	Central Processing Unit
CSV	Comma Separated Variables
E9-1-1	Enhanced 9-1-1
ECC	Emergency Call Center
ECT	Emergency Call Taker
ECRF	Emergency Call Routing Function
EMD	Emergency Medical Dispatch
EMS	Emergency Medical Services
EOC	Emergency Operations Center
ePCR	Electronic Patient Care Report
ESInet	Emergency Services Internet Protocol Network
ESN	Emergency Service Number
ESZ	Emergency Services Zone
ETA	Estimated Time of Arrival
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FRMS	Fire Records Management System
GIS	Geographic Information System
GPS	Global Positioning System
GUI	Graphical User Interface
HIPAA	Health Insurance Portability and Privacy Act
IM	Instant Messaging
IP	Internet Protocol
IRR	Instant Recall Recorder
ISDN	Integrated Services Digital Network
LE	Law Enforcement
LERMS	Law Enforcement Records Management System
LoST	Location-to-Service Translation
LVF	Location Validation Function

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Term	Definition
MF	Multi-frequency
LEC	Local Exchange Carrier
LMP	Limited Manpower
LNG	Legacy Network Gateway
LNS	Legacy Network Switch
MDD	Mobile Data Device
MDT	Mobile Data Terminal
MIS	Management Information System
MLI	Master Location Index
MNI	Master Name Index
MVI	Master Vehicle Index
MS	Microsoft
MSAG	Master Street Address Guide
NENA	National Emergency Number Association
NTP	Network Time Protocol
PCR	Patient Care Report
POTS	Plain Old Telephone Service
PSAP	Public Safety Answering Point
PSTN	Public Switched Telephone Network
PVR	Private Ringing
RADIUS	Remote Authentication Dial-In User Service
RFP	Request for Proposal
RMS	Records Management System
RTCC	Real-Time Crime Center
RTLTV	Real-Time Live Video
SBC	Session Border Control
SIP	Session Initiation Protocol
SLA	Service Level Agreement
SMS	Short Message Service
SMTP	Simple Mail Transfer Protocol
SNTP	Simple Network Time Protocol
SOG	Standard Operating Guideline
SOP	Standard Operating Procedure
SR	Selective Routing
TAP	Telelocator Alphanumeric Protocol
TCP/IP	Transmission Control Protocol / Internet Protocol
TDD	Telecommunications Device for the Deaf
UPS	Uninterruptible Power Supply
VoIP	Voice over Internet Protocol
VPN	Virtual Private Network
WiFi	Wireless Fidelity
WSP	Wireless Service Provider

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Term	Definition
XML	eXtensible Markup Language

APPENDIX B

Glossary

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Term	Description
9-1-1	A three-digit telephone number to facilitate the reporting of an emergency requiring response by a public safety agency.
Active event	An event that has at least one unit dispatched to it.
Active workstation	A workstation with the appropriate CAD software installed and configured that has a valid user logged on.
Administrator/System Administrator	Administrator/System Administrator is security role (permission set) granted to users of CAD System that allows them to perform privileged functions within the CAD System.
Agency/Agencies	Agency refers to the City of Memphis emergency response provider that is participating in the CAD administration and operation.
Agency Trainer	An Agency Trainer is the staff member designated by each Agency to be trained on the System to then become trainers of the System themselves.
Application	Application is a synonym for Software Component.
Authorized User(s)	An Authorized User is a user who has been given specific permissions (rights/roles as defined by security level clearance) to perform a CAD function. An Authorized User may be assigned multiple roles. For this document, a user is synonymous with Authorized User.
Business Day	A Business Day is Monday through Friday.
Border Control Function	Provides a secure entry into the ESInet for emergency calls presented to the network. The BCF incorporates firewall, admission control, and may include anchoring of session and media as well as other security mechanisms to prevent deliberate or malicious attacks on PSAPs or other entities connected to the ESInet.
Call	A session established by signaling with two way real-time media and involves a human making a request for help. We sometimes use "voice call", "video call" or "text call" when specific media is of primary importance. The term "non-human-initiated call" refers to a one-time notification or series of data exchanges established by signaling with at most one way media, and typically does not involve a human at the "calling" end. The term "call" can also be used to refer to either a "Voice Call", "Video Call", "Text Call" or "Data-only call", since they are handled the same way through most of NG9-1-1.
City	City of Memphis, Tennessee.
City Facilities	City Facilities are buildings owned/operated by the City of Memphis located in Memphis, Tennessee.
Commercial-Off-The-Shelf (COTS)	COTS is a software package that is commercially available, leased, licensed, or sold to the general public and which requires no special modification or maintenance.
Computer Aided Dispatch (CAD) system	Computer based software that assists in the data entry, emergency event location, emergency responder assignment, event tracking and recording keeping related to response to emergency situations.
Criminal Justice Information Services	Criminal Justice Information Services is a division of the FBI providing state, local and federal law enforcement and criminal justice agencies with access to critical, personal information such as fingerprint records, criminal histories, and sex offender registrations.
Data Base Management System	A system of manual procedures and computer programs used

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Term	Description
(DBMS)	to create, store and update the data required to provide Selective Routing and/or Automatic Location Identification for E9-1-1 systems.
Defect	A Defect is an imperfection, flaw, or deficiency in the CAD System.
Duly Qualified Service Technician	A Duly Qualified Service Technician is a person who is trained and certified by the System Provider to maintain the System.
Emergency Alert Systems (EAS)	Radio or television based broadcast of emergency event information.
Emergency Call Routing Function (ECRF)	A functional element in an ESnet which is a LoST protocol server where location information (either civic address or geo-coordinates) and a Service URN serve as input to a mapping function that returns a URI used to route an emergency call toward the appropriate PSAP for the caller's location or towards a responder agency.
Emergency Communications Center (ECC)	A set of call takers operating under common management which receives emergency calls for service and asynchronous event notifications and processes those calls and events according to a specified operational policy.
Emergency Medical Service (EMS)	Fire, hospital, poison control, etc. response centers
Emergency Notification Systems (ENS)	General category for any systems used to notify persons of an emergency. May include changeable message signs, sirens, telephone and other media.
Emergency Service Number (ESN)/ Emergency Service Zone (ESZ)	An ESN is a three to five digit number representing a unique combination of emergency service agencies (Law Enforcement, Fire, and Emergency Medical Service) designated to serve a specific range of addresses within a particular geographical area, or Emergency Service Zone (ESZ). The ESN facilitates selective routing and selective transfer, if required, to the appropriate PSAP and the dispatching of the proper service agency(ies).
Emergency Services IP Network (ESnet)	An ESnet is a managed IP network that is used for emergency services communications, and which can be shared by all public safety agencies. It provides the IP transport infrastructure upon which independent application platforms and core functional processes can be deployed, including, but not restricted to, those necessary for providing NG9-1-1 services. ESnets may be constructed from a mix of dedicated and shared facilities. ESnets may be interconnected at local, regional, state, federal, national and international levels to form an IP-based inter-network (network of networks).
Enhanced 9-1-1 (E9-1-1)	A telephone system which includes network switching, data base and Public Safety Answering Point premise elements capable of providing automatic location identification data, selective routing, selective transfer, fixed transfer, and a call back number. The term also includes any enhanced 9-1-1 service so designated by the Federal Communications Commission in its Report and Order in WC Docket Nos. 04-36 and 05-196, or any successor proceeding.
Geographic Information System (GIS)	A computer software system that enables one to visualize geographic aspects of a body of data. It contains the ability to translate implicit geographic data (such as a street address) into an explicit map location. It has the ability to query and analyze data in order to receive the results in the form of a

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Term	Description
	map. It also can be used to graphically display coordinates on a map i.e. Latitude/Longitude from a wireless 9-1-1 call.
Global Justice XML Data Model (GJXDM)	The GJXDM is a data reference model for the exchange of information within the justice and public safety communities.
Go-Live	Go-Live is the first day, after the City has approved the system for live operation, that the System is actually used in production system by system users.
Health Insurance Portability and Accountability Act (HIPAA)	Federal regulation protecting patients from unauthorized disclosure of medical information.
Incident / Event	A real world occurrence such as a heart attack, car crash or a building fire for which one or more calls may be received.
Incident Based Reporting (IBR)	IBR is the method of collecting individual incident and arrest records, as opposed to the aggregate/ summary numbers collected under Summary-Based Reporting.
Instant Messaging (IM)	A method of communication generally using text where more than a character at a time is sent between parties nearly instantaneously.
Key Personnel	Individuals considered critical to the project, i.e., their absence from the project would have a significant impact on the successful implementation of the system. Examples would include, but not be limited to, the Project Manager, Technical Leader or Training Leader.
Local Area Network (LAN)	A transmission network encompassing a limited area, such as a single building or several buildings in close proximity.
Location Information Server (LIS)	A Location Information Server (LIS) is a functional entity that provides locations of endpoints. A LIS can provide Location-by-Reference, or Location-by-Value, and, if the latter, in geo or civic forms. A LIS can be queried by an endpoint for its own location, or by another entity for the location of an endpoint. In either case, the LIS receives a unique identifier that represents the endpoint, for example an IP address, circuit-ID or MAC address, and returns the location (value or reference) associated with that identifier. The LIS is also the entity that provides the dereferencing service, exchanging a location reference for a location value.
Location to Service Translation (LoST) Protocol	A protocol that takes location information and a Service URN and returns a URI. Used generally for location-based call routing. In NG9-1-1, used as the protocol for the ECRF and LVF.
Location Validation	Refers to the action of ensuring that a civic address can be used to discern a route to a PSAP.
Logical Entity Exchange Specification (LEXS)	LEXS defines a data model, syntax, semantics, and usage guidelines for implementers of information exchanges. LEXS was created to minimize the impact of changing requirements and varied demands for information sharing between sources and consumers of data.
Maintenance	The ongoing processes of modifying the System, after Warranty, to correct defects, improve performance and continually adapt the System to changes in work environment.
Management Information System (MIS)	A program that collects, stores and collates data into reports enabling interpretation and evaluation of performance, trends, traffic capacities, etc.
Master Clock	An accurate timing device that generates synchronization signals to control other clocks or equipment. (Ref. NENA 04-

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Term	Description
	002).
Master Street Address Guide (MSAG)	A data base of street names and house number ranges within their associated communities defining Emergency Service Zones (ESZs) and their associated Emergency Service Numbers (ESNs) to enable proper routing of 9-1-1 calls.
Mobile Data Terminal (MDT)	An MDT is a laptop computer or personal digital assistant, running the Windows operating system, located in an Agency vehicle or a portable device that will utilize the CAD / RMS System.
Module	A Module is a synonym for Software Component.
National Academy of Emergency Dispatch (NAED)	The NAED is a non-profit standard-setting organization promoting safe and effective emergency dispatch services world-wide. Comprised of three allied Academies for medical, fire and police dispatching, the NAED supports first-responder related research, unified protocol application, legislation for emergency call center regulation, and strengthening the emergency dispatch community through education, certification, and accreditation.
National Crime Information Center (NCIC)	NCIC is an automated database of criminal justice and justice-related records maintained by the FBI. The database includes the "hot files" of wanted and missing persons, stolen vehicles and identifiable stolen property, including firearms.
National Emergency Number Association (NENA)	The National Emergency Number Association is a not-for-profit corporation established in 1982 to further the goal of "One Nation-One Number." NENA is a networking source and promotes research, planning and training. NENA strives to educate, set standards and provide certification programs, legislative representation and technical assistance for implementing and managing 9-1-1 systems.
National Information Exchange Model (NIEM)	NIEM is a national initiative supported by the federal government. NIEM provides a means of connecting communities of people who share a common need to exchange information. NIEM is designed to develop, disseminate, and support enterprise-wide information exchange standards and processes that will enable jurisdictions to automate information sharing.
Network Time Protocol (NTP)	A powerful utility for synchronizing system clocks over a TCP/IP network.
Next Generation 9-1-1 (NG9-1-1)	NG9-1-1 is an IP-based system comprised of managed IP-based networks (ESInets), functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provide additional capabilities. NG9-1-1 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for PSAPs and other emergency service organizations.
Originating Agency Identifier (ORI)	The ORI is a code assigned to designate the originating agency in a law enforcement system.
Personal Digital Assistant (PDA)	Small, handheld device used to store address book information, telephone numbers, personal contacts and other personal information.
Primary Unit	Unit assigned to write an incident report.
Policy Routing Function	That functional component of an Emergency Services Routing

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Term	Description
(PRF)	Proxy that determines the next hop in the SIP signaling path using the policy of the nominal next element determined by querying the ECRF with the location of the caller.
Presence Information Data Format – Location Object (PIDF-LO)	The Presence Information Data Format is specified in IETF RFC 3863; it provides a common presence data format for Presence protocols, and also defines a new media type. A presence protocol is a protocol for providing a presence service over the Internet or any IP network.
Primary Public Safety Answering Point (PSAP)	A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. (see Public Safety Answering Point)
Remote Authentication Dial-In User Service (RADIUS)	The attributes for conveying access network ownership and location information based on a civic and geospatial location format.
Service Level Agreement (SLA)	A contract between a service provider and the end user, which stipulates and commits the service provider to a required level of service.
Session Initiation Protocol (SIP)	An IETF defined protocol (RFC3261) that defines a method for establishing multimedia sessions over the Internet. Used as the call signaling protocol in VoIP, i2 and i3.
Short Message Service (SMS)	A service typically provided by mobile carriers that sends short (160 characters or fewer) messages to an endpoint. SMS is often fast, but is not real time.
Signature Pad	A Signature Pad is a device used to capture the electronic signature of a person.
Simple Network Management protocol (SNMP)	A protocol defined by the IETF used for managing devices on an IP network.
Simple Network Time Protocol (SNTP)	A utility for synchronizing system clocks over a TCP/IP network. This protocol is similar to NTP and is used when the ultimate performance of the full NTP implementation is not needed.
Software Component	A subset of the overall CAD System.
Standard Operating Procedure (SOP)	A written directive that provides a guideline for carrying out an activity. The guideline may be made mandatory by including terms such as “shall” rather than “should” or “must” rather than “may”
System	The System is the Computer Aided Dispatch System.
System Provider	Refers to the CAD software developer or authorized software value added reseller responding to the RFP.
Telecommunications Device for the Deaf (TDD)	A device capable of information interchange between compatible units using a dial up or private-line telephone network connections as the transmission medium. ASCII or Baudot codes are used by these units. (per EIA PN-1663)
Virtual Private Network (VPN)	A virtual private network (VPN) is a network that uses a public telecommunication infrastructure, such as the Internet, to provide remote offices or individual users with secure access to their organization's network.
Voice over Internet Protocol, Voice over IP (VoIP)	Provides distinct packetized voice information in digital format using the Internet Protocol. The IP address assigned to the user's telephone number may be static or dynamic.
Warranty	A Warranty is the agreement the System Provider provides to repair any and all defects in the CAD System for a period of not less than one year.
Wireless Service Provider (WSP)	Cellular, satellite or other radio based telephony or data transport commercial entity.

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RFP 26221 Computer Aided Dispatch (CAD) System

Term	Description
eXtensible Markup Language (XML)	An internet specification for web documents that enables tags to be used that provide functionality beyond that in Hyper Text Markup Language (HTML). Its reference is its ability to allow information of indeterminate length to be transmitted to a PSAP call taker or dispatcher versus the current restriction that requires information to fit the parameters of predefined fields.

ATTACHMENT A

Shelby County Emergency Communications District Requirements for Integrated CAD/Mapping System

REQUIREMENTS FOR INTEGRATED CAD/MAPPING SYSTEMS

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To receive funding for CAD/Mapping systems from SCECD, the following requirements are necessary:

Incorporation of Esri Technology

Both mapping and CAD systems should directly utilize Esri based technology. No proprietary GIS formats. Examples are:

- Dispatch mapping should utilize Esri ArcGIS files in all formats including shapefile, SDE, file-based, or personal geodatabase without conversion to another format. There should be no need to reformat or convert the data from its native Esri format in order to propagate to the mapping system.
- Dispatch mapping should incorporate the use of Esri MXD files for map display and configuration. The system should allow for configuration of the MXD such as labels, symbology, layering, rendering, zoom scales, etc. The MXD file should be directly incorporated into the dispatch mapping system for use in configuration and map display (i.e. directly display ESRI ArcGIS layers).
- Dispatch mapping systems should be compatible with currently supported versions of Esri ArcGIS software.
- **The GIS data utilized in the CAD/Mapping system must be built according to the Tennessee Information for Public Safety (TIPS) database schema.**

Automated Updates

Dispatch mapping systems should include tools to automate updates of map data and configuration files on each workstation. The system should allow for a single database to be updated then automatically propagated to other workstations. The automated distribution functionality should support both full and delta updates via VPN or Metro Ethernet connections.

Updates to CAD

The CAD system should have the ability to pull certain information from the GIS data contained within the dispatch mapping system (i.e. CAD geofile should be built from the attributes of the GIS street centerline file).

Updates Performed in ArcGIS

The dispatch mapping system should allow the data used to be updated via ArcGIS ArcMap. With the exception of an ArcGIS extension, no proprietary software should have to be used to perform updates to the map data.

Bi-directional Communication

The CAD and mapping system should have bi-directional communication. Bi-directional communication allows for information generated in either system to be transferred and shared with the other system. A good example of this would be unit assignment: by dragging an AVL unit on the map to a CAD incident on the map allows dispatchers to see the closest available unit for assignment.

CAD Call Initialization from the Map

The mapping system should allow the dispatcher to create a CAD incident from the map. A good application of this feature involves traffic stops. During a traffic stop the responding officer may not know the exact location or nearby address. He or she may simply refer to a street intersection. The dispatcher should have the ability to interactively use the map to create the CAD incident and record the location of the unit. At a minimum, the location should be recorded as an address or Lat/Long coordinate. Accurate map generated locations in CAD greatly improve accuracy in report generating.

CAD/Mapping Supports Hierarchical Address Matching

- Address Points
- Street Centerlines with Alternate Names
- Common Places
- Intersection Lookups

The system should also support spatial queries, reverse geocoding, and the ability to return the closest match when no match is found.

Address Validation

The CAD system should have the ability to pull address validation information from the map. Typically, CAD systems perform address validation via a CAD geofile. The CAD geofile should be maintained in synchronization with the mapping system. Ultimately, the CAD system should incorporate tools for periodically updating the CAD geofile. It is not recommended that this validation be a real-time connection to the mapping system. If a real-time connection is utilized, a point of failure is introduced into address validation. If the mapping system should go down, then all address validation is lost. By separating the address validation from the mapping you create a more reliable system for a mission critical environment. It is also important to note that address validation should be kept in sync between mapping and CAD. Tools should be included in both mapping and CAD to periodically pull address validation information from the mapping system to the CAD system without performing a real-time connection.

Map Display of CAD Information

The mapping system should have the ability to consume and utilize information contained in the CAD system. The display of this information in the map should be performed automatically when the incident is created in CAD and should incorporate address validation based on map generated validation tables. Examples are:

- Display of CAD Incident Location - the mapping system should have the ability to display the location of a CAD incident using the address validation features.

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- Display of CAD Incident Type - the mapping system should have the ability to display the type of incident recorded in the CAD system. This display should be symbolized based on the type of incident (EMS, fire, law).

- Display of the CAD Incident Number - the mapping system should have the ability to display the CAD incident number based on the incident recorded in CAD.

- Display of the Assigned Unit - the mapping system should have the ability to display the assigned unit number and type of unit.

Routing

The mapping system should have some form of routing capabilities so the system can be used to:

- Communicate driving directions to first responders
- Determine quickest routes (e.g. routing around barriers, impedances, etc.)
- Calculate drive times
- Search for map features along a route (e.g. to find addresses for notification)

Historical Analysis

The mapping system should have the ability to map historical CAD call activity for post incident analysis. Users may select incident types, geographic areas, and dates to generate a map display of historical activity matching the query parameters. This enables users to discover different patterns based on incident types.

Additional Requirements

Listed below are additional requirements for funding assistance through Shelby County Emergency Communications District for integrated CAD/Mapping Systems:

- Each PSAP/Agency must designate a project manager for the coordination of the integrated CAD/Mapping Project.
- Prior to RFP issuance the PSAP/Agency must provide a copy to SCECD for review.
- Prior to vendor selection SCECD must review the vendor proposal to see if all minimum mapping requirements are met and may schedule a software demonstration for this purpose.
- The selected CAD/Mapping system must utilize the address points, ESN boundaries, and street centerlines in the TIPS database schema as provided and maintained by SCECD.
- The PSAP/Agency agrees to incorporate the aforementioned map updates in a timely fashion and certify to SCECD that said updates have been applied.
- Any additional ESRI layers desired to be incorporated into the main MXD (e.g. police precincts, fire hydrants, etc.) must be provided to SCECD for implementation into a revised MXD.
- The PSAP/Agency must provide a single point of contact responsible for map updates.

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- One designated representative from each respective PSAP/Agency will be made available on a periodic basis to meet and discuss CAD/Mapping related technical issues.
- The CAD/Mapping system must provide the ability to geocode ALI data received in legacy format by the use of translation tables or similar methods until full implementation of State of Tennessee Next-Generation 9-1-1 delivery of ALI data.

Ultimately, the CAD and mapping system should consider the needs of both the dispatchers in the PSAPs and the GIS, CAD, and IT staff who maintain the system. Discover what solutions you prefer and then procure them.

ATTACHMENT B

Data Migration

Dynamic Tables

Table Name	Approximate number of records	Approximate Size (bytes)	Approximate number of data elements per record
AEVEN		6.2 Mb	14,740,400
AN_AL		1.5 Mb	5,256,150
AUDIT_LOG		87 Kb	940,708
BACKUP_BEAT_LIST		3 Kb	22,233
BROADCAST_LAST_VIEWED		33 Kb	528,702
BROAD_XREF		4 Kb	45,380
CAST_NAR		18 Kb	155,034
CD_EDGE_A		11 Kb	105,459
CD_EDGE_B		11 Kb	105,480
CD_NODE_A		3 Kb	86,455
CD_NODE_B		3 Kb	86,482
CD_TURNS_A		8	0
CD_TURNS_B		8	0
DESTINATIONS		370 Kb	3,537,544
EVCOM		3.8 Mb	31,677,566
EVENT		2.4 Mb	8,915,778
EV_DISPO		470 Kb	5,692,190
INTER_A		3 Kb	86,455
INTER_B		3 Kb	86,482
INTER_STR_A		3 Kb	137,093
INTER_STR_B		3 Kb	137,152
LINEUP		450	3,106
LOI_DATA		10 Mb	68,989,162
LOI_STATUS		662 Kb	6,501,268
MESSA		140 Kb	2,201,601
MSG_TEXT		300 Kb	3,318,984
NODEN		40	2,994
SEGME_A		12 Kb	105,459
SEGME_B		12 Kb	105,480
SYS_HIST		205 Kb	2,804,175
UNIT_WKLOAD		150 Kb	1,768,209
UN_HI		7.9 Mb	41,869,829
UN_HI_PERSL		3.8 Mb	49,595,315
USHIS		90 Kb	1,250,688
XREF		90 Kb	1,000,597

Static Tables

Table Name	Approximate number of records	Approximate Size (bytes)	Approximate number of data elements per record
ACT_EQUIP		5 Kb	13
ACT_PERSL		13 Kb	295
ACT_RESTRICTION		8 Kb	0
AGENC		5 Kb	4
AGENCY_CASE_NUMBER		5 Kb	1
AGENCY_ESZ		11 Kb	381
ALARM		5 Kb	1
ALARMCOM		5 Kb	1
ALARM_LOG		8 Kb	0
APP_DISPLAY		745 Kb	12,516
AREA_MUN		8 Kb	0
BANNTLKGRP		29 Kb	649
BEAT		11 Kb	99
BOUNDARY_A		8 Kb	0
BOUNDARY_B		8 Kb	0
BROADCAST		7.3 Mb	52,541
BULK_LOAD_STATUS		23 Kb	80
CAD_DB_DUAL_READ_LOC		5 Kb	1
CAD_DB_STATE		52 Kb	1,072
CASE_NUM		5 Kb	3
CAST_SUBJECT		10 Kb	47
CAST_VEHICLE		8 Kb	32
CD_CREWS		8 Kb	0
CD_UNITS		97 Kb	250
CFG_COLUMN_LIST		657 Kb	9,734
CFG_DIALOG_MAPPING		220 Kb	3,121
CFG_FILES		18 Kb	47
CFG_ID_DESCR		270 Kb	1,083
CFG_PARAM_LISTS		376 Kb	1,615
CFG_PARAM_RECS		5.7 Mb	44,095
CFG_PARAM_TABLES		114 Kb	486
CFG_RESTRICTION		8 Kb	50
CFG_TABLE_LIST		88 Kb	1,278
CHAT		5 Kb	1
CONN_TEST		5 Kb	0
CONT_NAME		17 Kb	101
CO_PL		88 Kb	1,386
DB_ERROR		125 Kb	437
DB_PROCESS		32 Kb	262
DB_TABLE_STATUS		1.7 Mb	16,131

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Table Name	Approximate number of records	Approximate Size (bytes)	Approximate number of data elements per record
DEF_EQUIP		50 Kb	1,851
DEF_PAGE		5 Kb	7
DEF_PGROU		5 Kb	6
DEF_STATION		6 Kb	13
DEF_STATION_CREW		8 Kb	0
DEF_STATION_CREW_RESTRICTION		8 Kb	0
DEF_UNIT		564 Kb	10,325
DEF_UNIT_RESTR_AG_AVAIL		5 Kb	4
DEF_VEHIC		129 Kb	2,821
DEPLO		8 Kb	0
DET_EV_TY		8 Kb	0
DISPASS_EVENT		8 Kb	0
DISPASS_SCHED_EVENT		8 Kb	0
DISPLAY_FILTER_CONFIG		5 Kb	1
DIVERT		8 Kb	0
ESZ		474 Kb	3,924
EVGRAPH		180 Kb	693
EV_TY		31 Kb	286
EV_TY_ALIAS		8 Kb	0
EXCEPTIONS		6 Kb	33
FNC_DATA		5 Kb	37
HIT_DETECT_NOT		5 Kb	13
HIT_DETECT_TEST		5 Kb	13
HIT_DET_TST_NOT		5 Kb	13
HYDRT_A		8 Kb	0
HYDRT_B		8 Kb	0
INCIDENT_TRACKING		5 Kb	0
INFORI		7 Kb	83
IPS_PK_COLUMNS		NA	
IPS_REMOTE_TAB_COLUMNS		NA	
IQA_LOG		8 Kb	0
LINEUP_CREWS		8 Kb	0
LINEUP_EQUIP		10 Kb	162
LINEUP_PERSL		72 Kb	1,181
LOI_ROWS		8 Kb	0
LOI_SENT		8 Kb	0
MACRO_CMDS		6 Kb	21
MACRO_PARAMS		5 Kb	15
MAJEVT_ACT		8 Kb	0
MAJEVT_HST		8 Kb	0
MAP_SWITCH_TABLE		6 Kb	42
MAP_VIEWS		5 Kb	12
MDTBROADCAST		8 Kb	0

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Table Name	Approximate number of records	Approximate Size (bytes)	Approximate number of data elements per record
MDTCOMMAND		8 Kb	66
MDTCOMMANDLINE		8 Kb	0
MDTCOMMANDMAP		8 Kb	0
MDTCOMMANDROUTING		8 Kb	0
MDTFIELD		8 Kb	80
MDTFIELDENUMERATION		8 Kb	0
MDTFIELDENUMERATIONVALUES		8 Kb	0
MDTGROUP		5 Kb	1
MDTGROUPEMAP		8 Kb	0
MDTVALIDATION		8 Kb	66
MDTVALIDATIONTYPE		8 Kb	23
MI_PLAN_TABLE		8 Kb	1
MI_TASK_LIST_TABLE		8 Kb	0
MONITOR_STYLE_COLS		8 Kb	212
MSCATALOG_A		8 Kb	19
MSCATALOG_B		8 Kb	19
MSG_GROUP		21 Kb	280
NETFEA_A		10 Kb	10
NETFEA_B		10 Kb	10
NETVIEW_CONFIG		10 Kb	37
NODEASSIGN		10 Kb	4,091
NUMBR		40 Kb	29
PAGE_COND		40 Kb	1
PAGE_COND1		40 Kb	0
PAGE_COND_INTERVAL		40 Kb	0
PAGE_KEYWORD		40 Kb	37
PAGE_NOTIFY_PRIORITY		40 Kb	0
PARAM_TABLE		150 Kb	3,974
PARSE_DATA		25 Kb	182
PATRN		25 Kb	4
PERSL		900 Kb	4,712
PERSL_SKILL		320 Kb	17,122
PERSO		25 Kb	133
PICK_LIST		25 Kb	190
PLAN_TABLE		25 Kb	0
PRINT_TEMPLATES		240 Kb	144
PRIORITY_TIMES		10 Kb	0
PROPT		10 Kb	0
PSWRD_HIST		350 Kb	6,094
RC_LINKS		25 Kb	5
RD_CLOSURE		25 Kb	5
RECMON_CONFIG		25 Kb	0
RECMON_CONFIG_COLS		25 Kb	0

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Table Name	Approximate number of records	Approximate Size (bytes)	Approximate number of data elements per record
RECOM_HIST		25 Kb	51
RECOVERY_TABLES		25 Kb	391
RESP_PLAN		25 Kb	29
RESP_REQ		25 Kb	17
RESP_REQ_RES		25 Kb	5
RESP_TME		25 Kb	0
ROSTER		25 Kb	0
ROTATE		25 Kb	101
ROT_EQUIP		25 Kb	169
ROT_HIST		25 Kb	244
RUN_CARD		25 Kb	0
SAVE_ABANDON		25 Kb	0
SAVE_STACK		25 Kb	23
SAVE_VW		25 Kb	45
SCHEDULED_DEST		25 Kb	316
SCHEDULED_HIST		25 Kb	1,089
SCHEDULED_INTERVAL		25 Kb	111
SCHEDULED_ITEMS		800 Kb	5,137
SCHEMA_HISTORY		10 Kb	13
SCRATCH		25 Kb	172
SCRGRP		25 Kb	343
SCR_TEXT		25 Kb	1,398
SECURE_ACC		25 Kb	1,247
SEG_ALIAS_A		25 Kb	3,535
SEG_ALIAS_B		25 Kb	3,555
SPAD_CONT_NAME		10 Kb	1
SPAD_PERSO		10 Kb	1
SPAD_PROPT		10 Kb	0
SPAD_TOW_VEHIC		10 Kb	0
SPAD_VEHIC		10 Kb	1
SP_AD		25 Kb	3,259
SP_ST		25 Kb	2,314
SP_ST_AG		25 Kb	2
SQL_AUDIT_LOG		25 Kb	6,599,693
SSGROUP		10 Kb	1
SSPLAN		10 Kb	1
SSPLANLEV		10 Kb	0
SSPOST		10 Kb	0
STATE_IMAGE		10 Kb	1,559,577
STATE_LOG		10 Kb	1,064,721
STATE_RESP		10 Kb	957,176
STATE_TXT		10 Kb	8,078,354
ST_CD_A		25 Kb	17,122

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Table Name	Approximate number of records	Approximate Size (bytes)	Approximate number of data elements per record
ST_CD_B		25 Kb	17,136
SUPP_COLUMNS		25 Kb	49
SUPP_ROW		10 Kb	0
SUPP_SRCH_CRIT		10 Kb	0
SUPP_TABLES		10 Kb	5
SVVW_RAS		10 Kb	0
SVVW_REF		10 Kb	0
SYS_EXPORT_TABLE_01		10 Kb	275
SYS_EXPORT_TABLE_02		40 Kb	270
SYS_EXPORT_TABLE_03		40 Kb	262
SYS_EXPORT_TABLE_04		40 Kb	270
SYS_EXPORT_TABLE_05		40 Kb	262
SYS_EXPORT_TABLE_06		40 Kb	262
S_AEVEN		10 Kb	19
S_CALENDAR		10 Kb	46
S_EVENT		10 Kb	18
TASK_FORCE		10 Kb	2
TASK_UNIT		10 Kb	5
TERM_ALIAS		10 Kb	0
TIME_ZONE_INFO		10 Kb	1
TOOLTIP_FILE		10 Kb	37
TOW_REQUEST		10 Kb	42
TOW_VEHIC		10 Kb	101
TRANS_DES		10 Kb	8
UPDATE_STATUS		10 Kb	126
USRGRP		10 Kb	187
VEHIC		10 Kb	5,014

ATTACHMENT C

CAD/AVL Functional Specifications

APPENDIX C - Memphis TN Police Department - Computer Aided Dispatch Specifications

Spec ID	Specification Description	Priority
	System Administration	
1	System data tables are maintained via GUI based forms.	I
2	Access to data table administration screens is restricted by operator and workstation.	I
3	Standard MS Windows edit features are available when using System Administration forms.	I
4	Cut	I
5	Paste	I
6	Copy	I
7	Insert	I
8	Delete	I
9	System data tables can be initially loaded via import of CSV or MS Excel files using agency created data.	I
10	System data table data can be exported to a CSV or MS Excel format file.	I
11	The system provides a network monitoring capability that will send messages to City defined workstations or operator accounts when pre-defined network problems are detected.	I
12	All data associated with the system including, data entered as static table entries, data records created as a result of information entry for a call for service and response, all messages, audit log records, etc. are the property of Memphis Police Department and may be exported as determined by the City.	M
	System table maintenance	
13	System tables can be updated without requiring a system restart.	I
14	Event record data will be migrated from the current Integraph CAD to the Proposer's CAD system.	I
15	Premises history data will be migrated from the current Integraph CAD to the Proposer's CAD system.	I
16	Current hazard / alert data will be migrated from the current Integraph CAD to the Proposer's CAD system.	I
17	Static table data will be migrated from the current Integraph CAD to the Proposer's CAD system.	I
18	Data for system tables can be imported from standard format (e.g., MS Excel) file.	I
19	Performing system table maintenance does not degrade system performance.	I
	Maintenance for system tables allows the following actions:	
20	Cut	I
21	Paste	I
22	Copy	I
23	Insert	I
24	Delete	I
25	System table data can be exported to a standard format file, e.g., CSV, to be used to create a printable listing.	I
26	The system utilizes a forms based user interface for data table maintenance.	I
27	The system allow system maintenance to be performed using a remote terminal, utilizing security features associated with log on roles and workstation restrictions.	I
	Time synchronization	
28	The system accepts time standard from a master clock device.	M

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Spec ID	Specification Description	Priority
29	The time standard synchronizes across all CAD databases, workstation, and servers.	M
	Date and time	
30	System time can be displayed as 12 hour or 24 hour format at the discretion of the City.	M
31	The system time will auto-adjust for DST without impacting system operation.	M
32	All times are displayed and stored as local time.	M
	Definable function keys	
33	The system allows the execution of CAD functions using predefined keyboard function keys.	M
34	The function keys can be defined to perform any CAD function.	I
35	The City can define the function keys using a system enabled process through the System Administration functions.	I
36	The system allows any CAD function to be defined as a function key.	I
	The Dispatch workstation function keys can be defined in the following manner:	
37	F1 - Help	I
38	F2 - Send message	I
39	F3 - Create new event	I
40	F4 - Retrieve message in queue	I
41	F5 - Event summary	I
42	F6 - Field event	I
43	F7 - Command line	I
44	F8 - Preempt unit	I
45	F9 - Dispatch unit	I
46	F10 - Select event	I
47	F11 - Arrive unit	I
48	F12 - Accept event	I
49	Shift[F1] - Specific help	I
50	Shift[F2] - Event search	I
51	Shift[F3] - Nearby events	I
52	Shift[F4] - Event chronology	I
53	Shift[F5] - Broadcast information	I
54	Shift[F6] - Accept event	I
55	Shift[F7] - Command line	I
56	Shift[F8] - Unit summary	I
57	Shift[F10] - Clear unit	I
58	Shift[F11] - Change location	I
59	Shift[F12] - Select event	I
60	Ctl[F7] - Command line	I
61	Ctl[F8] - Logon unit	I
62	Ctl[F9] - Out of service	I
	The Calltaker workstation function keys can be defined in the following manner:	
63	F1 - Help	I
64	F2 - Send message	I
65	F3 - Create new event	I
66	F4 - Retrieve message in queue	I
67	F7 - ANI / ALI Spill	I
68	F9 - Cursor to location field	I
69	F12 - Accept event	I

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Spec ID	Specification Description	Priority
70	Shift[F1] - Specific help	I
71	Shift[F2] - Event search	I
72	Shift[F3] - Nearby events	I
73	Shift[F4] - Event chronology	I
74	Shift[F5] - Broadcast information	I
75	Shift[F6] - Accept event	I
76	Shift[F7] - Command line	I
77	Shift[F9] - Select event	I
78	Shift[F12] - Select event	I
79	Shift[F7] - Command line	I
80	Ctl[F7] - Command line	I
	Operating environment	
81	The workstation operating environment is a minimum of Microsoft Windows 7 or later version.	M
82	The operating environment utilizes standard MS Windows 7 functionalities.	I
	MS Windows functionalities at a minimum:	
83	Cut	I
84	Copy	I
85	Paste	I
86	Cut / copy / paste between forms	I
87	Delete	I
88	Sorting	I
89	Insert	I
90	Print screen	I
91	Tab through the fields of the form	I
92	Back-tab through the fields of the form	I
93	Move windows	I
94	Resize windows	I
95	Find	I
96	Replace	I
97	Ability to use the numeric keypad for number entry	I
98	Ability to use an external numeric keypad for number entry	I
99	Point and click	I
100	Drag and drop	I
101	Drop down lists	I
102	Vertical scroll bar when the vertical list is larger than the defined area	I
103	Word wrap when the display when the horizontal list is larger than the defined area.	I
104	Ability to engage spell check on narrative fields as selected by the operator.	I
105	The server operating environment uses MS Server 2012, or later version.	M
106	The database operating environment uses the latest version of Microsoft SQL.	M
107	The CAD application availability is 99.999%.	M
108	The system network protocol is TCP/IP.	M
109	The proposed system is configured to accommodate 10 years of data.	I
110	The proposed system is configured to accommodate 10 years of growth and expansion estimated at 5% per year.	I

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Spec ID	Specification Description	Priority
111	After installation, the vendor will notify the City as CAD application and module updates are developed and certified to work with Microsoft Windows and Server updates.	M
	Equipment	
112	The vendor will provide detailed specifications for all required hardware to enable the City to purchase the required hardware using City procurement processes.	I
113	The successful Bidder will certify that all components purchased through City procurement to the specifications provided by the successful Bidder is fit for use.	I
114	The vendor will stage the application, network and hardware prior to installation at a site other than the PSAP to facilitate the City's testing and acceptance. The space and power in the current PSAP facility is limited and will not accommodate additional loading.	M
115	All proposed components are new.	M
116	All components proposed include all updates and upgrades to fully function on the proposed system.	M
	Notepad	
117	The system provides for the capability of entry of free form text entered from a workstation by any operator.	I
118	The entered text can be stored in a file.	I
119	The entered text can be accessible to all operators.	I
120	The entered text can be shared or private.	I
121	The entered text can be attached to an event record.	I
	Printers	
122	CAD workstations will be assigned a default printer.	I
123	System printers will be networked and available to all workstations on the network.	I
124	When generating a print job, the operator does not have to select a printer. The default printer will be automatically selected.	I
125	The operator may select a printer when needed, e.g., plotter to print maps, color printer when printing reports.	I
	Printing	
126	Event data can be printed at any time during an event.	M
127	Closed events can be printed.	M
128	When something is submitted for printing, a confirmation message is returned to the workstation initiating the print request when completed.	I
129	Print transactions (including print screen) are recorded in the transaction / audit log and will include the Operator ID and Workstation ID initiating the print function.	I
	Security	
130	System access can be controlled by the City.	M
131	System access can be controlled by workstation.	M
132	The system supports multi-level security features.	M
133	Access to CAD functions can be granted / restricted by the City.	M
134	Access to CAD functions can be granted / restricted per workstation.	M
135	Access to CAD functions can be granted / restricted per individual.	M
136	Security authorizations can be assigned by individuals and by groups.	I
137	An operator can be associated with multiple security groups.	I

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Spec ID	Specification Description	Priority
138	All system and operator accounts are security / password protected.	M
139	All operator accounts are required to have a unique ID.	M
140	All passwords are stored in encrypted form.	M
141	The system allows the operators to change their own passwords.	M
142	The system will require the operators to change their passwords at regular intervals which are determined by the City.	M
143	The system is configured with a single operator security table across all modules.	M
144	Operator accounts and passwords are synchronized across all system modules.	M
145	Individual accounts and passwords for the system are controlled by the City where operator IDs, passwords, security accounts can be created, modified and deleted an authorized City operator.	I
146	There are no default accounts configured in the system.	I
147	There are no hidden or "backdoor" accounts configured in the system.	I
148	Each access account must be disclosed to the City.	M
149	Security for each account has a lock-out provision that will lock-out access to an account after a City defined number of unsuccessful login attempts.	I
150	An account that has been locked-out may be reset by an operator with the appropriate security setting.	I
151	The City maintains all security aspects of the system, without reliance on the vendor to perform security functions.	I
152	The system supports remote maintenance.	I
153	The application is compatible with COTS Anti-virus software for workstations and servers.	M
154	Anti-virus data files can be maintained and updated from a single workstation.	I
	The operator is prevented from logging off when:	
155	The operator has sole responsibility for events or units that will not be handled on log off. A system message will be generated.	I
156	An operator (#2) can log on to an active workstation without requiring the current operator (#1) to perform the log off function, the system will automatically log off the current operator (#1). The system will not require the events or resources to be transferred to another dispatcher during the log on process.	I
	Off-site redundant servers	
157	The system is capable of mirroring data between a minimum of two databases for redundancy.	I
158	The system is capable of mirroring data to remotely hosted (off-site) databases.	I
159	The system supports redundant servers in hot standby mode to take over operation should primary servers fail.	I
160	The redundant servers can be updated and maintained without degradation to primary system operation.	I
161	If placed off-line at some point, the back-up servers will come on-line and synchronize without degradation to primary system operation.	I
162	Vendor will describe how the system will function when system server is offline.	I

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Spec ID	Specification Description	Priority
	Off-site failover facility	
163	Switch of CAD system server to primary at the fail-over facility can be performed by the City.	M
164	When the server at the fail-over facility is switched to run as the primary server, the workstations at the fail-over facility and the primary facility can operate as live CAD workstations.	I
165	The workstations at the fail-over facility and the workstations at the primary facility can operate collectively as live CAD workstations using the server at the primary facility without a restart of the server.	I
	Data Warehouse (DW) capability	
166	The system maintains a separate external database outside of CAD network, secure, but accessible to CAD users and non-CAD, external users.	M
167	The system provides a method to write CAD record data to the DW automatically at regular intervals, e.g., on event closure, as determined by the City.	M
168	The system supports DW security that allows view only rights to the data.	I
169	All external inquiries are directed to the DW.	I
170	The DW platform and storage utilize COTS applications.	I
171	The DW supports automatic requests for data from external applications.	I
172	The DW supports record and field based security to restrict viewing of records and fields based on the assigned role at logon. For example, the DW security features allow data related to Internal Affairs, Intelligence and Narcotics to be accessible to only operators that log into the DW with those roles clearly defined.	I
	Transaction logging (Audit log)	
173	The system logs each transaction, including:	I
174	Date and time	M
175	Operator ID	M
176	Terminal ID	M
177	Transaction	M
178	Each transaction will be logged whether it was successful or not successful.	I
179	Retention time for the system transaction logs is defined by the City.	I
180	The system transaction logs can be searched and retrieved by any parameter stored with the transaction.	I
181	The system transaction logs can be sorted by any parameter stored with the transaction.	I
182	The system maintains transaction logs for each transaction across all modules.	I
183	Viewing of events are recorded in the transaction / audit log and will include the Operator ID and Workstation ID from which the event is viewed.	I
184	Executing the historic playback feature is recorded in the transaction / audit log and will include the Operator ID and Workstation ID initiating the playback function.	I
185	The system allows the City to specify and toggle the types of transactions that are recorded in the transaction log.	I
	Alias names for CAD functions	

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Spec ID	Specification Description	Priority
186	The system supports the creation of alias names for CAD commands.	I
187	The command alias names are maintained by the City.	I
188	When a CAD command is referenced in an inquiry or report, the search feature will select records that include the alias of the referenced CAD command as well.	I
	Command Line	
189	The system supports CAD function processing from a command line.	M
190	Commands entered on the command line are stored and available for reuse.	M
191	The operator may use the backspace, delete and arrow key functions to edit commands from the command line.	M
192	Command line processing supports positional command parameters.	I
193	Command line processing supports parameter processing using field identifiers.	I
194	The system provides a guided command line entry experience that will prompt the operator for the next required parameter and command line typing progresses.	I
195	The guided command line entry experience may be toggled on / off by the operator.	I
196	The system allows multiple command lines to be active simultaneously.	I
	Form field event data entry	
197	The system supports CAD function processing from a predefined data entry form.	M
198	The operator can move from field to field using tab (to the right and down) and back-tab (to the left and up).	M
199	The order of the fields of the form can be moved to align with the City SOP on caller interview procedure.	M
200	The order of which the tab function moves from field to field can be defined by the City.	M
201	The system allows the use of a function key to direct the focus of entry to the field determined by the function key, e.g., ALT L to direct the focus of entry to the Location field.	I
202	Fields of the form that are mandatory entry are clearly marked.	I
203	The system allows the City to select fields for mandatory entry.	I
204	The form cannot be processed until all mandatory fields are entered.	I
205	The operator can enter data into any field, in any order.	I
206	The operator may enter an unlimited amount of comments to each event.	M
207	The comment field accepts free form text using word wrap to handle comments that do not fit on a single line.	I
208	All comments added to an event record are date / time stamped and with the operator's ID and workstation.	M
	CAD to CAD interface	
209	The system supports a CAD to CAD system interface.	M
210	The system facilitates a CAD to CAD system interface with the Memphis Fire Department's TriTech CAD.	I
211	The CAD to CAD system interface is bi-directional.	I

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Spec ID	Specification Description	Priority
212	The CAD to CAD interface facilitates the transfer or receipt of incident data between the systems.	I
213	The CAD to CAD interface provides functionality to allow the transfer of new incident data to the MFD TriTech CAD.	I
214	The CAD to CAD interface provides updates of the incident to the MFD TriTech CAD associated incident.	I
215	The CAD to CAD interface provides updates of unit status data to the MFD TriTech CAD associated incident.	I
216	The CAD to CAD interface provides the ability to share units between the MPD system and the MFD TriTech CAD systems.	I
217	The vendor will provide the ability for future CAD to CAD interfaces.	M
218	Future CAD to CAD interfaces will not require addition cost to the City. Explanation required.	I
Messaging – General		
219	All messages are logged.	M
220	Messages are searchable and retrievable by any field.	I
Messages elements stored are:		
221	Sender (operator and workstation)	I
222	Intended receiver (operator and workstation)	I
223	Date / time sent	I
224	Date / time viewed	I
225	Messages will be displayed in a separate area dedicated to messaging, e.g., window.	I
226	Receipt of messages will not interfere with CAD functions, e.g., calltaking, dispatching.	I
227	The operator will be notified of the receipt of a message with an audible (optional through system configuration) and visual alert.	I
228	The message notification alert can be defined by the agency	I
229	A message can be designated a "high priority" messages which will enable that message to be placed at the top of a message queue for a particular workstation.	I
230	A message can be designated as "private" by the operator restricting the viewing of the message to the sender, the intended recipient and an operator authorized to view all messages (e.g., supervisor, administrator).	I
231	The system allows the operator to filter the display of messages using predefined "programmatic buttons" placed on a system form. When the operator clicks on the button, the system will display the messages list related to the selection. For example, the system will display messages received from PDA devices when the "PDA" message button is selected.	I
Messaging - CAD		
232	Messages can be sent between CAD PSAP workstations.	M
233	Messages can be sent between a CAD PSAP workstation and a group of workstations e.g., Calltakers, Dispatchers, Station B.	M
234	Messages can be sent between a CAD PSAP workstation and remote workstations.	M
235	Messages can be sent between a CAD PSAP workstation and Web based workstations.	I
236	Messages can be sent between a CAD PSAP workstation and MDTs / PDAs.	I

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Spec ID	Specification Description	Priority
237	Messages can be sent between specific CAD PSAP workstation and a specific MDT / PDA.	I
238	Messages can be sent between a CAD PSAP workstation and an MDT / PDA group.	I
239	Messages can be sent from single workstation to all other workstations and MDTs / PDAs.	I
	Messaging - System	
240	System messages originate from the application as the result of a system function or notification of an error message.	M
241	System messages are in plain English.	M
242	System messages can be directed to a specific operator or workstation group e.g., Calltakers, Dispatchers, Station B.	M
243	System messages can be automatically directed to a workstation group depending on function or event location.	I
244	System messages can be classified by the agency as urgent or normal.	I
245	System messages classified as normal system messages do not interrupt operator operations.	I
246	System messages classified as normal system messages may require acknowledgement from operator as defined by the agency.	I
247	System messages classified as urgent require acknowledgement from the operator before continuing operations, e.g., officer in need of assistance, as defined by the agency.	I
248	System messages or notifications can be sent to system administrators using email and SMS, as determined by the City.	I
	Notify supervisor	
249	The system is capable performing a "notify supervisor" function. This function would be used make the supervisor aware of an event that is in progress or closed (e.g., if a politician's car was vandalized).	I
250	When executed, a message is routed to the logged on supervisor consisting of a link to an event and a free form text message entered by the operator.	I
251	The function can be initiated from the command line.	I
252	The function can be initiated using a "button" on the event entry or dispatch form.	I
253	The sending and receipt of the "notify supervisor" function is time stamped and recorded with the event record.	I
	Premises - Display of premises hazards, alerts and history	
	Premises information can be displayed with:	
254	Civic address	M
255	Intersection	I
256	Apartment complex	I
257	Individual apartments	I
258	Common name	I
259	City defined radius from the specified location	I
260	Map polygon	I
261	Street segment	I
	The following premises information is displayed:	
	For history associated with the location:	
262	Event number	I
263	Event type code	I
264	Date / time of event	I

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Spec ID	Specification Description	Priority
265	Location (when displayed with radius)	I
266	Hyperlink to event record	I
267	For Alert and Hazards associated with the location:	I
268	Date / time of entry	I
269	ID of the person entering the alert	I
270	ID of the person requesting the entry	I
271	Message	I
272	Expiration date / time	I
273	File attachment	I
274	The City can determine the time frame of how far back the system will search for premises history, by device (PDA time frame can be different than the timeframe of workstations).	I
275	The system will record in the event record when an operator views the premises data.	I
	When information is associated with a displayed location, the system will:	
276	Create an audible (optional using system configuration) and visual alert to the operator, as defined by the City	I
277	Mark the message as urgent.	I
278	Make the information available to the mobile device, if MDCs are implemented.	I
	Premises - Storage of premises hazards, alerts and history	
	Premises information will be associated with:	
279	Civic address	M
280	Intersection	I
281	Apartment complex	I
282	Individual apartments	I
283	Common name	I
284	Map polygon (e.g., neighborhood, response area)	I
285	Premises hazards and alert information can be maintained by the agency.	I
	The following maintenance functions can be utilized with stored hazards and alerts:	
286	Add	I
287	Modify	I
288	Delete	I
	Premises information stored will include:	
289	Hazard, alert, history narrative	I
290	Links to any attached files	I
291	Location	I
292	ID of the person entering the information	I
293	ID of the person requesting the entry	I
294	Date and time when entered	I
295	Expiration date and time	I
296	The system will send a notification message to a designated system account when a hazard or alert is about to expire. The City can define the time frame for the notification message.	I
297	Premises history is automatically created and associated with a location on event entry with a verified location.	I
298	The premises history record is available for viewing by the operator on location verification.	I
	At a minimum, the following data is included with premises history:	
299	Incident number	I

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Spec ID	Specification Description	Priority
300	Event type code	I
301	Priority	I
302	Date and time	I
303	Hyperlink to the full event description	I
	Personnel data record	
304	The system stores and tracks user, operational and field personnel associated with the CAD system.	M
305	The system will associate CAD system access and operational security rights with the personnel record.	M
	At a minimum, the following data will be associated with the personnel record:	
306	Employee ID	M
307	IBM ID	M
308	Home Address	I
309	Telephone number	I
310	Emergency Contact information	I
311	Standard assignment	I
312	Special skills	M
313	CAD functional security information, e.g., password history, allowed functions, allowed module access.	I
314	The personnel data records are searchable from all CAD workstations, e.g., rolodex.	M
315	The ability to create a one-way interface with the City's Personnel Tracking and Payroll system for a pull of selected personnel data from the Personnel and Tracking system to the CAD personnel table.	I
	Roll Call / Roster	
316	The system allows multiple active roll calls to be established in advance by an authorized operator.	M
317	Each roll call can be independently maintained and approved.	M
318	Each roll call can be uniquely identified for storage and retrieval.	M
319	A roll call can be specific to a dispatching group (e.g., precinct) or city-wide (e.g., special task force).	M
320	The roll call specific to a dispatching group will be put in service by the operator responsible for that dispatching group, or a supervisor.	M
321	An authorized operator may change the standing version of the roll call.	M
322	The standing version of the roll call will remain in effect until changed by the authorized user.	I
323	The roll call may be temporarily updated as required for each shift prior to submission.	I
324	The temporary update of the roll call changes the assignments for only that submission.	I
325	During the shift, changes can be made to the roll call / roster without affecting the master record.	I
326	Roll call updates can be submitted by the Inventory control clerk via remote workstation.	M
327	Daily roster updates will accommodate the following process: the Station Lieutenant will assign field personnel to specific duties or to Wards; then, the Inventory Control Clerk will assign the field personnel to units, assign the radio callsign and assign any special equipment.	M

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Spec ID	Specification Description	Priority
	Workstations	
328	CAD workstations are controlled by a single processing unit.	I
329	All functions of the workstation (e.g., event processing, mapping) can be controlled with a single set of keyboard and mouse.	M
330	The CAD workstation can be configured with multiple monitors.	M
331	The functions displayed on the CAD workstation monitors can be controlled with a single set of keyboard and mouse.	M
	The functions displayed on the CAD workstations can be separated, as follows:	
332	Map display	I
333	Status windows, e.g., pending event, active events, unit status.	I
334	Interactive event information display and data entry.	I
335	The functionality of the workstation is reconfigurable by the operator as needed.	I
336	Workstations can be rebooted without affecting the system or other workstations.	M
337	A workstation can be configured as a single function workstation, e.g., calltaker.	M
338	A workstation can be configured for multiple functions, e.g., calltaker and dispatcher.	M
339	While working as a combined function workstation, the operator is not required to change workstation function when alternating between calltaker and dispatcher operations, e.g., calltaker and dispatcher entry forms, status windows, functions.	I
340	A workstation can be configured with a limited span of control, e.g., control events and units for a single precinct.	I
341	A workstation can be configured without a limitation, e.g., city-wide responsibility.	I
342	Workstations can be configured with overlapping event responsibility.	I
343	Workstations can be configured with overlapping unit responsibility.	I
344	Status monitors associated with a workstation will display event and units within the established workstation span of control.	I
345	A workstation span of control can be changed without an application restart or disruption to other operators.	I
346	At least one workstation must be logged in to the application as long as the application is active.	I
	Workstation groups	
347	The system is capable of defining groups of workstations to enable effective communications. For example, messages may be sent all dispatchers using a single command.	M
348	Workstation groups can be predefined or created as needed.	I
	Workstation groups can be comprised of the following types:	
349	CAD PSAP workstations	I
350	Call taker	I
351	Dispatcher	I
352	Supervisor	I
353	NCIC inquiry (Station B)	I
354	Administrative	I
355	Mobile Data devices (including PDAs)	I
356	Remote workstations	I
357	Mixture of types.	I

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Spec ID	Specification Description	Priority
	Remote workstation	
358	The system supports access to the CAD system from workstations not directly connected to the CAD network, e.g., remote workstations using secure communication such as VPN.	I
359	The access to the system from a remote workstation supports the use of Virtual Private Network (VPN) technology.	I
360	Remote access is restricted to those authorized through system security function and secured passwords, e.g., dual factor authentication.	I
361	The access to the system from a remote workstation supports the Advanced Encryption Standard (AES) without degrading system throughput.	I
362	The vendor will list equipment required to establish secure remote workstations.	M
363	Remote access capability includes the ability to support the system remotely.	I
364	Remote workstation access to the CAD system complies with CJIS, TN, Shelby County and Memphis security requirements.	M
	The capabilities supported by the remote workstation are restricted by:	
365	Operator log on role	I
366	Workstation ID	I
367	CJIS requirements	I
368	Connection path (e.g., VPN, regular internet, City controlled network)	I
369	If authorized, the remote workstation can operate as a fully functional CAD workstation.	I
	Browser based interface	
370	The system supports a browser based interface to CAD.	M
371	The browser based access to CAD can be restricted to Inquiry only.	I
372	The browser based access to CAD can be restricted to View only.	I
373	The browser based access can be restricted to only access to data warehouse.	I
374	The browser based access to CAD can be restricted to only view event and status monitors.	I
375	The browser based interface utilizes the similar user-associated security as network based clients.	I
	Event entry (Call Taker)	
376	The system automatically transfers call and caller information, when available, from the CPE.	M
377	The interface from CAD to the CPE is compliant with the most recently approved NENA i3 standards document, e.g., NENA Technical Standards Document 08-003, Detailed Functional and Interface Standards for the NENA i3 Solution.	M
378	The system accepts and processes alternative media data (e.g., video, text, audio) as data with which to process an event.	I
379	The system will transfer Wireless Phase I and Phase II data to the CAD entry form.	I
380	Rebids of wireless caller location can be initiated by the operator without creating a new CAD event.	I
381	Location changes as a result of rebids will update the CAD map.	I

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Spec ID	Specification Description	Priority
382	The system will provide a visual and audible (optional using system configuration) notification when a 911 call has been sent to the workstation for processing.	I
383	Rebid of wireless caller location will update the CAD event location.	I
384	Location verification will be performed on the return of the rebid.	I
385	The system will transfer location data to the CAD map.	I
386	The system will auto-fill appropriate event entry form fields from the CPE / 911 data.	M
387	An operator is able to designate an event as a "hot call" which is classified a urgent call (priority 0).	M
	When an event is designated as a "hot call", the system will:	
388	notify all dispatcher workstations	M
389	require all dispatch workstations receiving the "hot call" to acknowledge the receipt of the call, e.g., press a function key	M
390	record each acknowledgement in the event record with the operator ID and workstation ID	I
391	create a "BOLO like" notification sent to all dispatch workstations for radio broadcast, which is stamped with the operator ID and workstation ID when broadcast	I
	Event data elements	
	Event data record will be comprised of the following minimum data fields:	
392	Unique event number	M
393	Event location and all location changes	M
394	Event type code (initial, all changes, final)	M
395	Event sub-type code (initial, all changes, final)	I
396	Priority (initial, all changes, final)	M
397	Caller name, location, contact information	M
398	Source of the call	M
399	Alternate call back number	M
400	Event status times	M
401	Call received at PSAP from call spill data	M
402	Call received at Calltaker workstation	M
403	Event received at the dispatch workstation	M
404	First unit dispatched	M
405	First unit arrived	M
406	First supervisor arrived	I
407	Last unit cleared	I
408	Event Closed	M
409	Initial unit system recommendations (both pre-defined and AVL)	I
410	Actual unit system recommendations	I
411	Primary unit	I
412	Remarks	I
413	Disposition codes	I
414	Links to premises history, alerts and hazards	I
	Event entry	
415	Labels on the event entry form are customizable by the City.	M
416	Field order of entry is customizable.	M
417	Required fields on all data entry forms are clearly identified by color and symbol, e.g., a mandatory field will have a red field outline with an asterisk beside the field.	I

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Spec ID	Specification Description	Priority
418	Fields on form are customizable.	M
419	Multiple operators can add data to the same event at the same time.	M
420	When multiple operators are adding data to the same event, the system will append the data from the multiple operators instead of overwriting the data.	M
	Event record numbering	
421	The system automatically generates sequential record identifiers for the following:	M
422	Event numbers	M
423	The system will automatically assign a unique event number for each created event. No duplicates allowed.	M
424	An event number is assigned to each event entered into the system.	M
425	Event numbers are at least 10 alphanumeric characters	I
426	Event numbers are system generated.	M
427	Case numbers	I
428	The system can assign a unique case number per agency for each event at the discretion of the operator or when determined by policy established by the City. No duplicates allowed.	I
429	The system allows multiple case numbers to be assigned to a single incident per agency.	I
430	Case numbers will be referenced back to the incident event number.	I
431	Case numbers are system generated.	I
432	The event and case number format can be defined by the agency.	M
433	The event number will automatically reset annually.	I
434	The agency can adjust the event number manually.	I
435	The agency can associate events together.	M
436	The associated events can be accessed via hyperlink.	I
	Priority	
437	The system supports pre-defined priorities associated with event types codes.	M
438	The priority of an event is automatically assigned by the system according to the event type and location of the event from a pre-defined list of priorities	M
439	After the priority is assigned, it can be manually overridden by the operator.	M
440	The priority of an event, when listed on a status monitor, will be distinguished by color and by priority level.	I
441	The color representing each priority can be determined and maintained by the City.	M
442	The priority of an event, when listed on a status monitor, will be distinguished by symbol and by priority level.	I
443	The symbol representing each priority can be determined and maintained by the City.	I
444	The priority of an event may be changed at any time during an active event.	I
445	When an event type is updated, the priority will be updated as well.	M
	Suspension of event entry	

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Spec ID	Specification Description	Priority
446	The system permits the suspension of data entry into a form to initiate a new event entry form.	I
447	The system permits the suspension of data entry of a form to perform other system functions, e.g., dispatching, unit status update.	M
448	When suspended, the data already entered in the form will be saved for future processing.	I
449	The system can return to the partially entered form for completion.	I
450	Entry of data into a form may be cancelled and the data discarded at the discretion of the operator.	M
451	The system will notify the operator when a form has been opened beyond a City determined length of time.	I
	Advise only event entry	
452	The system permits the entry of an event without forwarding to a dispatch pending queue.	M
453	The event will be assigned an event number but will require no resources to be assigned.	M
454	The advise only event will be recorded as advise only.	M
	Catch up mode	
455	The system provides a method for the City to enter event data into CAD that was manually recorded while the CAD system was not operational (catch-up mode).	M
456	The system will indicate in the event record when event data is entered in catch-up mode.	M
457	Unit status and times may be recorded with an event that is being entered in catch-up mode.	M
458	The system allows the City to reserve a block of event numbers for use with entering event records in catch-up mode.	I
459	The system allows the City to reserve a block of case numbers for use with entering event records in catch-up mode.	I
460	The event record number is automatically assigned to the catch-up event from a pool of unassigned numbers set aside for this purpose.	I
461	Records entered in catch-up mode are flagged as such.	I
	Location validation	
462	The system utilizes the progressive filtering of the possible street names on entry of the characters in the street name field beginning with the first character entered.	I
463	Addition of the address number adds to the filter for location validation, further limiting the search.	I
464	The results of the progressive filtering process is displayed as a drop down list.	I
465	The system generates a list of possibilities to pick from if an exact match is not found during location validation.	M
466	The operator can pick a possibility from the list to continue the location validation process or continue entry of the location manually.	I
467	The system will accurately process complex street names, e.g., East North Broadway Street.	M
468	The system will accurately process address numbers with fractions, e.g., 32 ½ E North Broadway St.	I
469	The system will accurately process a location address with an apartment number.	M

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Spec ID	Specification Description	Priority
470	The system will validate a location without creating an event.	M
471	Can use a hot key to display an entry form.	M
472	In this case, the system will process the location and return the recommendations without creating an event.	M
473	If an event location is changed, the system will automatically initiate the location validation process.	M
474	It is possible to bypass or override the automatic location validation process when circumstances dictate, e.g., during a pursuit.	M
475	Upon location validation, the system will display location on the map.	M
476	Upon location validation, the system will display the valid address with Common Place name, when applicable.	M
477	A Soundex function is available when entering a location for validation.	M
	The following are valid verifiable locations:	
478	Civic address	M
479	Coordinates	M
480	From 911 data	M
481	From map click	M
482	Direct entry	M
	Coordinates can be specified in the following formats:	
483	Degrees, minutes, seconds	I
484	Degrees, decimal minutes	I
485	Decimal degrees	I
486	Intersection	M
487	Block	M
488	Common name	M
489	Apartment complex	I
490	Mile markers	M
491	Point from the integrated map	M
492	Emergency call boxes	I
493	Interstate exits	M
	The following are valid elements of a locations eligible for location validation:	
494	Directional prefix	M
495	Numeric address, including fraction	M
496	Street Name	M
497	Alias street name	M
498	Street type	M
499	Directional suffix	M
500	Apartment number	M
501	Mile marker	M
502	Exit number	M
503	The system can process an event without a validated location, which will then use a designated precinct entered by the operator to route the event to the appropriate dispatch workstation.	M
504	More than one operator at a time can update event data on the same event record.	M
505	The system will record location changes resulting from wireless caller location and rebid results.	M
506	The system is capable of accepting and utilizing location information in PIDF-LO format.	M

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Spec ID	Specification Description	Priority
	Street name alias	
507	The system can associate an alias name for a street name, e.g., (EP for Elvis Presley Blvd, Dr. Martin Luther King Drive for Linden).	M
508	An alias name can associate with an Interstate e.g., (385 for Bill Morris Parkway).	M
509	When validated, the actual street or highway name will be displayed with the alias name.	I
	Common Place names	
510	The system can associate multiple common place names with a single address, e.g., shops at a shopping mall, structure known by several names.	M
511	The system can associate multiple locations with a single common place name, e.g., multiple locations for a fast food chain within the City.	M
512	When validated, the actual civic address will be displayed with the Common Place name.	M
	Intersections	
513	The system can process intersection locations requiring an intersection to have only a single entry in the location table, if a location table (geofile) is used.	I
514	The system will accurately process an intersection location without regard to the order of the streets stored in the datafile or order presented for validation.	M
515	The system can automatically process intersection locations from GIS data files.	M
516	When streets intersect more than once, the system will provide the operator with a list of intersections from which to choose the appropriate location.	M
517	The system can process and can correctly recommend resources for an intersection location at which multiple political or precinct boundaries meet.	I
518	An event can be forwarded from the calltaker to the dispatcher requiring only location (either valid location or manually entered precinct) and the event type of the call.	M
519	An operator may continue to enter or update information of the event after the event has been transferred to the dispatcher.	M
520	The operator does not have to take action to receive the updated information for the event (dynamic updates).	M
521	When an event in the pending queue is updated, the responsible dispatcher will receive an audible (optional through system configuration) and visual notification.	M
522	The dispatcher will be notified when remarks are added to an event for which the dispatcher is responsible.	M
523	Additional remarks added to an event will automatically insert the remarks area and will display in a different color until viewed or acknowledged	M
	Duplicate event detection	
524	The system will automatically check an entered event for possible match of existing events (active and closed) as duplicate events.	I
525	Based on the distance parameter established by the City between the location of the original event and the event being evaluated as a duplicate event.	M
526	Based on the event type of the events.	I

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Spec ID	Specification Description	Priority
527	Based on a time parameter established by the City, e.g., within 10 minutes of the closing of an event.	M
528	The system will display a list of possible duplicate events when detected.	M
529	The operator can select and view the full details of a possible duplicate event from the list.	M
530	The operator can reject the supposition that events are duplicates and continue to enter the event as a unique event.	M
	When events are identified duplicate events, the operator can:	
531	Associate the event being entered and the already established event.	M
532	If the established event is still active, allow the operator to update the information in the established event.	M
533	The system will notify the dispatcher that additional information was added to the established event. Close the event being entered.	I
534	If the established event is closed, the system is able to cross-reference the current event with the established event. Both events should be closed.	I
535	Cancel the event being entered.	I
536	If the event to be cancelled has been assigned an event number, the cancelled event is marked as a duplicate and cross-referenced to the active event that will be handled.	I
	Event type code	
537	The event type code of an event can be keyed in by the operator.	M
538	The event type of an event may be selected from a drop down list.	M
539	The event type codes on the list are selected from the characters entered by the operator.	M
540	The drop down list of the event type codes becoming more focused as more characters are added.	I
541	Update of the event type code data table does not require the system to be restarted.	M
542	A event type code description will be associated with the event type code.	M
543	The event type code description will be displayed as part of the event entry and dispatch entry forms.	I
544	The system may associate multiple alias codes for a event type code.	I
545	The system may configure event type codes with sub event type codes the supplement, or further describe, the main event type codes.	M
546	The system can distinguish between active ("person with a gun") and past ("seeing a person with a gun yesterday") and allow differing response priority.	I
547	The alias event type codes will function as the parent event type code.	I
548	The system permits the event type of an event to be updated at any time during the event.	M
549	The system will track the changes in event type and store them with the event record.	M
550	The change in event type will trigger unit recommendation.	I
551	The system will display the updated unit recommendation.	I

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Spec ID	Specification Description	Priority
552	The system will not automatically alter the unit recommendation currently in effect.	I
553	The operator may change the current unit recommendation that are in effect.	I
554	The system will automatically send a message (either SMS or email) to selected personnel depending on event type.	M
	Remarks	
555	Remarks are entered as narrative text.	M
556	A remark line may contain unlimited text.	M
557	Pressing the return key indicates end of remark line and the remark is then entered as an element of the event record.	M
558	On the completion of a remark entry, the remark is stamped with date, time, operator ID, workstation ID.	M
559	Remarks entered for an event may be changed up to the point when the event has been accepted (an event number assigned to the event). Remarks entered after an event has been accepted cannot be changed or removed.	I
560	Remarks for an event are displayed in a remarks area allowing the operator to navigate all remarks in the remarks area using arrow keys.	M
561	Remarks are associated with event.	M
562	Remarks are viewed in chronological order of entry.	M
563	Multiple remark lines can be entered with each event.	M
564	Any authorized operator can add remarks to any active or pending event.	M
565	Multiple operators may enter remarks to the same event at the same time.	M
566	The system allows an unlimited number of remarks added to an event.	M
567	Throughout the remarks narrative, the system provides the ability to automatically highlight keywords (e.g., gun, knife).	M
568	The keyword list is created and maintained by the City.	M
569	Throughout the remarks narrative, the system provides the ability to activate a "spell check" feature.	I
570	The "spell check" feature may be toggled on and off at the discretion of the operator.	I
571	The "spell check" feature includes the ability to add items to a spell check dictionary at the discretion of the operator.	I
	Resource assignment and control (Dispatcher)	
	Dispatching workstations can be differentiated by:	
572	Geographic area of responsibility, e.g., Police precinct, Citywide.	M
573	Function, e.g., NCIC inquiry, Dispatcher, Supervisor.	M
574	Special assignment, e.g., Task Force.	I
	Routing of the event to the dispatching workstation	
575	The system will automatically route an entered event to the dispatching workstation(s) based on the geographic location of the event.	M
576	The routing assignment for the event can be manually assigned or overridden by the operator.	M

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Spec ID	Specification Description	Priority
577	Active remote workstations, when authorized, can be included in event call routing, e.g., workstations in the command vehicle, at the EOC.	M
578	Events may be transferred from one dispatching area of responsibility to another. For example, an event routed to the dispatch workstation responsible for the Airways Station precinct can be transferred by the Airways Station dispatcher to the workstation responsible for Tillman Station.	M
579	Events may be transferred from one dispatching group to another. For example, an event routed to the dispatching workstation responsible for the Airways Station precinct can be transferred by the Airways Station dispatcher to a workstation at the EOC with city-wide responsibilities.	M
	Workstation sections for dispatching	
	Event display and data entry area	
580	Event details are displayed when the event is selected from either the pending or active event lists by the operator.	M
581	The location of the event becomes the focus of the map.	M
582	The event display record will be color coded by priority.	I
583	The event display record colors are defined and maintained by the City.	I
584	The event display record colors may be toggled on and off at the discretion of the operator.	I
585	The event display record can include the list of responding units.	M
	Pending event display area	
586	Pending event list displayed can be limited to the scope of the dispatcher workstation, e.g., the dispatch workstation for Airways Station will show only that precinct's events.	M
587	Pending event list can be sorted by any available field.	M
588	Pending event list can be filtered by any available field.	M
589	A visual and audible (option using configuration setting) indication is provided when a new event is added to a pending event list.	M
590	A visual and audible (option using a configuration setting) indication is provided when a pending event is updated.	M
591	Notification is provided to the operator when the event has exceeded the City defined amount of time in the pending list. Defined by priority and event type code.	M
592	Notification can be provided to the Communication Center supervisor when the event has exceeded the City defined amount of time in the pending list. Notification can be determined by the City using priority and event type code.	M
593	Notification can be provided to the Field Supervisors when selected events have exceeded the City defined amount of time in the pending list. Notification can be determined by the City using priority and event type code.	I
594	The pending event list is sorted by priority. The higher the priority, the higher the ranking.	I
595	When there are multiple events on the pending event list of the same priority, the events of the same priority are sorted by length of time spent in the pending events list. The event with the longer duration in the pending queue is higher ranked.	M
	The pending list is automatically updated as pending events are:	
596	Added to the list	M

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Spec ID	Specification Description	Priority
597	Modified	M
598	Removed from the list, either cancelled or selected to be dispatched.	M
599	Events can only be cancelled by the responsible dispatcher or a supervisor. A calltaker cannot cancel an event.	M
600	Other operators not directly associated with an event, e.g., dispatchers, supervisors, can place a "request to cancel" for an event on the pending list to the operator responsible for the event.	M
	The pending list includes the following fields	
601	Event number	M
602	Event type code	M
603	Location	M
604	Ward	M
605	Elapsed time on pending list	M
606	ID of workstation creating the event	I
	Active event display area	
	The active event display can be sorted by	
607	Priority	I
608	Age of event / time received.	I
609	Event number.	I
610	Precinct	I
611	All columns, except for Event Number, may be hidden at the discretion of the operator	I
612	The active event display may be sorted by any field available.	M
613	The status of an event, when listed on a status monitor, will be distinguished by color and by priority level.	I
614	The color representing each event status can be determined and maintained by the City.	I
	Unit display area	
	Unit display can be sorted by	
615	Unit ID	I
616	Assignment, e.g., patrol, task force, special duty	I
617	Assigned event number	I
618	Location	I
619	Unit type	I
620	Status	I
621	Time in status	I
622	Precinct	I
623	Special equipment indicator	I
624	Assigned officer name	I
625	Number of personnel assigned to the unit	I
626	All columns, except for Unit ID, may be hidden at the discretion of the operator	I
627	The unit display may be sorted by any field available	M
628	The unit status display record will be color coded by status.	I
629	The unit status record colors are defined and maintained by the City.	I
630	The unit status display can be separated by unassigned and assigned unit status.	I
	Dispatch related activities	

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Spec ID	Specification Description	Priority
631	The operator may use a hot key to select the highest ranked event on the pending event list for dispatch processing.	I
632	The operator may select any event on the pending event list for dispatch processing.	M
	When a pending event is selected by the operator for dispatch processing:	
633	The event data is displayed in the dispatch event form	M
634	The selected event is displayed on the workstation map.	M
	The operator may select an event for viewing or updating through the following actions:	
635	Specifying the event number (partial number) on the command line or a form.	M
636	Specifying a unit assigned to the event from the command line or a form.	M
637	Point and click from the list of active events.	M
638	Point and click on the event icon displayed on the map.	M
639	The display will include all activity associated with that event.	M
640	The selected event is not removed from the pending list until processed, e.g., dispatch units assigned, cancelled by the operator.	M
641	The dispatcher may create an event, e.g., traffic stop.	M
642	The system is capable of authorizing an officer in the field to create an event via mobile device, i.e., self-initiated event.	M
643	For a dispatcher initiated or field officer initiated event, the unit(s) assigned to the event will have a status of "arrived".	I
644	On selecting a pending event for dispatch processing, the operator may transfer the event to another workstation or workstation group.	M
645	The transferred event will be added to the receiver's pending event list if no units have been specified for dispatching.	M
646	The transferred event will be added to the receiver's active event list if units have been specified for dispatching.	M
647	The responsibility for those units will be transferred as well.	M
648	On closing the event, responsibility for transferred units will returned to the home workstation.	M
649	An event may be reserved for dispatch to a specific unit, even if the unit is not logged on or is busy, by assigning it to the unit's event stack.	I
650	The operator can select an event from the unit's event stack for assignment to the unit or assign the unit to an event from the operator's pending list.	M
651	Active events may be transferred to other workstations and will include all units and related information.	M
652	Active events may be transferred to other dispatch groups and will include all units and related information.	M
653	The system allows self-initiated events.	M
654	The unit reporting the event can be assigned to the event	M
655	The unit status is marked arrived; e.g., traffic stop.	M
	Event disposition code	
656	The system allows an event disposition code to be added to an event on event closing.	M
657	The disposition code can be a required parameter depending on the event type of the event.	M
658	The disposition codes are created and maintained by the City.	M

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Spec ID	Specification Description	Priority
659	Remarks can be added to the disposition entry by the operator.	M
660	Disposition codes are related to the event type.	M
661	On closing a event, the system can send a request to the unit or officer Mobile Data Device / PDA to add the event disposition.	M
662	The multiple disposition codes may be associated with an event, e.g., event, arrest.	M
663	The system allows the entry of an event disposition before closing the event.	M
664	The last unit cleared from an event will require the declaration of an event disposition.	I
665	The system can require a disposition code for an event prior to closing, depending on event type. The determination to require a disposition for an event type is established by the City.	I
666	An event disposition may be changed after the event is closed. The Operator and Workstation ID of the operator adding the disposition to a closed event is recorded.	I
	Time stamps and timers	
	Time stamps will include:	
667	Current date and time	M
668	Operator ID	M
669	Workstation ID	M
	The following time stamps will be recorded, at a minimum:	
670	Start of event entry form	I
671	Addition of an event to the pending list	M
672	Dispatcher first viewed the event	I
673	Unit dispatch time	M
674	Unit status changes	M
675	Each time a change is made to the event	M
676	Event status changes	M
677	Each time a remark is added to the event	M
678	Each time a remark is added to the unit	I
	The following timers will be provided by the system:	
679	Elapsed time in the pending list	M
680	Dispatcher initial event view to the dispatch of first unit.	I
681	Initial dispatch to first unit to arrive on scene.	M
682	Elapsed time of units on scene.	M
683	Elapsed time a unit is on scene without communication to dispatch (Officer safety)	I
684	The system will allow the creation of City defined time stamps.	M
685	The system will allow the creation of City defined timers using defined time stamps.	M
686	The City can determine the length of time that a timer will be active before notifying the operator.	I
687	The system provides an audible (optional through system configuration) and visual notification to the operator when an event timer exceeds a predetermined time period in a status.	M
688	The visual notification for the event timer will be displayed for the event's map icon.	I
689	The event status timer's time periods are established and maintained by the City.	M
690	Event status timer can vary by event type code.	I
691	The operator can reset the time for any event related timer.	M
692	The timer restarts at 0.	I

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Spec ID	Specification Description	Priority
693	Notifications are reset.	I
694	The operator can select a default time period or specify a time period.	I
695	The operator can disregard the time for any event related timer.	M
696	The timer continues to run.	I
697	Future notifications can be turned off.	I
698	Future notifications can be reset ("snooze").	I
	Closed event	
699	An event can only be closed by the dispatcher responsible for the area of the event.	M
700	The system can restrict the closing an event to authorized workstations.	M
701	All units must be clear of an event before an event can be closed.	M
702	An event can be closed without having a unit assigned. The event record will require an appropriate disposition code.	M
703	Remarks can be added to a closed event.	M
704	A closed event can be reopened.	M
705	When an event is reopened, the existing data record is not affected. For example, time codes remain intact.	M
706	The event will be returned to the pending list and will have an indicator showing it is a reopened event.	M
707	Cancelling an event is restricted to authorized operators (e.g., supervisors) and workstations. The Vendors will describe the process for cancelling an event.	I
708	The system requires verification in the form of an affirmative response to a question, such as "Are you sure?" before completing the cancelation of an event.	M
709	The system is capable of maintaining a list of the 20 most recent cancelled events for viewing at supervisor workstations via a separate window.	M
	Unit recommendation	
710	The number and types of units recommended can vary by event type code and location.	M
711	The operator can accept the complete list of system recommended units using a function key.	I
712	The operator can select any units from the recommended units list for dispatch.	M
713	The operator can manually enter any valid unit ID or multiple unit IDs for assignment on an event, even IDs not on the recommended unit list.	M
714	The operator can return the event to the pending list without making a unit assignment.	I
715	There is no limit to the number of units that can be assigned to an event.	M
716	The system can formulate location specific recommendations.	I
717	The system can use the AVL location for units when developing a recommendation list.	M
	The system will adjust the recommendation list accounting for	
718	Time of day	I
719	Unit availability.	I
720	Special skills assigned to the unit.	M
721	Special equipment assigned to the unit.	M

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Spec ID	Specification Description	Priority
722	Closest units to the location of the event.	M
723	Units already assigned to the event.	I
724	The system can display extended unit recommendations in addition to the initial recommendation.	I
	Unit activity	
725	The system allows units assigned to separate events to exchange assignments without creating a new event.	I
726	The system will update all log files when units are exchanged.	I
727	The system will seek any required authorization from the responsible operator prior to the exchange.	I
728	The system will provide notifications to the operators responsible for the individual units involved in the exchange on completion of the exchange.	I
729	The system allows an assigned unit and an unassigned unit to be exchanged without creating a new event.	I
730	A unit or units can be assigned to an event:	I
731	By selection as part of a recommended unit list	M
732	As a parameter of a function entered on a command line	M
733	Drag and drop from a list of available units.	M
734	Selected by the dispatcher.	M
735	A unit may be unassigned and unavailable for assignment.	M
736	Although unavailable, a unit may be selected by the dispatcher for assignment.	M
737	A unit may be assigned to backup or assist another unit.	I
738	A unit may be place out-of-service and not available for assignment.	M
739	The responsibility for a unit may be transferred from one area of responsibility (e.g., precinct, city-wide) to another.	M
740	The system allows one unit to cover the assigned area of another unit.	M
741	The system allows remarks to be added to the unit (specifically) by the operator.	M
	Unit type	
742	The system supports the association of a unit type to a unit ID.	I
743	The City can create and maintain the unit types.	M
744	The system supports the creation of temporary units.	I
745	Once created, the temporary unit has all of the characteristics of a defined unit until removed.	I
746	When the unit logs off, the temporary unit will be removed as an assignable unit from the system. The unit history for a temporary unit will remain.	M
	Unit data elements	
	The system unit record contains the following elements:	
747	Unit ID	M
748	Unit type	M
749	Number of personnel assigned to the unit	M
750	Personnel assigned	M
751	Push-to-talk ID	M
752	Vehicle ID	M
753	Special equipment	M
754	Home assignment	M
755	Controlled / Uncontrolled	I
	Unit status	

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Spec ID	Specification Description	Priority
756	The status of a unit may be updated using a function executed on the command line.	M
757	The status of a unit may be updated using a mouse.	M
758	The status of multiple units assigned to an event may be updated with a single command.	M
759	The system allows the City to create and maintain unit status codes.	M
760	The status of a unit is reflected on the display of the unit ID on the status display.	M
761	The unit status indicator for the map and the status display can be the same color.	I
	The following are unit status codes that may be assigned to a unit:	
762	Available	M
763	Dispatched – not enroute	I
764	Enroute	I
765	In area	I
766	At station – available	I
767	At station – not available	I
768	Staging – available	I
769	Staging – not available	I
770	Arrived	M
771	Pre-empting	M
772	Exchanged	I
773	Transporting	M
774	Transport arrived	M
775	Transport complete	M
776	Out of service	M
777	Cleared – available	M
778	Cleared – not available	I
779	On break - available	I
780	On break – not available	I
781	Off duty	I
782	The system allows unit status codes to be defined by the City.	M
783	The system will differentiate unit status using color.	I
784	The colors associated with unit status can be assigned and maintained by the City.	I
785	The status of a unit is reflected on the display of the unit icon on the map.	I
786	The status of a unit, when displayed on the map, will be distinguished by color.	I
787	The color representing each unit status on the map can be determined and maintained by the City.	I
788	The system provides the ability of distinguishing the status of unit visually with other than color (to accommodate color blindness).	I
	Unit status timer	
789	The system provides an audible (optional using system configuration) and visual notification to the operator when a unit exceeds a predetermined time period in a status.	M
	The following unit status timers are enabled:	
790	Dispatched – the length of time in the dispatched status to marking enroute or arrived/on-scene	M
791	Enroute – from dispatch to arrived/on-scene	M
792	Arrived – the length of time from on-scene to clear.	M

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Spec ID	Specification Description	Priority
793	Unit safety / well-being timer - length of time established by the City that the unit reports status to the dispatcher.	M
794	The visual notification for the unit timer will be displayed for the unit's map icon.	I
795	The visual notification for the unit timer triggering can including blinking of the unit ID or map icon.	I
796	Unit status timer time periods are established and maintained by the City.	M
797	If an PDA is associated with the unit and a wellness check unit timer trigger is activated for that unit, the system will pass the notification along the PDA of the associated unit.	M
798	Unit status timer can vary by event type code.	M
799	The operator can reset the timer for any unit.	M
800	The timer restarts at 0.	I
801	Notifications are reset.	I
802	The operator can disregard the timer for any unit.	M
803	The timer continues to run.	I
804	Future notifications can be turned off.	I
805	Future notifications can be reset ("snooze").	I
	Primary unit for an event.	
806	The system can automatically assign a unit as the primary unit for an event based on City requirements.	M
807	The operator can assign a unit to be the primary unit for an event.	M
808	The primary unit will be responsible for the report, if a report is required.	I
809	The primary unit will require a disposition when cleared, if a disposition is required.	M
	Units logging on	
810	A unit may be logged on and off as necessary.	M
811	A unit may be logged on but out of service.	M
812	The system allows groups of units to be logged on and off with a single function.	M
	While logging the unit on, the operator may specify:	
813	The officer ID(s) to be associated with the unit. This activity will override (but not replace) any previously entered roster entries for that tour of duty.	M
814	Special equipment, e.g., special weapons, DUI kits.	M
815	Precinct (Unit will auto transfer to correct dispatcher.)	M
816	If a unit is logged on with a designated precinct, the system will automatically assign unit to the appropriate dispatcher.	M
817	If a unit is logged on with a designated precinct, the system will automatically display the unit on the appropriate dispatcher's workstation.	M
818	The system allows unit staffing, weapons and equipment to be updated by the operator while the unit is logged on.	M
819	The system allows the unit data table information to be updated at any time by authorized personnel.	M
	Pre-emption of units	
820	A unit can be pre-empted from an assigned event. The unit will be available for assignment.	M
821	A unit can be pre-empted from an assigned event and reassigned to a different event with a single command.	M

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Spec ID	Specification Description	Priority
822	A unit pre-empted from an event, may have that event placed in the unit's event stack, as determined by the operator.	I
823	If all of the units assigned to an event are pre-empted, the event will be placed back on to the pending events list.	M
824	A unit can be designated arrived of an active event.	M
	Cleared units.	
825	A unit can be cleared from an event.	M
826	Cleared units will be available for assignment.	M
827	A unit may be cleared from an event and held as not available for assignment.	I
828	Multiple units can be cleared from an event with a single command.	M
829	All units may be cleared from an event with a single command.	M
	Unit clearance code	
830	The unit clearance codes are created and maintained by the City.	I
831	A unit clearance code is added to the unit record on clearance of a call by a unit.	I
832	A unit clearance code can be required depending on the event type of the event, as determined by the City	I
	Wrecker rotation	
833	The system provides a method for creating and maintaining list used for the recommendation of rotating external services, e.g., wrecker company rotation plans.	M
834	The City can create and maintain a list of wreckers companies to include on the rotation plan.	M
835	The system allows for the development of a separate wrecker company recommendation plan based on wrecker coverage polygons.	M
836	Wrecker company rotation plans can be based on location.	I
837	The system can automatically assign a wrecker company from the wrecker company rotation list.	I
838	The operator may override the system recommended wrecker company selection.	M
839	The wrecker company selection can be based on a wrecker company rotation cycle as determined by the agency, e.g., the same wrecker or company selected for a week, followed by the next selection on the list.	M
	The system can use some or all the following parameters to determine the wrecker company selection:	
840	Length of time since the last assignment	I
841	Location of the assignment	I
842	Special equipment/capability	I
843	The system allows the operator to remove / suspend a wrecker company from the wrecker rotation list for a City determined period of time	M
844	The system will create a history for wrecker company event for inquiry and printing.	M
845	An operator can print the wrecker company assignment logs.	M
846	An operator can electronically deliver (email) the wrecker company assignment logs.	M
847	The system allows an operator to select if wrecker stays at top of a wrecker rotation or select a wrecker company to go to bottom of the wrecker rotation list depending on circumstances.	M

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Spec ID	Specification Description	Priority
848	The system allows the operator to manually assign / override wrecker company selection.	M
	Integrated Mapping	
849	Due to funding requirements, proposals must meet all GIS and mapping requirements as stated in the Shelby County TN Emergency Communications District (SCECD) Requirements for Integrated CAD/Mapping Systems dated November 10, 2011, Attachment A of this RFP. Throughout the SCECD Requirements document, consider the word "should" as equivalent to "will".	M
	The Additional Requirements section of the SCECD Requirements document is not applicable to vendors except for the following items:	
850	The selected CAD/Mapping system must utilize the address points, ESN boundaries, and street centerlines in the TIPS database schema as provided and maintained by SCECD.	M
851	The CAD/Mapping system must provide the ability to geocode ALI data received in legacy format by the use of translation tables or similar methods until full implementation of State of Tennessee Next-Generation 9-1-1 delivery of ALI data.	M
852	The system supports map overlays.	M
	The system support the following overlays, at a minimum:	
853	Digital Orthophotographic	M
854	Pictometry	M
855	Parcel	M
856	Agency developed map layers	M
857	Waterways	M
858	City developed polygons, e.g., Police Precincts	M
859	Political boundaries	M
860	Neighborhoods	I
861	Hydrants	I
862	Railroad lines	M
863	Communication towers, e.g., cell phone, commercial broadcast	I
864	Live traffic data.	I
865	The City integrated CAD map can utilize the map for the entire County.	I
866	The map system supports the ability to share the keyboard and mouse function with CAD.	M
867	The map displays active events.	M
868	The map displays pending events.	M
869	The map symbols representing events and units are configurable by the City.	M
870	The map symbols will distinguish between function, e.g., events and units, by color and shape.	M
871	The map symbols representing units will distinguish unit status, e.g., enroute, arrived, available.	I
872	The operator can display detail information about the event or unit by selecting the representative icon displayed on the map.	M
873	Map overlays may be toggled on and off by the operator.	M
874	The system is able to accept location information based on FCC Wireless Phase I and Phase II standards.	M
875	The system is able to display of the location of Wireless Phase I and Phase II callers.	M

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Spec ID	Specification Description	Priority
876	An operator can initiate an event from a mouse click on the map using the map point from the click as the location.	M
877	When initiation an event from a mouse click on the map, the system will use the closest valid address as the location to validate, but the point on the map will remain at the point selected.	M
878	The system is able to link files to map structures, e.g., photos, PDFs, audio.	M
879	The system is able to create, store and execute hyperlinks.	M
880	The system supports ability to toggle feature displays.	M
881	The system is able to toggle feature annotation.	M
882	The system is able to pan and zoom.	M
883	The map feature annotation font size automatically adjusts with map focus.	M
884	Map symbology can be defined and changed by the City.	M
885	The map centers on the specified location during event entry, dispatching and inquiry.	M
886	The system can print the map display	M
887	The system supports initiating event creation from the map.	M
888	The event created from the map will use the map location as the event location.	M
889	An event created from a map can default to the closest intersection.	M
	GIS interface	
890	The system is compatible with ESRI software.	M
891	The system supports ESRI file formats.	M
892	All GIS related files can be maintained by the agency.	M
893	GIS files can be imported to CAD by the agency using built in utilities.	I
894	A GIS report writing module is included.	M
	Road closures	
895	The system is able to accept and process road closures.	M
896	The road closure will be visually represented on the map.	M
897	An authorized user is able to enter a road closure using CAD functions.	M
898	Road closures are shared with all CAD workstations.	M
899	Road closures can be established to be of any duration.	M
900	Unit recommendations will be adjusted due to active road closures.	M
	Unit routing	
901	Unit event routing assistance will be adjusted due to active road closures.	M
902	The system supports unit routing based on shortest route.	M
903	The system supports unit routing based on fastest route.	M
904	Unit routing accounts for road closures.	M
905	Unit routing accounts for detours.	M
906	Unit routing accounts for road attributes, e.g., speed limits, one-way streets.	M
	Pre-arrival instructions (PAI)	
907	The responses provide the operator with the determination of a event type code.	I
908	The system can interface with a third party Law Enforcement pre-arrival instructions software.	I

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Spec ID	Specification Description	Priority
909	The system provides for the development, entry and maintenance pre-arrival instructions by the City which is internal to the system.	M
910	The City can create pre-arrival instructions based on City SOPs.	M
911	City created pre-arrival instructions are based on event type code.	M
912	The system will select the City created pre-arrival instructions when the event type code is entered.	M
Quality Assurance / Quality Improvement		
913	All event record data is available for export to a QA application.	I
914	The QA / QI module is capable of supporting the QA / QI protocol discussed in the National Emergency Number Association (NENA) Emergency Call Processing Protocol Standard NENA 56-006, June 7, 2008.	I
915	The proposed system provides a QA module. If comply, describe the system.	I
CPE interface		
916	The system supports an interface to the currently installed Cassidian Vesta M1 Customer Premises Equipment (CPE).	M
917	The CAD to CPE interface is able to accept NENA i3 compliant data transfer, when available.	M
918	The City is in the process of upgrading the current Cassidian CPE system to a newer version of the Cassidian Vesta . The City will require the successful CAD vendor to interface the upgraded version.	M
Alarm company interface		
919	The system is capable of a bi-directional interface to external alarm monitoring companies.	M
920	The external alarm monitoring company interface utilizes the most recently developed ASAP specifications.	M
Personnel / Staffing interface		
921	The system has the ability to interface with a third party personnel scheduling software, e.g., Telestaff.	I
922	The system provide a vendor developed personnel scheduling software.	I
Radio system interface		
923	The system has the ability to interface with a the City Motorola radio console.	M
924	The radio console interface is capable of displaying the unit radio callsign on the CAD monitor screen when the field unit depresses the transmit key.	M
925	On activation of the field radio emergency button function, the radio console interface provides the field unit's radio callsign and last known location to all dispatch group workstation.	I
State / NCIC interface		
The system supports the following transactions to the TN and NCIC		
926	Vehicle Registration	M
927	Drivers License (DL)	I
928	Vehicle Identification Number (VIN)	M
929	Social Security Number (SSN)	I
930	Wanted persons	I
931	Warrants	I
932	Criminal History	I

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Spec ID	Specification Description	Priority
933	The system automatically executes the State of Tennessee / NCIC inquiry based on information entered during events, as determined by the City. For example, when a license plate and/or name entered into the proper fields of an incident, or from the command line, the CAD system is able to perform automatic NCIC queries on the information.	M
934	The inquiry process adheres to the CJIS, State of TN, City of Memphis security protocols.	M
935	The function is capable of utilizing Advanced Authentication security protocols.	M
936	The system allows access to the inquiry function is based on operator and terminal authentication.	M
937	The system provides the capability of Single Sign On (SSO) which is capable of coordinating logon attributes between CAD logon, NCIC logon and logon to other external system that require a separate logon	M
938	The system has the ability to interface directly to the State of Tennessee wants and warrants system.	I
939	The interface meets all applicable security protocols for access, storage, retrieval and reporting.	M
940	Returns from the inquiry can be attached to the CAD event record.	M
941	An audit log is maintained for each successful and unsuccessful inquiry request.	M
942	The audit log meets TN and NCIC (CJIS) requirements.	M
943	The log is permanently stored.	M
944	The log records are searchable and reportable.	M
	Logging Recorder interface	
945	The system is able to establish an interface with the City's Audiolog 5.0 system.	M
946	The system provides a hyperlink from CAD record in CAD system to the incident record stored on the Logging Recorder.	I
947	The system is able to store screen shots of the CAD workstation with the incident record in the Logging Recorder.	I
948	The system provides the CAD incident data to the Logging Recorder, identified by the CAD incident number.	I
949	The system is capable of attaching Logging Recorder records to the CAD incident record in CAD.	I
	Automatic Vehicle Location (AVL) third party interface	
950	The interface to a third party AVL module can be used to determine real-time unit location.	M
951	The unit AVL location data is used in unit recommendation in order to recommend the closest, properly equipped resource.	M
952	The unit AVL location used in vehicle routing.	M
953	The unit AVL locations can be displayed as a feature on the integrated CAD map.	M
954	The unit AVL locations are updated on the map automatically.	M
955	The unit AVL locations are updated on the map in real-time.	I
956	The frequency of AVL location updates can be adjusted by unit and status.	M
957	The system can interface with the AVL application without Mobile Data infrastructure.	I
958	The AVL module can be toggled on and off without degradation of CAD responsiveness.	M

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Spec ID	Specification Description	Priority
959	The system is capable of creating map based polygons as "geo-fence" boundaries.	I
960	The geo-fence boundaries are able to be displayed on the integrated CAD map.	I
961	Designated user accounts will be notified when a unit crosses geo-fence boundaries.	I
962	Designated workstations will be notified when a unit crosses geo-fence boundaries.	I
963	The system can interface with the AVL application to produce event and unit playback activity using the existing CAD mapping module.	I
964	The system will interface with the AVL application to capture unit data and reflect current unit conditions on the unit icon on the CAD status map.	I
965	Authorized users are able to monitor AVL external inputs, e.g., unit emergency lights, siren.	I
966	Authorized users are able to control AVL external outputs, e.g., doors.	I
967	Authorized users are able to monitor AVL unit diagnostic data, e.g., mileage, fuel level.	I
968	Route replay is capable of displaying the route of the unit using "DVR-like" controls.	I
969	The system will interface with the AVL application to capture and display unit data regarding current unit conditions	I
	The system is capable of displaying the following unit conditions when using the route replay function:	
970	ID	I
971	Location	I
972	Speed	I
973	Direction	I
974	Ignition on/off	I
975	Start/stop movement	I
976	Siren on/off	I
977	Emergency lights on/off	I
978	Acceleration/deceleration	I
979	Speeding alert	I
	The system will interface with the AVL application to capture unit data to enable the following reports:	
980	Vehicle activity	I
981	speed	I
982	location	I
983	Geofence violations	I
984	The AVL module is capable of registering changes to client AVL applications and data using Over-the-Air (OTA) Programming via WiFi.	I
985	The AVL module is capable of buffering "AVL events" (e.g., location, speed, direction, alerts) during the time period that communications between the remote AVL devices and the AVL server is down.	I
986	The AVL module is capable of regulating communication from AVL devices to prevent saturation of the AVL interface on restart of communications.	I

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Spec ID	Specification Description	Priority
987	The AVL module allows for upgrades and replacements of the AVL devices. Vendors will describe their upgrade and replacement policy.	I
988	The AVL devices do not require external GPS or cellular antennae for unit installations.	I
989	The AVL module respondent will provide system administration and user training for the proposed system. The training will be approved by MPD.	I
990	The AVL module will detect and report attempts at jamming the AVL communication.	I
991	The AVL module will communicate over wireless providers approved by MPD.	I
992	AVL module is capable of using wireless communication contracts that will be negotiated by MPD.	I
	City's Personnel system interface	
993	The system supports the ability to interface to the City's Oracle Personnel system.	I
	RMS interface	
994	The system supports the ability to interface to the City of Memphis Record Management System TriTech / Vision Inform RMS.	I
995	The system will perform, through the RMS interface, the automatic transfer of CAD incident information to the RMS.	I
996	The system transfers the CAD incident information automatically, on incident closure.	I
997	The system transfers the CAD incident information automatically, when units are initially dispatched.	I
998	The system transfers the CAD incident information automatically, when an incident number is assigned.	I
999	MPD can determine when the CAD incident information is transferred to RMS.	I
1000	Name information transferred from the CAD system to the RMS will be associated into the Master Name Index of the RMS system	I
1001	Vehicle information transferred from the CAD system to the RMS will be associated into the Master Vehicle Index of the RMS system	I
1002	Location information transferred from the CAD system to the RMS will be associated into the Master Location Index of the RMS system	I
1003	The CAD system provides access to the RMS database for lookup of vehicle information, e.g., Tag, VIN, description, entered in the CAD event record.	I
1004	The CAD system provides access to the RMS database for lookup of person information, e.g., missing person, warrants, alerts, based on entries in the CAD event record, e.g., name, description, DL.	I
1005	The CAD system provides access to the RMS database for lookup of locations entered in the CAD event record.	I
1006	Inquiries initiated from CAD into RMS are returned to the initiating workstation or mobile device.	I
1007	Inquiries from CAD into RMS are returned to a separate window on the initiating workstation or mobile device.	I
1008	The CAD workstation operator is notified of a return of an inquiry with a visual and audible alert.	I
	SMART911 interface	

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Spec ID	Specification Description	Priority
1009	The system supports the ability to interface to SMART911 external database, if available.	I
1010	The system has the ability to accept and process SMART911 data, if available and provided by the SMART911 system.	I
1011	The system will present the SMART911 data provided to the dispatcher in a view only mode.	I
1012	The system has the ability to attach the SMART911 data provided to the event record.	I
1013	The system supports IP connectivity on the Local Area Network. The system allows:	I
1014	HTTP (TCP/80) to the Smart911 CPE from the workstations is supported in a proxy configuration.	I
1015	HTTPS (TCP/443) to the internet is supported if workstations have Internet access.	I
1016	If the system utilizes a local firewall policy, the firewall policy allows network traffic to and from the CPE Server. The system allows:	I
1017	HTTP (TCP/80) to the Smart911 CPE from the workstations is supported in a proxy configuration.	I
1018	HTTPS (TCP/443) to the internet is supported if workstations have Internet access.	I
1019	The system supports 1911/UDP.	I
1020	The system supports .net Framework 3.5+	I
	Be On the Lookout Messages (BOLO)	
1021	The entry of a BOLO can occur via a form or via command line.	M
1022	A BOLO message can be entered from an authorized remote workstation, e.g., PDA, mobile data terminal.	M
	Any CAD workstation can perform the following with regards to BOLO messages:	
1023	Create	M
1024	Modify	M
1025	Display	M
1026	Delete	M
1027	Print	M
1028	Save a version of the BOLO for electronic distribution, e.g., email.	M
1029	Based on the requirements of the City, the system can restrict the ability to delete a BOLO.	M
1030	The system provides the ability to send a BOLO to groups of workstations or individual workstations.	M
1031	The BOLO can be tied to an event.	M
1032	The workstation ID and operator ID initiating the BOLO will be recorded with the message.	M
1033	The active BOLO list can be displayed.	M
1034	The operator can select an active BOLO from the list to view the details.	M
1035	The BOLO can have an expiration date and time.	M
1036	The BOLO can be terminated by an authorized operator from an authorized workstation.	M
	The BOLO message record includes:	
1037	Date and time	M
1038	Initiating operator ID and workstation ID	M
1039	BOLO message	M

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Spec ID	Specification Description	Priority
1040	Expiration date	M
1041	Date and time terminated	M
1042	Terminating operator ID and workstation ID	M
1043	The BOLO messages can be searched by any field of the message.	M
1044	A BOLO message can be printed.	M
1045	A summary list of BOLOs can be printed.	M
	The BOLO summary list can be limited by	
1046	Active	I
1047	Closed / expired	I
1048	Date range	I
1049	BOLO data is available for inquiry, retrieval and reports.	M
1050	The BOLO list is available to mobile devices.	M
1051	The BOLO message can be scheduled for redistribution, if still active. For example, an active BOLO message can be redistributed every 4 hours.	M
	Broadcast messages	
1052	The entry of a Broadcast message will occur using a defined form.	I
1053	The system has the ability to allow the entry of Broadcast messages from authorized remote workstations, e.g., PDA or mobile data terminal.	I
	The entry form is comprised of at least the following fields:	
1054	Subject (person)	I
1055	Vehicle	I
1056	Narrative	I
1057	The system does not limit the number of subjects entered with the Broadcast.	I
1058	The system does not limit the number of vehicles entered with the Broadcast.	I
	Any CAD workstation can perform the following with regards to Broadcast messages:	
1059	Create	I
1060	Modify	I
1061	Display	I
1062	Delete	I
1063	Print	I
1064	Save a version of the Broadcast message for electronic distribution, e.g., email.	I
1065	Based on the requirements of the City, the system can restrict the ability to delete a Broadcast message.	I
1066	The Broadcast message will be distributed to all CAD workstations.	I
1067	The Broadcast message can be tied to an event.	I
1068	The workstation ID and operator ID initiating the Broadcast message will be recorded with the message.	I
1069	The list of active Broadcast messages can be displayed.	I
1070	The operator can select an active Broadcast message from the list to view the details.	I
1071	The Broadcast message can have an expiration date and time.	I
1072	The Broadcast message can be terminated by an authorized operator from an authorized workstation.	I
	The Broadcast message record includes:	
1073	Date and time	I
1074	Initiating operator ID and workstation ID	I
1075	Associated subjects	I

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Spec ID	Specification Description	Priority
1076	Associated vehicles	I
1077	Broadcast message	I
1078	Expiration date	I
1079	Date and time terminated	I
1080	Terminating operator ID and workstation ID	I
1081	The Broadcast message can be searched by any field of the message.	I
1082	A Broadcast message can be printed.	I
1083	A summary list of Broadcast messages can be printed.	I
	The Broadcast message list can be limited by	
1084	Active	I
1085	Closed / expired	I
1086	Date range	I
1087	The system will automatically perform an NCIC lookup on subjects and vehicles entered with the Broadcast message.	I
1088	Broadcast message data is available for inquiry, retrieval and reports.	I
1089	The Broadcast message list is available to mobile devices.	I
1090	The Broadcast message can be scheduled for redistribution, if still active. For example, an active Broadcast message can be redistributed every 4 hours.	I
	City of Memphis PDA interface	
1091	The system supports an interface to hand held devices which currently provide the capability of Field Based Reporting.	M
1092	The system supports a bi-directional interface with the current FBR implementation provider Data Driven, LLC. using Watson Field Reporting. The client application is written in .net and installed on the hand held device in a thin client configuration. The data is submitted via Watson to the current Vision RMS system at regular intervals. <i>See www.datadriven.com for details about Data Driven, LLC.</i>	M
1093	The system supports an interface to hand held devices to provide CAD incident data.	M
1094	The interface will alert the hand held device when the associated unit has been dispatched.	I
1095	The interface supports messaging between the hand held device and CAD.	I
1096	The interface to the hand held device supports CAD unit status updates.	I
1097	The interface supports the hand held device with the ability to update own status.	I
	The minimum information to provide to the hand held device:	
1098	event number	M
1099	event location	M
1100	event type	M
1101	event subtype	M
1102	complainant name	M
1103	complainant telephone number	M
1104	comments	M
1105	hazards	M
1106	The PDA interface provides the ability for the entry of disposition codes for an event.	M

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Spec ID	Specification Description	Priority
1107	The PDA interface provides the ability for the acknowledgement of status checks.	I
	In-vehicle Mobile Data interface	
1108	The mobile data interface provides the incident data from CAD to the mobile device associated to the unit dispatched to an incident.	I
1109	The system supports the ability to update the CAD unit status via the Mobile Device interface.	I
1110	The system supports mapping on the Mobile Device.	I
1111	The system supports mapping functionality identical to that of the CAD workstation.	I
1112	The system supports printing from the Mobile Device to any printer available on the network.	I
1113	The system supports printing to a locally attached printer, e.g., in-vehicle.	I
1114	The system supports sending and receiving messages between CAD workstations and Mobile Devices.	I
1115	The system supports messaging between Mobile Devices.	I
1116	The system supports the ability to perform bi-directional communications and inquiries between CAD and the Mobile Device.	I
1117	The system supports the transport of location data (AVL) from the Mobile Device to CAD.	I
1118	The system supports adjustable frequency of AVL location data refresh based on unit status, defined by the City.	I
1119	The system supports the use of an Emergency Button on the Mobile Device, notifying CAD workstations of a situation requiring urgent attention.	I
1120	The activation of the Emergency Button on the Mobile Device causes the CAD system to send an alert message to dispatching group CAD workstations associated to the Mobile Device as determined by the City.	I
1121	The emergency alert message will display the identity of the Mobile Device and current known location.	I
1122	The alert message requires acknowledgment of the CAD workstation operator, which will silence the alert.	I
1123	The alert message will include audible (optional using system configuration) and visual indicators.	I
1124	The Mobile Data interface complies with Tennessee, NCIC and CJIS security requirements, including Advanced Authentication.	I
1125	The system supports access to NCIC databases, enabling all required security.	I
1126	The mobile data interface supports data encryption for data transmission.	I
1127	The mobile data interface supports communication via wireless commercial carrier.	I
1128	The mobile data interface supports communication via City owned RF based system.	I
1129	The mobile data interface supports roaming communication between the Mobile Device and the CAD. The connection between CAD and the Mobile Device is maintained and does not require the Mobile Device to re-login as the unit moves between communication coverage areas.	I
	Video interface	

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Spec ID	Specification Description	Priority
1130	The system can establish a two way interface to an ESI Companies streaming video feed network.	I
1131	The system is able to associate a video feeds with an incident based on location.	I
1132	The CAD system operator can select and view real-time streaming video associated with the selected event.	I
1133	The system will store the video file and associated the file with an event via hyperlink.	I
1134	The system will export CAD event data to the video feed network application to enable situational alerts to the video feed network control center.	I
Network		
1135	The network provided through this procurement meets CJIS and TN protocol requirements	I
1136	The network provided through this procurement is firewalled from external access.	I
1137	The network provided through this procurement is IP based.	I
Testing software updates and patches		
1138	The system will be capable of testing all vendor provided updates and patches prior to implementation of the live system.	M
1139	The system used for testing is equivalent to the live system.	M
1140	Testing updates and patches will not impact the live system. The testing can operate concurrently with the live system without system degradation.	M
1141	The testing system can be physically separate from the live system.	M
1142	The testing system will be able to stay current with the versions of all components of the live system. The City is able to perform the functions to synchronize the live and testing systems.	M
1143	The testing system can be updated and restarted without impacting the live system.	M
1144	The City will have full control of the maintenance of the testing system.	M
1145	The testing system be set up at a location remote from the primary PSAP.	M
Training		
1146	The system used for training is equivalent to the live system.	M
1147	The vendor will provide system operation training to City defined users of the system.	M
1148	The vendor will provide system administration training to City defined administrators of the system.	M
1149	The vendor will provide train the training to City defined personnel designated as trainers of the system.	M
1150	Operating the training system will not impact the live system. The training system can operate concurrently with the live system without system response degradation.	M
1151	The training system is capable of training on the full suite of CAD functions.	M
1152	The training system can be physically separate from the live system.	M
1153	Web based training for the system and components is available.	M

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Spec ID	Specification Description	Priority
1154	The training system will be able to stay current with the versions of all components of the live system to stay in sync with the live system. The City is able to perform the functions to synchronize the live and training systems.	M
1155	The City can clear all incidents from training databases and reset the incident and case numbering sequences.	M
1156	The training system can be updated and restarted without impacting the live system.	M
1157	Training documentation will be provided by the Vendor.	M
1158	Training documentation provided by the Vendor will be customized by the Vendor to the City's needs prior to distribution to the City.	M
1159	The training documentation provided by the Vendor can be edited / customized by the City.	M
1160	The Vendor provides a training system simulation module.	I
1161	System will operate with a Third Party simulation application.	I
1162	The training system will accept a dump of live data from CAD to facilitate training for the purpose of working with historic data	M
1163	The training system can be set up at a location remote from the primary PSAP.	M
1164	The training system can be operated and maintained from remote location.	M
	Backup and recovery	
1165	The system provides a means to perform regular (e.g., daily, weekly) backups.	M
1166	Backups can be complete or incremental, as desired by the City.	M
	Backups will include	
1167	Static datafiles	M
1168	Working datafiles	M
1169	Performing the backup procedure will not degrade the system performance.	M
1170	The system will report on the status of the backup process, if successful or not successful.	M
1171	If connection is lost to the backup site, the system will send a notification message to a City designated position or email.	M
1172	The system will include a method to test and restore the viability of the backup on a regular basis (e.g., monthly, quarterly).	M
1173	The backup system can be set up at a location remote from the primary PSAP.	M
1174	The backup system can be operated and maintained from remote location.	M
	Performance Metrics	
	The system response times for the following actions are less than 1 second of elapsed time 90% of the time. These actions are performed in less than 3 seconds 100% of the time.	
1175	Display blank event entry form	I
1176	Assign a single unit to an event	I
1177	Change a single unit's status	I
1178	Clear a single unit from an event	I
1179	Verification of a unique address	I
1180	Return a list of possible address matches when an address can not be uniquely verified with the information entered	I

APPENDIX C - Memphis TN Police Department - Computer Aided Dispatch Specifications

Spec ID	Specification Description	Priority
1181	Provide unit recommendation based on uniquely verified address	I
1182	Assign up to 10 units to an event from a single command	I
	The system response times for the following actions are less than 2 seconds of elapsed time 90% of the time. These actions are performed in less than 4 seconds 100% of the time.	
1183	Display a closed event queried by event number	I
1184	Sending of a CAD-to-CAD Message, 80 Characters	I
1185	Sending a CAD-to-Unit Dispatch Message	I
1186	Retrieve message	I
1187	Display of Premises/Hazard File Data	I
1188	Display a unit history queried for a unit ID for a single shift	I
1189	Center map location on CAD event	I
	Documentation	
1190	The responding vendors will provide a network diagram with the proposal for the proposed system.	M
1191	Prior to final system acceptance, the successful Bidder will provide an as-built network diagram for the installed system components.	M
1192	The successful Bidder will provide complete technical, operations and maintenance instructions to support all systems prior to Final System Acceptance.	M
1193	The successful Bidder will provide a complete database schema and data description for all data elements for all components and data sets.	M
1194	The successful Bidder will provide a complete set of application User's Guides prior to the start of User training.	M
1195	The successful Bidder will provide a complete set of system Administrative guides prior to Final System Acceptance.	M
1196	The successful Bidder will provide a complete set of Interface operation and administration guides prior to Final System Acceptance.	M
1197	The successful Bidder will provide all documentation and licenses that came with all equipment and software purchased for use in this system, e.g., including Third party licenses, Operating System licenses.	M
1198	All documentation and reference material is updated with each version release.	M
1199	All vendor created documentation will be provided in electronic and hard copy formats.	M
1200	The successful Bidder will provide a complete set of operation and administration guides related to backup and recovery processes prior to Final System Acceptance.	M
1201	The successful Bidder will provide a complete set of Release Notes and resulting changes to documentations prior to each system version update.	M
	MIS – CAD system reporting	
1202	All stored information is available for inquiry and reporting.	M
1203	The reports writing package is capable of creating reports across all modules.	M
	Search criteria will include:	
1204	Exact match	M
1205	Partial match (wild cards)	M
1206	A range of values	M

APPENDIX C - Memphis TN Police Department - Computer Aided Dispatch Specifications

Spec ID	Specification Description	Priority
1207	Delimiters for each field type	M
1208	Any combination of criteria	M
	Information can be displayed by:	
1209	Workstation iD	M
1210	Operator ID	M
1211	Shift	M
1212	Hour of the day	M
1213	Day of the week	M
1214	Monthly	M
1215	Quarter	M
1216	Annual	M
1217	Operator specified date range	M
1218	Event type	M
1219	Priority	M
1220	Unit ID	M
1221	Location	M
1222	Common Place name	I
1223	Execution of reports and inquiries have no impact on the performance of CAD operations.	M
1224	All data tables are available for inquiry and reports, e.g., registered operators, units.	M
1225	The system allows operator defined inquiries, i.e., ad hoc inquiries.	M
1226	The system can save, store and reuse City developed inquiries and report formats.	M
1227	Standard reports are provided by the vendor.	M
1228	The system provides the ability for the City to define, store and maintain report templates as needed to standardize report formats.	M
1229	The system provides the ability for the City to edit the report templates that are provided by the vendor and included with the system.	M
1230	The system displays a list or menu of all stored or vendor provided reports.	M
1231	COTS report generation applications are supported, e.g., Crystal Reports	M
1232	Vendor and City created reports can be scheduled for execution and distribution, e.g., daily log reports scheduled for electronic distribution.	M
1233	Inquiry results can be viewed, printed and/or exported in an operator defined format.	M
1234	Results of inquiries and reports can be converted to Adobe Acrobat .PDF files	M
1235	The resulting data can be converted to CSV format exportable files.	M
1236	Results can be exported to other software applications, e.g., MS Excel, Word.	M
1237	The system is able to perform statistical analysis of CFS.	M
1238	Report and inquiry results can be printed to any CAD system defined printer.	M
1239	Report and inquiry results can be distributed via electronic means: email or fax.	M
1240	Report and inquiry results can be saved.	M
No further requirements below this line		

ACRONYMS

Term	Definition
ADA	Americans with Disabilities Act
ATP	Acceptance Test Plan
ALI	Automatic Location Identification
ANI	Automatic Number Identification
API	Application Program Interface
ASCII	American Standard Code for Information Interchange
AVL	Automatic Vehicle Location
AVRR	Automatic Vehicle Recommendation and Routing
CAD	Computer Aided Dispatch
CAMA	Centralized Automated Message Accounting
CFS	Calls for Service
CJIS	Criminal Justice Information Services
COTS	Commercial Off The Shelf
CPE	Customer Premises Equipment
CPU	Central Processing Unit
CSV	Comma Separated Variables
E9-1-1	Enhanced 9-1-1
ECC	Emergency Call Center
ECT	Emergency Call Taker
ECRF	Emergency Call Routing Function
EMD	Emergency Medical Dispatch
EMS	Emergency Medical Service
EOC	Emergency Operations Center
ePCR	Electronic Patient Care Report
ESINet	Emergency Services IP Network
ESN	Emergency Service Number
ESZ	Emergency Services Zone
ETA	Estimated Time of Arrival
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FRMS	Fire Records Management System
GIS	Geographic Information System
GPS	Global Positioning System
GUI	Graphical User Interface

ACRONYMS

Term	Definition
HIPAA	Health Insurance Portability and Privacy Act
IM	Instant Messaging
IP	Internet Protocol
IRR	Instant Recall Recorder
ISDN	Integrated Services Digital Network
LE	Law Enforcement
LERMS	Law Enforcement Records Management System
LoST	Location to Service Translation
LVF	Location Validation Function
MF	Multi-frequency
LEC	Local Exchange Carrier
LMP	Limited Manpower
LNG	Legacy Network Gateway
LNS	Legacy Network Switch
MDD	Mobile Data Device
MDT	Mobile Data Terminal
MIS	Management Information System
MLI	Master Location Index
MNI	Master Name Index
MVI	Master Vehicle Index
MS	Microsoft
MSAG	Master Street Address Guide
NENA	National Emergency Numbers Association
NTP	Network Time Protocol
OTA	Over the Air Programming
PCR	Patient Care Report
POTS	Plain Old Telephone Service
PSAP	Public Safety Answering Point
PSTN	Public Switched Telephone Network
PVR	Private Ringing
RADIUS	Remote Authentication Dial-In User Service
RFP	Request for Proposal
RMS	Records Management System
RTLTV	Real Time Live Video

ACRONYMS

Term	Definition
SBC	Session Border Control
SIP	Session Initiation Protocol
SLA	Service Level Agreement
SMS	Short Message Service
SMTP	Simple Mail Transfer Protocol
SNTP	Simple Network Time Protocol
SOG	Standard Operating Guideline
SOP	Standard Operating Procedure
SR	Selective Routing
TAP	Telelocator Alphanumeric Protocol
TCP/IP	Transmission Control Protocol / Internet Protocol
TDD	Telecommunications Device for the Deaf
UPS	Uninterruptible Power Supply
VoIP	Voice over Internet Protocol
VPN	Virtural Private Network
WiFi	Wireless Fidelity
WSP	Wireless Service Provider
XML	eXtensible Markup Language

GLOSSARY

Term	Description
9-1-1	A three-digit telephone number to facilitate the reporting of an emergency requiring response by a public safety agency.
Active event	An event that has at least one unit dispatched to it.
Active workstation	A workstation with the appropriate CAD software installed and configured that has a valid user logged on.
Administrator/System Administrator	Administrator/System Administrator is security role (permission set) granted to users of CAD System that allows them to perform privileged functions within the CAD System.
Agency/Agencies	Agency refers to the Shelby County emergency response provider that is participating in the CAD administration and operation: Shelby County Sheriff's Office and the Shelby County Fire Department.
Agency Trainer	An Agency Trainer is the staff member designated by each Agency to be trained on the System to then become trainers of the System themselves.
Application	Application is a synonym for Software Component.
Authorized User(s)	An Authorized User is a user who has been given specific permissions (rights/roles as defined by security level clearance) to perform a CAD function. An Authorized User may be assigned multiple roles. For this document, a user is synonymous with Authorized User.
Business Day	A Business Day is Monday through Friday.
Border Control Function	Provides a secure entry into the ESInet for emergency calls presented to the network. The BCF incorporates firewall, admission control, and may include anchoring of session and media as well as other security mechanisms to prevent deliberate or malicious attacks on PSAPs or other entities connected to the ESInet.
Call	A session established by signaling with two way realtime media and involves a human making a request for help. We sometimes use "voice call", "video call" or "text call" when specific media is of primary importance. The term "non-human-initiated call" refers to a one-time notification or series of data exchanges established by signaling with at most one way media, and typically does not involve a human at the "calling" end. The term "call" can also be used to refer to either a "Voice Call", "Video Call", "Text Call" or "Data-only call", since they are handled the same way through most of NG9-1-1.
Commercial-Off-The-Shelf (COTS)	COTS is a software package that is commercially available, leased, licensed, or sold to the general public and which requires no special modification or maintenance.
Computer Aided Dispatch (CAD) system	Computer based software that assists in the data entry, emergency event location, emergency responder assignment, event tracking and recording keeping related to response to emergency situations.
County	The County is Shelby County, Tennessee.
County Facilities	County Facilities are buildings owned/operated by Shelby County located in Shelby County Tennessee.
Criminal Justice Information Services	Criminal Justice Information Services is a division of the FBI providing state, local and federal law enforcement and criminal justice agencies with access to critical, personal information such as fingerprint records, criminal histories, and sex offender registrations.
Data Base Management System (DBMS)	A system of manual procedures and computer programs used to create, store and update the data required to provide Selective Routing and/or Automatic Location Identification for E9-1-1 systems.
Defect	A Defect is an imperfection, flaw, or deficiency in the CAD System.
Duly Qualified Service Technician	A Duly Qualified Service Technician is a person who is trained and certified by the System Provider to maintain the System.
Emergency Alert Systems (EAS)	Radio or television based broadcast of emergency event information.

GLOSSARY

Term	Description
Emergency Call Routing Function (ECRF)	A functional element in an ESInet which is a LoST protocol server where location information (either civic address or geo-coordinates) and a Service URN serve as input to a mapping function that returns a URI used to route an emergency call toward the appropriate PSAP for the caller's location or towards a responder agency.
Emergency Communications Center (ECC)	A set of call takers operating under common management which receives emergency calls for service and asynchronous event notifications and processes those calls and events according to a specified operational policy.
Emergency Medical Service (EMS)	Fire, hospital, poison control, etc. response centers
Emergency Notification Systems (ENS)	General category for any systems used to notify persons of an emergency. May include changeable message signs, sirens, telephone and other media.
Emergency Service Number (ESN)/ Emergency Service Zone (ESZ)	An ESN is a three to five digit number representing a unique combination of emergency service agencies (Law Enforcement, Fire, and Emergency Medical Service) designated to serve a specific range of addresses within a particular geographical area, or Emergency Service Zone (ESZ). The ESN facilitates selective routing and selective transfer, if required, to the appropriate PSAP and the dispatching of the proper service agency (ies).
Emergency Services IP Network (ESInet)	An ESInet is a managed IP network that is used for emergency services communications, and which can be shared by all public safety agencies. It provides the IP transport infrastructure upon which independent application platforms and core functional processes can be deployed, including, but not restricted to, those necessary for providing NG9-1-1 services. ESInets may be constructed from a mix of dedicated and shared facilities. ESInets may be interconnected at local, regional, state, federal, national and international levels to form an IP-based inter-network (network of networks).
Enhanced 9-1-1 (E9-1-1)	A telephone system which includes network switching, data base and Public Safety Answering Point premise elements capable of providing automatic location identification data, selective routing, selective transfer, fixed transfer, and a call back number. The term also includes any enhanced 9-1-1 service so designated by the Federal Communications Commission in its Report and Order in WC Docket Nos. 04-36 and 05-196, or any successor proceeding.
Geographic Information System (GIS)	A computer software system that enables one to visualize geographic aspects of a body of data. It contains the ability to translate implicit geographic data (such as a street address) into an explicit map location. It has the ability to query and analyze data in order to receive the results in the form of a map. It also can be used to graphically display coordinates on a map i.e. Latitude/Longitude from a wireless 9-1-1 call.
Global Justice XML Data Model (GJXDM)	The GJXDM is a data reference model for the exchange of information within the justice and public safety communities.
Go-Live	Go-Live is the first day, after the County has approved the system for live operation, that the System is actually used in production system by system users.
Health Insurance Portability and Accountability Act (HIPAA)	Federal regulation protecting patients from unauthorized disclosure of medical information.
Incident / Event	A real world occurrence such as a heart attack, car crash or a building fire for which one or more calls may be received.
Incident Based Reporting (IBR)	IBR is the method of collecting individual incident and arrest records, as opposed to the aggregate/summary numbers collected under Summary-Based Reporting.
Instant Messaging (IM)	A method of communication generally using text where more than a character at a time is sent between parties nearly instantaneously.

GLOSSARY

Term	Description
Key Personnel	Individuals considered critical to the project, i.e., their absence from the project would have a significant impact on the successful implementation of the system. Examples would include, but not be limited to, the Project Manager, Technical Leader or Training Leader.
Local Area Network (LAN)	A transmission network encompassing a limited area, such as a single building or several buildings in close proximity.
Location Information Server (LIS)	<p>A Location Information Server (LIS) is a functional entity that provides locations of endpoints. A LIS can provide Location-by-Reference, or Location-by-Value, and, if the latter, in geo or civic forms. A LIS can be queried by an endpoint for its own location, or by another entity for the location of an endpoint. In either case, the LIS receives a unique identifier that represents the endpoint, for example an IP address, circuit-ID or MAC address, and returns the location (value or reference) associated with that identifier.</p> <p>The LIS is also the entity that provides the dereferencing service, exchanging a location reference for a location value.</p>
Location to Service Translation (LoST) Protocol	A protocol that takes location information and a Service URN and returns a URI. Used generally for location-based call routing. In NG9-1-1, used as the protocol for the ECRF and LVF.
Location Validation	Refers to the action of ensuring that a civic address can be used to discern a route to a PSAP.
Logical Entity Exchange Specification (LEXS)	LEXS defines a data model, syntax, semantics, and usage guidelines for implementers of information exchanges. LEXS was created to minimize the impact of changing requirements and varied demands for information sharing between sources and consumers of data.
Maintenance	The ongoing processes of modifying the System, after Warranty, to correct defects, improve performance and continually adapt the System to changes in work environment.
Management Information System (MIS)	A program that collects, stores and collates data into reports enabling interpretation and evaluation of performance, trends, traffic capacities, etc.
Master Clock	An accurate timing device that generates synchronization signals to control other clocks or equipment. (Ref. NENA 04-002).
Master Street Address Guide (MSAG)	A data base of street names and house number ranges within their associated communities defining Emergency Service Zones (ESZs) and their associated Emergency Service Numbers (ESNs) to enable proper routing of 9-1-1 calls.
Mobile Data Terminal (MDT)	An MDT is a laptop computer or personal digital assistant, running the Windows operating system, located in an Agency vehicle or a portable device that will utilize the CAD / RMS System.
Module	A Module is a synonym for Software Component.
National Academy of Emergency Dispatch (NAED)	The NAED is a non-profit standard-setting organization promoting safe and effective emergency dispatch services world-wide. Comprised of three allied Academies for medical, fire and police dispatching, the NAED supports first-responder related research, unified protocol application, legislation for emergency call center regulation, and strengthening the emergency dispatch community through education, certification, and accreditation.
National Crime Information Center (NCIC)	NCIC is an automated database of criminal justice and justice-related records maintained by the FBI. The database includes the "hot files" of wanted and missing persons, stolen vehicles and identifiable stolen property, including firearms.

GLOSSARY

Term	Description
National Emergency Number Association(NENA)	The National Emergency Number Association is a not-for-profit corporation established in 1982 to further the goal of "One Nation-One Number." NENA is a networking source and promotes research, planning and training. NENA strives to educate, set standards and provide certification programs, legislative representation and technical assistance for implementing and managing 9-1-1 systems.
National Information Exchange Model (NIEM)	NIEM is a national initiative supported by the federal government. NIEM provides a means of connecting communities of people who share a common need to exchange information. NIEM is designed to develop, disseminate, and support enterprise-wide information exchange standards and processes that will enable jurisdictions to automate information sharing.
Network Time Protocol (NTP)	A powerful utility for synchronizing system clocks over a TCP/IP network.
Next Generation 9-1-1 (NG9-1-1)	NG9-1-1 is an IP-based system comprised of managed IP-based networks (ESInets), functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provide additional capabilities. NG9-1-1 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for PSAPs and other emergency service organizations.
Originating Agency Identifier (ORI)	The ORI is a code assigned to designate the originating agency in a law enforcement system.
Personal Digital Assistant (PDA)	Small, handheld device used to store address book information, telephone numbers, personal contacts and other personal information.
Primary Unit	Unit assigned to write an incident report.
Policy Routing Function (PRF)	That functional component of an Emergency Services Routing Proxy that determines the next hop in the SIP signaling path using the policy of the nominal next element determined by querying the ECRF with the location of the caller.
Presence Information Data Format – Location Object (PIDF-LO)	The Presence Information Data Format is specified in IETF RFC 3863; it provides a common presence data format for Presence protocols, and also defines a new media type. A presence protocol is a protocol for providing a presence service over the Internet or any IP network.
Primary Public Safety Answering Point (PSAP)	A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. (see Public Safety Answering Point)
Remote Authentication Dial-In User Service (RADIUS)	The attributes for conveying access network ownership and location information based on a civic and geospatial location format.
Service Level Agreement (SLA)	A contract between a service provider and the end user, which stipulates and commits the service provider to a required level of service.
Session Initiation Protocol (SIP)	An IETF defined protocol (RFC3261) that defines a method for establishing multimedia sessions over the Internet. Used as the call signaling protocol in VoIP, i2 and i3.
Short Message Service (SMS)	A service typically provided by mobile carriers that sends short (160 characters or fewer) messages to an endpoint. SMS is often fast, but is not real time.
Signature Pad	A Signature Pad is a device used to capture the electronic signature of a person.
Simple Network Management protocol (SNMP)	A protocol defined by the IETF used for managing devices on an IP network.
Simple Network Time Protocol (SNTP)	A utility for synchronizing system clocks over a TCP/IP network. This protocol is similar to NTP and is used when the ultimate performance of the full NTP implementation is not needed.
Software Component	A subset of the overall CAD System.
Standard Operating Procedure (SOP)	A written directive that provides a guideline for carrying out an activity. The guideline may be made mandatory by including terms such as "shall" rather than "should" or "must" rather than "may"

GLOSSARY

Term	Description
System	The System is the Computer Aided Dispatch System.
System Provider	Refers to the CAD software developer or authorized software value added reseller responding to the RFP.
Telecommunications Device for the Deaf (TDD)	A device capable of information interchange between compatible units using a dial up or private-line telephone network connections as the transmission medium. ASCII or Baudot codes are used by these units. (per EIA PN-1663)
Virtual Private Network (VPN)	A virtual private network (VPN) is a network that uses a public telecommunication infrastructure, such as the Internet, to provide remote offices or individual users with secure access to their organization's network.
Voice over Internet Protocol, Voice over IP (VoIP)	Provides distinct packetized voice information in digital format using the Internet Protocol. The IP address assigned to the user's telephone number may be static or dynamic.
Warranty	A Warranty is the agreement the System Provider provides to repair any and all defects in the CAD System for a period of not less than one year.
Wireless Service Provider (WSP)	Cellular, satellite or other radio based telephony or data transport commercial entity.
eXtensible Markup Language (XML)	An internet specification for web documents that enables tags to be used that provide functionality beyond that in Hyper Text Markup Language (HTML). Its reference is its ability to allow information of indeterminate length to be transmitted to a PSAP call taker or dispatcher versus the current restriction that requires information to fit the parameters of predefined fields.

[Insert CAD Functional Specifications here]

ATTACHMENT D

AVL Functional Specifications

ATTACHMENT D - Memphis TN Police Department - AVL Specifications

Spec ID	Specification Description	Priority	Response
	System Administration		
1	System data tables are maintained via GUI based forms.	I	Not Answered
2	Access to data table administration screens is restricted by operator and workstation.	I	Not Answered
	System table maintenance		
3	System tables can be updated without requiring a system restart.	I	Not Answered
4	The system utilizes a forms based user interface for data table maintenance.	I	Not Answered
	Time synchronization		
5	The system accepts time standard from a master clock device.	M	Not Answered
6	The time standard synchronizes across all CAD databases, workstation, and servers.	M	Not Answered
	Date and time		
7	System time can be displayed as 12 hour or 24 hour format at the discretion of the City.	M	Not Answered
8	The system time will auto-adjust for DST without impacting system operation.	M	Not Answered
9	All times are displayed and stored as local time.	M	Not Answered
	Equipment		
10	The vendor will provide detailed specifications for all required hardware to enable the City to purchase the required hardware using City procurement processes.	I	Not Answered
11	The successful Bidder will certify that all components purchased through City procurement to the specifications provided by the successful Bidder is fit for use.	I	Not Answered
12	The AVL vendor will stage the application, network and hardware with the CAD system vendor if testing installation is at a site other than the PSAP to facilitate the City's testing and acceptance. The space and power in the current PSAP facility is limited and will not accommodate additional loading.	M	Not Answered
13	All proposed components are new.	M	Not Answered
14	All components proposed include all updates and upgrades to fully function on the proposed system.	M	Not Answered
	Security		
15	System access can be controlled by the City.	M	Not Answered
16	The AVL system interface complies with Tennessee, NCIC and CJIS security requirements, including Advanced Authentication.	M	Not Answered
17	The system supports multi-level security features.	M	Not Answered
18	All passwords are stored in encrypted form.	M	Not Answered
19	Operator accounts and passwords are synchronized across all system modules.	M	Not Answered
20	Individual accounts and passwords for the system are controlled by the City where operator IDs, passwords, security accounts can be created, modified and deleted an authorized City operator.	I	Not Answered
21	There are no default accounts configured in the system.	I	Not Answered
22	There are no hidden or "backdoor" accounts configured in the system.	I	Not Answered
23	Each access account must be disclosed to the City.	M	Not Answered
24	The City maintains all security aspects of the system, without reliance on the vendor to perform security functions.	I	Not Answered
25	The system supports remote maintenance.	I	Not Answered
26	The application is compatible with COTS Anti-virus software for workstations and servers.	M	Not Answered

ATTACHMENT D - Memphis TN Police Department - AVL Specifications

Spec ID	Specification Description	Priority	Response
	Transaction logging (Audit log)		
27	The system logs each transaction, including:	I	Not Answered
28	Date and time	M	Not Answered
29	Operator ID	M	Not Answered
30	Terminal ID	M	Not Answered
31	Transaction	M	Not Answered
32	Each transaction will be logged whether it was successful or not successful.	I	Not Answered
33	Retention time for the system transaction logs is defined by the City.	I	Not Answered
34	The system transaction logs can be searched and retrieved by any parameter stored with the transaction.	I	Not Answered
35	The system transaction logs can be sorted by any parameter stored with the transaction.	I	Not Answered
36	The system maintains transaction logs for each transaction across all modules.	I	Not Answered
37	Viewing of events are recorded in the transaction / audit log and will include the Operator ID and Workstation ID from which the event is viewed.	I	Not Answered
38	Executing the historic playback feature is recorded in the transaction / audit log and will include the Operator ID and Workstation ID initiating the playback function.	I	Not Answered
39	The system allows the City to specify and toggle the types of transactions that are recorded in the transaction log.	I	Not Answered
	Routing of the AVL data		
40	The system will automatically associate AVL based data to the response unit hosting the AVL device.	M	Not Answered
	Time stamps and timers		
	Time stamps will include:		
41	Current date and time	M	Not Answered
42	Operator ID	M	Not Answered
43	Workstation ID	M	Not Answered
	Automatic Vehicle Location (AVL) third party interface		
44	The interface to a third party AVL module can be used to determine real-time unit location.	M	Not Answered
45	The unit AVL location data is used in unit recommendation in order to recommend the closest, properly equipped resource.	M	Not Answered
46	The unit AVL location used in vehicle routing.	M	Not Answered
47	The unit AVL locations can be displayed as a feature on the integrated CAD map.	M	Not Answered
48	The unit AVL locations are updated on the map automatically.	M	Not Answered
49	The unit AVL locations are updated on the map in real-time.	I	Not Answered
50	The frequency of AVL location updates can be adjusted by unit and status.	M	Not Answered
51	The system can interface with the AVL application without Mobile Data infrastructure.	I	Not Answered
52	The AVL module can be toggled on and off without degradation of CAD responsiveness.	M	Not Answered
53	The system is capable of creating map based polygons as "geo-fence" boundaries.	I	Not Answered
54	The geo-fence boundaries are able to be displayed on the integrated CAD map.	I	Not Answered

ATTACHMENT D - Memphis TN Police Department - AVL Specifications

Spec ID	Specification Description	Priority	Response
55	Designated user accounts will be notified when a unit crosses geo-fence boundaries.	I	Not Answered
56	Designated workstations will be notified when a unit crosses geo-fence boundaries.	I	Not Answered
57	The system can interface with the AVL application to produce event and unit playback activity using the existing CAD mapping module.	I	Not Answered
58	The system will interface with the AVL application to capture unit data and reflect current unit conditions on the unit icon on the CAD status map.	I	Not Answered
59	Authorized users are able to monitor AVL external inputs, e.g., unit emergency lights, siren.	I	Not Answered
60	Authorized users are able to control AVL external outputs, e.g., doors.	I	Not Answered
61	Authorized users are able to monitor AVL unit diagnostic data, e.g., mileage, fuel level.	I	Not Answered
62	Route replay is capable of displaying the route of the unit using "DVR-like" controls.	I	Not Answered
63	The system will interface with the AVL application to capture and display unit data regarding current unit conditions	I	Not Answered
	The system is capable of displaying the following unit conditions when using the route replay function:		
64	ID	I	Not Answered
65	Location	I	Not Answered
66	Speed	I	Not Answered
67	Direction	I	Not Answered
68	Ignition on/off	I	Not Answered
69	Start/stop movement	I	Not Answered
70	Siren on/off	I	Not Answered
71	Emergency lights on/off	I	Not Answered
72	Acceleration/deceleration	I	Not Answered
73	Speeding alert	I	Not Answered
	The system will interface with the AVL application to capture unit data to enable the following reports:		
74	Vehicle activity	I	Not Answered
75	speed	I	Not Answered
76	location	I	Not Answered
77	Geofence violations	I	Not Answered
78	The AVL module is capable of registering changes to client AVL applications and data using Over-the-Air (OTA) Programming via WiFi.	I	Not Answered
79	The AVL module is capable of buffering "AVL events" (e.g., location, speed, direction, alerts) during the time period that communications between the remote AVL devices and the AVL server is down.	I	Not Answered
80	The AVL module is capable of regulating communication from AVL devices to prevent saturation of the AVL interface on restart of communications.	I	Not Answered
81	The AVL module allows for upgrades and replacements of the AVL devices. Vendors will describe their upgrade and replacement policy.	I	Not Answered
82	The AVL devices do not require external GPS or cellular antennae for unit installations.	I	Not Answered

ATTACHMENT D - Memphis TN Police Department - AVL Specifications

Spec ID	Specification Description	Priority	Response
83	The AVL module respondent will provide system administration and user training for the proposed system. The training will be approved by MPD.	I	Not Answered
84	The AVL module will detect and report attempts at jamming the AVL communication.	I	Not Answered
85	The AVL module will communicate over wireless providers approved by MPD.	I	Not Answered
86	AVL module is capable of using wireless communication contracts that will be negotiated by MPD.	I	Not Answered
	In-vehicle Mobile Data interface		
87	The system supports the transport of location data (AVL) from the Mobile Device to CAD.	I	Not Answered
88	The system supports adjustable frequency of AVL location data refresh based on unit status, defined by the City.	I	Not Answered
	Documentation		
89	The responding vendors will provide a network diagram with the proposal for the proposed system.	M	Not Answered
90	Prior to final system acceptance, the successful Bidder will provide an as-built network diagram for the installed system components.	M	Not Answered
91	The successful Bidder will provide complete technical, operations and maintenance instructions to support all systems prior to Final System Acceptance.	M	Not Answered
92	The successful Bidder will provide a complete database schema and data description for all data elements for all components and data sets.	M	Not Answered
93	The successful Bidder will provide a complete set of application User's Guides prior to the start of User training.	M	Not Answered
94	The successful Bidder will provide a complete set of system Administrative guides prior to Final System Acceptance.	M	Not Answered
95	The successful Bidder will provide a complete set of Interface operation and administration guides prior to Final System Acceptance.	M	Not Answered
96	The successful Bidder will provide all documentation and licenses that came with all equipment and software purchased for use in this system, e.g., including Third party licenses, Operating System licenses.	M	Not Answered
97	All documentation and reference material is updated with each version release.	M	Not Answered
98	All vendor created documentation will be provided in electronic and hard copy formats.	M	Not Answered
99	The successful Bidder will provide a complete set of operation and administration guides related to backup and recovery processes prior to Final System Acceptance.	M	Not Answered
100	The successful Bidder will provide a complete set of Release Notes and resulting changes to documentations prior to each system version update.	M	Not Answered
	MIS – CAD system reporting		
101	All stored information is available for inquiry and reporting.	M	Not Answered
102	The reports writing package is capable of creating reports across all modules.	M	Not Answered
	Search criteria will include:		
103	Exact match	M	Not Answered
104	Partial match (wild cards)	M	Not Answered

ATTACHMENT D - Memphis TN Police Department - AVL Specifications

Spec ID	Specification Description	Priority	Response
105	A range of values	M	Not Answered
106	Delimiters for each field type	M	Not Answered
107	Any combination of criteria	M	Not Answered
108	Execution of reports and inquiries have no impact on the performance of CAD operations.	M	Not Answered
109	All data tables are available for inquiry and reports, e.g., registered operators, units.	M	Not Answered
110	The system allows operator defined inquiries, i.e., ad hoc inquiries.	M	Not Answered
111	The system can save, store and reuse City developed inquiries and report formats.	M	Not Answered
112	Standard reports are provided by the vendor.	M	Not Answered
113	The system provides the ability for the City to define, store and maintain report templates as needed to standardize report formats.	M	Not Answered
114	The system provides the ability for the City to edit the report templates that are provided by the vendor and included with the system.	M	Not Answered
115	The system displays a list or menu of all stored or vendor provided reports.	M	Not Answered
116	COTS report generation applications are supported, e.g., Crystal Reports	M	Not Answered
117	Vendor and City created reports can be scheduled for execution and distribution, e.g., daily log reports scheduled for electronic distribution.	M	Not Answered
118	Inquiry results can be viewed, printed and/or exported in an operator defined format.	M	Not Answered
119	Results of inquiries and reports can be converted to Adobe Acrobat .PDF files	M	Not Answered
120	The resulting data can be converted to CSV format exportable files.	M	Not Answered
121	Results can be exported to other software applications, e.g., MS Excel, Word.	M	Not Answered
122	The system is able to perform statistical analysis of CFS.	M	Not Answered
123	Report and inquiry results can be printed to any CAD system defined printer.	M	Not Answered
124	Report and inquiry results can be distributed via electronic means: email or fax.	M	Not Answered
125	Report and inquiry results can be saved.	M	Not Answered
No further requirements below this line			

ACRONYMS

Term	Definition
ADA	Americans with Disabilities Act
ATP	Acceptance Test Plan
ALI	Automatic Location Identification
ANI	Automatic Number Identification
API	Application Program Interface
ASCII	American Standard Code for Information Interchange
AVL	Automatic Vehicle Location
AVRR	Automatic Vehicle Recommendation and Routing
CAD	Computer Aided Dispatch
CAMA	Centralized Automated Message Accounting
CFS	Calls for Service
CJIS	Criminal Justice Information Services
COTS	Commercial Off The Shelf
CPE	Customer Premises Equipment
CPU	Central Processing Unit
CSV	Comma Separated Variables
E9-1-1	Enhanced 9-1-1
ECC	Emergency Call Center
ECT	Emergency Call Taker
ECRF	Emergency Call Routing Function
EMD	Emergency Medical Dispatch
EMS	Emergency Medical Service
EOC	Emergency Operations Center
ePCR	Electronic Patient Care Report
ESINet	Emergency Services IP Network
ESN	Emergency Service Number
ESZ	Emergency Services Zone
ETA	Estimated Time of Arrival
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FRMS	Fire Records Management System
GIS	Geographic Information System
GPS	Global Positioning System
GUI	Graphical User Interface

ACRONYMS

Term	Definition
HIPAA	Health Insurance Portability and Privacy Act
IM	Instant Messaging
IP	Internet Protocol
IRR	Instant Recall Recorder
ISDN	Integrated Services Digital Network
LE	Law Enforcement
LERMS	Law Enforcement Records Management System
LoST	Location to Service Translation
LVF	Location Validation Function
MF	Multi-frequency
LEC	Local Exchange Carrier
LMP	Limited Manpower
LNG	Legacy Network Gateway
LNS	Legacy Network Switch
MDD	Mobile Data Device
MDT	Mobile Data Terminal
MIS	Management Information System
MLI	Master Location Index
MNI	Master Name Index
MVI	Master Vehicle Index
MS	Microsoft
MSAG	Master Street Address Guide
NENA	National Emergency Numbers Association
NTP	Network Time Protocol
OTA	Over the Air Programming
PCR	Patient Care Report
POTS	Plain Old Telephone Service
PSAP	Public Safety Answering Point
PSTN	Public Switched Telephone Network
PVR	Private Ringing
RADIUS	Remote Authentication Dial-In User Service
RFP	Request for Proposal
RMS	Records Management System
RTLTV	Real Time Live Video

ACRONYMS

Term	Definition
SBC	Session Border Control
SIP	Session Initiation Protocol
SLA	Service Level Agreement
SMS	Short Message Service
SMTP	Simple Mail Transfer Protocol
SNTP	Simple Network Time Protocol
SOG	Standard Operating Guideline
SOP	Standard Operating Procedure
SR	Selective Routing
TAP	Telelocator Alphanumeric Protocol
TCP/IP	Transmission Control Protocol / Internet Protocol
TDD	Telecommunications Device for the Deaf
UPS	Uninterruptible Power Supply
VoIP	Voice over Internet Protocol
VPN	Virtural Private Network
WiFi	Wireless Fidelity
WSP	Wireless Service Provider
XML	eXtensible Markup Language

GLOSSARY

Term	Description
9-1-1	A three-digit telephone number to facilitate the reporting of an emergency requiring response by a public safety agency.
Active event	An event that has at least one unit dispatched to it.
Active workstation	A workstation with the appropriate CAD software installed and configured that has a valid user logged on.
Administrator/System Administrator	Administrator/System Administrator is security role (permission set) granted to users of CAD System that allows them to perform privileged functions within the CAD System.
Agency/Agencies	Agency refers to the Shelby County emergency response provider that is participating in the CAD administration and operation: Shelby County Sheriff's Office and the Shelby County Fire Department.
Agency Trainer	An Agency Trainer is the staff member designated by each Agency to be trained on the System to then become trainers of the System themselves.
Application	Application is a synonym for Software Component.
Authorized User(s)	An Authorized User is a user who has been given specific permissions (rights/roles as defined by security level clearance) to perform a CAD function. An Authorized User may be assigned multiple roles. For this document, a user is synonymous with Authorized User.
Business Day	A Business Day is Monday through Friday.
Border Control Function	Provides a secure entry into the ESInet for emergency calls presented to the network. The BCF incorporates firewall, admission control, and may include anchoring of session and media as well as other security mechanisms to prevent deliberate or malicious attacks on PSAPs or other entities connected to the ESInet.
Call	A session established by signaling with two way realtime media and involves a human making a request for help. We sometimes use "voice call", "video call" or "text call" when specific media is of primary importance. The term "non-human-initiated call" refers to a one-time notification or series of data exchanges established by signaling with at most one way media, and typically does not involve a human at the "calling" end. The term "call" can also be used to refer to either a "Voice Call", "Video Call", "Text Call" or "Data-only call", since they are handled the same way through most of NG9-1-1.
Commercial-Off-The-Shelf (COTS)	COTS is a software package that is commercially available, leased, licensed, or sold to the general public and which requires no special modification or maintenance.
Computer Aided Dispatch (CAD) system	Computer based software that assists in the data entry, emergency event location, emergency responder assignment, event tracking and recording keeping related to response to emergency situations.
County	The County is Shelby County, Tennessee.
County Facilities	County Facilities are buildings owned/operated by Shelby County located in Shelby County Tennessee.
Criminal Justice Information Services	Criminal Justice Information Services is a division of the FBI providing state, local and federal law enforcement and criminal justice agencies with access to critical, personal information such as fingerprint records, criminal histories, and sex offender registrations.
Data Base Management System (DBMS)	A system of manual procedures and computer programs used to create, store and update the data required to provide Selective Routing and/or Automatic Location Identification for E9-1-1 systems.
Defect	A Defect is an imperfection, flaw, or deficiency in the CAD System.
Duly Qualified Service Technician	A Duly Qualified Service Technician is a person who is trained and certified by the System Provider to maintain the System.
Emergency Alert Systems (EAS)	Radio or television based broadcast of emergency event information.

GLOSSARY

Term	Description
Emergency Call Routing Function (ECRF)	A functional element in an ESInet which is a LoST protocol server where location information (either civic address or geo-coordinates) and a Service URN serve as input to a mapping function that returns a URI used to route an emergency call toward the appropriate PSAP for the caller's location or towards a responder agency.
Emergency Communications Center (ECC)	A set of call takers operating under common management which receives emergency calls for service and asynchronous event notifications and processes those calls and events according to a specified operational policy.
Emergency Medical Service (EMS)	Fire, hospital, poison control, etc. response centers
Emergency Notification Systems (ENS)	General category for any systems used to notify persons of an emergency. May include changeable message signs, sirens, telephone and other media.
Emergency Service Number (ESN)/ Emergency Service Zone (ESZ)	An ESN is a three to five digit number representing a unique combination of emergency service agencies (Law Enforcement, Fire, and Emergency Medical Service) designated to serve a specific range of addresses within a particular geographical area, or Emergency Service Zone (ESZ). The ESN facilitates selective routing and selective transfer, if required, to the appropriate PSAP and the dispatching of the proper service agency (ies).
Emergency Services IP Network (ESInet)	An ESInet is a managed IP network that is used for emergency services communications, and which can be shared by all public safety agencies. It provides the IP transport infrastructure upon which independent application platforms and core functional processes can be deployed, including, but not restricted to, those necessary for providing NG9-1-1 services. ESInets may be constructed from a mix of dedicated and shared facilities. ESInets may be interconnected at local, regional, state, federal, national and international levels to form an IP-based inter-network (network of networks).
Enhanced 9-1-1 (E9-1-1)	A telephone system which includes network switching, data base and Public Safety Answering Point premise elements capable of providing automatic location identification data, selective routing, selective transfer, fixed transfer, and a call back number. The term also includes any enhanced 9-1-1 service so designated by the Federal Communications Commission in its Report and Order in WC Docket Nos. 04-36 and 05-196, or any successor proceeding.
Geographic Information System (GIS)	A computer software system that enables one to visualize geographic aspects of a body of data. It contains the ability to translate implicit geographic data (such as a street address) into an explicit map location. It has the ability to query and analyze data in order to receive the results in the form of a map. It also can be used to graphically display coordinates on a map i.e. Latitude/Longitude from a wireless 9-1-1 call.
Global Justice XML Data Model (GJXDM)	The GJXDM is a data reference model for the exchange of information within the justice and public safety communities.
Go-Live	Go-Live is the first day, after the County has approved the system for live operation, that the System is actually used in production system by system users.
Health Insurance Portability and Accountability Act (HIPAA)	Federal regulation protecting patients from unauthorized disclosure of medical information.
Incident / Event	A real world occurrence such as a heart attack, car crash or a building fire for which one or more calls may be received.
Incident Based Reporting (IBR)	IBR is the method of collecting individual incident and arrest records, as opposed to the aggregate/summary numbers collected under Summary-Based Reporting.
Instant Messaging (IM)	A method of communication generally using text where more than a character at a time is sent between parties nearly instantaneously.

GLOSSARY

Term	Description
Key Personnel	Individuals considered critical to the project, i.e., their absence from the project would have a significant impact on the successful implementation of the system. Examples would include, but not be limited to, the Project Manager, Technical Leader or Training Leader.
Local Area Network (LAN)	A transmission network encompassing a limited area, such as a single building or several buildings in close proximity.
Location Information Server (LIS)	<p>A Location Information Server (LIS) is a functional entity that provides locations of endpoints. A LIS can provide Location-by-Reference, or Location-by-Value, and, if the latter, in geo or civic forms. A LIS can be queried by an endpoint for its own location, or by another entity for the location of an endpoint. In either case, the LIS receives a unique identifier that represents the endpoint, for example an IP address, circuit-ID or MAC address, and returns the location (value or reference) associated with that identifier.</p> <p>The LIS is also the entity that provides the dereferencing service, exchanging a location reference for a location value.</p>
Location to Service Translation (LoST) Protocol	A protocol that takes location information and a Service URN and returns a URI. Used generally for location-based call routing. In NG9-1-1, used as the protocol for the ECRF and LVF.
Location Validation	Refers to the action of ensuring that a civic address can be used to discern a route to a PSAP.
Logical Entity Exchange Specification (LEXS)	LEXS defines a data model, syntax, semantics, and usage guidelines for implementers of information exchanges. LEXS was created to minimize the impact of changing requirements and varied demands for information sharing between sources and consumers of data.
Maintenance	The ongoing processes of modifying the System, after Warranty, to correct defects, improve performance and continually adapt the System to changes in work environment.
Management Information System (MIS)	A program that collects, stores and collates data into reports enabling interpretation and evaluation of performance, trends, traffic capacities, etc.
Master Clock	An accurate timing device that generates synchronization signals to control other clocks or equipment. (Ref. NENA 04-002).
Master Street Address Guide (MSAG)	A data base of street names and house number ranges within their associated communities defining Emergency Service Zones (ESZs) and their associated Emergency Service Numbers (ESNs) to enable proper routing of 9-1-1 calls.
Mobile Data Terminal (MDT)	An MDT is a laptop computer or personal digital assistant, running the Windows operating system, located in an Agency vehicle or a portable device that will utilize the CAD / RMS System.
Module	A Module is a synonym for Software Component.
National Academy of Emergency Dispatch (NAED)	The NAED is a non-profit standard-setting organization promoting safe and effective emergency dispatch services world-wide. Comprised of three allied Academies for medical, fire and police dispatching, the NAED supports first-responder related research, unified protocol application, legislation for emergency call center regulation, and strengthening the emergency dispatch community through education, certification, and accreditation.
National Crime Information Center (NCIC)	NCIC is an automated database of criminal justice and justice-related records maintained by the FBI. The database includes the "hot files" of wanted and missing persons, stolen vehicles and identifiable stolen property, including firearms.

GLOSSARY

Term	Description
National Emergency Number Association(NENA)	The National Emergency Number Association is a not-for-profit corporation established in 1982 to further the goal of "One Nation-One Number." NENA is a networking source and promotes research, planning and training. NENA strives to educate, set standards and provide certification programs, legislative representation and technical assistance for implementing and managing 9-1-1 systems.
National Information Exchange Model (NIEM)	NIEM is a national initiative supported by the federal government. NIEM provides a means of connecting communities of people who share a common need to exchange information. NIEM is designed to develop, disseminate, and support enterprise-wide information exchange standards and processes that will enable jurisdictions to automate information sharing.
Network Time Protocol (NTP)	A powerful utility for synchronizing system clocks over a TCP/IP network.
Next Generation 9-1-1 (NG9-1-1)	NG9-1-1 is an IP-based system comprised of managed IP-based networks (ESInets), functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provide additional capabilities. NG9-1-1 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for PSAPs and other emergency service organizations.
Originating Agency Identifier (ORI)	The ORI is a code assigned to designate the originating agency in a law enforcement system.
Personal Digital Assistant (PDA)	Small, handheld device used to store address book information, telephone numbers, personal contacts and other personal information.
Primary Unit	Unit assigned to write an incident report.
Policy Routing Function (PRF)	That functional component of an Emergency Services Routing Proxy that determines the next hop in the SIP signaling path using the policy of the nominal next element determined by querying the ECRF with the location of the caller.
Presence Information Data Format – Location Object (PIDF-LO)	The Presence Information Data Format is specified in IETF RFC 3863; it provides a common presence data format for Presence protocols, and also defines a new media type. A presence protocol is a protocol for providing a presence service over the Internet or any IP network.
Primary Public Safety Answering Point (PSAP)	A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. (see Public Safety Answering Point)
Remote Authentication Dial-In User Service (RADIUS)	The attributes for conveying access network ownership and location information based on a civic and geospatial location format.
Service Level Agreement (SLA)	A contract between a service provider and the end user, which stipulates and commits the service provider to a required level of service.
Session Initiation Protocol (SIP)	An IETF defined protocol (RFC3261) that defines a method for establishing multimedia sessions over the Internet. Used as the call signaling protocol in VoIP, i2 and i3.
Short Message Service (SMS)	A service typically provided by mobile carriers that sends short (160 characters or fewer) messages to an endpoint. SMS is often fast, but is not real time.
Signature Pad	A Signature Pad is a device used to capture the electronic signature of a person.
Simple Network Management protocol (SNMP)	A protocol defined by the IETF used for managing devices on an IP network.
Simple Network Time Protocol (SNTP)	A utility for synchronizing system clocks over a TCP/IP network. This protocol is similar to NTP and is used when the ultimate performance of the full NTP implementation is not needed.
Software Component	A subset of the overall CAD System.
Standard Operating Procedure (SOP)	A written directive that provides a guideline for carrying out an activity. The guideline may be made mandatory by including terms such as "shall" rather than "should" or "must" rather than "may"

GLOSSARY

Term	Description
System	The System is the Computer Aided Dispatch System.
System Provider	Refers to the CAD software developer or authorized software value added reseller responding to the RFP.
Telecommunications Device for the Deaf (TDD)	A device capable of information interchange between compatible units using a dial up or private-line telephone network connections as the transmission medium. ASCII or Baudot codes are used by these units. (per EIA PN-1663)
Virtual Private Network (VPN)	A virtual private network (VPN) is a network that uses a public telecommunication infrastructure, such as the Internet, to provide remote offices or individual users with secure access to their organization's network.
Voice over Internet Protocol, Voice over IP (VoIP)	Provides distinct packetized voice information in digital format using the Internet Protocol. The IP address assigned to the user's telephone number may be static or dynamic.
Warranty	A Warranty is the agreement the System Provider provides to repair any and all defects in the CAD System for a period of not less than one year.
Wireless Service Provider (WSP)	Cellular, satellite or other radio based telephony or data transport commercial entity.
eXtensible Markup Language (XML)	An internet specification for web documents that enables tags to be used that provide functionality beyond that in Hyper Text Markup Language (HTML). Its reference is its ability to allow information of indeterminate length to be transmitted to a PSAP call taker or dispatcher versus the current restriction that requires information to fit the parameters of predefined fields.

City of Memphis Police Department – August 2013
RFP 26221 Computer Aided Dispatch (CAD) System

ATTACHMENT E

CAD/AVL Cost Data Forms

Company Name

Vendors' proposals must complete the comprehensive cost statement presented on the following pages. All costs are to be contained in this statement. This statement shall also include payment terms required for services rendered.

The prices included must represent the Vendor's actual costs that will be associated with implementing and delivering the proposed system.

Cost information must include all expected implementation and operating costs, both one-time and on-going. Specific model numbers and capacities should be included. Information about license sizes must be provided. Vendors should describe and quote optional components -- including query tools, report writers, etc. -- as individual and separate items. Any upgrade to the base system needed for optional components must include all applicable taxes. Add more lines to the table as necessary.

Notes:

- 1 Provide pricing for the hardware and operating system software required to support the Application. Proposed hardware solution cost should be based on five year projections.
- 2 Any sections marked "Optional" designate components for which the City seeks pricing, but may or may not decide to include in the overall project. The Vendor, however, is required to respond to that section.
- 3 Indicate maximum annual cost escalation % in Comments. Increases in annual recurring costs shall not exceed 5% from the previous year.
- 4 Vendors responding only to the AVL requirements, should respond to Sections C, F, G, I, and J.

COST STATEMENT DESCRIPTION

STATEMENT COLUMN	DESCRIPTION
Cost Item	This column presents the items for which cost information must be provided.
Unit cost	Indicate Vendor's discounted price for the item.
Extended cost	Indicate the total cost for the item (Units x Unit Cost)
Recurring Cost	Indicate all expected costs which the City would incur on an ongoing basis. Annualize this number and indicate in the comments when the City would begin incurring this cost (e.g., 1 year after acceptance, etc.). Also describe what is provided with your annual maintenance fee, include application, and third party sub-component specifics).
Comments	In this column, please provide additional information about your costs.

A. Computer Aided Dispatch (CAD)

Company Name

In the table below, provide the associated costs of the proposed Computer Aided Dispatch (CAD) solution. Include a line for each major software component/module. Document interface cost in Interface Section below.

Item - Detail	Units	Unit Cost	Extended Cost	Recurring Costs	Comment
Vendor Software					
Seat-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Site-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Enterprise-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Custom Development					
Item		\$ -	\$ -	\$ -	
Item		\$ -	\$ -	\$ -	
3rd Party Components (list each)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Warranty Period (min one year)		NC	NC	NC	Included with Initial licensing
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total CAD SW Maintenance Year 1-5:		\$ -	\$ -	\$ -	
Vendor Hardware:					
Client hardware (list)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Client system software (itemize)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Server/Message Switch (list)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Server hardware (make/model)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Server system software (itemize)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
HW Warranty Period (min 1 year)		NC	NC	NC	Included with Initial licensing
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total CAD SW Maintenance Year 1-5:		\$ -	\$ -	\$ -	

B. Mobile Data (Optional)

Company Name

In the table below, provide the associated costs of the proposed Mobile Data solution. Include a line for each major software component/module. Document interface cost in Interface Section below. The City will evaluate the MDT proposal and determine if it will be a component of this proposal.

Item - Detail	Units	Unit Cost	Extended Cost	Recurring Costs	Comment
Vendor Software					
Seat-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Site-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Enterprise-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Custom Development					
Item		\$ -	\$ -	\$ -	
Item		\$ -	\$ -	\$ -	
3rd Party Components (list each)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Mobile Data Client					
		\$ -	\$ -	\$ -	
SW Warranty Period (min 1 year)		NC	NC	NC	Included with Initial licensing
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total Mobile Data SW Maint Yr 1 - 5:		\$ -	\$ -	\$ -	
Client hardware					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Client system software (itemize)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Server/Message Switch					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Server hardware (make/model)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Server system software (itemize)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
HW Warranty Period (min 1 year)		NC	NC	NC	Included with Initial licensing
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total Mobile Data HW Maint Yr 1 - 5:		\$ -	\$ -	\$ -	

C. Automatic Vehicle Location

Company Name

In the table below, provide the associated costs of the proposed Automatic Vehicle Location (AVL) solution. Include a line for each major software component/module. Document interface cost in Interface Section below, if applicable. The City will evaluate the AVL proposal and determine if it will be a component of this proposal.

Item - Detail	Units	Unit Cost	Extended Cost	Recurring Costs	Comment
Vendor Software					
Seat-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Site-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Enterprise-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Custom Development					
Item		\$ -	\$ -	\$ -	
Item		\$ -	\$ -	\$ -	
3rd Party Components (list each)					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Mobile Data Client					
		\$ -	\$ -	\$ -	
Warranty Period (min one year)					
		NC	NC	NC	Included with Initial licensing
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total AVL SW Maint Year 1 - 5:		\$ -	\$ -	\$ -	
Vendor Hardware:					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Third Party Hardware:					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
HW Warranty Period (min 1 year)					
		NC	NC	NC	Included with Initial licensing
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total AVL HW Maint Year 1 - 5:		\$ -	\$ -	\$ -	

D. Interfaces

Company Name

In the table below, provide the associated costs of the proposed Interface software. List other interfaces if required.

Item - Detail	Units	Unit Cost	Extended Cost	Recurring Costs	Comment
Common Interfaces					
Master Time Clock		\$ -	\$ -	\$ -	
NCIC Data Access		\$ -	\$ -	\$ -	
Email Interface		\$ -	\$ -	\$ -	
CAD Interfaces					
Vision/TriTech Inform RMS interface		\$ -	\$ -	\$ -	
CPE - ANI/ALI Controller interface		\$ -	\$ -	\$ -	
GIS / Mapping interface		\$ -	\$ -	\$ -	
PDA interface		\$ -	\$ -	\$ -	
AVL interface		\$ -	\$ -	\$ -	
Mobile data interface		\$ -	\$ -	\$ -	
Real Time Crime Center interface		\$ -	\$ -	\$ -	
Other Interface (Specify)		\$ -	\$ -	\$ -	
Other Interface (Specify)		\$ -	\$ -	\$ -	
Warranty Period (min 1 year)		NC	NC	NC	Included with Initial licensing
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total:		\$ -	\$ -	\$ -	

E. Operating System , Other Software

Company Name

In the table below, provide the associated costs of the proposed Other software. Item should include the name of the software manufacture. Include a line for each major software component/module.

Item - Detail	Units	Unit Cost	Extended Cost	Recurring Costs	Comment
Vendor Software					
Seat-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Site-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Enterprise-license pricing		\$ -	\$ -	\$ -	Indicate units threshold for each level
Custom Development					
Item		\$ -	\$ -	\$ -	
Item		\$ -	\$ -	\$ -	
3rd Party Components					
SQL Server		\$ -	\$ -	\$ -	
Other (Specify)		\$ -	\$ -	\$ -	
Other (Specify)		\$ -	\$ -	\$ -	
Warranty Period (min 1 year)		NC	NC	NC	Included with Initial licensing
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total:		\$ -	\$ -	\$ -	

F. Other Hardware Costs

Company Name

In the table below, provide the associated costs of the proposed system hardware not shown on other sections of the CDF. Include the name of the hardware manufacture.

Include a line of each major hardware component. Hardware to be sized to addition of (future) municipal agencies.

Item - Detail	Units	Unit Cost	Extended Cost	Recurring Costs	Comment
Other Hardware Costs					
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Component		\$ -	\$ -	\$ -	
Warranty Period (min 1 year)		NC	NC	NC	Included with Initial purchase
Maintenance Year 1		\$ -	\$ -	\$ -	
Maintenance Year 2		\$ -	\$ -	\$ -	
Maintenance Year 3		\$ -	\$ -	\$ -	
Maintenance Year 4		\$ -	\$ -	\$ -	
Maintenance Year 5		\$ -	\$ -	\$ -	
Total:		\$ -	\$ -	\$ -	

ATTACHMENT F

City of Memphis EBO Master list

CITY OF MEMPHIS
 BEO MASTER LIST
 March 15, 2013

T	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Company Name	Contact	Street	City	State	Zip	Country	Phone	Fax	Industry Type	Class	Ethnicity & Gender	Email	WEB	Product/Service Offerings		
121	ASH468N, LLC	Anthony Tate Suite 728	3310 Poplar Ave.	Memphis	TN	38117-	USA	(901) 512-7085	(901) 312-7085	IT SERVICES	MBE	Black American Male	atate@ash468n.com	www.ash468n.com	Call Center, Help Desk, Software, S-41-311		
127	COMPUTER SUPPORT SERVICES CORP.	Yvette Perry P.O. Box 49889		Memphis	TN	38117-	USA	(901) 794-5892	(901) 794-8815	IT SERVICES	MBE	Black American Female	yoperry@csss-memphis.com	www.csss.com	Computer hardware, software and services.		
136	INTERNATIONAL, INC.	Ramesh Das 2905 W. SHERIDAN DRIVE, 2201	2905 W. SHERIDAN DRIVE, 2201	Memphis	TN	38125-	USA	(901) 736-5688	(901) 736-5688	IT SERVICES	MBE	Asian Indian Male	ramesh.com@intl.com		Software Development, IT Staffing/Consulting.		
139	J & D Resources, Inc.	Jill Harth 8821	8410 Poplar Ave.	Memphis	TN	38118-	USA	(901) 726-9589	(901) 735-9589	IT SERVICES	WBE	White American Female	amy@jdhresources.com	www.jdhresources.com	Employment Services & Consulting Services		
139	RAMARK, LLC	Mika Ripstein	254 Bradford Ridge Cove	Collierville	TN	38012-	USA	(901) 728-5665	(901) 854-1510	IT SERVICES	MBE	Black American Male	mika.ripstein@ramark.com	www.ramark.com	Business/Management Consulting, Employment Placement Agency and Custom Computer Programming Services.		
146	LEWARE COMPUTER SERVICES	Paul Rogers	500 North Main, Suite 912	Memphis	TN	38104-	USA	(901) 523-2777	(901) 824-2777	IT SERVICES	MBE	Black American Male	pr@lewarecomputer.com	www.leware.com	Network/Software Installation, support, maintenance, and sales Network Implementation and Administration Project Management.		
157	Chye Technology	Reifery Crowder	1139 B. Serrano Way Perimeter S. 102-275	Concord	TN	38014-	USA	(601) 226-3181	(601) 437-3278	IT SERVICES	MBE	Black American Male	reifery.crowder@chye.com	www.chye.com	Network services with area network (Nets) to local area network (LAN) specializing in network & security. Cloud computing. Strategic planning of network investment. (NO) assessments beyond business needs. Website services for company collaboration.		
158	Prasart	Shweta Bhatt 1100 Main	2612 Hunters Rest Lane	Concord	TN	38014-	USA	(601) 438-9959	(601) 732-8358	IT SERVICES	MBE	Asian Pacific Female	shweta@prasart.com		Telecommunications - a/c/c, video - construction (various) - Dev 2PA - Fiber Optic.		
159	Quantix, Inc.	Debra Evans Suite 117	516 Tennessee St.	Memphis	TN	38105-	USA	(901) 258-7590	(901) 544-7169	IT SERVICES	MBE	Black American Male	debraevans@quantix.com	www.quantix.com	Oracle Professional Services: IT Professionals for Enterprise Resource Planning (ERP) projects. Resource support for Oracle, PeopleSoft, JD Edwards & SAP. Services: project management, ERP software implementation, re-engineering of business processes.		

CITY OF MEMPHIS
BEO MASTER LIST
March 28, 2018

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
200	BACCHINI, INC.	6540 Cordia Chick, Suite 202	Memphis, TN	38118	Shelby	(901) 922-3446	(901) 922-3446	IT SERVICES	Minority Male								
201	Stratigates Technology	6830 Poplar Avenue, Suite 403	Memphis, TN	38118	Shelby	(901) 300-3228	(901) 300-3228	IT SERVICES	Black American Female								
202	THOMAS CONSULTANTS, INC.	4140 S. Revere Road	Memphis, TN	38118	Shelby	(901) 808-8745	(901) 808-8745	IT SERVICES	Black American Male								
203	INTEK TECHNOLOGY, INC.	518 Tennessee Street	Memphis, TN	38104	Shelby	(901) 544-7247	(901) 544-7247	IT SERVICES	Black American Male								
204	TECHCON, INC	6275 Tournament Drive, Suite 200	Memphis, TN	38121	Shelby	(901) 251-9338	(901) 251-9338	IT SERVICES	Black American Male								

End of Attachments