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**LEVY COUNTY, FL: PROFESSIONAL SERVICES FOR E9-1-1 AND NG9-1-1
GEOGRAPHIC INFORMATION SYSTEM (GIS) SUPPORT**

9 OCTOBER 2020



October 08, 2020

Levy County
Board of County Commissioners
Mr. John Meeks, Chairman
310 SCHOOL ST
BRONSON, FL 32621

Subject: *LEVY COUNTY, FL: PROFESSIONAL SERVICES FOR E9-1-1 AND NG9-1-1 GEOGRAPHIC INFORMATION SYSTEM (GIS) SUPPORT*

Dear Mr. John Meeks:

Akimeka, LLC is pleased to submit the enclosed Statement of Work (SOW) and Cost Proposal for the subject effort. This document presents the details of how we plan to complete the work for Levy County; it also includes assumptions about the work itself and what we will need from Levy County in order to complete the project successfully.

Akimeka, LLC, a subsidiary of VSE Corporation, is an Information Technology / Information Management (IT/IM) company with a focus on Enhanced 9-1-1 Location Data Accuracy Services to include *Geographic Information System (GIS), Master Street Address Guide (MSAG), and Automatic Location Identification (ALI)* database support for Enhanced 9-1-1 (E9-1-1) and Next Generation 9-1-1 (NG9-1-1), delivering complete, accurate, and useful data.

Akimeka is licensed to do business in Florida and has facilities in Maitland, Orange County, Florida.

If you have any questions about this Statement of Work, please contact either myself or Lucia Breton, Team Lead, at 508-523-6804.

Sincerely,

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EXECUTIVE SUMMARY

The need for seamless, interoperable 9-1-1 data exchange between systems increases with the transition from an Enhanced 9-1-1 (E9-1-1) environment to i3 Next Generation 9-1-1 (NG9-1-1). The 9-1-1 system relies on multiple communication systems, networks, and separate databases to verify and locate 9-1-1 callers. While Levy County determines the county's needs and requirements for the NG9-1-1 transition, the continued sustainment of the E9-1-1 legacy environment requires database and data sustainment and enhancements.

Since 2018, Akimeka, LLC is the trusted information technology (IT) service provider providing database synchronization, data management and data enhancement for Levy County's public safety Geographic Information System (GIS) data. Levy County receives a low risk solution for the continuation of GIS services due to Akimeka's ability to leverage our **existing unique operational knowledge** of Levy County's GIS workflow, data layers, systems, and environment. Akimeka prepares, standardizes, corrects, synchronizes, and enhances the accuracy of the GIS data in accordance with National Emergency Number Association (NENA) standards to ensure proper data exchange between networks and systems.

When receiving a 9-1-1 call, an exact match between the data delivered at the Public Safety Answering Point (PSAP) must exist between the device-location (ALI) record, and the GIS for the PSAP's 9-1-1 systems and subsystems to be useful. **Akimeka's goal, objective and scope of this contract is to make sure that the synchronized and enhanced information displays accurately on Levy County's PSAP systems.**

Accomplishing enhanced GIS data and accurate use of GIS data for Public Safety is all made possible through the **sustained relationships**. Levy receives the personal touch from Akimeka that they may not receive from other vendors, thereby leading to a better understanding of the data and reducing risk of losing information through knowledge exchange. Together with Levy County, Akimeka instilled procedures for efficient coordination and collaboration between Akimeka personnel and Levy County DBMSP, LEC, and the 9-1-1 service provider, Intrado, resulting in meeting and exceeding the NENA Standards for Levy County public safety database synchronization. Continuing

PROFESSIONAL SERVICES FOR E9-1-1/NG9-1-1 GIS

Internal GIS Operational Knowledge:

1. Understands Levy County's unique requirements for sustained GIS services prioritizing the use of NG9-1-1 prepared data and maps
2. Awareness of Levy County's Sheriff's Office requirements for GIS and users of Public Safety maps
3. Understanding the data flow in current legacy environment recognizing areas of enhancement for wireless caller location

Sustained Relationships:

1. GIS and cartography professionals going above and beyond to meet Levy County's mission
2. Prioritizing client continuity of project management
3. Existing Letter of Authorization (LOA) with DBMSP/LEC

Staffing:

1. Readily accessible and available resources with constant visibility of project
2. Full-time individuals that actually manage, edit, and enhance the data versus a software/tool with only data management functionalities
3. Dynamic and instrumental GIS, addressing and wireless data professionals

Levy receives the personal touch from Akimeka that they may not receive from other vendors, thereby leading to a better understanding of the data and reducing risk of losing information through knowledge exchange.



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support by Akimeka will result in minimal-to-zero delay in GIS data sustainment and enhancement, resulting in streamlined coordination to ensure progress, updates, and improved data outflows to appropriate stakeholders.

Working with Levy County, Akimeka's **qualified experts** understand the wants and needs of Levy County addressing and public safety. With Akimeka, Levy County receives ongoing analysis consisting of database synchronization and sustainment supporting all routine data corrections. The enhancements to GIS map layers, including wireless call routing, enhancements to address point data, and indoor mapping, provide useful and valuable information for PSAPs and their emergency responders which results in additional efficiencies and productivity to those managing the entire 9-1-1 System.

The addition of indoor mapping and sub-addressing information adds an extra layer of critical information to 9-1-1 calls. **In NG9-1-1 it's all about the point in polygon.** Akimeka's approach is to build out the digitization and map display using the site/structure maps received from Levy County's GIS team and/or school resources/representatives and then populate the dispatchable points with the sub-addressing and location information. Using the vector-based digitized maps and the sub-addressing information added to the GIS will then allow Levy County in the future to populate the routing indicators to the street segment in-front of, or by the driveway to the entrance of the location. This enables Levy County to plot a course to the 9-1-1 caller's location which improves response times; a benefit which is currently being provided by Akimeka to our customers in the State of Hawai'i with tangible results. From 2008 to 2018, Maui County saw a reduction in response times by two (2) minutes and 14 seconds.

The most accurate and useful levels of data do not happen automatically; it requires intervention from experienced and knowledgeable professionals, through a methodical approach and sustained via ongoing GIS, Master Street Address Guide (MSAG) and ALI database sustainment keeping pace with the changing landscape of 9-1-1 systems. As a company with a strong foundation of highly qualified employees, Akimeka ensures that Levy County's day-to-day GIS responsibilities continue without delay, with no learning curve, and provided by competent and skilled professionals with over 20 years' experience in Public Safety/GIS.

In NG9-1-1, it's all about the point in polygon. This enables Levy County to plot a course to the 9-1-1 caller's location thus improving response times as Akimeka is doing today in the State of Hawai'i.

From 2008 to 2018, Maui County saw a reduction in response times by two (2) minutes and 14 seconds.

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1 PERFORMANCE WORK STATEMENT (PWS)

In a continuation of our partnership, Levy County sustains a higher level of accuracy through continuous synchronization, management, and enhancement of GIS, MSAG, and ALI databases. **In the last three years, Akimeka and Levy County GIS and Public Safety increased the GIS/MSAG match percentage by 96.15%.** Today, Akimeka remains alongside Levy County sustaining and increasing the synchronization match percentages, while supporting the provisioning of GIS data for Next Generation 9-1-1 (NG9-1-1) transition. The focus remains on ALI/GIS synchronization reflecting a **96.9% match**, with 376 address validations remaining. The December 2020 QSR will reflect an increase, intending to achieve the 98% and better NENA standard by the end of the current contract period of performance.

To enhance the ability to locate the 9-1-1 caller, Akimeka uses NENA standards, industry standards and best practices, as well as innovative processes and procedures that improve and ensure the accuracy of the caller's location. Akimeka's repeatable processes ensure efficient progression of task performance, streamlining the workflow where county collaboration is necessary. In the case of ALI/GIS synchronization, Akimeka works with Levy County's E9-1-1 Database Manager to validate address information, informing Akimeka's GIS Analyst of the edit to the GIS and/or ALI databases.

Akimeka's Project Management is the foundation to ease the burden of inundating the county with address validation requests. Akimeka's Project Manager meets weekly with each team member to clarify project priorities and status of tasks, ensuring accurate and streamlined tracking of remaining data fallouts. Akimeka remains on-target for task and project completion by 10 March 2021. Akimeka's GIS Analysts shall remain embedded to the Levy County 9-1-1 Office operations to continued sustainment and enhancements of GIS, MSAG and ALI data for NG9-1-1 preparedness.

Assuming a start date of 11 March 2021, Akimeka recommends a base period of 12 months (11 March 2021 – 10 March 2022), with an option period of 12 months. Akimeka shall provide the action of professional services detailed below in Sections 1.1 through 1.5.4 focusing the efforts in five (5) task areas. Figure 1 below illustrates the timeline & task management to efficiently meet Levy County's requirements for Professional Services for E9-1-1 focused on GIS services.

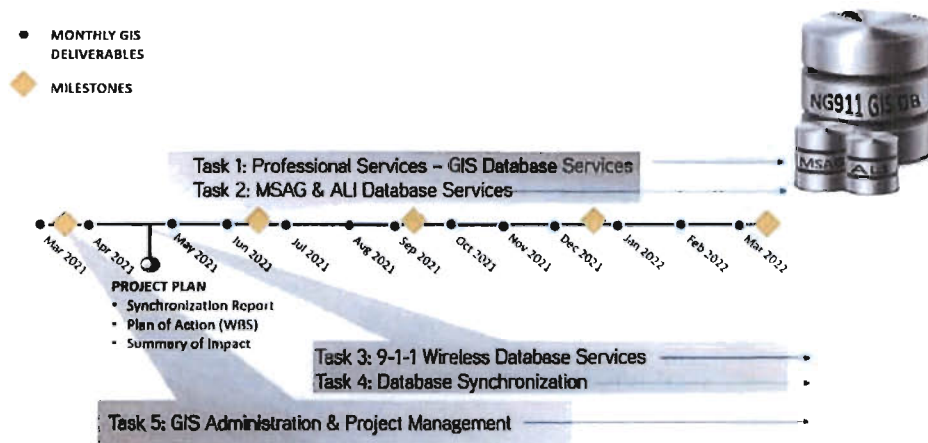


Figure 1. Levy County Professional Service for E9-1-1/NG9-1-1 GIS Sustainment Timeline for Recommended 12-Month Base Period.

Akimeka brings the dedicated and committed GIS analysts to focus on the needs and specifics of GIS for public safety. The everyday GIS management for Levy County requires persistent and consistent sustainment to attain the levels of data accuracy for public safety.



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Key elements of the project include:

- Comprehensive operational analysis and planning to validate the approach proposed here
- Address Management support validating addressing for Public Safety use
- Sustaining and continuously synchronizing GIS to MSAG and vice versa, and ALI to GIS to improve 9-1-1 caller location accuracy in preparation for NG9-1-1
- Implementing corrective action plans and data enhancements for GIS, MSAG, and ALI database accuracy to include wireless and dispatchable location information
- Establishing NENA compliant data in preparation for the NG9-1-1 network
- Qualified full-time staff with strengths in GIS administration, analysis, and reporting

What sets Akimeka apart from other GIS vendors is our hands-on method of data management, data editing and data sustainment. Akimeka collects, validates, and translates address information into proper MSAG addresses by coordinating and updating location databases with the Local Exchange Carrier (LEC). Akimeka formats and structures the address information while facilitating ongoing and transparent communication so that the data is unique to the wants and needs of Levy County.

Akimeka's project team gives emphasis to both the control and quality of the process, confirming progress of the effort through accurate and timely deliverables. Akimeka performs quality assurance/quality control (QA/QC) checks on each layer before providing the delivering to Levy County, to ensure accuracy on all layers. The accuracy of the geographic and attribute information provides useful information for the telecommunicators, dispatchers, and emergency responders.

Levy County relies on **sustained relationships** with their vendors, where GIS vendor staff embed into the internal operations of Levy County. The partnerships between the county, Akimeka and third-party vendors drives the success of public safety GIS data sustainment in NG9-1-1. Akimeka GIS experts hold the **institutional knowledge** for Levy County's mission and goals working towards that vision together with Levy County.

1.1 PROFESSIONAL SERVICES FOR GIS, MSAG AND ALI COORDINATION

Levy County's need for professional consultant assistance requires accessibility and responsiveness from a trusted advisor. As a leader in data management for county public safety, Akimeka can reduce costs and efforts as the "one-stop-shop" service provider, delivering an all-inclusive solution to meet Levy County's goals, objectives, needs and wants. With a team of qualified and experienced professionals, Akimeka's experts provide trusted advisory support that enhances the accuracy and completeness of the GIS, MSAG and ALI databases in preparation for NG9-1-1.

Alongside of Levy County's GIS team, Akimeka's GIS professionals manage address information requests. Due to the development in Levy County, new addresses come in almost daily. Akimeka's GIS Analyst promptly enters the new record and notifies Levy County E9-1-1 Database Manager upon completion, implementing the same workflow for new street requests, should there be any. The procedures Akimeka has in place today is the level of organization and thorough analysis that is instrumental to the sustainment and enhancement of Levy County's GIS, MSAG and ALI databases.

In accordance with [Table 1](#), Akimeka works collaboratively with Levy County's Sheriff's Office to "own" the data editing and management of the Road Centerline (RCL), Site/Structure Address Point (SSAP), MSAG Community, and PSAP/Provisioning Boundary layers. Akimeka is actively planning development

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efforts for the Emergency Service Boundary (EBS) layers and Provisioning / PSAP Boundary layers in preparation and delivery for NG9-1-1.

Table 1. Akimeka GIS Layer Ownership ("Playbook" est. 2020).

With the Data Synch Cycle, Levy County and Akimeka focus on resolving discrepancies. Akimeka's qualified professionals with the operational GIS knowledge work alongside Levy County GIS to make the necessary changes to sustain the 98% NENA Standard.

Layers	Administrator	Root Data Owner	Workflow Details
Road Centerline (RCL)	Akimeka	E9-1-1 Admin	<ul style="list-style-type: none"> County to confirm road names per Road Naming Process Communicate any changes to Akimeka to be included in base file for future update Akimeka update and add street information to GIS database
Site/Structure Address Point (SSAP)	Akimeka	E9-1-1 Admin	<ul style="list-style-type: none"> County to confirm address points per Road Naming process Communicate any changes to Akimeka to be included in base file for future update Akimeka update and add address information to GIS database
Emergency Service Number (ESN)	Akimeka	E9-1-1 Admin	<ul style="list-style-type: none"> Akimeka to maintain and revise as needed
MSAG Community	Akimeka	E9-1-1 Admin	<ul style="list-style-type: none"> Akimeka to maintain and revise as needed
PSAP/Provisioning	Akimeka	E9-1-1 Admin	<ul style="list-style-type: none"> Akimeka to aid in development
Emergency Service Boundary (ESB) (Law, Fire, Medic)	Akimeka	E9-1-1 Admin	<ul style="list-style-type: none"> Akimeka review current Law, Fire and Medic layers Akimeka validate information against ESN/ELT list and jurisdictional boundaries
Wireless Tower	Akimeka	E9-1-1 Admin	<ul style="list-style-type: none"> Leverage current tower locations in the SSAP layer Akimeka to develop layer and validate cell site/tower location with Wireless Service Providers (WSP)
Phase 1 Cell Sectors	Akimeka	Wireless Service Providers (WSPs)	<ul style="list-style-type: none"> Receive CRS from WSPs Create sectors based off of CRS information ensuring proper location identification of the cell sector that registers the wireless call Ensure the routing information utilized by the WSP transfers the wireless 9-1-1 call to the PSAP accurately Provide GIS products to enable the PSAP to display to telecommunicators the "theoretical coverage area" of the cell site or sector allowing them to identify the potential Phase 1 location of the 9-1-1 caller Ensure functionality in MapFlex

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Layers	Administrator	Root Data Owner	Workflow Details
Indoor Mapping Layer	Akimeka	E9-1-1 Admin School Resources	<ul style="list-style-type: none"> County/School resources provide floor plans to Akimeka Akimeka create digitized floor plan, with all attributes and features in accordance with floor plans Akimeka update AP layer/ALI with available sub-addressing information Ensure functionality in MapFlex

Upon inception of the E9-1-1 to NG9-1-1 Sustainment project for Levy County, Akimeka considers the status of the current GIS project today, and then conducts a comprehensive Project Plan (Deliverable 1). This plan involves documentation of Levy County’s existing GIS workflows procedures, software and hardware as they relate to this project and details the Task Management plan in order to validate that the approach is feasible and ensures no other constraints exist as barriers to the success of the project.

This Project Plan (Deliverable 1) constitutes the foundation for developing the strategy and workflows that Akimeka uses throughout the project. Over the last three years, Akimeka worked with Levy County’s Sheriff’s Office to streamline the GIS workflows. Already having the **internal operational knowledge** of current Levy County GIS workflows, Akimeka’s GIS individuals can continue with data workflow corrections and updates needed to further improve Levy County GIS data.

Akimeka exchanges information with Levy County regularly through our program support, such as drawing awareness to industry trends, standard changes, and technology. Throughout the project Akimeka provides regular quarterly status updates via Quarterly Synchronization Reports (QSR, Deliverable 2) including:

- Monthly and quarterly activities to include all MSAG, ALI and GIS changes/updates
- Identified issues/problems encountered during the month
- Anticipated issues/problems and mitigation strategies for the following month
- Goals for the next reporting period
- GIS data for the period of the QSR
- Summary of Impact – items impacting Levy County’s E9-1-1 systems and operations, as well as the “to-be” NG9-1-1 systems and operations that Akimeka is aware of

1.1.1 9-1-1 E9-1-1 AND NG9-1-1 GIS DATABASE SERVICES

The GIS database provides call-takers and dispatchers with a mapping display indicating the 9-1-1 caller’s location. Akimeka prides ourselves on providing useful and accurate information for Levy County and has proactively began preparing Levy County for an NG9-1-1 environment on day one of the existing contract. Akimeka’s Data Synch Cycle models the data schema after NENA Standard for NG9-1-1 GIS Data Model. The GIS database requires several critical layers needed to support the functionality of location validation in the E9-1-1 systems and the NG9-1-1 systems. These layers include:

- Road Centerline
- Site/Structure Address Points
- Emergency Service Numbers (ESN)/ Emergency Service Zones (ESZ)
- PSAP/Provisioning Boundary
- Emergency Service Boundary (ESB)

GIS Data Layer Sustainment: Akimeka’s GIS Analyst worked with Levy County to standardize the data model for NG9-1-1. At that time Levy County had their street name field already. Both teams

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collaboratively prepared the data schema for easy acceptance by the 9-1-1 Mapping System, Intradco MapFlex. Regardless of the 9-1-1 system, Akimeka ensures the base data is accurate. Considering this operational impact to the Levy County PSAP, Akimeka places a high priority on the development, sustainment, and/or enhancement of the critical GIS layers in accordance with the NG9-1-1 Data Model. Akimeka understands that there are fields in Levy County's data that are necessary for county use and therefore, shall continue to maintain the data schema according to Levy County's field requirements. Levy County GIS can then use the monthly GIS layer deliverables (Deliverable 3) for county data sharing and map uploads according to their data sharing procedures, detailed in [Table 2](#).

Table 2. Levy County GIS Layers for Public Safety.

Levy County's GIS team receives accurate and useful data for public safety use by leveraging Akimeka's qualified and experienced resources to sustain the required GIS layers for NG9-1-1.

Layer	Purpose of Support	Akimeka Service
Road Centerline (RCL)	<p>Ensures routing of public safety resources to the incident by providing turn-by-turn directions to the dispatcher and public safety responders if equipped with the proper systems</p> <p>Used for address validation when there is not an address point but there is a street range</p>	<p>Performing topology, validations and routing checks</p> <p>Splitting street segment geometry at appropriate boundaries</p> <p>Maintaining street ranges and boundary information via the attributes</p> <p>Edits and updates to ensure feature class meets requirements of the GIS components in the "to-be" NG9-1-1 network, PSAP CPE, PSAP mapping systems utilizing GIS</p>
Site/Structure Address Point (SSAP)	<p>Ensures interoperability between databases and systems by updating the address points utilizing the geographic coordinate systems identified by NENA aiding in accurate displays required by NG9-1-1</p>	<p>Adding sub-addressing information to appropriate address/structure points to include details on building number, floor number, apartment or unit number or such information as described in FCC 15-9 as a "dispatchable location"</p> <p>Deploy resources to perform field data collection, verifying and conducting address validation for PSAP identified addressing discrepancies when other methodologies cannot determine accurate locations/addresses</p>
Emergency Service Number (ESN)	<p>Ensures call routing to the proper PSAP in E9-1-1 environment</p>	<p>Routine edits and updates for sustainment</p>
MSAG Community	<p>Community boundary layer used MSAG Translation Services to build an MSAG-valid address</p>	<p>Routine edits and updates for sustainment</p>
PSAP Boundary	<p>Ensures call routing to the proper PSAP in NG9-1-1 environment</p>	<p>Development for use in the "to-be" NG9-1-1 network; then routine edits and updates for sustainment</p>
Provisioning Boundary	<p>Ensures GIS data errors are addressed by the proper GIS authorities</p>	<p>Development for use in the "to-be" NG9-1-1 network; then routine edits and updates for sustainment</p>
Emergency Service Boundaries (ESBs)	<p>Establishes geographic coverage area for the primary providers of response services (i.e., law, fire, EMS, etc.)</p>	<p>Development for use in the "to-be" NG9-1-1 network; then routine edits and updates for sustainment</p>

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Layer	Purpose of Support	Akimeka Service
Supplemental <ul style="list-style-type: none"> • Wireless Tower • Phase 1 Cell Sector • Indoor Mapping 	Assists Telecommunicators in quickly locating 9-1-1 callers	Development and routine edits and updates for sustainment

In the current contract, Akimeka is planning the development of NG9-1-1 specific layers with Levy County to create all Emergency Service Boundary (ESB) layers; the response area for each responding agency (fire, EMS, law enforcement). While the current Levy County GIS project focused on the synchronization of GIS, MSAG and ALI databases to achieve the 98%, the PSAP and Provisioning Boundary layer development effort is now a focus. Aligning with the timing of Akimeka's task within the Continuous Data Workflow procedure, Akimeka is working with Levy County to finalize these layers.

To make sure that all GIS layers have no attribute or spatial errors, Akimeka performs thorough data checks before each delivery. The synchronization discrepancy reports of the GIS database specify the information Akimeka's GIS Analysts will update so the location information will be an exact match to MSAG and ALI databases – while they remain in place in the current E9-1-1 operation. Akimeka provides Levy County updated 9-1-1 GIS layers (Deliverable 3) on a monthly basis.

Field Work: As the project continues, a time may come when field work is necessary to validate address points or locate missing or unverifiable addresses that cannot be located via imagery. Akimeka shall conduct field work for specific addressing scenarios as a result of structure/address validation.

Our GIS Analyst works directly with Levy County's Assistant County Administrator to schedule this travel and plan appropriate routes to ensure public awareness and limited disruption or no compromise to public safety. Recognizing that field work is dependent on the initial quality of the data, Akimeka takes a conservative approach to provide the most cost-effective solution and ensure that all stakeholders are made aware well in advance.

1.1.2 SUB-ADDRESSING AND INDOOR MAPPING FOR DISPATCHABLE LOCATIONS

Sub-Addressing for Dispatchable Locations: The size, scope, and complexity of the Levy County GIS project for public safety is steadily increasing. As the technology changes, Levy County GIS must also adapt to these changes to accommodate the changing tides of the 9-1-1 industry and the systems used. This includes the insertion of sub-addressing information for dispatchable locations. Similarly to what is illustrated in [Figure 2](#), Akimeka's GIS Analysts shall continue to have focus in providing this information for the completion of all residential and commercial properties (e.g., schools, condos, apartment buildings, shopping centers, commercial buildings, hospitals, government buildings, etc.) throughout Levy County.

Approaching the county by zones allows Akimeka a defined tracking methodology to ensure we do not miss the addition of these points in any area of the county or structure. The inclusion of this information provides emergency response the enhanced capability (even for AVL systems) to navigate response to the door of residential and business locations while responding to 9-1-1 calls. This work conforms to the FCC Report and Order 15-9.

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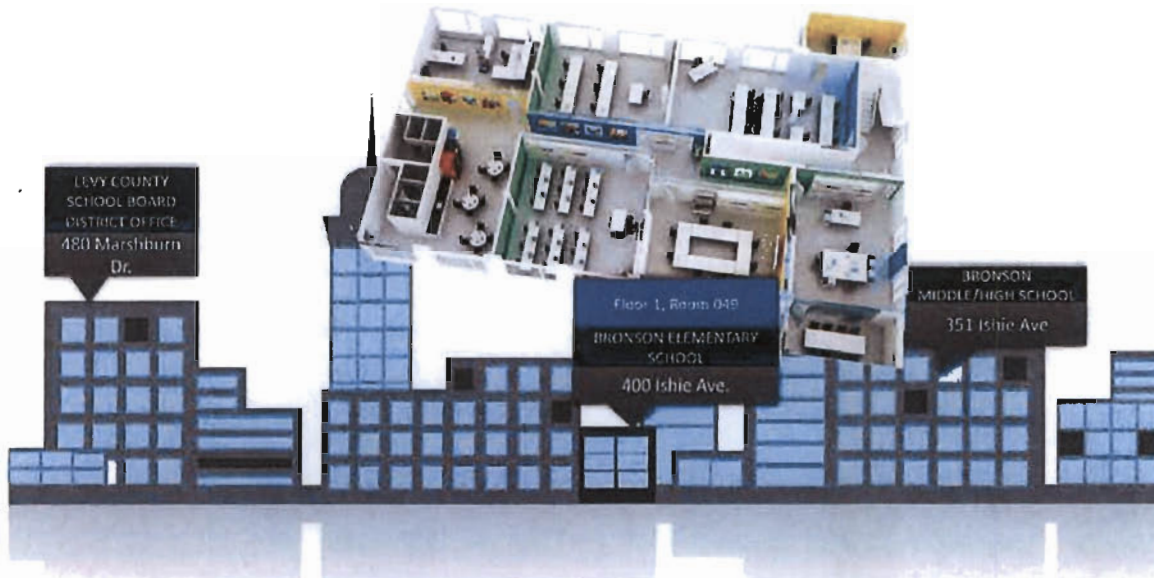


Figure 2. Sub-addressing for Dispatchable Locations.

Designing the 9-1-1 GIS and ALI database to include dispatchable location information improves public safety in Levy County.

Indoor Mapping: Akimeka shall provide the digitization of indoor mapping of schools throughout Levy County. There are approximately 17 schools (public and private) in Levy County. Akimeka works with the Levy County Sheriff's Office and school resources/representative to obtain these maps for digitization.

Akimeka's GIS experts focus on the assurance of a verified address, leveraging the Levy County Address Point layer. **Akimeka's GIS Analysts build this layer with NENA standard fields transcribed in the "to-be developed" Indoor Mapping layer** (Deliverable 3). In addition, Akimeka's GIS Analyst verifies the inclusion of the sub-address/dispatchable location information in Levy County's Address Point layer, in accordance with the determined approach discussed during project kick-off. Akimeka's method automates the population of this data for these layers using Esri ArcGIS software and Akimeka's uniquely designed automated tools.

Akimeka adheres to laws and regulations, NENA standards and industry best practices to providing the enhanced GIS data Levy County requires. Some of these documents include, but are not limited to:

1. NENA Standard for NG9-1-1 GIS Data Model NENA-STA-006.1.1-2020, February 18, 2020
2. NENA Information Document for Development of Site/Structure Address Point GIS Data for 9-1-1 NENA-INF-014.1-2015, September 18, 2015
3. NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) – March 23, 2014

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The additional fields of information which Akimeka will identify, making it dispatchable are 1) Landmark_Name, 2) Place Type, 3) Building, 4) Floor, 5) Room_Number, 6) General_Function (is it a classroom, cafeteria, orchestra hall, or closet, etc.?), and 7) Additional Location Information. Akimeka shall implement the procedure we currently follow with other Florida counties, such as Sumter, Hendry, and Holmes county.

The crux of this project will be in the initial indoor mapping and digitization of the 17 of public and private schools. The level of effort to create the dispatchable points requires the most complexity upfront to establish the refined workflow conformed to Levy County's requirements and current operational procedures. After that, creating dispatchable points is achievable with Akimeka's tailored and county-specific tool. **Figure 3** illustrates the vector-based digitized site map sample Akimeka's GIS Analysts developed, including the sample dispatchable points that will include the sub-addressing information. The additional task of creating the dispatchable points and providing the sub-addressing information is a combination of manual and automated processes with astute human intervention for quality assurance (QA).

The GIS database provides call-takers and dispatchers with a visual map indicating the 9-1-1 caller's location. In a NG9-1-1 environment and the continuous enhancement of public safety addressing data, the GIS database is capable to support the functionality of location validation. The GIS layers (Deliverable 3) Akimeka will develop and deliver to Levy County will include an **Indoor Mapping layer**. The layer will display all buildings and associated features from the provided floor plans (e.g., classrooms, closets, hallways, offices, etc.), inclusive of entry-way points with additional details and intricacies such as entrances and exits to the building, room/closet entryways, stairwells, etc.)

Indoor mapping and building footprint digitizing empower emergency telecommunicators with critical information that improves emergency response. Wireless emergency calls originating from large multi-story buildings do not provide telecommunicators the context or the level of detail needed to make split second decisions that save lives. Building this additional level of detail saves time, improves response, and increases efficiency of PSAP operations. Akimeka's solution for indoor mapping combines, tools, resources, staff, and methodology to complete indoor mapping projects accurately, on time, and within budget.

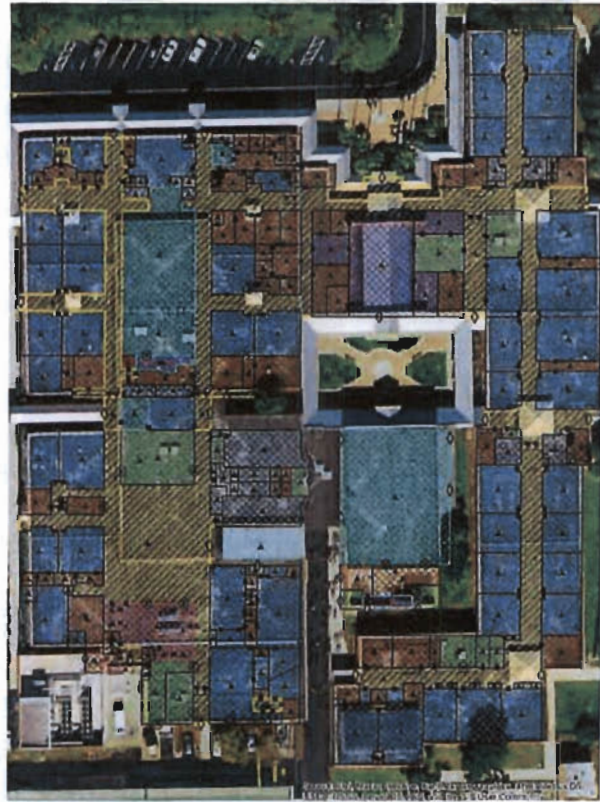


Figure 3. Sample School Vector-Based Digitized Site Map.

The indoor mapping and sub-addressing require talented personnel for the labor-intensive process, using unique tools that add efficiencies to an already complex project of this size and magnitude. Akimeka's forward-thinking solution includes the build-out of building footprints, the digitization of 17 of public and private schools, and the inclusion of the sub-addressing points for dispatchable locations. Our solution provides Levy County GIS data with high accuracy. Implementing Akimeka's methodology combined with rigorous data management and quality management delivers a low risk for possible errors.

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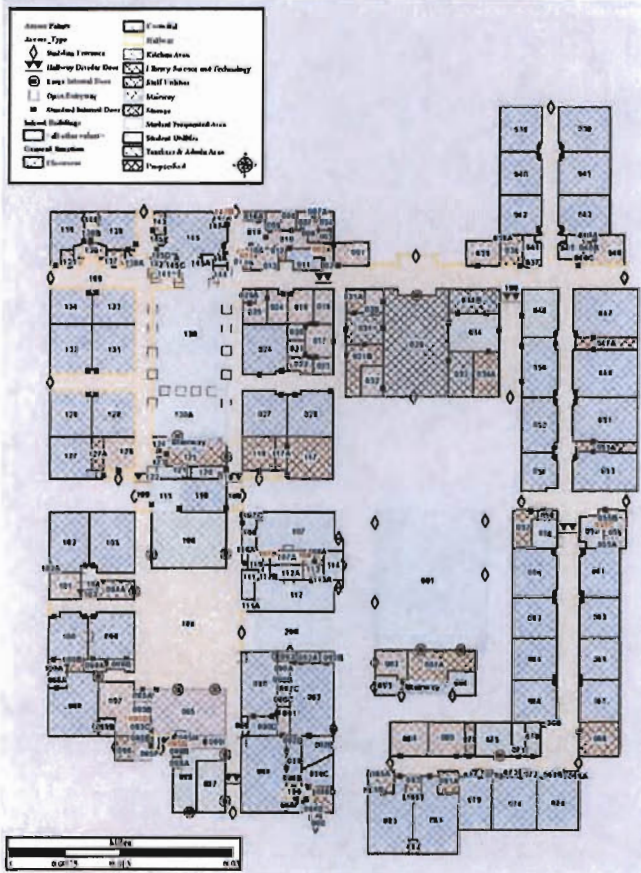


Figure 4. Sample School Overview Summary.

Having the ability to turn-on the indoor mapping layer provides Levy County the complete solution necessary for the Indoor Mapping & Sub-addressing for Dispatchable Locations project. As an added value, Akimeka includes PDF exports with monthly GIS layers with no additional cost, providing all areas of public safety the information they need should there be an instance of system outages.

Akimeka’s GIS experts have the experience and skills to digitize the 17 public and private schools to provide geodetic and dispatchable locations with all the attribute information required. Our service approach allows us to mitigate any risk of missing data during the build out process. [Figure 5](#) illustrates the PDF sample that Akimeka’s GIS Analyst’s built and shall provide to Levy County for each completed school. [APPENDIX A](#) includes sample PDF exports of the layer build-out.

By Levy County continuing to share the parcel layer to support this effort, Akimeka’s GIS Analyst can leverage the information to create the School Boundary layer. To produce an accurate representation of the floorplan data in a GIS format, Akimeka’s GIS Analysts already developed the county-focused workflow and put it into practice.

Levy County’s GIS team benefits from the additional Akimeka resources to support completion of indoor mapping. Were Levy County to purchase a software solution from another vendor, it would require additional attention to project quality, significant additional work to preform GIS data enhancement and data management and additional annual software maintenance cost.

◆ In conclusion, Levy County receives prepared GIS data in the format ready for NG9-1-1 transition. The data enhancements from Akimeka’s GIS services ensure that Levy County’s PSAP telecommunicators have accurate maps of streets and address information, as well as indoor mapping and sub-addressing for dispatchable locations to improve emergency response times. ◆

1.2 MASTER STREET ADDRESS GUIDE (MSAG)/AUTOMATIC LOCATION IDENTIFICATION (ALI) DATABASE SERVICES

The NENA standards require a minimum 98.0% exact match between the MSAG and ALI databases with the 9-1-1 GIS database. This is referred to as the synchronization process of the 9-1-1 databases. NENA also recommends the same 98.0% exact match between these databases prior to the implementation of



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a NG911 system, since this location information is used in a validation process before arriving at the PSAP.

The synchronization of the three databases – GIS, MSAG, and ALI – facilitates improvement of 9-1-1 caller location accuracy by indicating where standardization and data corrections should be made within each database. Since 2018, Levy County and Akimeka worked together to prepare, standardize, correct, and synchronize the Public Safety databases. Starting at an average GIS/MSAG match percentage of 3.75%, Akimeka supported Levy County in achieving the minimum required 98% synchronization. From Akimeka’s implementation of the Data Synch Cycle, GIS/MSAG remains at 99.9% match and the ALI/GIS match percentage continues to improve to exceed the 98% standard.

As both ALI and GIS databases are constantly updated, Akimeka’s database synchronization services are specifically designed to identify any discrepancies and perform immediate corrective actions. Akimeka performs quarterly synchronization audits throughout project duration, apprising Levy County of continuous 98% match rate sustainment and increases via the Quarterly Synchronization Report (QSR) (Deliverable 2). Akimeka’s database synchronization services ensure Levy County’s 9-1-1 GIS data complies with current and emerging NENA standards and provides Levy County with a performance measurement matrix.

Levy County received unique MSAG services from Akimeka delivering elevated data quality and consistency from facilitating over 6,000 MSAG changes since 2018.

Delivering an all-inclusive solution from a one-stop-shop, Akimeka’s unique MSAG Services continue to provide GIS improvements to Levy County. We provide and deliver elevated data quality, with consistency within the MSAG database. Akimeka’s MSAG Coordinator facilitated over 6,000 MSAG Changes since 2018, resulting in the heightened levels of the Levy County synchronization match percentages. Akimeka’s relationship with Intrado allows for the continuation of this elevated support. The plan for a “to-be” NG9-1-1 environment, as Akimeka understands, includes the MSAG/ALI databases for the “foreseeable future”, with the assumption that could be at least the duration of the new contract.

1.2.1 MSAG TRANSLATION SUSTAINMENT SERVICES

The MSAG database contains street names and high/low address number ranges, pre/post street directional, odd/even restrictors, response areas defining ESZs and their associated ESNs to enable proper routing of 9-1-1 calls.

Akimeka continues its responsibilities for maintaining the public safety GIS and ALI data and database management, by coordinating with Intrado and Levy County’s addressing authority, completing all database corrections and updates.

The most critical aspect of identifying locations within a 9-1-1 service area is the translation of county-approved civic address to an MSAG address. The basic rule is that all civic addresses must be translated into a format that is compatible with the existing PSAP equipment and processes (i.e., mapping, Customer Premise Equipment (CPE)). Akimeka develops this translation process to ensure data exchange between the telephone company – the 9-1-1 System Network – and the PSAP equipment is successful. NENA Standards identify this process as the “Civic to MSAG Address Translation”.

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1.2.2 MSAG CORRECTION SERVICES

Akimeka identifies, corrects, and updates street ranges, street pre/post directional, street names, street odd/even restrictors, and MSAG communities for known and/or unrecognized streets by working with the municipal addressing authorities within the 9-1-1 services area. This requires research including the cooperation of the addressing authority (i.e., Levy County Sheriff's Office) to identify the valid MSAG information.

Akimeka's database correction services improve the overall synchronization with Intrado's database and with the Levy County's GIS data. Akimeka investigates and submits 9-1-1 transaction request(s) to establish the valid MSAG street range, street name, etc., and correct ESN accordingly with the DBMSP, Intrado, ensuring an exact match condition exists with the GIS database. This process reduces the telecommunicator's response time in sending emergency response personnel to the location of the 9-1-1 calling party by quickly and accurately identifying the location of the 9-1-1 caller.

Akimeka and Intrado have a strong working relationship. Akimeka's MSAG Coordinator was solely responsible for data analysis, data editing, and data tracking; making and processing changes in the MSAG & ALI databases to ensure synchronization with Levy County's GIS database. This previously established relationship with Intrado mitigates any risk of upfront project delays due to team introductions, vendor-to-vendor agreements and procedure development, etc.

Akimeka reports ongoing maintenance activity or changes made to the 9-1-1 MSAG during the period of performance (PoP) on a quarterly basis via the QSR (Deliverable 2). Regularly, Akimeka's analysts and coordinators perform three-way synchronization audits that illustrates any discrepancies, reporting the status of database synchronization quarterly. Akimeka immediately enters the change requests (CRs) and ensures processing by Intrado. Together, we support Levy County in maintaining the 98% NENA standard and shall continue to do so in support of a future transition to NG9-1-1.

Standardize, Synchronize, Sustain and Enhance



GIS to MSAG
MSAG to GIS



ALI to GIS

- Standardized with required fields
- Synchronized to 98% match (or better)
- Additional recommended fields and GIS layers can be added for greater usefulness and accuracy

NENA Standard 71-501

Figure 5. Akimeka Database Synchronization.

Akimeka applies a quarterly synchronization audit process, instilling regular compares for reporting the database match percentages for E9-1-1. Approaching public safety GIS data management with a "standardize, synchronize, sustain, and enhance" method ensures quality control and provides supplemental information for emergency response.

Knowing that the continuation of synchronization is the desired goal, Levy County understands the phased approach proves the most valuable to mitigate any cost or operational impact risks to the county



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or PSAP. This phased approach allows Levy County to adapt to the shifting public safety landscape and maintain a quality 9-1-1 system.

In a full NG9-1-1 environment, the approach to MSAG sustainment changes. [Section 1.1.1](#) above details the importance of GIS in a full NG9-1-1 environment. Because in NG9-1-1, call routing of wireline and VoIP calls is based on the PSAP boundary, the location of addresses in GIS becomes even more critical. However, in Levy County's case, for the foreseeable future, Levy County's MSAG shall be maintained while the Selective Router remains in place and while Levy County decides the most efficient approach for a transition to a NG9-1-1 environment. As such, database synchronization requires ensuring consistent compliance to NENA Standard 71-501, illustrated in [Figure 5](#).

Akimeka's processes conform to the NENA NG9-1-1 GIS Data Model from day one, ensuring any new address is properly located in GIS, for both call routing and first responder dispatching, regardless of whether the system is operating in NG9-1-1 or E9-1-1 environment.

1.2.3 AUTOMATIC LOCATION IDENTIFICATION (ALI) SUSTAINMENT SERVICES

The ALI database exists as a "companion database" or "supplemental database" to the MSAG database and is owned by the respective LEC, CenturyLink. The ALI database contains proprietary information regarding the caller's name and telephone number, address/location information associated with the telephone number, and supplemental emergency services information regarding the location from which the call originated and to which PSAP the call should be routed.

Akimeka, as a trusted advisor and partner to Levy County, obtains Levy County's ALI database information, which is also run through the synchronization process. Akimeka is responsible in supporting Levy County with change requests to the ALI database with CenturyLink. There are two types of requests that can occur during the routine sustainment cycle – a telephone number change request (TN CR) and the ALI Discrepancy Report (ALI-DR). The TN-CR usually occurs when there is a change within an MSAG Community, Street Name, or a Public Safety Service Area boundary correction or modification that must be performed to keep the records and database synchronizing with the GIS. An ALI DR comes from the PSAP as a result of an ALI record that has a discrepancy with its location discovered during a 9-1-1 call. This type of request gets reported to Akimeka and after our GIS Analysts perform the corrective action.

Another important aspect of ALI sustainment service is the implementation of sub-addressing information for dispatchable locations in the location data. The TN records contain the source information that gets displayed within the PSAP's call taking equipment, such as the caller's telephone number, the address/location of the telephone and supplementary emergency services information of the location from which a 9-1-1 call originates. Dispatchable Locations are main addresses utilized in the ALI record with supplemental location information such as building number, floor level, room number, apartment number, unit number, etc. This information must appear in the ALI record and the address point information in the GIS address point (or SSAP) layer. Depending on the configuration capability of the call taking and mapping equipment, the sub-address information can be displayed on the ALI screen and on the call taker's map. This information is only useful if it displays at the PSAP on the ALI screen. As Akimeka continues GIS sub-addressing and including this information in the ALI database, our GIS Analysts work with Levy County to provide data supporting displays for Telecommunicators, taking into consideration any limitations of the call taking equipment.

1.3 9-1-1 WIRELESS DATABASE SERVICES

Nationwide, Wireless 9-1-1 calls account for approximately 80% of the total 9-1-1 calls for assistance. Akimeka's wireless database maintenance services follow the NENA Standard 57-002 Wireless

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Maintenance Call Routing and Testing Validation Standard to satisfy this requirement by accurately identifying the cell tower and the associated sector that registers the 9-1-1 call. Specifically, Levy County receives useful data elements from the Wireless Service Provider (WSPs), and Akimeka services use those elements to display the 9-1-1 caller's location on the 9-1-1 systems.

1.3.1 WIRELESS ENHANCED 9-1-1 (E9-1-1) LOCATION DATABASE MAINTENANCE SERVICES

Many factors affect wireless caller location accuracy. What is not widely known, is there are additional accuracy challenges in the GIS mapping layer that compound the uncertainty. Of importance is understanding how many Wireless Phase 1 (WPH1) calls Levy County is still receiving at the PSAP, as well as the confidence factor of Wireless Phase 2 (WPH2). Today, Levy County PSAPs do not always receive Phase II information immediately.

The cell tower sites and coverage area layers often contain errors from potentially old or recently changed cell tower data. This skews call routing and caller location information and can cause incorrect dispatching of 9-1-1 resources. If appropriately maintained and used, the Phase 1 layer containing accurate information of Levy County cell towers and cell sectors can assist call takers in determining the location of callers when Phase 2 data is unavailable or slow to populate. In some cases, Phase 2 data can have very low confidence, in which case Phase 1 data may actually provide a better initial location of the caller.

In the current E9-1-1 environment for Levy County, Akimeka's wireless experts shall work with the Wireless Service Providers to ensure accuracy and use of the to be developed Wireless Phase 1 Cell Sector layer. Akimeka will maintain the Phase 1 layer for Levy County, thus:

- Ensuring proper location identification of the cell sector that registers the wireless call
- Ensuring the routing information utilized by the WSP transfers the wireless 9-1-1 call to the PSAP accurately
- Providing GIS products to enable the PSAP to display to telecommunicators the "theoretical coverage area" of the cell site or sector allowing them to identify the potential Phase 1 location of the 9-1-1 caller



Figure 6. Phase 1 Layer versus Phase 2 Location.

While Phase 2 location is ideal, it is not always available to PSAPs. In these cases, access to Phase 1 location information and GIS display can save precious time getting help to a 9-1-1 wireless caller.

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1.3.2 WIRELESS CELL SITES/SECTORS ADDRESSING AND TOWER ADDRESS STANDARDIZATION

An important part of the caller location puzzle is to maintain the wireless cell site and cell sector GIS layer, or Phase 1 layer, in the event that Phase 2 location cannot be obtained. Used in combination with an accurate GIS layer, callers can be queried on their surroundings to pinpoint their location.

This process involves identifying the location of the wireless towers, identifying the sector information, assigning an MSAG-valid address, or referencing pseudo tower address using a unique tower addressing schema, and then coordinating and communicating these changes with the WSPs and the 9-1-1 DBMSP. Akimeka performs these functions by communicating the coordinates of the cell tower and cell site sector addressing schema using the call routing sheet (CRS) (Deliverable 4) and then documenting the actions.

Within the CRS process, Akimeka extracts the pertinent location and theoretical coverage area data from the CRS and incorporates this information within the appropriate GIS layers. Akimeka performs this function on an on-going basis with constant communication and coordination with the WSPs 9-1-1 DBMSP to ensure timely updates occur to the WSPs database.

Levy County's CRS update turnaround time takes on average, 48 hours, from time of receipt of the CRS with Akimeka's wireless services. The NENA standard calls for a 10-working day period from time of receipt of the CRS from the WSP.

PSAP to Receive Wireless 9-1-1 Calls	Call Site ID	Cell Site ESBK High Range	PSAP ESBK	ESBK Int No	ESBK Last No	Wireless ESN	Customer Name	House Number	House Number Suffix	Street Prefix Directional	Street Name Field	Street Post Directional	House Name Suffix	Community	Location (Building)
Tallahassee Police Department						01	CAMPBELL	1234			MEADOW			APPLE RIVER	
Tallahassee Police Department						02	CAMPBELL	5678	ABC		APPLE ST			APPLE RIVER	
Tallahassee Police Department						03	CAMPBELL	9012	ABC		APPLE			APPLE RIVER	

Figure 7. Wireless Service Provide Call Routing Sheet Example.

Levy County's CRS update turnaround time takes on average, 48 hours, from time of receipt of the CRS with Akimeka's wireless services. The NENA standard calls for a 10-working day period from time of receipt of the CRS from the WSP.

If necessary, upon receipt of a complete CRS – in accordance with NENA Standard 57-002 – Akimeka is required to return the CRS files to the DBMSP on behalf of the PSAP no later than ten (10) working days after receiving the CRS files. Akimeka's wireless services allows our wireless experts to return completed CRS files to the WSP within 48 hours (two business days) as a value-added benefit to ensure the wireless 9-1-1 database is up to date. This requires cell tower/sector addressing to ensure accurate display at the PSAP by equipment capable of displaying this data. Akimeka wireless experts:

- Ensure tower and cell sector addresses conform to the character limitations set by the ALI data stream
- Populate the house number field with the appropriate cell ID number.



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- Identify the street name field of the CRS as a unique tower code that PSAPs will use as a reference point to identify the tower/sector location that registered the wireless 9-1-1 call
- Record the community as the proper MSAG community
- Assign the proper wireless ESN within the CRS to ensure the 9-1-1 call routes to the appropriate PSAP
- Remove the cell site/cell sector (or both) from the wireless database should the PSAP receive a notification from the WSP that a cell site, or cell sector, has been decommissioned.

1.3.3 WIRELESS 9-1-1 CELL SITES/SECTOR AUDIT AND CORRECTION PROCESS

The duration of the wireless audits depends on the number of cell sites/sectors involved, the level of accuracy of the records, cooperation from the WSPs, and requirements of Levy County. It is recommended that at a minimum, Akimeka conduct an annual audit of each WSP database – AT&T, Verizon, T-Mobile (including Sprint) – that provide wireless 9-1-1 service coverage within Levy County.

In the event of major discrepancies between wireless databases, Akimeka may request cooperation from WSPs to ensure synchronization between the wireless database maintained by the WSP and the PSAPs wireless 9-1-1 database. Tasks during this time can include:

- Request for new CRS once the audit has been coordinated with the WSP
- Ensure the 9-1-1 WSP cell tower layer(s) are updated, with sites and sectors, based on the audit providing any corrections required based on the CRS
- Update each WSPs' wireless cell tower addressing/naming protocol changes, as provided by the CRS
- Update the following WSP cell tower layers:
 - WSP cell tower point layer which shows the location of the cell tower sites based on the latitude and longitude provided by the WSP
 - WSP cell sector polygon layer, which indicated the projected coverage area, based on the attributes provided by the WSP that may be limited by the system's functionality within the PSAP
- Report all actions taken on the WSP cell tower layer(s) during the reporting quarter via QSRs (Deliverable 2)

1.4 DATABASE SYNCHRONIZATION

Since 2018, Levy County and Akimeka GIS Analysts prepared Levy County's RCL and SSAP layers for use in Public Safety. The quality of these layers allows Levy County to establish master single-source GIS data prepared for configuration and acceptance into the Spatial Interface (SI) function.

Having a continuous database sustainment and maintenance effort ensures Levy County's PSAP and first responders continue to have the most up-to-date and accurate location information, thereby enabling them to execute their public safety duties in a more efficient and effective manner.

Today, Levy County receives accurate and useful data, synchronized and in use by its Telecommunicators. Levy County receives assured stability in their GIS data because of Akimeka's continuous data workflow and sustainment measures to manage the data.

Akimeka continues to work to update the data with new addresses and development, ensuring we sustain the NENA required match percentage. Next Generation has very strong data correction procedure requirement – if a GIS data element is in error resulting in misroute and requires correction, Akimeka takes the responsibility to make sure that the correction is made within the timeframe



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specified by NENA Standards. Akimeka works closely with Levy County to determine the nature of the error and the correction needed and then make the update to the data.

1.5 GIS ADMINISTRATION AND PROJECT MANAGEMENT

In the three years of support to Levy County, Akimeka refined GIS workflows and operational procedures to streamline the communication of information resulting in the success of achieving the 98% NENA standard. Akimeka works jointly with Levy County to validate addressing information to maintain the NENA-required match percentage or better.

Akimeka assists by reviewing existing business processes alongside the Levy County 9-1-1 Coordinator and E9-1-1 Database Manager making recommendations of value-add improvements. This includes as the GIS Layer update process, maps for public safety, and documented workflows.

◆ Akimeka’s goal, objective and scope of this contract is to make sure that the synchronized and enhanced GIS information displays accurately on Levy County’s PSAP systems and maps are precise for use in emergency response ◆

Akimeka understands the importance of a thorough understanding of project requirements and client needs. Therefore, completing the Project Plan (Deliverable 1) following project kick-off ensures that both parties (Levy County and Akimeka) understand the essential elements of the continuing E9-1-1 and NG9-1-1 GIS Sustainment and Enhancement. The Project Plan is a living document and can be refined as the team identifies areas for improvement or additional efficiencies. The Project Plan details operational flow of process and procedures and reiterates the project timeline and deliverables in accordance with E9-1-1 Board initiatives and deadlines.

Akimeka’s project management methodology ensures excellence in tracking task progress, meeting deliverable deadlines and providing consistent communication. The success of the Levy County requirements for GIS, MSAG and ALI data sustainment for the E9-1-1 legacy environment and NG9-1-1 correlates to appropriately providing the qualified and knowledgeable staffing that understands the uniqueness of the tasks to meet Levy County’s mission. While we staff our projects from a conservative approach, unlike other vendors with larger proposed teams, Akimeka offers the one-on-one personal service to Levy County, where larger teams are susceptible to constant knowledge transfer of the project to someone new for each task. Akimeka’s existing relationship with Levy County provides the competent and skilled resources to continue GIS services with minimal impact or delays.

1.5.1 QUALITY ASSURANCE / QUALITY CONTROL

Akimeka Quality Management System (QMS) ensures Akimeka’s service delivery processes provided to Levy County are measured and monitored appropriately. The QMS processes, based on industry best practices and the proven quality frameworks of International Organization of Standardization (ISO) 9001:2015 – ensures a repeatable and efficient process minimizing cost, improving consistency, and supporting continuous improvement. The established quality process framework, backed by Project Management Institute (PMI) and Project Management Book of Knowledge (PMBOK), includes 9001:2015 for operations support.

Levy County benefits from a program-tested Quality Control Plan (QCP) that monitors and maximizes quality. The QCP defines the techniques, procedures, and methodologies used to assure timely delivery of services described in the PWS (Sections 1.1-1.5.4). Akimeka’s corporate management fully supports a strong commitment to implement Quality Assurance and Control effectively on each task performed.



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The goals of a QCP ensure:

- Project outcomes/results meet Levy County's expectations
- The project is being accomplished within the agreed upon time frame and costs
- Communication of results and conclusions to all involved, with an understanding of the recommendations, and the ability to implement action plans
- Utilization of satisfactory methods and appropriate techniques during fact finding and analysis
- The presentation and format of all deliverables that meet client standards
- Identification, communication and management of risks in a timely manner

Akimeka's GIS Analysts regularly perform QA/QC checks to the data prior to provisioning deliverables for submission, ensuring that layers have no attribute or spatial error.

Akimeka commits to meeting these quality assurance goals using two primary techniques:

1. Performing a formal review of work in progress during scheduled meetings
2. Soliciting client satisfaction feedback

Akimeka follows Quality Management Principles, in all aspects of this contract. Akimeka communicates any critique, suggestions for improvement, as well as the corrective action taken as warranted via meeting minutes and within the QSR (Deliverable 2). Depending on the severity and nature of the situation, Akimeka develops a formal (written) action plan, sharing with Levy County representatives to correct any identified deficiencies.

1.5.2 RESPONSIBILITIES AND ASSUMPTIONS

As with any partnership, both parties play vital roles to ensure a successful project outcome. Akimeka is fully prepared to deliver on the roles and responsibilities outlined throughout the intended Performance Work Statement (PWS) (Sections 1.1 – 1.5.4). The following identifies the roles and responsibilities of both parties. The items in this section and sub-sections are vital to the project where timely delivery in a timely manner avoids project delays and/or changes in project scope.

1.5.2.1 AKIMEKA RESPONSIBILITIES

Akimeka has a clear understanding of the requirements and responsibilities associated with this SOW. Akimeka, unless further directed to do otherwise, shall:

- Provide appropriate project personnel (e.g., Team Lead, MSAG Coordinators, GIS Analysts, Project Manager, etc.) (See [Section 2](#) and [Section 3](#))
- Provide any and all tools and/or software required to perform the tasks set out in this SOW
- Maintain a list of Akimeka employees authorized to work on Levy County's GIS, MSAG and ALL databases
- Implement an effective project management strategy that ensures successful and accurate submission of project deliverables in accordance with [Table 3](#), unless otherwise agreed to
- "Own" and maintain GIS data layers in accordance with [Table 1](#) and any additional for the use of public safety 9-1-1 systems
- Coordinate with Levy County GIS Public Safety vendors (Intrado, Wireless Service Providers, VoIP Providers, etc.) under a Letter of Authorization (LOA) as required and agreed to
- Perform wireless database support services to include call-routing sheet audits, cell sector analysis, and wireless GIS layer sustainment



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1.5.2.2 LEVY COUNTY RESPONSIBILITIES

Levy County coordinates these services with Akimeka and has a clear understanding of the requirements and responsibilities associated with this SOW. As such Levy County will:

- Ensure the solution to transfer files securely between Levy County and Akimeka remains intact
- Notify Akimeka of any changes in (county or vendor) personnel responsible for providing information and or data essential to the completion of the project
- Inform Akimeka in the event that there will be a change to the existing Customer Premise Equipment (CPE) that uses GIS, MSAG and ALI information within 30 days of impact
- Provide specifications of the Levy County mapping systems so that Akimeka can deliver the appropriately formatted deliverables for those systems
- Notify Akimeka in the event there will be a new CPE system or, the CPE system vendor performs a modification to the system that may affect the display of the mapping products and/or updates made by Akimeka for Levy County
- Notify Akimeka if access to the MSAG and/or ALI databases for Akimeka employees has changed for any reason
- Insure Akimeka's access to Levy County's MSAG remains with continued access through the duration of the contract to view, query, initiate record corrections, and pull extracts to perform corrections and synchronization work
- Deliver to Akimeka one ALI TN and address report download from the DBMSP, within two weeks of Akimeka's request, within the contract timeframe
- Make available to Akimeka copies of all newly acquired maps (electronic or hard copy), used by Levy County that can serve as a resource and would be useful for GIS layer updates, corrections, and/or modifications
- Contact Akimeka with timely information regarding address updates or discrepancies, especially those as a result of a 9-1-1 call, so that updates can be performed to the location data
- Provide support and validation related to any 9-1-1 data discrepancies within 72 hours of request made by Akimeka, unless agreed upon otherwise
- Coordinate map uploads to the 9-1-1 systems and data sharing for the purposes of the public safety network, as required
- Insure that third party providers fulfill their related responsibilities within the timeframes needed to keep the project on track.

1.5.2.3 PROJECT ASSUMPTIONS

Akimeka works with Levy County and other required organizations and service providers to progressively standardize, synchronize, and sustain Levy County's GIS, MSAG and ALI data to facilitate an increase in 9-1-1 caller location accuracy. In order to achieve the desired goal of this project, Akimeka assumes the following:

- Levy County has disclosed all relevant information about their E9-1-1 System and will respond in a timely basis to any requests for clarification, address and other conflicting data resolution, etc.
- **MSAG and ALI Record Edits/Corrections and Transaction Inputs** – There will be no restrictions regarding the number and types of corrections or edits made to the MSAG records imposed by the LEC, Intrado, during a given day/week/month period.
- **Third party support** – Levy County's signed Letter of Authorization (LOA) remains intact with service providers that support Akimeka with data access, bulk change, etc. This includes support from vendors/solution providers associated with Levy County 9-1-1 software and systems.
 - Intrado will work with Akimeka under the LOA provided to them by Levy County to:

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- Provide data requested
 - Perform database updates per requests
 - Work with Akimeka to resolve record issues
 - Provide Akimeka with access to on demand MSAG reports
 - Coordinate data access for Akimeka’s employees within 30 days from the start of the contract
- Placement of sub-addressing information and indoor mapping features is based off of the information given to Akimeka, and therefore, we assume the accuracy of these placements in the data we are provided with
 - Indoor digital map developed for 17 public and private schools, including all floors with details from provided floorplans only
 - Any moving of the Levy County PSAP and Installing New Equipment to another building will be done in a manner that will not affect the contractual services that Akimeka performs. Should this occur, Levy County and Akimeka together determine a resolution collaboratively for any issues or challenges that result.
 - The mapping systems are capable of utilizing the map files delivered by Akimeka to Levy County for Levy County to share and upload
 - **Map Imagery of Levy County** – Akimeka will provide high quality NENA compliant map imagery downloaded from the State of Florida Department of Transportation (FDOT), providing the imagery data is available through their website. If the FDOT imagery data becomes unobtainable, Akimeka will alternatively use the good quality, standard, NENA compliant ESRI basemap imagery.

1.5.3 DELIVERABLES

Akimeka’s customer-focused approach provides Levy County synchronization sustainment with GIS, MSAG, and ALI database updates. Levy County shall continue to receive data improvements. These improvements will enable the Levy County PSAP and emergency responders to locate 9-1-1 callers thus achieving faster response times and an increased potential more accurately for saving lives and property.

Table 3. GIS, MSAG, and ALI Database Correction Services Deliverables

Deliverable	Title/Details	Initial	Subsequent	Task Cross Reference
Deliverable 1	Project Plan – <i>A formal documentation of the Levy County’s environment and their processes, as well as the plan for task completion</i>	30 days after Contract Kick-off	N/A	1.1 1.5
Deliverable 2	Quarterly Synchronization Report (MSR) – <i>All activity undertaken during the quarter of the 9-1-1 databases complying with NENA standards and ensuring operational accuracy. Details within this report include:</i> <ul style="list-style-type: none"> • GIS changes • MSAG changes • ALI Changes • <i>Summary of Impact – items that impacted Levy County’s 9-1-1 systems and operations that Akimeka is aware of</i> 	Agreed to as a result of project kick-off meeting	Agreed to as a result of project kick-off meeting	1.1 1.2 1.3 1.4 1.5

STATEMENT OF WORK (SOW)

Deliverable	Title/Details	Initial	Subsequent	Task Cross Reference
	<ul style="list-style-type: none"> Final Synchronization Report included only in the final month of service in this PoP 			
Deliverable 3	<p>9-1-1 GIS Layers – Updated GIS files which include work completed that month with details provided in the QSR on a quarterly basis outlining the number, and types of updates/ corrections to the GIS layers</p> <p>These layers include:</p> <ul style="list-style-type: none"> Road Centerline layer Address Point (or Structure Point) layer MSAG Community ESN and ESZ boundary layers PSAP Boundary layer Provisioning Boundary layer ESB layers Supplemental GIS layers (to include but not limited to, wireless towers, Phase 1 Cell Sector, and Indoor Mapping layers) 	Agreed to as a result of project kick-off meeting	Agreed to as a result of project kick-off meeting	1.1 1.3 1.5
Deliverable 4	Wireless Call Routing Sheets (CRS) - complete CRS files – in accordance with NENA Standard 57-002 – to the WSP on behalf of the PSAP ensuring timely updates occur to the FMCC database.	No later than ten (10) working days after receiving the CRS files.	No later than ten (10) working days after receiving the CRS files.	1.3



STATEMENT OF WORK (SOW)

1.5.4 RISK MITIGATION STRATEGY

Akimeka provides a risk management strategy that involves how to structure and perform risk management for Levy County to ensure that identification, management, and mitigation of risks at acceptable levels. The purpose of this exercise is to provide a framework of how to identify and manage these potential events (risks) before they become actual events (issues).

Based on the company-wide risk management strategy, the risk management strategy entails customized use for Levy County's project requirements. The purpose and approach focuses on identifying, evaluating, mitigating and responding to risks that could affect any aspect of the SOW. Our objective is to minimize the impact of unplanned incidents by identifying and addressing potential risks before negative consequences occur.

For each task, Akimeka identifies potential risks, and evaluates the probability of occurrence and potential impact for each risk. The developed risk mitigation plan includes a risk register (as illustrated in Table 2 below), that is proactively monitored during the program for the manifestation of known risks and any addition of new risks as they are identified. In this way, risk is managed effectively. We meet on a weekly basis as a part of our regular team meetings to review the status of all identified risks as well as actions for the project. Risk status is part of our regular status review and reporting process. This plan contains a revision history log which is part of the meeting minutes and QSR (Deliverable 2).

Table 4. SAMPLE Project Risk Reporting

Identify	Evaluate	Mitigate	Monitor / Report
CPE requirements may require manual configuration	Probability: Medium Impact: Moderate Overall Risk Level: Moderate	Work with CPE vendor to determine a work-around	Publish minutes on meetings with the vendor to the team.
Protection of MSAG and ALI data	Probability: Low Impact: Moderate Overall Risk Level: Moderate	Data changes, additions, and deletions must be reported in writing to Levy County	Report completed data changes/updates to Levy County via weekly/monthly/as needed status meetings

2 PROPOSED COST FOR SERVICES

Levy County can remain confident that all services described in Akimeka’s Statement of Work together with its assumptions are from a one-stop-shop with no hidden fees or additional costs, unlike other service providers, that may not price for all necessary tasks at time of proposal.

The total fixed price for the Base Period of the project is **\$136,292.00** for the 12-month period of performance.

This cost, paid in installments, align with the project milestones listed in [Table 5](#) below. Upon reaching each milestone, Akimeka will submit a Milestone Acceptance Signoff and an invoice to Levy County. Levy County will then submit the signed Milestone Acceptance Signoff and the invoice to the State of Florida 9-1-1 Board.

Payment terms are Net 30 days from the date of invoice submission.

Table 5. Base Period: Milestone and Payments (11 March 2021 – 10 March 2022)

Milestone	Payment
1. Project Kickoff meeting/Needs Analysis	\$34,073.00
2. Delivery of Quarterly Status Report (QSR 1)	\$34,073.00
3. Delivery of Quarterly Status Report (QSR 2)	\$34,073.00
4. Delivery of Quarterly Status Report (QSR 3)	\$34,073.00
Total Value of Base Period	\$136,292.00

2.1 OPTION PERIODS

By approving the continuity of data and database management services provided by Akimeka, Levy County receives assured stability in their GIS data; stability that is necessary and essential for public safety. Akimeka shall continue providing 9-1-1 data and database management through a series of corrective and synchronization cycles for the base period of 12 months, with one (1) optional follow-on 18 month period of performance; the 12 month follow-on extension, at Levy County’s option, will continue the work anticipated by this proposal upon the same terms and conditions. Levy County can exercise this option by providing written notice to Akimeka at least 30 days prior to the end of the base period.

Akimeka continues to ensure that Levy County receives accurate and up to date information through continuous sustainment of GIS, MSAG and ALI databases. With a fixed price solution, Akimeka synchronizes databases, corrects and updates the data in all databases – GIS, MSAG and ALI – and continues to sustain the 98% match post-achievement.

2.1.1 OPTION PERIOD 1: MILESTONES AND PAYMENT TERMS

The total fixed price for Option Period 1 contract of this project is **\$138,832.00** for the 12-month period of performance, assumed for 11 March 2022 – 10 March 2023. The pricing for the Option Period is valid until 9 February 2022.

The total fixed price of the project is further detailed by milestones in [Table 6](#) below. Upon reaching each milestone, Akimeka will submit a Milestone Acceptance Signoff and an invoice to Levy County.

Table 6. Option Period 1: Milestones & Payments (11 March 2022 – 10 March 2023)


Milestone	Payment
1. Kickoff meeting/Updated Needs Analysis	\$34,708.00
2. Delivery of Quarterly Status Report (QSR 1)	\$34,708.00
3. Delivery of Quarterly Status Report (QSR 2)	\$34,708.00
4. Delivery of Quarterly Status Report (QSR 3)	\$34,708.00
Total Value of Option Period 1	\$138,832.00



2.2 PRICING ASSUMPTIONS

In the development of the pricing of the GIS, MSAG, and ALI Database Corrections for NG9-1-1 in support of Levy County, Akimeka has made the following assumptions:

- The anticipated base period of performance of 12 months will begin 11 March 2021 and end 10 March 2022, with option period timelines assumed as described in [Section 2.1.1](#).
- Tasking will be accomplished as outlined in [Sections 1.1-1.5.4](#), including each party's responsibilities ([Section 1.5.2](#))
 - Any deviations from the proposed tasking will result in the need to reevaluate the proposed price unless previously discussed and agreed upon during proposal negotiations
- Invoices will be submitted in accordance with the above Milestones & Payments tables, with NET 30 terms from the date of invoice submission
- With the option to extend for one additional 12-month period at the prices shown in [Section 2.1.1](#) Levy County may exercise the option by issuing a Purchase Order to Akimeka in the amount of the applicable option price by 9 February 2022, 30 days prior to the start of the applicable option period.



3 TERMS AND CONDITIONS

Akimeka, LLC has developed and submitted this proposal in compliance with Florida Statute 119.01 General State Policy on Public Records.

Levy County will coordinate and ensure that all its employees, agents and other related contractors will: (1) follow existing guidelines it currently uses to protect similar proprietary information, but not less than reasonable care appropriate to the type of information; and (2) reproduce all proprietary notices, legends or markings on all copies or extracts of the GIS data. Levy County is responsible for training and ensuring that such notices are observed by its employees, agents, and contractors.

The data evaluated, generated, and distributed under this scope of work is intended for use by Levy County, FL 9-1-1 mapping systems only. This data is provided by Akimeka, LLC, with the assistance of third-party subcontractors, as is, without warranty of any kind, including by not limited to the implied warranties of merchantability or fitness for a particular purpose. Thus, this data is not intended for public release nor is it implied to be complete or accurate.

No commitment, contract, exclusivity or obligation for any business dealings or relationship is created by the disclosure and use of the GIS data. Levy County, FL may procure, market or independently develop similar products or services or pursue discussions or business relationships with others, provided Levy County, FL does not violate the above-mentioned restrictions regarding the use of Proprietary Information. Akimeka, LLC and Levy County, FL retain all right, title, and interest to the GIS data. No patent, copyright, trademark, or other proprietary right or license is granted or implied by the disclosure of the 9-1-1 GIS data.

4 ACCEPTANCE

By signing below, you confirm that are authorized to sign on behalf of your agency/organization and agree to the scope and terms set forth in this document.

Akimeka, LLC

Levy County Board of County Commissioners

Margaux Taylor, Contracts Administrator

John Meeks, Chariman

Date

Date

APPROVED AS TO FORM AND LEGAL
SUFFICIENCY Anne Bast Brown
Anne Bast Brown, County Attorney

