



**Intrado Life & Safety, Inc. Response to the
Alabama 9-1-1 Board**

**AL-GIS-RFP-19-002
Next Generation 9-1-1 GIS RFP**

COPY



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ORIGINAL

AL-GIS-RFP-19-002 - Attachment C - Cost Proposal Template

Per Item Costs	Quantity	Unit cost	Price	Indicate Frequency (i.e. one-time, monthly, annually, etc.)	Discount eligible? (Y/N)
Software License fees or costs	4908621	0.00155	\$7,608.36	Monthly	N
Base system software	4908621	0.00366	\$17,965.55	Monthly	N
Customization required or proposed addressing specification	0	0	\$0.00		
Additional modules required or proposed addressing specifications	0	0	\$0.00		
3rd party software, if any, required for the operation of the system	0	0	\$0.00		
Technical and user documentation	1	12000	\$12,000.00	One Time	N
Installation/conversion/integration/transition costs	4908621	0.00195	\$9,571.81	Monthly	N
Training including training materials	4908621	0.00272	\$13,351.45	Monthly	N
Maintenance costs	0	0	\$0.00		
Existing software upgrade/integration/training	4908621	0.00087	\$4,270.50	Monthly	N
Updates to supplemental files	4908621	0.0003	\$1,472.59	Monthly	N
Revisions to documentation	1	7000	\$7,000.00	Annual	N
Utilities	4908621	0.000321	\$1,575.67	Monthly	N
New functionality compared to prior available functionality in the market	0	0	\$0.00		
Technical support/customer service, per year	4908621	0.01585	\$77,801.64	Annual	N
Unlimited phone technical support for the technical staff	4908621	0.00579	\$28,420.92	Monthly	N

Value added costs	Quantity	Unit cost	Price	Indicate Frequency (i.e. one-time, monthly, annually, etc.)	Discount eligible? (Y/N)
Consulting - hourly rate			\$0.00		

Annual price*	Year 1	Year 2	Year 3	Year 4	Year 5
Spatial Interface	\$214,680.96	\$214,680.96	\$214,680.96	\$214,680.96	\$214,680.96
QA/QC support	\$640,462.50	\$546,525.00	\$387,150.00	\$259,650.00	\$259,650.00
Geodatabase management	\$213,487.50	\$182,175.00	\$129,050.00	\$86,550.00	\$86,550.00

*The expectation is that this will be a price based upon the number of PSAPs and will grow gradually over time to the maximum amount

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Cost Proposal Narrative

February 14, 2020



Cost Proposal Narrative

The Respondent should provide a brief narrative (not longer than two pages) in support of each Cost Proposal item. The narrative should be focused on clarifying how the proposed prices correspond directly to the Respondent's Technical Proposal. For example, evaluators will expect detailed explanation of Maintenance and Support to correspond to Maintenance and Support items described in the Technical Proposal.

Intrado Response: Comply

This document is being submitted as part of Attachment C – Cost Proposal and includes brief narrative descriptions of each Per Item Cost line item in the Cost Proposal.

Per Item Costs

Software License fees or costs

This cost item covers the GIS Change Request System (GCRS), Intrado's hosted web portal that provides Non-GIS users tools to view the GIS database and submit map change requests to i3 GIS Coaches.

MapSAG is an end user GIS data management application described as optional in the proposed solution with five (5) licenses being provided at no additional charge to the State. Costs for any additional licenses of MapSAG, including implementation and ongoing support, are optional and not part of the base solution pricing.

Base system software

This cost item covers Intrado's Spatial Interface, identified in this proposal as the Enterprise Geospatial Database Management System (EGMDS).

EGDMS is included in the base solution pricing and delivers a web-based portal to GIS users to provide GIS data updates and changes, perform extensive standards-based QA/QC, generate error reports and shapefiles and aggregate GIS datasets into statewide NENA i3 compliant GIS data layers.

Customization required or proposed addressing specification

Intrado did not provide a price associated with this cost item. In the event customization is required, Intrado and the State would mutually agree upon a fair and reasonable rate for any substantial unforeseen work required to address any potential specifications not addressed in Intrado's response to the technical requirements.



Additional modules required or proposed addressing specifications

Intrado did not provide a price associated with this cost item. In the event additional modules are required, Intrado does not foresee charging the State for minor activities and would mutually agree upon a fair and reasonable rate for any substantial unforeseen work required to address any potential specifications not addressed in Intrado's response to the technical requirements

3rd party software, if any, required for the operation of the system

Intrado did not provide a price associated with this cost item. The proposed managed services include third-party software components which are required to power the solution and are transparent to the state. These costs are captured in the "Software License fees or costs" and the "Base System Software" cost items.

Technical and user documentation

This cost item covers the one-time fee associated with the development of all end user facing materials except for the training materials captured in the Training cost item.

The EGDMS user guide, MapSAG user guide, and NG9-1-1 GIS Data Readiness Guidelines are attached to the Technical Proposal.

Installation/conversion/integration/transition costs

This cost item covers all the fees associated with participant setup and installation of the End User tools and interfaces (EGDMS, GCRS, or MapSAG). This also includes activities required to provide users with the ability to successfully use these systems to submit GIS data updates on an ongoing basis.

Training including training materials

This cost item covers all the fees associated with the regional trainings that will be provided to all participating agencies during Phase 1 and Phase 2 and including all supporting materials and costs.

This cost item covers training sessions provided to participating agencies upon request regarding GIS data compliance and consultation. This covers refresher trainings for the proposed GCRS and MapSAG tools and training on the EGDMS system when new users are added or replaced.

Maintenance costs

Maintenance costs for the systems included in Intrado's proposal are included within their respective managed services offerings.



Existing software upgrade/integration/training

This cost item covers all activities associated with the regionally assigned i3 GIS coaches continuously working with each GIS user across the state to provide GIS data integration and training support with the proposed NG9-1-1 GIS Managed services and subsequently integrating with the ANGEN System Services Provider.

Updates to supplemental files

This cost item covers the fees associated with assisting each participating agency incorporate then maintain any additional layers that fall outside the NENA i3 GIS Data Model requirements yet are still relevant to their operation, using the EGDMS.

EGDMS provides GIS user agencies tools to upload GIS data layers that are not required for NG9-1-1 geospatial call routing but serve as important layers for the local agency to share with the ANGEN System Services Provider when required.

Revisions to documentation

This cost item covers the annual fee associated with revising all documentation associated with this project on an annual basis.

Utilities

This cost item covers the costs allocations associated with maintaining Intrado operations and backend office maintenance needed to support the proposed NG9-1-1 GIS Managed Services.

New functionality compared to prior available functionality in the market

Intrado did not provide a price associated with this cost item. Intrado does not plan to charge the State for new functionality or features in the software components of the proposed NG9-1-1 GIS Managed Services solution as they are released.

Technical support/customer service, per year

This cost item is priced on an annual basis and covers cost allocations associated with maintaining Intrado Helpdesk technical support (24x7x365) operations as well as the individualized support provided to all participating agencies when assistance is requested through the Intrado Helpdesk for the systems and tools associated with the proposed NG9-1-1 GIS Managed Services.

Unlimited phone technical support for the technical staff

This cost item covers unlimited remote support provided by the assigned Intrado project team to each participating agency across the state responsible for submitting GIS data into



the GIS Managed Services solution, into the ANGEN System Services Provider network, and into LVF/ECRF systems.

This support will be provided by the i3 GIS Coaches and includes system and tool access and training, GIS data upload assistance, error report interpretation, go-live support, and general ongoing consultation and assistance. Support is provided remotely with communication with project stakeholders by phone, email, or webinar.

i3 GIS Coaches act as the first point of contact for GIS submitting agencies for questions or requests for assistance and will be available to the GIS submitting agencies through the life of the project.

Annual Pricing

Intrado acknowledges the State's expectation that the Annual Price will be based upon the number of PSAPs and as a result anticipate the price will grow gradually over time to the maximum amount. However, the managed services approach proposed requires that most work activities, and therefore associated costs, occur during the first 2 phases of the project.

This is where most of the work will occur for all project participants and is the reason Annual Prices are higher in early years then decrease over the life of the project as noted above. Three services impacted by this are described below.

Spatial Interface

This cost item covers fees associated with Intrado's Spatial Interface also known and described throughout this response as the Enterprise Geospatial Database Management System (EGDMS). EGDMS is the secure web-based portal used by GIS users to provide GIS data updates and changes, perform extensive standards-based QA/QC, generate error reports and shapefiles and aggregate disparate GIS datasets into statewide seamless NENA i3 compliant GIS data layers.

QA/QC Support

This cost item covers the unlimited remotely provided support provided by the assigned Intrado project team to each participating agency across the state responsible for submitting GIS data into the GIS Managed Services solution and into the ANGEN System Services Provider network and LVF/ECRF systems. This support is primarily provided by the i3 GIS Coaches will supply system and tool access and training, GIS data upload assistance, error report interpretation, go-live support, and general ongoing consultation and assistance. Support is provided remotely with communication with project stakeholders carried out via phone, email or webinar. i3 GIS Coaches act as the first point of contact for GIS submitting agencies for questions or requests for assistance and will be available to the GIS submitting agencies through the life of the project.



Geodatabase Management

This cost item covers the all work activities associated with gathering the GIS data supplied by each participating agency, aiding and support surrounding the assimilation and aggregation disparate datasets after QA/QC activities are underway. In addition, these fees include all the activities surrounding the provisioning of the statewide seamless NENA i3 compliant GIS data layers with the ANGEN System Services provider's LVF and ECRF systems.

Value Added Costs

Consulting – hourly rate

Intrado did not provide a price associated with this cost item. Consultation services, as they relate to the specific objectives of this project, are included in this proposal with costs being captured primarily within the "Unlimited phone technical support for the technical staff" cost item.

Optional Products and Services Not Included in the Base Pricing

Intrado's Technical Proposal describes two optional GIS products / services that are outside the scope of Alabama's RFP but provide substantial value-added tools, functions, and capabilities.

- MapSAG™ GIS Data Management System
- NG9-1-1 geoMSAG Management Services

Each of these optional offerings is described in detail in the Technical Proposal. The Cost Proposal workbook does not provide the opportunity to present optional pricing for products and services outside the defined cost items. Intrado would be pleased to discuss these systems and services during evaluation or after award; pricing can be provided upon request.



Cost Assumptions, Conditions and Constraints

The Respondent should list and describe as part of its Cost Proposal any special cost assumptions, conditions, and/or constraints relative to, or which impact, the prices presented on the Cost Schedules. It is of particular importance to describe any assumptions made by the Respondent in the development of the Respondent's Technical Proposal that have a material impact on price. It is in the best interest of the Respondent to make explicit the assumptions, conditions, and/or constraints that underlie the values presented on the Cost Schedules. Assumptions, conditions or constraints that conflict with the RFP requirements are not acceptable.

Intrado Response: Comply

This section of Intrado's Cost Proposal describes special cost assumptions and considerations relative to the pricing provided within the Cost Proposal. These include considerations for population-based managed services pricing and annual solution pricing.

Population-Based Solution Pricing for Managed Service Offerings

Intrado's proposed solution includes software, systems, GIS services, project management, and secure web tools specifically engineered to support NG9-1-1 GIS data management for NG9-1-1 call routing applications.

The proposed NG9-1-1 GIS Managed services are priced as monthly recurring services based on population; this is reflected in the unit quantities and prices for each cost item. This enables Intrado to provide increased pricing flexibility and accuracy for individual services within the overall solution that start and stop at various points through the project.

Population-based monthly pricing for managed services may not align precisely with the State's Per Item Costs as it will encompass several the functional elements of the solution. Intrado's Technical Proposal and Cost Proposal do not conflict with the State's requirements and deliverables as described in the RFP, each of which are met or exceeded by the proposed solution.

Intrado's Cost Proposal provides higher initial costs in the early years of the contract, which decrease as the project matures. Intrado will reduce pricing to the State in the later years of the contract through operational efficiencies, increased stakeholder proficiency, increased GIS data quality, economies of scale, and conformance to standards and recommendations.

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Next Generation 9-1-1 GIS RFP AL-GIS-RFP-19-002

Technical Specifications Proposal

February 14, 2020

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Open Records Act Request

Customer will immediately advise Intrado Life & Safety in writing of any Open Records Act requests as it may relate to this proposal or any information contained herein.

Evaluation Purposes Only

Intrado Life & Safety's evaluation herein is based on its 9-1-1 knowledge and expertise, but is dependent upon information provided to Intrado Life & Safety on behalf of the Customer. As such, the information contained herein is intended for Customer evaluation purposes only.



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1 INTRODUCTION

1.1 Overview

Introduction

Intrado clearly understands the goals set forth by the Alabama 911 Board and is responding with an integrated spatial solution that both meets and exceeds the requirements of this RFP. The proposed solution provides NG9-1-1 GIS managed services that include project management and oversight, state-of-the-art tools and applications that are fully functional and standards compliant, training, education, services, status reporting and continuous support needed to create and maintain a robust and accurate statewide NENA i3 compliant GIS database. The GIS solutions proposed here are foundational to the State's goal to seamlessly integrate required NENA i3 compliant GIS datasets with the Alabama Next Generation 911 Network (ANGEN) to support the implementation and ongoing support of a successful NG9-1-1 geospatial routing operation.

Intrado applauds the State of Alabama for clearly defining the objectives outlined in this RFP as not only being an extremely important aspect of supporting the implementation of an accurate and standards compliant NG9-1-1 geospatial routing operation, but for recognizing these activities as being absolutely essential for the State to maintain a robust and reliable IP-enabled Public Safety network (ESInet) that takes advantage of the benefits offered by using highly accurate GIS data used to determine if a caller's location is valid and to geospatially identify the correct PSAP in which to route the call. The 2 phased approach defined within the Alabama 911 Board's GIS Strategy aligns well with the NG9-1-1 GIS Managed Services offered by Intrado, which have many advantages over that of which can be offered by other NG9-1-1 GIS providers due to the breadth of experience Intrado has acquired over the past 40 years providing industry leading, reliable and accurate Public Safety products and services to local government agencies, State agencies and Telephone Service providers.

Intrado has invested time and resources to develop a comprehensive understanding of the current landscape of how GIS is currently being managed across Alabama. We have found there are many disparate data formats, processes, tools, and capabilities currently employed across the State, presenting challenges Intrado is prepared to resolve through the implementation of the proposed NG9-1-1 GIS Managed Services solution. Intrado has the working knowledge and experience to overcome every single one of these challenges and appreciates the opportunity to be able to demonstrate to the State that Intrado is the best GIS vendor to meet and exceed the requirements set forth in this RFP, within budget and the project timeline.

Through our experience implementing NG9-1-1 core routing services across the nation, Intrado customers take advantage of the cutting-edge NG9-1-1 GIS specific QA/QC, error reporting and spatial data aggregation capabilities of Intrado's Spatial Interface that will greatly benefit the State and its participating GIS data submitting agencies during both the preparation phase, then turn-up phase for NG9-1-1 geospatial call routing services. Because Intrado's Spatial Interface is NENA i3 standards compliant, integration of the statewide coalesced NG9-1-1 GIS database with the ANGEN System Service Provider's network should be a smooth operation and avoid



unforeseen system integration costs or project delays. Choosing Intrado to provide the critical NG9-1-1 GIS data preparedness services followed by GIS data integration with the ANGEN System Service Provider's network using Intrado's Spatial Interface, means that the State of Alabama will have chosen the only working Spatial Interface in the nation that is actively ingesting locally-sourced GIS data, validating the data for accuracy and standards compliance, propagating only validated GIS data to live Location Validation Function (LVF) and Emergency Call Routing Function (ECRF) core routing systems, and utilizing this mission critical GIS data for the live processing of calls to be routed geospatially.

This section includes an overview of the proposed NG9-1-1 GIS Managed Services solution and the NENA i3 standards compliant Spatial Interface that enables the solution, project team and approach, systems and tools, and training and services followed by detailed responses to each of the requirements sections that follow.

NG9-1-1 GIS Managed Services

NG9-1-1 GIS Managed Services deliver mission-critical tools, training, and services necessary to maintain the reliable, accurate, and robust NG9-1-1 GIS data, which is essential to the successful implementation and operation of any NG9-1-1 system and form a key pillar in achieving the 2 phased approach and vision set for the by the 9-1-1 Board.

These services include comprehensive project management and project oversight, onboarding, tools, training, GIS services and ongoing support of the State's NENA i3 compliant NG9-1-1 GIS database. NG9-1-1 GIS Managed Services also support the implementation and ongoing support of NG9-1-1 geospatial location validation and call routing and includes integration with the State's ANGEN System Service provider (NG9-1-1 core services provider).

NG9-1-1 GIS Managed Services are tailored specifically to deliver essential GIS data management systems, tools, services and support to agencies responsible for supplying GIS data into the proposed solution, or information to be validated then converted and incorporated into GIS data. NG9-1-1 GIS Managed Services is scalable to support individual PSAP or local authority deployments up to the largest regional and state NG9-1-1 implementations.

NG9-1-1 GIS Managed Services couple Intrado's Spatial Interface and the GIS Change Request System (GCRS) with Intrado GIS professionals working as i3 GIS Coaches and a dedicated Senior GIS Technical Project Manager. Additionally, 5 complimentary licenses of MapSAG™, Intrado's NG9-1-1 GIS Data Management system, are available to both the State and any jurisdiction designated by the State as an appropriate candidate for using MapSAG, which integrates directly with the Spatial Interface, facilitating an efficient GIS data management workflow.

Intrado's Spatial Interface serves as the NG9-1-1 web portal enabling the GIS submitting agency to upload GIS data and initiate automated GIS data validations, notifications, and reporting.

Because not all agencies across Alabama will have the background, education and training required to use GIS software to perform the error correction tasks outlined in this RFP, Intrado has created the GIS Change Request System (GCRS) which is intended for the "Non-GIS user" to submit new features, deletions, modifications, and associated attribution changes to the i3



GIS Coaches which then will be reviewed and validated using Intrado's MapSAG GIS data management system. Following review and validation of the GIS data, the data is automatically pushed to the Spatial Interface to be revalidated and aggregated into a seamless GIS database compliant with State and NENA i3 GIS requirements.

The i3 GIS Coach is not only an expert with GIS data and technology but possesses a deep understanding of E9-1-1 and NG9-1-1 data structures and how they need to work in unison with the Spatial Interface and other downstream systems to drive successful NG9-1-1 geospatial call routing. The i3 GIS Coaches assigned to each region are available to each Non-GIS and GIS user, GIS Authority, or GIS data submitting agency to provide system access and training, GIS data upload assistance, error report interpretation assistance, go-live support and ongoing consultation and support throughout the life of the contract, for turn-up and ongoing operations.

Solution Diagram

Figure 1 illustrates how the NG9-1-1 GIS Managed Services solution supports ANGEN and how the data submitting users, systems and tools, i3 GIS Coaches, and data flow all work in unison.

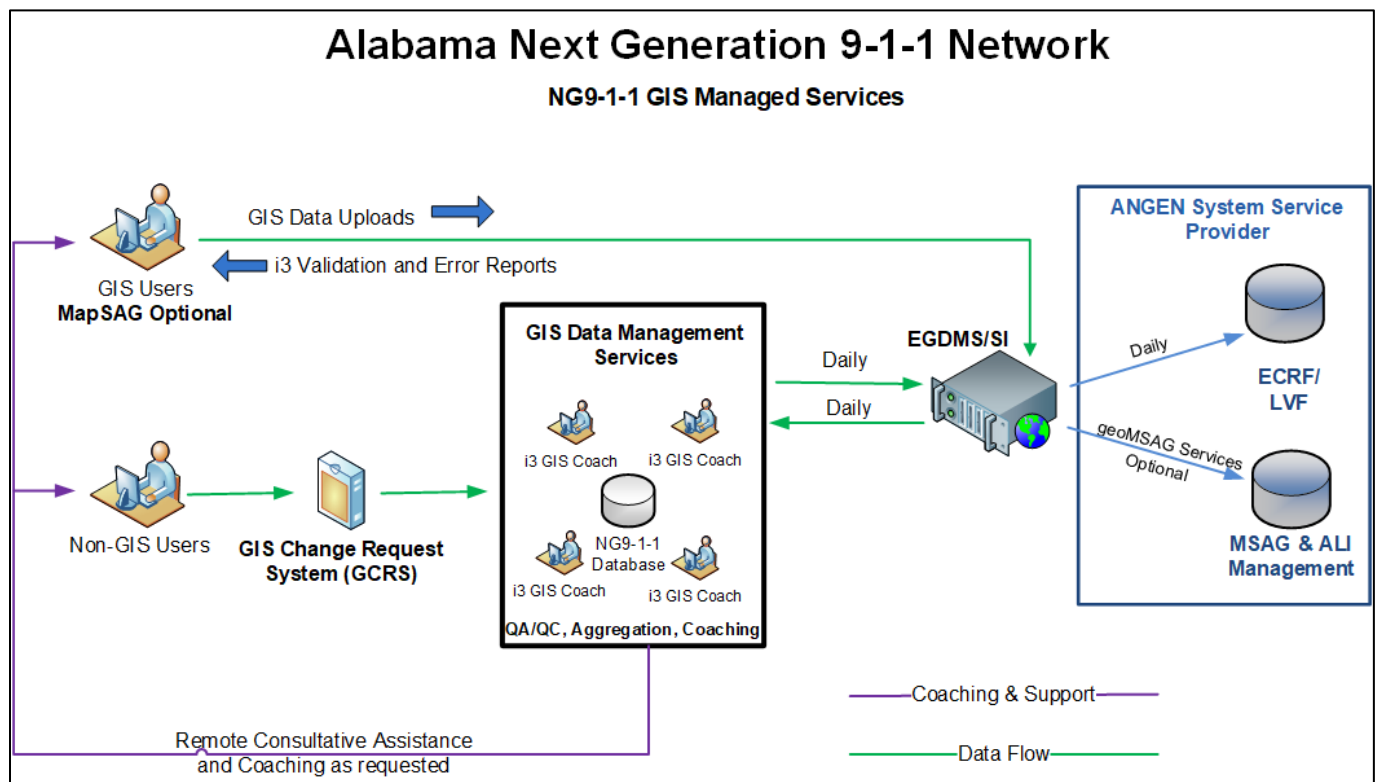


Figure 1: Alabama NG9-1-1 GIS Managed Services



The Spatial Interface (Enterprise Geospatial Database Management System)

The Enterprise Geospatial Database Management System (EGDMS) is Intrado's NENA Spatial Interface and serves as the GIS Data interrogation and integration system, as the nexus for all GIS data processing and integrating with Intrado's GIS data management products and services. EGDMS enables Intrado to deliver the proposed NG9-1-1 GIS managed services solution and serves as the middleware solution described in this RFP. EGDMS provides additional and value-added functionality that will help the State achieve the goals set forth in this proposal and do so within the expected timeframe and budget. These functions and features will be defined and discussed in detail throughout this proposal.

EGDMS is a secure, cloud-based service used by local, regional or state-level GIS data sources for ongoing QA/QC validation and reporting, coalescing, and provisioning of GIS data into downstream systems. It provides automated GIS data format standardization and data aggregation between county and/or regional individual participating agencies.

When utilizing Intrado's NG9-1-1 core services, the EGDMS serves as the NENA Spatial Interface (SI), automatically provisioning the Emergency Services IP Network (ESInet) functional elements including the Emergency Call Routing Function (ECRF) and the Location Validation Function (LVF). At the time of this RFP response, Intrado has the only working Spatial Interface in the nation that is actively taking in local agency and state supplied GIS data, propagating to live LVF and ECRF systems, and utilizing this mission critical GIS data for live geospatial call routing. Since the LVF and ECRF systems are supplied by the ANGEN System Services provider, Intrado will first make all the required GIS data available via a secure FTP (sFTP) connection with changes supplied daily.

Project Team

Intrado has established a project team comprised of an expert Senior GIS Technical Project Manager and five experienced GIS Analysts assigned as the regional i3 GIS Coaches. A Senior GIS Programmer / Analyst will be dedicated to the project to provide scripting and geoprocess automation to support data processing and other automation efforts, in addition to providing i3 GIS coaching for the life of the contract.

Each of the GIS professionals assigned to the Alabama project are subject matter experts in the areas of E9-1-1 and NG9-1-1 GIS data management and possess the knowledge and expertise required to assist jurisdictions with varying levels of GIS proficiency and/or data quality to achieve the goals set forth by the Alabama 911 Services Board and stakeholders. Everyone assigned to the Alabama project team are experts in GIS data and technology with a deep understanding of E9-1-1 and NG9-1-1 data structures and how they interact with the Spatial Interface/EGDMS and other downstream systems essential to successful NG9-1-1 geospatial call routing.

The Senior GIS Technical Project Manager is responsible for collaborating and coordinating with the State, other State identified agencies, regional authorities and each of the end users responsible for submitting information and GIS data into the proposed solution. The Senior GIS Technical Project Manager will manage to the GIS implementation project plan and schedule, coordinate, and manage internal and external resources, communicate status with identified



stakeholders, hold regular status meetings, provide monthly progress reporting and monitoring of data submissions and oversight of the overall GIS implementation project.

The i3 GIS Coaches will provide system and tool access and training, GIS data upload assistance, error report interpretation, go-live support, and general consultation and assistance. Work will be done remotely with communication with project stakeholders carried out via phone, email or webinar. i3 GIS Coaches will act as the first point of contact for GIS submitting agencies for questions or requests for assistance and will be available to the GIS submitting agencies through the life of the project.

Intrado employs a large staff of 9-1-1 GIS professionals, all of which are experienced in working with NG9-1-1 GIS data preparation and transition projects, that can be engaged to assist the project team dedicated to Alabama if the volume of work requires additional resources to complete, greatly reducing the risk of delays of project deliverables driven by unforeseen increases in project workload.

Project Approach

Intrado's project approach integrates the tools, processes, people, and managed services described above, and will perform them in close partnership with the State, individual PSAPs, and project stakeholders through the life of the project. The proposed NG9-1-1 GIS Managed Service which includes the EGDMS, GCRS and MapSAG systems, require a seamless Provisioning Boundary representing each GIS data source within the State's overall geographic footprint.

This is a prerequisite NENA i3 GIS layer in that it is what allows or enables all other required layers to first be checked against before they can even be loaded into the Spatial Interface. That is the reason the first efforts of this project will be laser focused on establishing a statewide seamless Provisioning Boundary layer. The majority of PSAP boundaries follow the same exact geometry as the Provisioning Boundary and through Intrado's research into the landscape of how GIS is currently being managed across the state, indicates that Provisioning Boundaries are coincident with PSAP Boundaries throughout Alabama. In the event these two layers need to differ slightly, Intrado has well-established guidelines to follow for the participating agency.

Using experience gained from assisting other states in developing a seamless statewide Provisioning Boundary and PSAP Boundary layer, Intrado will assist in the creation of these important boundary layers by collecting the GIS data from each individual data source at the beginning of the project then work to create a seamless boundary that is free of topological errors and that each participating agency has approved. Each data source will have the opportunity to review, request changes to, or approve the Provisioning Boundary so the agreed-upon boundaries can be finalized and utilized within the GIS platforms. i3 GIS coaches will facilitate boundary conflict resolution using both verbal and electronic communication in which the geographic areas in question will be shared with all affected parties using visualization tools and offering advice gained through providing nationwide PSAP boundary conflict resolution services for all PSAPs across our nation for the past 20 years, in support of Wireless call routing.



Intrado follows well-established, comprehensive, and detailed implementation plans and project deployment strategies and has developed a preliminary project action plan that includes the following milestones:

- On-Site Project Kickoff Meeting
- QA/QC Procedures, Workflow and Project Plan approval
- Regional Training Sessions complete – Phase 1
- All Regions Providing PSAP & Provisioning Boundary uploads
- PSAP & Provisioning Boundary Integration with LVF/ECRF
- Regional Training Sessions complete – Phase 2
- All Regions Providing Roads, Address Points and ESZ Boundaries
- NG9-1-1 GIS Data Assessment Reports and Readouts
- ALI and MSAG to GIS Synchronization
- Complete NG9-1-1 GIS Integration with LVF/ECRF

Following contract negotiation, the Senior GIS Technical Project Manager will manage the initiation of the mutually agreed-to implementation project plan and manage the project schedule with the State. The following project steps and deliverables are key components to the project's overall success and will take place in the order presented below, with several of the tasks being performed concurrently due to the nature of the project and the fact that each agency will enter the project at a different starting place. Note the same overall project approach will be applied for both Phase 1 and 2 with specific work activities tied to each of the phases identified in the appropriate project step below.

Phase 1: Project Approach

On-Site Kick Off

Intrado has found that an on-site kickoff meeting to be conducted at the very beginning of the project and including as many project stakeholders as possible is absolutely critical to starting a project off on the right foot. Intrado will coordinate an on-site project kickoff meeting with State of Alabama 9-1-1 Board representatives and project stakeholders at the very beginning of the project. The Senior GIS Technical Project Manager along with 2 key members of Intrado project delivery team will be present at the kickoff meeting and come prepared to cover the following.

The on-site kickoff meeting will include:

- A presentation to review the project goals and objectives, project plan, methodologies, deliverables, and project schedule
- Introduce Intrado's Project Management and Delivery team
- Review the project's scope, definition, and objectives
- Review the high-level timeline, milestones, and roles



- Review the project deliverables
- Review challenges
- Describe the next steps to be taken

In addition, any necessary members of the dedicated project delivery team will attend the kickoff via webinar or conference call. The objective and outcome of the on-site project meeting will be to review the proposed project approach, goals, milestones and schedule then all project participants walking away from this meeting with a clear understanding of next steps and what to expect.

Stakeholder and Participant Communication

Intrado has found that collaborating closely with the sponsoring agency to establish clear communication with all project stakeholders and participants regarding project goals, expectations, and importance before the project begins is of utmost importance. Intrado, in coordination with the State, will develop a written electronic message intended to be delivered from the State that will clearly state the objectives of the project, the expectations of each participating agency, high level ordered project steps, and perhaps most importantly, the significance of this project and its impact on the citizens of Alabama.

Identify Project Participants, User Types and Roles

Intrado will work with the State and any identified stakeholder agencies to gain a full understanding of all project participants and participating agencies, develop a registry of all end users and the tools and systems they will be utilizing based on whether they are a GIS or Non-GIS user type, along with each of the roles they will play.

Any information available regarding the current capabilities and GIS tools utilized by individual agencies is welcomed at this step. Any gaps in understanding of these capabilities will be gathered during the regional training sessions conducted as part of Phase 1.

Participant Setup, Systems Access and Installation

From the information gathered about Project Participants, User Types, and Roles, EGDMS and GRCS user access will be granted, user dependent roles established, and thorough testing conducted prior to regional training sessions taking place. Preparation for the installation and training of PSAP facing interfaces and tools depending the GIS (direct access to the EGDMS or by using MapSAG) or Non-GIS (GCRS) user types will be planned and coordinated during this step. This also includes granting access to Intrado's secure file transfer application called MoveIT for MSAG file uploads, among other things. Once system access is complete or in progress depending on the specific region, regional training session scheduling can begin. The five complimentary MapSAG licenses will be installed and configured during this stage, with site locations being determined by the State.



Schedule and Conduct Regional Training Sessions

Intrado will begin scheduling four (4), two-day regional training sessions for GIS and Non-GIS users. Intrado can be flexible with the amount of time spent training each user type depending on the needs of each region. However, for planning purposes, Intrado has scoped regional training with one day spent training GIS users and one-day training Non-GIS users. The Phase 1 regional training sessions will provide an overview on how to upload and interact with the EGDMS for all required NENA i3 GIS layers however the focus will be on the establishment of statewide seamless Provisioning Boundary and PSAP Boundary layers. Details surrounding the approach proposed by Intrado to establish these prerequisite boundary layers is outlined in the following next two steps. Note a second round of regional trainings will be provided under Phase 2 activities.

For GIS users, the one-day training will focus on providing a general overview of how to log-in to, navigate and use the EGDMS system, demonstrate how to field map the local GIS data with the EGDMS system, providing an overview of the submittal process, train users in understanding how to interpret error reports, explain how to resolve these errors and conflicts, explain how the EGDMS is performing data integration activities, how to engage directly with i3 GIS Coaches for ongoing support and assistance, as well as the Intrado Network Operations Center (NOC) for 24x7x365 technical support.

For Non-GIS users, the one-day training will focus on the GCRS and associated communication processes, demonstrating how to provide the i3 GIS Coaches with graphical additions, changes, and deletions along with any associated attribution changes. Non-GIS will be trained on the following:

- How to access and log-in to the system
- Navigating the application
- Making graphical changes and associating critical attribution
- Submitting changes to the Intrado i3 GIS Coach
- Taking recommend changes identified by the i3 GIS Coach and learning how to resubmit data for processing into the aggregated Statewide geodatabase
- Establishment of statewide seamless Provisioning Boundary and PSAP Boundary layers.

The proposed NG9-1-1 GIS Managed Service requires a seamless statewide Provisioning Boundary representing each GIS data source within the State's overall geographic area of responsibility be established and approved prior to moving forward with uploading and validating other required NENA i3 GIS datasets. Using experience gained from assisting other states in developing a seamless statewide Provisioning Boundary, Intrado will assist in the creation of the Provisioning Boundary by collecting the GIS data from each individual data source using the EGDMS at the beginning of the project then work to create a seamless boundary that is free of topological errors. Each data source will have the opportunity to review and request changes or approve the Provisioning Boundary so the agreed-upon boundaries can be finalized and utilized within the GIS platforms. i3 GIS coaches will facilitate boundary conflict resolution using both verbal and electronic communication in which the geographic areas in question will be shared with all affected



parties using visualization tools and offering advice gained through providing nationwide PSAP boundary conflict resolution services for the past 20 years.

After each regional training session has taken place, each agency has immediate remote access via email, phone, or video conference to its regionally assigned i3 GIS Coach for questions and consultation throughout the life of the contract. If, following the regional training sessions, the PSAP desires or feels the need for one-on-one on-site training or the State approves of a PSAP on-site training recommendation made by Intrado, a one or two-day on-site training for either the GIS or Non-GIS user type is available to each State identified agency, additional fees apply.

For sites that have been selected by the state to take advantage of the 5 complimentary MapSAG licenses or if a GIS user selects the optionally-provided MapSAG system as their GIS data management software, this is the project step where MapSAG user training will be performed by the regionally assigned i3 GIS Coaches, each certified subject matter experts in taking advantage of the powerful tools offered by MapSAG. MapSAG training will include in-depth instruction on how to use the software to manage the GIS data and automatically upload to the EGDMS as often as changes occur. MapSAG training will be conducted remotely outside the scope of regional training sessions but can be scheduled to occur close to the date of the respective regional training. MapSAG training can also be conducted on-site, additional fees apply.

PSAP and Provisioning Boundary Submission, Error Correction, and Aggregation

At this stage, GIS users have just started providing GIS uploads into EGDMS or Non-GIS users have started submitting graphical and attribution changes through the GCRS and are working closely with their regionally assigned i3 GIS Coaches to resolve errors. While the EGDMS system is constantly aggregating the GIS datasets supplied by all the agencies across the State, this becomes the project step in which GIS data starts to be aggregated across the State's footprint and is constantly improving based on continuous feedback, monitoring and facilitation delivered by the i3 GIS coaches and through Intrado's NG9-1-1 GIS Managed Services.

For Phase 1 the focus is to first develop the Provisioning and PSAP Boundary layers so they can be provided to the ANGEN System Service provider for ingestion into the LVF/ECRF daily, along with supporting the transition from traditional ALI/MSAG tabular databases to related NG9-1-1 core components (LVF, ECRF, LDB, LIS). The means in which these important layers will be created and approved by local and state authorities is described in the step below.

PSAP and Provisioning Boundary Seamless Assimilation Activities

This important step will be heavily supported by the i3 GIS Coaches until a seamless statewide PSAP Boundary and Provisioning Boundary layer are created. As is mentioned above, the Provisioning Boundary layer is prerequisite NENA i3 GIS layer in that it is what allows or enables all other required layers to first be checked against before they are loaded into the Spatial Interface. That is the reason why the i3 GIS coaches are laser focused on



establishing the seamless Provisioning Boundary layer. The majority of PSAP boundaries follow the same exact geometry as the Provisioning Boundary and through Intrado's research into the landscape of how GIS is currently being managed across the state indicates that Provisioning Boundaries are coincident with PSAP Boundaries throughout Alabama. In the event the layers need to differ, Intrado has well-established guidelines to follow for the participating agency.

The approach used to establish the Provisioning Boundary will be to, on a regional basis, assist each agency in uploading the existing polygon data using the EGDMS. EGDMS handles topology checking using a "first come, first serve" methodology and will identify gaps and overlaps between neighboring agencies based on the order in which agencies provide their Provisioning Boundary polygon uploads and updates. When an agency supplies the EGDMS with their initial Provisioning Boundary upload and they receive error reports indicating there is a gap or overlap issue, along with a shapefile identifying the exact locations of these errors so the user can easily import into their GIS software and work to resolve errors and resubmit. If MapSAG is used by the GIS user, EGDMS errors are automatically sent to MapSAG so the user can quickly research, validate and resubmit automatically to the EGDMS. For Non-GIS users, users of GCRS, the i3 GIS Coach will serve as the mediator to bring agencies together to mutually agree on boundary conflict resolutions. If during this process an agency needs an i3 GIS Coach to provide neighboring agency contact information or to facilitate the boundary conflict resolution process, the i3 GIS Coaches are well versed in this process and have proven to effectively speed up the process considerably.

Each data source will have the opportunity to review and request changes to or approve the Provisioning Boundary so the agreed-upon boundaries can be finalized and utilized within the GIS platforms. i3 GIS coaches will facilitate boundary conflict resolution using both verbal and electronic communication in which the geographic areas in question will be shared with all affected parties using visualization tools and offering advice on how to most effectively resolve the discrepancy and align adjacent Provisioning Boundaries.

Once the Provisioning Boundary layer has been established across the State, Intrado will work with each agency to then upload their coincident PSAP Boundary layer, concluding an important project milestone.

Pre-Geospatial PSAP Routing Accuracy Reporting

To confirm complete alignment with existing E9-1-1 routing and in support of the final step in Phase 1, Intrado will provide both the state and each GIS data submitting agency with discrepancy reports that highlight where there is a difference between the existing PSAP routing tied to each ALI record vs. what PSAP the call would geospatially route to if only GIS data were used to route the call – geospatially. With this information the participating agencies can then research and resolve the issue either in the ALI or road centerline dataset. This process will be repeated until existing routing and conceptual geospatial call routing are in alignment prior to provisioning to the ANGEN System Services provider. The effectiveness of these reports is highly dependent on the completeness of the ELT information contained in the ALI record.



Many GIS vendors stop there, but Intrado understands how geospatial call routing works and will provide an additional level of important reporting as well as an ALI geocoding service to support ANGEN System Service Provider in building and maintaining their Location Database (LDB). This work is described under the Phase 2 section since this requires all critical error reporting on road centerlines to have been successfully achieved.

While this effort is required to make sure the transition to NG9-1-1 geospatial routing does not result in any degradation in 9-1-1 services, it can be a laborious and time intensive process and that is why Intrado offers a superior approach through the generation and ongoing management of a “geoMSAG” for agencies that meet all the criteria needed to generate the GIS-derived tabular MSAG. Intrado can generate a geoMSAG using the GIS data provided by each local agency and incorporating that into the MSAG and ALI database provider’s databases. A geoMSAG replaces the existing tabular MSAG with an MSAG that has been created from the GIS data, eliminating the need to synchronize the datasets saving labor and by starting the project off fully synchronized between legacy 9-1-1 routing and the locally sourced GIS data. After the initial geoMSAG replacement, the EGDMS has the ability to generate geoMSAG change files as often as there are changes made to the underlying road centerline dataset that can in turn be provided to the ESInet vendor for incorporation into their MSAG and ALI databases, ensuring complete (100%) synchronization between the ALI, MSAG and all required NENA i3 GIS data layers. More information about geoMSAG management services is provided under the Phase 2 project approach.

Status Reporting and Project Readouts

One month after contract start, the Senior GIS Technical Project Manager will begin supplying weekly progress reports at the beginning of the project until notified by the State that a monthly status reporting frequency can begin. A summary report will be provided to the Board each week, then month, representing all participating agencies, before and after statistics, accuracy statistics, milestone achievements, and any major items needing to be jointly addressed. As the project progresses from Phase 1 and through the 2 stages within Phase 2, the report will reflect the increase in work activities to eventually include all status readouts for each milestone.

Each EGDMS submitting agency receives automated reporting upon each GIS data submission and can access the information specific to their agency on demand/ at any time, including upload history reporting, using the EGDMS portal. EGDMS reporting available to each agency across the State illustrates and provides them with the information needed to understand progress made in achieving State and NENA accuracy recommendations and requirements, and specifically what areas may require their focus and attention.

ANGEN System Service Provider – GIS Data and Services Integration

Following contract award, Intrado will coordinate with the ANGEN System Service Provider to develop short-term and long-term ongoing provisioning plans and methodology for supporting NG9-1-1 geospatial call routing and other downstream operations.



While Intrado works with Alabama to develop long-term plans and processes, Intrado proposes first exporting each required GIS dataset using EGDMS, performing automated feature count and delta detection to verify export functions have been completed properly, then making all required and validated GIS datasets available to the ANGEN System Service provider via a Secure FTP connection. Changes will be delivered on a daily basis in the form of wholesale geodatabase replacements for each required NG9-1-1 GIS data layer.

Concurrently, Intrado will work with the ANGEN System Service Provider to develop a mutually agreeable technical methodology for long-term geodatabase replication used to support the ongoing and reliable provisioning of the ANGEN System Service Provider's LVF and ECRF, automating processes where appropriate and possible.

The provisioning of PSAP and Provisioning Boundaries to the ANGEN System Service Provider's LVF and ECRF will be the initial focus to complete Phase 1 activities and commence the Phase 2 activities described below.

Phase 2: Project Approach

Schedule and Conduct Regional Training Sessions

Now that the statewide seamless PSAP and Provisioning Boundaries are being supplied to the ANGEN System Service provider daily, GIS authorities across the state will receive another Regional Training that will provide each user with the knowledge on how to upload and correct errors for the remaining required GIS layers - ESZ Boundaries, Address Points and Road Centerlines. Since the ALI synchronization and geocoding work requires a clean Road Centerline layer that is free of all EGDMS critical errors and contains all the elements of a traditional MSAG, i3 GIS Coaches will have laser focus on ensuring the Road Centerline file meets all the requirements.

There may be situations where one-on-one on-site training would benefit the jurisdiction to achieve project goals and track to the project schedule. On-site training at each PSAP is not included with the proposed base solution but, if the State requires or recommends on-site training be provided to designated PSAPs or partnered GIS agencies, a one or two-day on-site training session can be provided. This training may either be based on PSAP data review results or upon the recommendation of Intrado and will be developed specifically for either the GIS or Non-GIS user type and take into consideration the GIS tools used by each agency. We would be pleased to discuss additional selective or ad-hoc on-site PSAP training during RFP evaluation or following award.

Roads, Address Points, ESZ Boundary Submission, Error Correction, and Aggregation

At this stage, GIS users have been uploading the remaining required GIS layers into the EGMS or Non-GIS are submitting graphical and attribution changes through the GCRS and are working closely with their regionally assigned i3 GIS Coaches to resolve errors. The EGDMS system is constantly aggregating the GIS datasets supplied by all the agencies across the State's footprint and is constantly improving based on continuous feedback, monitoring and facilitation delivered through Intrado's NG9-1-1 GIS Managed Services.



For Phase 2 the focus is to get all required GIS layers successfully loaded into the EGDMS, each dataset critical error free and aggregated into seamless statewide layers so they can be provided to the ANGEN System Services provider on a daily basis for ingestion into the LVF/ECRF, along with supporting the transition from traditional ALI/MSAG tabular databases to the ANGEN System Services provider NG9-1-1 core components (LVF, ECRF, LDB, LIS).

NG9-1-1 GIS Data Assessment Reports and Readouts

In order for each agency to have a solid understanding of the work required in preparing their GIS data for using in live NG9-1-1 systems and after each agency has successfully uploaded each required GIS layer into the EGDMS for the first time, Intrado will provide a thorough initial NG9-1-1 GIS Data Assessment report for each agency. The assessment delivers a comprehensive analysis and recommendations report of the GIS authority's existing GIS data in preparation for migration to live NG9-1-1 geospatial call routing. The report will outline exactly what is needed to achieve NENA and State NG9-1-1 GIS data compliance.

Intrado will perform an in-depth analysis on the GIS data layers required to implement NG9-1-1 as identified in this RFP (PSAP, ESZs, Roads, and Address Points). This analysis is followed by detailed reports of Intrado's findings followed with recommendations for the next steps needed to achieve full NENA i3 GIS data readiness. A sample NG9-1-1 GIS Data Assessment Report is attached to this response and is intended to demonstrate to the Board the in-depth analysis and actionable recommendations and next steps that each agency will receive.

Intrado will perform the data analysis and assessment, compile detailed reports of findings, and review these findings and recommendations with each agency along with any other stakeholder agencies identified by the State. After Intrado has completed the NG9-1-1 GIS Data Assessments for each agency, a comprehensive summary report will be supplied to the State to be used as the project baseline to measure the progress of the project and achievement of the NG9-1-1 GIS data preparedness milestones.

After Intrado presents the report findings and recommendations and each agency understands the data correction and/or conformance work to be done, each agency can work directly with i3 GIS Coaches to ask questions and for advice on how to achieve compliance with the NENA i3 GIS data model and the best way to maintain the data, moving forward. i3 GIS Coaches will provide ongoing guidance and recommendations on how to correct identified errors or discrepancies so each agency's data conforms with State and NENA GIS data requirements. Remote access to i3 GIS Coaches is a key element of the proposed NG9-1-1 GIS Managed Services.

Roads, Address Points, ESZ Boundary Seamless Assimilation Activities

A large amount of error correction activities will occur in this step because the majority of GIS data preparedness work typically is spent on the addressing related layers – road centerlines and address points. It is extremely important that both these layers align with



each other and adhere to NENA i3 GIS data model requirements which are enforced through the EGDMS and additional QA/QC checking performed using MapSAG.

This is the step that both GIS and Non-GIS users should utilize the knowledge and expertise provided by the regionally assigned i3 GIS coaches to assist through the very cyclical nature of error correction processes. The i3 GIS coaches are remotely available via phone, email and video conference to help each agency in achieving critical error free data layers so they can be ingested and assimilated into the seamless statewide GIS data layers used to support NG9-1-1 geospatial call routing.

ALI and MSAG to GIS Synchronization

Once the road centerlines for each agency have passed all EGDMS critical errors, ALI and MSAG to GIS data comparison reporting will begin.

MSAG

The following methodology will be used initially for the MSAG to GIS Comparison.

A MSAG from GIS in NENA 2.1 format will be created for each entity and compared to the official legacy MSAG files from each entity. Prior to comparison, the nonaddressable records from the official MSAG will be deleted including:

- VoIP records
- Wireless records
- Fictitious records: blank to blank, zero to zero

Note: MSAG records for non-addressed (0-0) street ranges or unnamed streets will not be built.

Utilizing the official legacy MSAG and MSAG derived from GIS files, this comparison will be used to determine the match rate. The goal for this comparison is to achieve a 98% match rate. Resolving the discrepancies that result from this comparison will require a coordinated effort between the GIS staff, 9-1-1 Database staff, and the 9-1-1 DBMS as changes to the ALI, MSAG and/or changes to the GIS data will need to be made to resolve the discrepancies. Intrado will work with participants to facilitate this effort as needed. The 98% match rate will avoid issues with new service requests assigned from MSAG (where MSAG ranges are outside of GIS ranges) from falling outside of the GIS centerline address range. The ultimate goal of the ALI/MSAG to GIS comparison is to have the two databases synchronized, and keeping the two databases in sync will be an ongoing process until the ALI and MSAGs are eventually replaced with NG9-1-1 functional elements.

Optionally, Intrado can perform an “Inclusive Range” comparison that determines if the GIS ranges are within the low and high range values in the legacy MSAG, providing greater flexibility in identifying mismatches between your GIS and MSAG data in cases where ranges are maintained in a different fashion (i.e. actual ranges vs. theoretic or hundred block ranges).



ALI

The following methodology will be used initially for ALI to GIS Comparisons.

Prior to performing the ALI to GIS compare Intrado will delete the non-addressable records from the ALI database including:

- VOIP Records
- Wireless Records
- Other records that should not be considered in comparison process

The ALI address records are then compared to the GIS road centerline. The percentage of ALI records (TN's) that match a valid street and range in the GIS will equal the total match rate percentage. The goal for this comparison is to achieve a 98% match rate.

Intrado will also perform ALI to address point comparisons, which will attempt to match all ALI records (as described above) to a site/structure address point rather than the road centerlines. The goal of this comparison is to achieve a 98% match rate.

After the NG9-1-1 GIS Data Assessment, Intrado i3 GIS coaches will work the local agencies and their editing partners to make certain each agency understands how to correct the QA/QC errors. The project goal is error correction, not repeatedly submitting the same errors month after month. Each MSAG and ALI to GIS report will be provided to each agency so they can research and determine where the issue resides then work to update either the ALI or GIS record accordingly. i3 GIS Coaches are well versed in resolving discrepancies between legacy tabular 9-1-1 databases and GIS databases and will assist each agency in achieving the 98% match rate objective prior to utilizing the GIS data in the ANGEN System Services provider's LVF and ECRF.

i3 GIS Coaches will help agencies through the reconciliation process depending on whether the ALI and/or MSAG or GIS records (Roads and/or Address Points) require a change to align the datasets until at least a 98% match rate is achieved. The i3 GIS coaches will assist the agencies with this process by offering advice gained through many years of experience gained providing 9-1-1 to GIS data reconciliation projects across the nation.

For Intrado to accurately and reliably geocode ALI records using locally sourced GIS data, the road centerline datasets managed by each agency needs to be accurate, in conformance with NENA i3 GIS data model requirements and have passed all EGDMS critical errors. Since at this stage of the project, the road centerline layers will have achieved this criterion, on a monthly basis, Intrado proposes geocoding all ALI records in the state and provide back to the ANGEN System Services provider for incorporation into their Location Database (LDB). With the X/Y appended to each ALI record, the ANGEN System Services provider will be able to use this information to geospatially route Wireline calls in conformance with NENA i3 routing.

In addition, Intrado offers advanced NG911 transitional management services where geoMSAG management services can facilitate a smooth and speedy transition by essentially starting the project off with 100% synchronization between the MSAG, ALI and GIS data layers through the replacement of the existing tabular MSAG with one that has



been generated from the underlying road centerline layer, saving the project participants time.

ANGEN System Service Provider – Roads, Address Points, ESZ Boundary Integration

At this point in the implementation process, all participating agencies are uploading all their required GIS layers which have passed all critical errors and been synchronized with the MSAG and ALI databases. Now that all agencies are providing updates for all their required layers signifying the completion of a project milestone, Intrado can now integrate the statewide seamless GIS data layers with the ANGEN System Services Provider.

Intrado will coordinate with the ANGEN and ANGEN System Service Provider to develop short-term and long-term ongoing provisioning plans and methodology for supporting NG9-1-1 geospatial call routing and other downstream operations.

While Intrado works with Alabama to develop long-term plans and processes, Intrado proposes first exporting each required GIS dataset using EGDMS, performing automated feature count and delta detection to verify export functions have been completed properly, then making all required and validated GIS datasets available to the ANGEN System Service provider via a Secure FTP connection. Changes will be delivered daily in the form of wholesale geodatabase replacements for each required NG9-1-1 GIS data layer.

Concurrently, Intrado will work with the ANGEN System Service Provider to develop a mutually agreeable technical methodology for long-term geodatabase replication used to support the ongoing and reliable provisioning of the ANGEN System Service Provider's LVF and ECRF, automating processes where appropriate and possible.

The NENA STA-010.3 Detailed Functional and Interface Standards for the NENA i3 Solution loosely defines the mechanism for Spatial Interface to ECRF and LVF provisioning however this standard has not been fully implemented and may not prove to be a viable solution. Intrado will work with ANGEN System Service Provider on a means to provision the ECRF and LVF in a way that facilitates reliable and efficient GIS data updates. This may be accomplished by collaborating with the ANGEN System Service provider to establish a confirmation process to verify each GIS data update is processed and to verify that the current GIS data is being utilized by the ECRF and LVF. This confirmation will likely rely on an automated subscription / notification process that enables data transfer with a formal "handshake" to verify data has been provisioned successfully. This mechanism would allow for automated logging to enable reporting on the GIS data updates success and failure, including event notification in the event of failed updates.

Additionally, the GIS data update process can support transactional (insert/delete/modify) updates. This mechanism may require additional development work to maintain synchronicity between Intrado and the ANGEN System Service Provider's databases. Both parties can work towards the definition and establishment of this automated GIS data synchronization process after contract award.



Ongoing NG9-1-1 GIS Managed Services

After the above steps have completed, all Phase 2 activities will have concluded, commencing Ongoing NG9-1-1 GIS Managed Services defined by GIS and Non-GIS users actively supplying GIS data updates, making required corrections, and receiving continued ongoing remote support and training provided throughout the course of the project by i3 GIS Coaches that all have the same end-goal in mind – to provide state-of-the-art systems, services and support through a NG9-1-1 GIS Managed Service focused on providing the best customer services and industry expertise needed to create and maintain a robust, reliable, and accurate statewide NENA i3 complaint GIS database for the citizens of Alabama through the life of the contract and the years that follow it.

End-User GIS Data Submission Tools and Training

End user tools and training are tailored to the capabilities of each user across the State that will be responsible for submitting information that will be loaded into a centralized geodatabase which is compliant with NENA i3 GIS standards and ANGEN and ANGEN Systems Service Provider requirements.

This includes information converted into GIS data from Non-GIS users as well as previously-developed mission critical GIS data built by GIS users that will subsequently be propagated to the ANGEN System Service Provider's LVF and ECRF core components. Three GIS submitting options are available to Non-GIS users and GIS users, described below.

Non-GIS Users

For Non-GIS users, the proposed system includes the GIS Change Request System which provides a user-friendly interface to:

- View underlying GIS data
- Perform markup changes and additions on the map display
- Electronically submit changes to be reviewed for accuracy and compliance by the regionally assigned i3 GIS Coach prior to provisioning to EGDMS and the ANGEN System Service Provider's network.

Changes submitted to EGDMS, following review by the assigned i3 GIS Coach, will be provisioned to the ANGEN System Service Provider's network daily.

When discrepancies are discovered, the i3 GIS Coach will communicate directly with the Non-GIS user submitting agency to provide recommendations and consultation to resolve the discrepancy and resubmit it for validation and processing. The i3 GIS Coaches assigned to the Alabama project are subject matter experts in using MapSAG used for GIS data validation and provisioning and verifying i3 GIS compliance prior to provisioning into statewide aggregated geodatabases.

An effective relationship and regular communication between Non-GIS users and the i3 GIS Coach are critical to the success of the project. Issues encountered during this process will be reported to the assigned Senior GIS Technical Project Manager and subsequently



communicated to the State via monthly progress reports, constantly improving data processing and communication between all project stakeholders.

GIS Change Request System

The GIS Change Request System (GCRS) is a web-based portal hosted and managed by Intrado that provides Non-GIS users tools to view the GIS database and submit map change requests to Intrado's i3 GIS Coaches.

The GCRS is designed for used by Non-GIS users and provides a user-friendly interface to request changes to the GIS data. Assigned i3 GIS Coaches will review each request and make sure the master GIS database is edited properly. The GCRS will be deployed as a cloud-based web service. Intrado will provide the installation services necessary to deploy this service.





CHANGE REQUESTS				
My Saved CRs				
Drag a column header and drop it here to group by that column				
#	Editable layer	Request Type	Last Date/ Time	
43546546813	Address point	Add	04/22/2019 11:14:19 AM	
53786536565	PSAP	Add	04/22/2019 11:30:00 AM	
45373245435	Address point	Edit	04/22/2019 12:02:30 AM	

You see 20 Records per page

Figure 3: GIS Change Request System - Change Request History

GIS Users

GIS users have two GIS data submittal methods available to them:

- Submittal of GIS data directly into the EGDMS
- Using Intrado's complimentary or optional GIS Data Management System, MapSAG

GIS users using existing GIS software to perform GIS data editing will be provided access to EGDMS along with training, data field mapping, upload assistance, error report interpretation, and general NG9-1-1 GIS consultation and assistance.

The end goal is achieving NG9-1-1 GIS data compliance for each entity across the State. This is best accomplished by providing GIS users highly-available remote access to their regionally assigned i3 GIS Coaches to collaborate on resolving data errors and answering questions that arise when integrating mission critical GIS data into the Spatial Interface to be used for NG9-1-1 geospatial call routing.

EGDMS enables GIS users to securely upload their GIS data for validation (QA/QC) and consolidation into a statewide database. Validations are performed with each upload of data and reports are made available to the user which identifies critical errors (unacceptable and could cause geospatial call routing issues). EGDMS allows the GIS user to choose a file from their local machine and upload to EGDMS. Field mapping is performed one-time and then saved so that the next time the user logs in the field mapping is already loaded so that the user doesn't have to re-map fields.

EGDMS accepts GIS data from PSAPs in a format that does not meet established formats and uses field mapping translations combined with internal processes to standardize the data into an acceptable product. Intrado will compile aggregated datasets that meet the NENA i3 GIS standards for the entire geographic area covered by the State of Alabama.

MapSAG provides GIS users with a purpose-built NG9-1-1 GIS data management application designed to deliver operational efficiencies and maximize data accuracy and is described below.



MapSAG GIS Data Management System

(Optional – with Up to Five Complimentary Licenses Included)

MapSAG is provided optionally, enabling GIS-user agencies to purchase this separately, but this proposal includes up to five (5) complimentary MapSAG single-use licenses provided at no additional charge to the State. These licenses are to be provided to GIS user agencies chosen by the State to demonstrate the benefits of using MapSAG to manage GIS data in concert with NG9-1-1 GIS Managed Services to the State, stakeholder GIS agencies, and individual PSAPs managing GIS data. MapSAG will assist the State in quickly achieving the goals of this RFP and provide end users with a powerful set of tools, automation, and integration with EGDMS and the GCRS to ease the transition of implementing mission-critical GIS data for i3 geospatial call routing.

Five (5) Single-User licenses of MapSAG Professional and annual support and maintenance for these five licenses will be provided at no charge through the initial three-year contract period and continue through two three-year contract renewals. Additional licenses or implementations of MapSAG may be purchased separately outside of this RFP; we would be pleased to discuss this further, including pricing, during negotiations or following award of the RFP.

MapSAG, offers an effective alternative to direct GIS data submittal through the EGDMS portal by providing GIS users powerful and purpose-built 9-1-1 GIS data editing, synchronization, and provisioning tools that integrate directly with EGDMS. Using MapSAG not only optimizes GIS user resources but delivers value-added data validations that make sure only compliant and accurate GIS data will be used in the NG9-1-1 network.

Intrado recommends using the MapSAG GIS Data Management System to streamline day-to-day GIS data maintenance. MapSAG enables GIS users to Validate data using an extensive suite of QA/QC tools, compare MSAG and ALI to GIS data, and easily upload GIS data to the EGDMS system directly from the ArcGIS Desktop environment.

MapSAG includes many additional tools and features that help GIS users manage the migration from legacy GIS data to i3 and is highly customizable to work with variations in GIS data formats across the State.

MapSAG will be used by the i3 GIS Coaches to perform compliance checks, advanced GIS data validations, and error reporting. The i3 GIS Coaches will also use MapSAG to directly communicate with the Non-GIS users regarding the status of their change requests. After GIS data submitted by GIS users has been validated and approved, the i3 GIS Coach will use MapSAG to automatically provision EGDMS, which performs additional validations and aggregates the data into a seamless statewide NG9-1-1 compliant GIS database.



geoMSAG Management Services (Optional)

As an alternative to performing the 9-1-1 to GIS data synchronization activities described above, Intrado has available optional geoMSAG management services when the end user's road centerline file meets the data requirements outlined as an attachment in this RFP. There are two options available as part of this service, with the second being dependent on the first:

1. One-time geoMSAG Replacement
2. Ongoing geoMSAG management services

One-time geoMSAG Replacement Services help agencies more quickly achieve the 98% match rate objective between GIS and MSAG/ALI databases. As the process of initial and ongoing synchronization of the GIS data and the MSAG and ALI databases can be very time consuming and prone to inconsistencies, West can offer the geoMSAG Replacement Service as an alternative approach to working to synchronize the GIS and 911 datasets to meet a 98% match rate goal.

The geoMSAG replacement service enables the 9-1-1 Authority or their GIS authoritative source to derive a tabular MSAG from the GIS road centerline layer and replace the existing tabular MSAG. This enables the 98% match rate goal recommendation from NENA and supported by Intrado, to be achieved much more quickly, and the ongoing maintenance much easier. This approach offloads a considerable amount of the work for 9-1-1 Authorities that are currently below the 98% match rate objective.

This service utilizes the EGDMS to automatically generate geoMSAG changes which will be delivered to the ANGEN System Services Provider daily to support the ongoing synchronization between the 9-1-1 Databases (MSAG and ALI) and the locally managed GIS data.

Ongoing geoMSAG Management Services enable the GIS Authority to upload their GIS Road Centerline (RCL) data to the EGDMS, and changes that impact the geoMSAG (for example: address range, street name, ESN and MSAG Community changes) are identified and provided to the ANGEN System Services Provider so they can incorporate into their MSAG and ALI database management systems.

geoMSAG Management Services deliver value-added benefits before, during, and after the transition to NG9-1-1 by providing:

Operational Efficiency

geoMSAG Management Services provide 9-1-1 address management using RCL data as the basis for the MSAG rather than using traditional legacy MSAG tabular data, eliminating the need to synchronize and maintain synchronization between disparate GIS and MSAG databases.

Improved Data Accuracy

geoMSAG Management Services utilize GIS data, which is typically more precise than traditional MSAG data which facilitates continuous GIS to MSAG and ALI synchronization.



Improves i3 Readiness

geoMSAG Management Services facilitate the transition to NG9-1-1 by keeping the GIS data synchronized with the MSAG and ALI until fully transitioned to NG9-1-1 and the MSAG / ALI are replaced by Location Information Server (LIS) and Location Validation Function (LVF) Services.

Supports i3 Interim Geospatial Routing

These services streamline deployment to Intrado's NG9-1-1 Core Services for geospatial routing.

geoMSAG Management Services include the initial replacement of the legacy MSAG with a GIS-based MSAG derived from the Road Centerline feature class (referred to as the "geoMSAG"), but also provides ongoing MSAG synchronization and maintenance as changes to the GIS data are received from the GIS Authority, they are in turn provided to the ANGEN System Services Provider on a daily basis for incorporation into the MSAG and ALI databases. geoMSAG Management Services reduces the work effort required by 9-1-1 coordinators and GIS Authorities that make frequent edits to GIS data by automatically updating the MSAG using the customer's GIS data as the source.

Additional information about this service, including data requirements, implementation methods and support processes, may be provided at the State's request during negotiations or following award of the RFP.



2 GIS LAYER SPECIFICATIONS

2.1 Road Centerlines

The contractor must lead the development of a Statewide GIS database platform for road centerlines. This layer shall include the GIS files collected by the contractor that have been synchronized with the ALI and MSAG and normalized into the new NENA NG Data Model structure (NENA STA-015.10-2018 and NENA STA-006.1-2018).

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and will be used to consolidate statewide road centerlines (RCL). The synchronization of the RCL with the ALI and MSAG is accomplished through edits made to the GIS data by the individual GIS data sources, utilizing the ALI/MSAG to GIS comparison reports provided by Intrado. RCL will be validated against the Provisioning Boundary to be sure roads do not extend beyond the data source's coverage region.

When aggregating the road centerlines layer, the following specifications shall be applied at a minimum:

2.1.1 Layer Specifications

- Adherence to the NENA NENA-STA-006.1-2018 standards.
- All road centerline segments shall be broken in the following circumstances:
 - At ESB, ESN, unincorporated town, municipal, PSAP, County, and State boundaries
 - All road centerline intersections except for overpasses
 - At any change in primary street name
- A local 911 Authority may decide to break road centerlines in other instances at its discretion, however, unless there's a rational reason for breaking a line segment then no breaks will exist except at dead-ends or in the instances stated above.
- Road centerlines must not overlap except for overpasses and must not have dangles except for dead-ends.
- Address attributes will be compatible with the direction of digitizing for addressable road centerlines.
- Invalid dangle nodes shall be corrected.
- The Vendor shall identify all errors and discrepancies identified during the aggregation of this data layer and submit the identified errors and discrepancies to the local entity for remediation.
- The NENA NG9-1-1 United States Civic Location Data Exchange Format (CLDXF) Standard, NENA-STA-004.1.1-2014, details street naming requirements for NG9-1-1 and



the NENA CLDXF Standard should be referred to for questions pertaining to anything street name related that's not directly covered by this document.

Intrado Response: ALTERNATE

EGDMS has a series of RCL validations that include the following:

Critical Errors:

- True Duplicate
The exact feature is duplicated multiple times in the layer - EGDMS deletes the duplicate features, leaving a single record
- Attribute Duplicate
The feature's attributes are duplicated in multiple features, but each feature has a unique location – All records are returned as errors and must be corrected to proceed to production
- Address Range Overlap
An overlap exists in one or both sides of the address ranges between two connected and identically named street centerline segments.
- Unique ID Duplicate
The feature's Unique ID is duplicated within the agency's layer - these are critical errors and must be corrected to proceed to production
- Geometry Error
A record exists in the attribute table that is not associated with a geographic feature or the geometry of a feature is in error.
- NULL Value Critical
NULL value for a critical field

Non-critical Errors:

- NULL Value
A required attribute is blank or NULL.
- Domain Addressing Standard
The attribute value does not match an existing addressing standard value within the parsed street name attributes (pre type, pre directional, street type, post directional)
- Street Pointing Wrong Direction
A discrepancy between two identically named and connected street segments where the ending point of one segment is different from the beginning point of the connected segment.
- Street Name Parsing



Identifies street names that are potentially not properly parsed, example: the street name field contains street types or street directionals

- Low Frequency Street Name

A single address point street name exists (this is only a warning, but oftentimes finds street name spelling/parsing issues)

- Address Range Parity

Describes street segments that have a mix of odd and/or even addresses on one particular side of that segment and not indicated accordingly in the Left and Right Parity fields. Street centerlines should only have odd addresses on one side and even addresses on the other.

- Geometry Warning

A feature had invalid geometry, but that inconsistency was automatically corrected by EGDMS.

- Invalid Date

Indicates that the value of the date field was invalid - replaced with current date.

Validation requirements not included above will be performed manually using MapSAG during the initial comprehensive GIS data evaluations. MapSAG adheres to all of the specifications defined in this requirement. Intrado will work with the state on the required QA/QC validations to be included in the automated QA/QC checks within EGDMS and will mutually agree upon the enhancements and timeframe for availability.

Vendors shall describe their process for ensuring that road centerlines meet the criteria defined within the NG9-1-1 data standard and ensure that the database is prepared to transition into geographic / location-based call routing.

Intrado Response: COMPLY

The EGDMS web-based portal identifies the NENA NG9-1-1 GIS data model required fields and ensures that the end user field maps a valid value or indicates that the attribute is not available. If the field is a mandatory requirement for i3 routing/ECRF and LVF functionality, then EGDMS validations will indicate the missing attributes as critical errors that must be corrected. Additionally, errors identified will be reported to the data source for correction.



The Vendor must describe their methodology used to aggregate a Statewide road centerlines GIS data layer. The description shall include how the Vendor will adhere to the NENA standard for NG9-1-1 GIS Data Model.

The Vendor shall provide Statewide address structure points within the GIS data layers. The description shall present how the Vendor will adhere to the NENA standard for NG9-1-1 GIS Data Model.

Intrado Response: COMPLY

The EGDMS web-based portal identifies the NENA NG9-1-1 GIS data model required fields and verifies the end user field maps a valid value or indicates that the attribute is not available. If the field is a mandatory requirement for i3 routing/ECRF and LVF functionality, then EGDMS validations would indicate the missing attributes as critical errors that must be corrected. Additionally, errors identified will be reported to the data source for correction.

All data loaded into the system is coalesced into a consolidated database and NENA NG9-1-1 compliant data exports can be provided on a daily or as-needed basis.

When aggregating the site/structure address points layer, the following specifications shall be applied at a minimum:

2.1.2 Layer Specifications

- Adherence to the NENA NG9-1-1 GIS Data Model standards.
- The Vendor shall identify all errors and discrepancies identified during the aggregation of this data layer and submit the identified errors and discrepancies to the local entity for remediation.

Intrado Response: COMPLY

Intrado will confirm that the GIS data meets the NG9-1-1 GIS Data Model requirements and automated QA/QC validations will report critical errors for those features that are missing required information/attributes. All errors are returned to the data source in a summary PDF report and in error shape files. Error shape files are provided in the local data source format and include the error type and reason attributes appended to the original schema.

Vendors shall describe their process for ensuring that site/structure address points meet the criteria defined within the NG9-1-1 data standard and ensure that the database is prepared to transition into geographic / location-based call routing.

Intrado Response: COMPLY

The EGDMS web-based portal identifies the NENA NG9-1-1 GIS data model required fields and ensures that the end user field maps a valid value or indicates that the attribute is not available.



If the field is a mandatory requirement for i3 routing/ECRF and LVF functionality, then EGDMS validations will indicate the missing attributes as critical errors that must be corrected.

The vendor shall include a methodology for aggregation of Statewide address structure points within the GIS data layers. The description shall present how the Vendor will adhere to the NENA standard for NG9-1-1 GIS Data Model.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and will be used to consolidate statewide site/structure address points. Address Points will be validated to ensure required fields are populated and features with missing required fields will be identified as critical errors and returned in error reports.

The street naming standards used for road centerlines are applicable to address points. Vendors shall ensure the street names and addresses associated with address point correspond to the street name and address ranges of the street segment they fall on. Unless otherwise noted, definitions are taken directly from NENA-STA-006.1-2018 unless they're self-explanatory or in the case of street name elements based on NENA-STA-004.1.1-2014.PSAP Boundary

Intrado Response: ALTERNATE

Because the EGDMS does not currently perform validations between the Address Point and road centerlines, Intrado proposes to perform this validation for each agency as part of the initial NG9-1-1 GIS Data Assessment reports followed by regular validation reports to be performed quarterly using MapSAG. Intrado's MapSAG validations ensure that address point match streets and will identify any Address Points not matching street name, based on community, street name and address range.

Per NENA-STA-006.1-2018, the primary use for the PSAP Boundary is to route call/emergency requests for NG9-1-1. This layer depicts the polygon(s) and the related attribute information that defines the geographic area of all PSAP boundaries within a given 9-1-1 Authority's geographic coverage area. The PSAP Boundary layer may have one or many PSAP Boundaries contained in the layer. Each PSAP Boundary defines the geographic area of a PSAP that has primary responsibilities for an emergency request. This layer is used by the ECRF to perform a geographic query to determine the PSAP to which an emergency request is routed.

Intrado Response: COMPLY

Intrado's EGDMS accepts PSAP boundaries and meets the criteria defined in the NENA NG9-1-1 GIS Data Model and per NENA-STA-006.1-2018.



The Vendor shall aggregate the administrative boundary information Statewide into a GIS boundary data layer containing State, County and Municipal boundaries. The Vendor shall describe the process for aggregating the administrative boundary information Statewide into a GIS boundary data layer containing State, County and Municipal boundaries. The methodology must meet the NENA standard for NG9-1-1 GIS Data Model.

Intrado Response: COMPLY

Intrado will collect State and County boundary information directly from each data source via uploads to EGDMS, however these layers are not able to be field mapped in the EGDMS system. The Municipal Boundary layers will be submitted via the EGDMS portal and field mapped within the portal. All layers will be consolidated into a statewide database and will adhere to the NENA NG9-1-1 GIS data model standards. Updates to County or State boundaries must be coordinated directly with Intrado i3 GIS coaches, and Municipal Boundary updates will be processed via the EGDMS portal on an as-needed basis.

When aggregating the administrative boundary layers, the following specifications shall be applied at a minimum:

2.1.3 Layer Specifications

- Adherence to the NENA NG9-1-1 GIS Data Model standards.
- The Vendor shall identify all errors and discrepancies identified during the aggregation of this data layer and submit the identified errors and discrepancies to the local entity for remediation.
- There shall be no unintentional gaps or overlaps within a PSAP boundary or between a PSAP boundary and neighboring PSAP boundaries.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and EGDMS will be used to consolidate statewide PSAP and Municipal boundaries. State and County layers will be provided via EGDMS uploads but managed directly by Intrado i3 GIS coaches. All layers will be validated for completeness and accuracy and adherence to the NENA NG9-1-1 GIS Data Model standards. PSAP layers will be validated for the following errors:

- Outside Provisioning Boundary
All or part of the feature falls outside the Provisioning Boundary
- Boundary - Neighbor - Gap
A gap exists between the boundary polygon and an adjacent data source's boundary polygon
- Boundary - Internal - Gap
A gap exists between the boundary polygon and another boundary polygon within your database
- Boundary - Neighbor – Overlap
The boundary polygon feature overlaps an adjacent data source's boundary polygon



- Boundary - Internal - Overlap
The boundary polygon feature overlaps another boundary polygon within your database
- Routing URI
- The Routing URI is either missing or invalid within the service response boundary polygon

Vendors shall describe their process for ensuring that administrative boundaries meet the criteria defined within the NG9-1-1 data standard and ensure that the database is prepared to transition into geographic / location-based call routing.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and EGDMS will be used to consolidate statewide PSAP and Municipal boundaries. Updates to County or State boundaries must be coordinated directly with Intrado GIS staff. All layers will be validated for completeness and accuracy and adherence to the NENA NG9-1-1 GIS Data Model standards.

The Vendor shall describe the process for aggregating the administrative boundary information Statewide into a GIS boundary data layer containing State, County and Municipal boundaries.

Intrado Response: COMPLY

Intrado will collect State and County boundary information directly from each data source via uploads to EGDMS, however these layers are not able to be field mapped in the EGDMS system. The Municipal Boundary layers will be submitted via the EGDMS portal and field mapped within the portal. All layers will be consolidated into a statewide database and will adhere to the NENA NG9-1-1 GIS data model standards. Updates to County or State boundaries must be coordinated directly with Intrado i3 GIS coaches, and Municipal Boundary updates will be processed via the EGDMS portal on an as-needed basis.



2.2 Emergency Services Boundary

Per NENA-STA-006-1-2018, An Emergency Service Boundary (ESB) layer defines the geographic area for the primary providers of response services. Each of these layers is used by the ECRF to perform a geographic query to determine which Emergency Service Providers are responsible for providing service to a location in the event of a selective transfer is desired, to direct an Emergency Incident Data Document (EIDD) to a secondary PSAP for dispatch, or to display the responsible agencies at the PSAP. In addition, ESB's are used by PSAPs to identify the appropriate entities/first responders to be dispatched. Each ESB layer may contain one or more polygon boundaries that define the primary emergency services for that geographic area. There MUST be a separate ESB layer for each type of service.

- Law Enforcement
- Fire
- Emergency Medical Services

Intrado Response: COMPLY

Intrado's EGDMS system supports Law, Fire and EMS emergency service boundaries, enforces that each service is represented by a separate layer, and allows for each ESB layer to contain one or more polygons used to define the primary emergency services for that same geographic area.

The Vendor must aggregate Statewide emergency services boundary GIS data layers containing PSAP service areas and Police, Fire, EMS service areas. The methodology shall include adherence to the NENA standards for NG9-1-1 GIS Data Model.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and will be used to consolidate statewide PSAP, Fire, Law and EMS emergency service boundaries. All layers will be validated for completeness and accuracy and adherence to the NENA NG9-1-1 GIS Data Model standards.



When aggregating the emergency services boundary layers, the following specifications shall be applied at a minimum:

2.2.1 Layer Specifications

- Adherence to the NENA NG9-1-1 GIS Data Model standards.
- The Vendor shall identify all errors and discrepancies identified during the aggregation of this data layer and submit the identified errors and discrepancies to the local entity for remediation.

Intrado Response: COMPLY

All emergency service boundary layers will be validated for completeness and accuracy and adherence to the NENA NG9-1-1 GIS Data Model standards. PSAP, Fire, Law and EMS layers will be validated for the following errors:

- Outside Authoritative Boundary
- All or part of the feature falls outside the authoritative boundary
- Boundary - Neighbor - Gap
- A gap exists between the boundary polygon and an adjacent data source's boundary polygon
- Boundary - Internal - Gap
- A gap exists between the boundary polygon and another boundary polygon within your database
- Boundary - Neighbor – Overlap
- The boundary polygon feature overlaps an adjacent data source's boundary polygon
- Boundary - Internal - Overlap
- The boundary polygon feature overlaps another boundary polygon within your database
- Routing URI
- The Routing URI is either missing or invalid within the service response boundary polygon

All errors are returned to the data source in a summary PDF report and in error shape files. Error shape files are in the local data source format and include the error type and reason. Errors identified in the reports should be corrected and resubmitted.



Vendors shall describe their process for ensuring that emergency service boundaries meet the criteria defined within the NG9-1-1 data standard and ensure that the database is prepared to transition into geographic / location-based call routing.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and will be used to consolidate statewide PSAP, Fire, Law and EMS emergency service boundaries. All layers will be validated for completeness and accuracy and adherence to the NENA NG9-1-1 GIS Data Model standards as well as topology validations for gaps and overlaps.

Vendors shall describe how they will aggregate Statewide emergency services boundary GIS data layers containing PSAP service areas and Police, Fire, EMS service areas. The Vendor will describe how the methodology shall include adherence to the NENA standards for NG9-1-1 GIS Data Model.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and will be used to consolidate statewide Fire, Law and EMS emergency service boundaries. All layers will be validated for completeness and accuracy and adherence to the NENA NG9-1-1 GIS Data Model standards. Data will be aggregated and validated for complete coverage against the Provisioning Boundary.



2.3 Provisioning Boundary

Per NENA-STA-006.1-2018, this polygon layer defines the area of GIS data provisioning responsibility, with no unintentional gaps or overlaps. The Provisioning Boundary must be agreed to by all adjoining data provisioning providers. This Provisioning Boundary layer can be used by an ECRF to facilitate exclusion of erroneous features that lie beyond the boundary, for geoprocessing purposes and can also be used by the Forest Guide to determine coverage for a data provisioning authority.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and will be used to consolidate the Provisioning Boundary from all data sources.

The proposed NG9-1-1 GIS Managed Service which includes the EGDMS, GCRS and MapSAG systems, requires a seamless Provisioning Boundary representing each GIS data source within the State's overall geographic footprint.

This is a prerequisite NENA i3 GIS layer in that it is what allows or enables all other required layers to first be checked against before they can even be loaded into the Spatial Interface. That is the reason the first efforts of this project will be laser focused on establishing a statewide seamless Provisioning Boundary layer. The majority of PSAP boundaries follow the same exact geometry as the Provisioning Boundary and through Intrado's research into the landscape of how GIS is currently being managed across the state, indicates that Provisioning Boundaries are coincident with PSAP Boundaries throughout Alabama. In the event these two layers need to differ slightly, Intrado has well-established guidelines to follow for the participating agency.

Using experience gained from assisting other states in developing a seamless statewide Provisioning Boundary and PSAP Boundary layer, Intrado will assist in the creation of these important boundary layers by collecting the GIS data from each individual data source at the beginning of the project then work to create a seamless boundary that is free of topological errors and that each participating agency has approved. Each data source will have the opportunity to review and request changes to, or approve the Provisioning Boundary so the agreed-upon boundaries can be finalized and utilized within the GIS platforms. i3 GIS coaches will facilitate boundary conflict resolution using both verbal and electronic communication in which the geographic areas in question will be shared with all affected parties using visualization tools and offering advice gained through providing nationwide PSAP boundary conflict resolution services for all PSAPs across our nation for the past 20 years, in support of Wireless call routing.



2.3.1 Layer Specifications

- There shall be no unintentional gaps or overlaps within a Provisioning Boundary or between a 911 Authorities Provisioning Boundary and the Provisioning Boundaries of other neighboring 911 Authorities.

Intrado Response: COMPLY

Intrado's EGDMS will validate provisioning boundary layers for seamless coverage against all neighboring provisioning boundaries. Errors identified will be indicated as follows:

Boundary - Neighbor - Gap

A gap exists between the boundary polygon and an adjacent data source's boundary polygon.

Boundary - Internal - Gap

A gap exists between the boundary polygon and another boundary polygon within your database.

Boundary - Neighbor - Overlap

The boundary polygon feature overlaps an adjacent data source's boundary polygon.

Boundary - Internal - Overlap

The boundary polygon feature overlaps another boundary polygon within your database.



2.4 Street Name Alias Table

Per NENA-STA-006-01-2018, the street name as assigned by the local addressing authority **MUST** be the name associated with the Road Centerlines. The street name assigned by the local addressing authority is the street name used for location validation and call routing. However, many roads are known by more than one street name and these are known as alias street names. Many 9-1-1 Authorities need to accommodate for alias street names during call taking and data sharing.

In legacy systems it wasn't uncommon to account for alias street names by creating multiple overlapping Road Centerlines with different street names. In NG9-1-1 this is unacceptable and will result in a discrepancy report. Instead, a table of alias street names is maintained that uses the NGUID of Road Centerline segments to associate alias names from the alias table with their respective Road Centerline segment. It's highly recommended that the GIS Provider review section 3.6 of NENA-STA-006.1-2018 prior to creating the alias table.

Intrado Response: COMPLY

Intrado currently does not support the Street Name Alias Table in EGDMS, however Intrado will manage the statewide Street Name Alias Table through submission to an sFTP site. The table will be updated by submitting periodic updates to the sFTP site, and Intrado i3 GIS Coaches will manage the update and provisioning of the table on a monthly basis.

2.4.1 Layer Specifications

- The parsing of street name elements follows the CLDXF standard.

Intrado Response: COMPLY

Intrado's EGDMS will validate street name elements for CLDXF compliance and report errors in summary and detailed error reports.



3 GIS SERVICES

The Vendor shall be responsible for GIS management and maintenance and the Spatial Interface between the PSAPs and the Emergency Call Routing Function (ECRF) and the Location Validation Function (LVF) provided by ANGEN. This capability will be dependent upon coordination with the NG9-1-1 service provider (ESInet vendor) to integrate the operation of the ECRF with the complete NG9-1-1 system for the purpose of call routing.

Intrado Response: **COMPLY**

Intrado will serve as the Spatial Interface provider and agrees to work with the ESInet vendor, referred here on out as the ANGEN System Service Provider, on the integration between EGDMS and the ECRF and LVF.

The ECRF/LVF functionality will provide a fully developed GIS change detection/update process including a Spatial Interwork (SI) function capable of addressing data updates and discrepancy inquiries from the local 9-1-1 entities as a managed service. The system shall include the ability to perform QA/QC audit checks and data analysis on an on-going basis prior to the provisioning of GIS data into the ECRF/LVF.

Intrado Response: **COMPLY**

Intrado's EGDMS will validate and provision the ECRF and LVF with only validated features. Critical errors will be identified and must be corrected prior to provisioning the ECRF and LVF on a daily basis. Note the red 9-1-1 EGDMS Database cylinder depicted in the diagram below is supplied by Intrado while the ECRF and LVF boxes are supplied by the ANGEN System Services Provider.

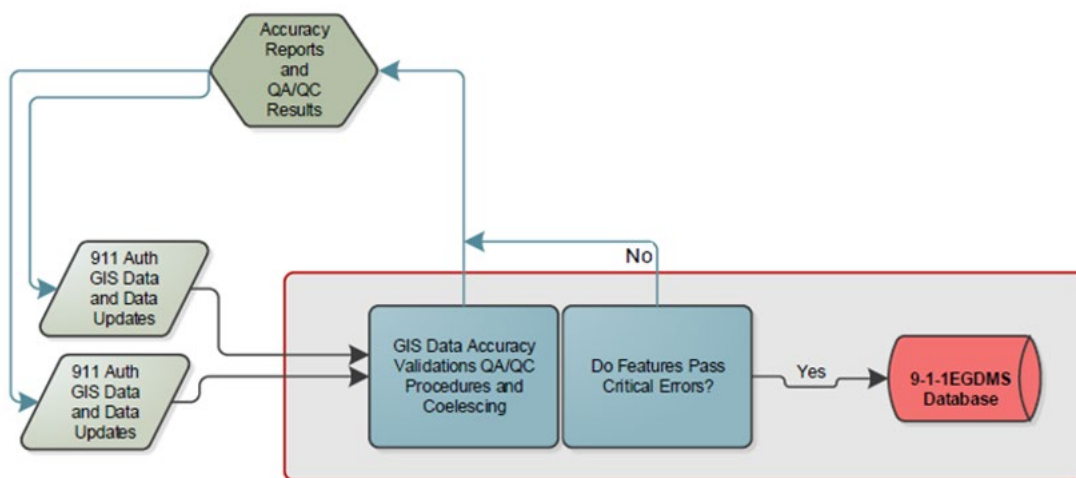


Figure 4: QA/QC Processing

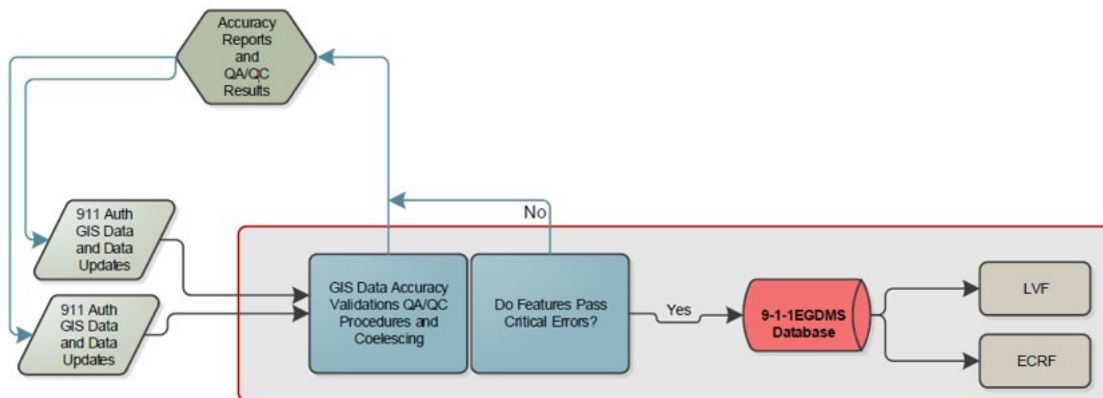


Figure 5: QA/QC Processing with LVF/ECRF Provisioning

The Vendor shall provide the implementation and management services for provisioning GIS data to the NG9-1-1 ECRF and LVF as defined in the NENA STA-010.3 Detailed Functional and Interface Standards for the NENA i3 Solution.

Intrado Response: **ALTERNATE**

The NENA STA-010.3 Detailed Functional and Interface Standards for the NENA i3 Solution loosely defines the mechanism for SI to ECRF and LVF provisioning however this standard has not been fully implemented and may not prove to be a viable solution. Intrado will work with ANGEN System Service Provider on a means to provision the ECRF and LVF in a way that facilitates reliable and efficient GIS data updates. This may be accomplished by collaborating with the ANGEN System Service Provider to establish a confirmation process to verify each GIS data update is processed and to make sure that the current GIS data is being utilized by the ECRF and LVF. This confirmation will likely rely on an automated subscription / notification process that enables data transfer with a formal “handshake” to verify data has been provisioned successfully. This mechanism would allow for automated logging to enable reporting on the GIS data updates success and failure, including event notification in the event of failed updates.

Additionally, the GIS data update process can support transactional (insert/delete/modify) updates. This mechanism may require additional development work to maintain synchronicity between Intrado and the ANGEN System Service Provider’s databases. Both parties can work towards the definition and establishment of this automated GIS data synchronization process at project onset.



The Vendor shall be responsible for the implementation, system tools and processes, by which it will manage GIS data updates from the local 9-1-1 entities, provide for QA/QC auditing functions prior to provisioning the GIS data into the ECRF/LVF, and implement and manage a NG9-1-1 compliant ECRF/LVF system.

Intrado Response: COMPLY

Intrado's EGDMS solution includes proprietary delta detection tools that allow users to submit full GIS databases as opposed to only added/changed/deleted features. Updates can be sent daily, or as needed. As many GIS agencies do not possess the licensing requirements for Esri SDE replication, the ability for all customers to isolate and submit only changed features is not reliable or easily achieved. This is the primary reason Intrado's solution utilizes full GIS database uploads, where the EGDMS identifies and processes the changed features between the production data and the updated data on the agency's behalf.

This solution supports any customer data format (shape file or file geodatabase formats) and it does not require additional software licensing. Data updates are processed and validated by the EGDMS system and then provisioned to the state level database, and ultimately to the ECRF and the LVF.

This delta detection methodology allows customer data uploads to contain full data uploads but provides the mechanisms to support transactional updates to the ECRF and LVF.

Based upon their previous experience(s) Vendors will describe how ECRF/LVF integration including change detection/update processes have been performed.

Intrado Response: COMPLY

Intrado currently manages an operational Spatial Interface to ECRF and LVF interface by way of bulk layer provisioning. The EGDMS system achieves synchronization between ECRF and LVF by simultaneous provisioning updated GIS data to both the ECRF and the LVF independently. Each ECRF and LVF instance maintains a production and backup dataset. Updates are applied to the backup system, and once completed and validated for completeness by way of MD5/checksum file, the backup is switched over to the production system. Any failed updates to either system are logged, alarmed and investigate for error correction to ensure data synchronicity between the EGDMS, ECRF and LVF.

Vendors will describe their process for completing ECRF/LVF integration for this project.

Intrado Response: COMPLY

Intrado will work with the ANGEN System Service Provider to establish a protocol for SI to ECRF and LVF provisioning based on bulk updates and/or transactional updates. As described above, Intrado is open to working collaboratively with the ANGEN System Service Provider on a mutually agreed upon solution for synchronizing data between the SI and the ECRF and LVF.



3.1 GIS Data Management Tools

- The Vendor shall provide the means for secure web-based portal for collection of all data required for Normalization activities:
 - PSAPs to submit GIS uploads
 - PSAPs to submit MSAG data
 - PSAPs to submit any additional layers relevant to their operation

Intrado Response: COMPLY

End user tools and training are tailored to the capabilities of each user across the State that will be responsible for submitting information via a secure web-based portal into a Intrado's EGDMS/SI centralized geodatabase which is standards compliant with NENA i3 GIS standards and ANGEN Systems Service Provider requirements. The EGDMS will then perform GIS data normalization services that support GIS database management, maintenance and transition support to ensure that the location-based call routing capability meets the NENA i3 and NG9-1-1 standards. EGDMS allows for agencies to upload GIS data layers that are not required for NG9-1-1 geospatial call routing but serve as important layers for the local agency to share with the ANGEN System Services Provider when required.

For Non-GIS users, the proposed system includes the GIS Change Request System (GCRS) which provides a user-friendly interface to:

- View underlying GIS data
- Perform markup changes and additions on the map display
- Electronically submit changes to be reviewed for accuracy and compliance by the regionally assigned i3 GIS Coach prior to provisioning to secure web based EGDMS portal.

Changes submitted to EGDMS, following review by the assigned i3 GIS Coach, will be provisioned to an sFTP for the ANGEN System Service Provider to retrieve for LVF and ECRF provisioning.

The GIS Change Request System (GCRS) is a secure web-based portal hosted and managed by Intrado that provides Non-GIS users tools to view the GIS database and submit map change requests to Intrado's i3 GIS Coaches. The GCRS will be deployed as a cloud-based web service.

GIS users have two GIS data submittal methods available to them:

- Submittal of GIS data directly into the EGDMS
- Using Intrado's complimentary or optional GIS Data Management System, MapSAG

GIS users using existing GIS software to perform GIS data editing will be provided access to EGDMS along with training, data field mapping, upload assistance, error report interpretation, and general NG9-1-1 GIS consultation and assistance.

EGDMS enables GIS users to securely upload their GIS data for validation (QA/QC) and consolidation into a statewide database. Validations are performed with each upload of data and reports are made available to the user which identifies critical errors (unacceptable and could cause geospatial call routing issues). EGDMS allows the GIS user to choose a file from their



local machine and upload to EGDMS. Field mapping is performed one-time and then saved so that the next time the user logs in the field mapping is already loaded so that the user doesn't have to re-map fields.

EGDMS accepts GIS data from PSAPs in a format that does not meet established formats and uses field mapping translations combined with internal processes to standardize the data into an acceptable product. Intrado will compile aggregated datasets that meet the NENA i3 GIS standards for the entire geographic area covered by the State of Alabama.

Participating agencies can provide MSAG files to the Intrado i3 GIS coach through a secure FTP (sFTP) which allows for secure file transfer using a network protocol that provides secure file access, transfer and management over a reliable data stream. Intrado's sFTP is called MoveIT. During the user system setup step, participating agencies will be setup on MoveIT and provided documentation and user instruction on how to perform the simple uploads. MoveIT provides confirmation notifications to users when the file has been accessed as well as archiving the data for a configurable period of time.

- The Vendor shall provide process and usage training of the portal and the upload process.

Intrado Response: COMPLY

The i3 GIS Coaches will provide system access and training, GIS data upload assistance, error report interpretation, go-live support, and general ongoing consultation and assistance that will help agencies achieve the goals of this project. Work will normally be done remotely with communication with project stakeholders via phone or email. The regionally assigned i3 GIS Coaches will act as the first point of contact for GIS user and Non-GIS user submitting agencies for questions or requests for assistance and will be available for the life of the project. In-depth technical training will be supplied to each GIS user and Non-GIS user agency across the State and will consist of an overview of system access and login procedures, followed by training on the following:

- User interface navigation either through the EGDMS portal or GCRS
- GIS data submittal process
- How to interpret error reporting and perform conflict resolution
- Assistance with data integration tasks
- End user performance of ALI-to-GIS comparison reporting
- GIS data remediation assistance
- General NG9-1-1 GIS related questions and consultation



3.2 GIS Normalization Services

The Vendor shall supply GIS data normalization services, GIS database management and maintenance and transition support to ensure that the location-based call routing capability meets the NENA i3 and NG9-1-1 standards.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and will be used to consolidate PSAP GIS data into a statewide synchronized databased that ensures an NG9-1-1 statewide schema is followed that adheres to NENA NG9-1-1 GIS Data Model standards and is provided to the ANGEN System Services provider on a regular basis.

The Alabama 9-1-1 Board recognizes that GIS data requires normalization with the preferred GIS data schema prior to replication to the ECRF. The GIS vendor shall establish the baseline schema, comparing the GIS data with the existing data sets, identifying the discrepancies and delegating the correction of discrepancies to the PSAP or local GIS authority.

Intrado Response: COMPLY

The PSAP will upload their data to Intrado's EGDMS database which will consolidate the PSAP GIS data into a single NENA compliant schema prior to the QA/QC testing. Only GIS data that passes QA/QC testing will be provisioned to the ECRF. GIS data that does not pass QA/QC testing will be pushed back to the PSAP for error resolution.

The Alabama 9-1-1 Board will work with the vendor to determine the most appropriate strategy for normalization of GIS data with the PSAPs. The GIS vendor shall synchronize all GIS data to ensure that the schema is followed, and that the data can be used to transition into an NG9-1-1 system. The normalization will follow a workflow similar to the one below.

Intrado Response: COMPLY

Intrado's EGDMS database is NENA NG9-1-1 GIS Data Model compliant and will be used to consolidate PSAP GIS data into a statewide synchronized databased that ensures an NG9-1-1 statewide schema is followed. All layers will be validated for completeness and accuracy and adherence to the NENA NG9-1-1 GIS Data Model standards. Data will be aggregated and validated prior to provisioning into the NG9-1-1 call processing system.



During normalization, the GIS vendor shall ensure that the data passes the QA/QC test for meeting the GIS schema. This workflow will continue each time that GIS data is modified by a PSAP. The GIS vendor will identify all discrepancies and follow the discrepancy workflow for error resolution. GIS normalization will review and report on the following, at a minimum:

- Missing data layers.
- Missing attribute information.
- Standardization of GIS data attributes in adherence to relevant national standards, both centerline and site/structure location points following the FGDC-STD-016-2011, NENA NG911 GIS Data Model, NENA Site Structure Address Point.
- Synchronization of GIS data with MSAG and ALI (NENA 71-501 v1).
- Address range parity in centerline, as well as relating to site/structure location points and centerline.
- Duplicate address ranges.
- Direction and flow errors.
- Gaps and overlaps in PSAP and service boundaries and edge matching.
- Centerline breaks at intersections and boundaries.

Intrado Response: COMPLY

Intrado will provide a detailed analysis for NENA NG911 normalization that includes the above QA/QC testing as well as many additional QA/QC testing to enable the PSAP to robustly edit their data for normalization. After this initial QA/QC testing, Intrado's EGDMS will perform the necessary QA/QC testing required by NENA for LVF and ECRF provisioning every time the PSAP uploads their modified data.

The GIS vendor shall describe its process that ensures timely and accurate error resolution of GIS data discrepancies. Only GIS data that passes the normalization stage will be provisioned to the ECRF. GIS data that does not pass normalization will be pushed back to the PSAP for error resolution. Discrepancy logs and reports will be delivered to the PSAP with a copy available for the 9-1-1 Board that identify the error and potential correction activities required to ensure that GIS data can be validated and normalized. The PSAP will be lead resource in the correction of the data.

Intrado Response: COMPLY

When the PSAP uploads data to Intrado's EGDMS, QA/QC testing takes place immediately. Only GIS data that passes QA/QC testing will be provisioned to the ECRF. GIS data that does not pass QA/QC testing will be pushed back to the PSAP for error resolution. Discrepancy reports, a pdf summary and detailed shapefiles, will be delivered to the PSAP with a copy available for the 9-1-1 Board that identify the error and potential correction activities required to ensure that GIS data can be validated and normalized. The PSAP will be lead resource in the correction of the data.



Vendors shall describe the GIS normalization service and identify the workflow for ensuring that all GIS data is verified, QA/QC'ed and prepared for ECRF operation. The description shall include any reference documentation, diagrams or architecture supporting information that ensures that the GIS services meet the specification.

Intrado Response: COMPLY

Intrado will supply a document package that contains detailed workflows. The document package includes an EGDMS User Guide, NG9-1-1 GIS Data Roles and Expectations, and EGDMS GIS Data Workflow.



3.3 GIS Managed Services

- The Vendor shall provide for a secure web portal for PSAPs to submit GIS update/change requests and the Vendor to communicate error/discrepancy feedback.

Intrado Response: COMPLY

The Enterprise Geospatial Database Management System (EGDMS) is Intrado's NENA Spatial Interface and serves as the GIS Data interrogation and integration system, the nexus for all GIS data processing and integrating with Intrado's GIS data management products. EGDMS enables Intrado to deliver the proposed NG9-1-1 GIS managed services proposed.

EGDMS is a secure, cloud-based service used by local, regional or state-level GIS data sources to provide GIS data updates and change requests and receiving ongoing QA/QC validation and reporting, to include shapefile generation representing the data error so the user can quickly zoom to and correct the discrepancy.

The screenshot shows the 'Update GIS Data' form in the EGDMS portal. At the top, there is a dropdown menu for 'Agency' with 'Training_County' selected. Below this, the form is titled 'Update GIS Data' with a subtitle: 'Please submit your Agency's GIS data update using the form below. Complete the Manifest and select your Payload file to transmit your Update.' The form is divided into two main sections. The first section, 'Configuration Changes', includes a checkbox for 'Configuration Changes' and a note: 'Check the box below if you have made changes to your GIS data feature classes or attributes that are not captured in your current field mapping configuration.' The second section, 'Updated Feature Classes and Supporting Data', includes a checkbox for 'Check all' and a list of feature classes with checkboxes: 'Street Centerlines', 'Address/Structure Location', 'PSAP Area Boundary', 'Emergency Service Zone', 'Fire Response Boundary', 'Law Response Boundary', 'EMS Response Boundary', 'Municipal Boundary', and 'Authoritative Boundary'. Below these sections, the 'GIS Data Format' is set to 'File Geodatabase'. A note states: 'Please select a GIS file to upload. Note: All GIS data must be submitted in a single, compressed (.zip, .Gzip, or .tz) format. Max size: 2GB.' There is a text input field for 'GIS Data' and a 'Browse...' button. At the bottom of the form, there are 'Cancel' and 'Transmit' buttons.

Figure 6: EGDMS Portal File Upload Application



EGDMS Feature Class	Agency Feature Class	State
Street Centerlines	Roads	Field Error(s) Present
Feature Count:38	Projection:NAD_1983_StatePlane_Texas_Cent...	Create Note
Select an Agency Attribute to map to the listed EGDMS Attributes.		
EGDMS Attribute	Agency Attribute	Type Length State/Status
*Left from Address	L_ADD_FROM	Integer Pending Review
*Left to Address	N/A	Integer Accepted
*Right from Address	ALT_NAME	Integer Accepted
*Right to Address	C1_EXCEPTI	Integer Accepted
Parity Left	CREATION_D	
Parity Right	CREATION_U	
Street Pre-Modifier	DIVIDED	
	LCOMMUNITY	
	LCOUNTY	
	LESN	
*Street Prefix Directional	L_ADD_FROM	String 2 Accepted
*Street Name Pre-Type	L_ADD_TO	Rejected
	MODIFY_DAT	Previous Mapping Missing
	MODIFY_USE	

Figure 7: EGDMS Portal Field Mapping Tools

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9-1-1 EGDMS - Data Management

Upload History

Configuration

Agency Details

?

Agency

* Agency Contact

* Email

TN

Ext.

* GIS Technical Contact

* Email

TN

Ext.

Assigned 9-1-1 EGDMS Analyst

* 9-1-1 EGDMS Analyst Distro.

* GIS Data Format

Select

* Workflow Path

Select

Figure 8: EGDMS Agency Details

- The Vendor shall provide the means for web-enabled reports, performance measurements, discrepancy tracking, for GIS quality assurance and system status.

Intrado Response: COMPLY

In addition to the GIS data upload capabilities described above, each EGDMS submitting agency receives automated reporting upon each GIS data submission and can access the information specific to their agency on demand, at any time, including upload history reporting, using the web-enabled and secure EGDMS portal. EGDMS reporting available to each agency



across the State illustrates and provides them with the information needed to understand progress made in achieving State and NENA GIS data accuracy recommendations and requirements, and specifically identify what areas may require their focus and attention. A copy of a EGDMS GIS Data Upload Report is included in Intrado's proposal to help illustrate the level of detail provided to each agency. The EGDMS Data Upload Report is included as an attachment to this proposal. Below are a few example screenshots from the EGDMS.

9-1-1 EGDMS - Data Management

Upload History

Configuration

Agency Details

Agency

Upload Details

Review the Update and make changes to address any corrections or errors as necessary.

State: QA/QC Completed

Upload ID: 20180719T200104.de-egdms1

Last State Update: 07/19/2018 14:05 MDT

Start Date: 07/19/2018 14:01 MDT

State Update:

Agency State: DoUploads

Configuration Changes

Click Launch to open the Field Mapping Tool to review the upload's attribute field map and indicate errors or propose changes to this customer's configuration.

Field Mapping Tool

Launch

Updated Feature Classes

The Feature Classes included in this upload are indicated below.

☒

Street Centerlines

☒

Address/Structure Location

☒

PSAP Area Boundary

☐

Emergency Service Zone

☒

Fire Response Boundary

☒

Law Response Boundary

☒

EMS Response Boundary

☐

Municipal Boundary

☒

Authoritative Boundary

Payload

Indicate the disposition of each of the attached items.

GIS Data:

EGDMS7162018.gdb.zip

* Payload Status

Valid

Save/Close

Submit

Activity Log

Review the activity for this Upload.

User Name	Date	State
egdms5	07/19/2018 14:05:43 MDT	9-1-1 EGDMS - QA/QC Processing
de-egdms1	07/19/2018 14:01:38 MDT	9-1-1 EGDMS - Data Interrogator Feature Count Error
de-egdms1	07/19/2018 14:01:15 MDT	9-1-1 EGDMS - Payload Review
de-egdms1	07/19/2018 14:01:04 MDT	Upload Transmitting

Figure 9: EGDMS Portal Upload History, Upload Details Screen

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Information to Insight

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9-1-1 EGDMS - Data Management

Upload History

Configuration

Agency Details

?

Agency

Last Refresh: 17:53:16 MDT

Refresh

	Start Date	Current State	GIS File Name	Upload ID	Last State Update	Reports
<div>View/Edit</div>	07/19/2018 14:01 MDT	QA/QC Completed	_EGDMS7162018.gdb.zip	20180719T200104.de-egdms1	07/19/2018 14:05 MDT	<div>Download</div>
<div>View</div>	07/19/2018 13:47 MDT	Marked for Deletion	071618.gdb.zip	20180719T194731.de-egdms1	07/19/2018 13:48 MDT	

Figure 10: EGDMS Portal Upload History, Upload History Table

9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

Date and Time of Data Submission:	2/7/2018 12:07
Processing started:	2/7/2018 12:22
Processing completed:	2/8/2018 02:41
For questions regarding this report, please contact:	EGDMSAnalysts.safetyservices@west.com

Upload Summary:

Agency Layer Name	Total Count	Changed/Added Feature Count	Critical Errors*	Proceeded To Production
AUTHORITATIVE_BOUNDARY	1	1	0	1
FIRE	304	304	133	171
LAW	155	155	55	100
MEDICAL	67	67	20	47
MUNICIPAL_BOUNDARIES	121	121	18	103
PSAP	38	38	13	25
ROAD_CENTERLINES	108,666	108,666	162	108,504
SITE_STRUCTURE_POINTS	349,169	349,169	93	349,158

* These features did not proceed to production, and should be reviewed as soon as possible.

9-1-1 EGDMS GIS Data Upload Report - TX - CSEC		
Validation Error Summary:		
Agency Layer Name	Error Code	Error Count
FIRE	Boundary - Internal - Gap	70
	Boundary - Internal - Overlap	22
	Universal Unique ID duplicate	49
Total		149
LAW	Boundary - Internal - Gap	11
	Boundary - Internal - Overlap	4
	Universal Unique ID duplicate	44
Total		59
MEDICAL	Boundary - Internal - Gap	7
	Boundary - Internal - Overlap	11
	Universal Unique ID duplicate	8
Total		26
MUNICIPAL_BOUNDARIES	Boundary - Internal - Gap	9
	Universal Unique ID duplicate	9
Total		18
PSAP	Boundary - Internal - Gap	6
	Boundary - Internal - Overlap	7
	Universal Unique ID duplicate	2
Total		17
ROAD_CENTERLINES	Address Range Overlap	162
	Geometry Warning	94
	NULL Value	13,897
Total		13,953
SITE_STRUCTURE_POINTS	Attribute Duplicate	10
	Field Constraint	1
	Stacked Duplicate	82
Total		93

NOTE: The above counts represent the total number of errors for each feature class. It is possible for features to have multiple errors thus making these counts higher than the number of error features.

Figure 11: EGDMS Data Upload Summary Reports



Table 1: EGDMS Critical Error Table

Error Name	Error Description
Outside Authoritative Boundary	All or part of the feature falls outside the authoritative boundary
Boundary - Neighbor - Gap	A gap exists between the boundary polygon and an adjacent data source's boundary polygon
Boundary - Internal - Gap	A gap exists between the boundary polygon and another boundary polygon within your database
Boundary - Neighbor - Overlap	The boundary polygon feature overlaps an adjacent data source's boundary polygon
Boundary - Internal - Overlap	The boundary polygon feature overlaps another boundary polygon within your database
Routing URI	The Routing URI is either missing or invalid within the service response boundary polygon
NULL Value	A required attribute is blank or NULL.
Field Constraint	An attribute value is incompatible with the EGDMS database schema and cannot be loaded
Domain Addressing Standard	The attribute value does not match an existing addressing standard value within the parsed street name attributes (pre type, pre directional, street type, post directional)
True Duplicate	The exact feature is duplicated multiple times in the layer - EGDMS deletes the duplicate features, leaving a single record
Attribute Duplicate	The feature's attributes are duplicated in multiple features, but each feature has a unique location - All records are returned as errors and must be corrected to proceed to production
Address Range Overlap	An overlap exists in one or both sides of the address ranges between two connected and identically named street centerline segments.
Street Pointing Wrong Direction	A discrepancy between two identically named and connected street segments where the ending point of one segment is different from the beginning point of the connected segment.
Street Name Parsing	Identifies street names that are potentially not properly parsed, example: the street name field contains street types or street directionals
Low Frequency Street Name	A single address point street name exists (this is only a warning, but oftentimes finds street name spelling/parsing issues)
Address Range Parity	Describes street segments that have a mix of odd and/or even addresses on one particular side of that segment and not indicated accordingly in the Left and Right Parity fields. Street centerlines should only have odd addresses on one side and even addresses on the other.
Unique ID Duplicate	The feature's Unique ID is duplicated within the agency's layer - these are critical errors and must be corrected to proceed to production
Geometry Error	A record exists in the attribute table that is not associated with a geographic feature or the geometry of a feature is in error.
Geometry Warning	A feature had invalid geometry, but that inconsistency was automatically corrected by EGDMS.

- The Vendor shall provide the means for the State to view system and data metrics by means of a web-enabled viewer/dashboard.

Intrado Response: ALTERNATE

Intrado is unable to fully meet this requirement which Intrado interprets as meaning the State is requiring an electronic means to access information and statistics regarding overall project status via an interactive dashboard available using the EGDMS portal. However, Intrado is able to fully meet the requirement via custom generated reports that can be generated in Excel, PDF, CSV, or file geodatabase and can be provided to the 9-1-1 Board and partnering agencies via the method of their choosing (i.e. email, sFTP (MoveIT), etc.). This will allow the 9-1-1 Board, their stakeholders and Intrado to develop custom reports that are specific to the needs of Alabama and that fit the goals of this project, not having to conform to prepackaged reporting that may not meet the specific needs of this project. Dashboard reporting available via the EGDMS portal is a roadmap item that coincides with this requirement and will be considered for a future release of the EGDMS.



- The Vendor shall provide process and usage training of the change management process to the local 9-1-1 entities.

Intrado Response: COMPLY

End user tools and training are tailored to the capabilities of each user across the State that will be responsible for submitting information via a secure web-based portal into a Intrado's EGDMS/SI centralized geodatabase which is standards compliant with NENA i3 GIS standards and ANGEN Systems Service Provider requirements. The EGDMS will then perform GIS data normalization services that support GIS database management, maintenance and transition support to ensure that the location-based call routing capability meets the NENA i3 and NG9-1-1 standards.

Technical training for each GIS data submitting agency will focus on providing a general overview of how to log-in to, navigate and use the EGDMS system, demonstrate how to field map the local GIS data with the EGDMS system, providing an overview of the submittal process, train users in understanding how to interpret error reports, explain how to resolve these errors and conflicts, explain how the EGDMS is performing data integration activities, how to engage directly with i3 GIS Coaches for ongoing support and assistance, as well as the Intrado Network Operations Center (NOC) for technical support.

The i3 GIS Coaches will provide system and tool access and training, GIS data upload assistance, error report interpretation, go-live support, and general consultation and assistance. Work will be done remotely with communication with project stakeholders carried out via phone, email or webinar. i3 GIS Coaches will act as the first point of contact for GIS submitting agencies for questions or requests for assistance and will be available to the GIS submitting agencies through the life of the project. Training on end user tools covers:

- User interface navigation either through the EGDMS portal or GCRS
- GIS data submittal process
- How to interpret error reporting and perform conflict resolution
- Assistance with data integration tasks
- End user performance of ALI-to-GIS comparison reporting
- GIS data remediation assistance
- General NG9-1-1 GIS related questions and consultation

The Vendor shall provide 24x7x365 customer support

Intrado Response: COMPLY

The Intrado Network Operations Center (NOC) provides network and system support for EGDMS. Tickets can be opened via email or phone call. The NOC is available 24x7x365.

The Intrado GIS Operations support team provides GIS-related support for all systems and tools associated with the NG9-1-1 GIS Managed Services described in this proposal are available



weekdays 8:00am – 6:00pm central time. Additionally, Intrado i3 GIS Coaching services provide additional related support for facilitating GIS, E9-1-1 and NG9-1-1 transition questions, advice, recommendations, considerations, services and general assistance.

A team of dedicated i3 GIS coaches will be assigned to the NG9-1-1 GIS Managed Services project and will assist customers in achieving NG9-1-1 GIS data readiness objectives through providing support including but not limited to EGDMS and GCRS system setup and training, how to interpret error reporting, data provisioning assistance, provide advice and recommendations around GIS and/or 9-1-1 database management and coordination between local and regional agencies and telephone service providers when necessary.

Training materials, including the EGDMS and MapSAG User Guides, will be updated as new versions of the systems are released. Additionally, Intrado provides dedicated system training that goes above and beyond the User Guide documentation, and includes NG9-1-1 GIS data management considerations including legacy 9-1-1 to NG9-1-1 transitional considerations.

EGDMS is a business-critical system that meets 99% availability and is hosted in a high availability data center.

Intrado will provide 10 business day notification in advance of a planned EGDMS change event. Please note the following:

- EGDMS changes may occur during business hours
- Access/credentialing application changes are typically scheduled outside of business hours, depending on customer impact
- Notification will be sent prior to any planned event

For EGDMS issues, a ticket will be opened for investigation and will attempt to plan an emergent change for resolution. An incident will be declared should the duration of the problem extend to an unacceptable duration. Incidents will result in notification to the Senior GIS Technical Project Manager and appropriate action and status notifications will be made according to the Intrado Incident Response Plan.

- Vendors shall ensure that GIS corrections are dynamically updated daily to the core routing platform.

Intrado Response: COMPLY

The NG9-1-1 GIS Managed Services proposed include integrating the statewide seamless GIS datasets with the LVF and ECRF systems managed by the ANGEN System Services Provider. This is proposed to take place in two phase with the first phase focusing on Provisioning Boundaries and PSAP Boundaries while the second phase ensures all remaining layers are being properly maintained and provided to the NG9-1-1 core services provider to support NENA i3 compliant geospatial call routing. In both phases the provisioning frequency proposed is daily. Daily provisioning of the EGDMS and subsequently the ANGEN System Services Provider is also illustrated in the Solution Diagram depicted by arrows representing the EGDMS ingress and egress of GIS data along with the provisioning of the LVF and ECRF.



Since the LVF and ECRF systems are supplied by the ANGEN System Services Provider, Intrado will first make all the required GIS data available via a secure FTP (sFTP) connection with changes supplied daily. Following contract award, Intrado will coordinate with the ANGEN System Service Provider to develop short-term and long-term ongoing provisioning plans and methodology for supporting NG9-1-1 geospatial call routing and other downstream operations.

While Intrado works with Alabama to develop long-term plans and processes, Intrado proposes first exporting each required GIS dataset using EGDMS, performing automated feature count and delta detection to verify export functions have been completed properly, then making all required and validated GIS datasets available to the ANGEN System Service Provider via a Secure FTP connection. Changes will be delivered on a daily basis in the form of wholesale geodatabase replacements for each required NG9-1-1 GIS data layer.

Concurrently, Intrado will work with the ANGEN System Service Provider to develop a mutually agreeable technical methodology for long-term geodatabase replication used to support the ongoing and reliable provisioning of the ANGEN System Service Provider's LVF and ECRF, automating processes where appropriate and possible.



Vendors shall describe the entire GIS service process. The description shall include any reference documentation, diagrams or architecture supporting information that ensures that the GIS services meet the specification.

Intrado Response: COMPLY

The diagram below illustrates the NG9-1-1 GIS Managed Services solution and how the data submitting users, systems and tools, i3 GIS Coaches, and data flow all work in unison with ANGEN and the ESInet vendor.

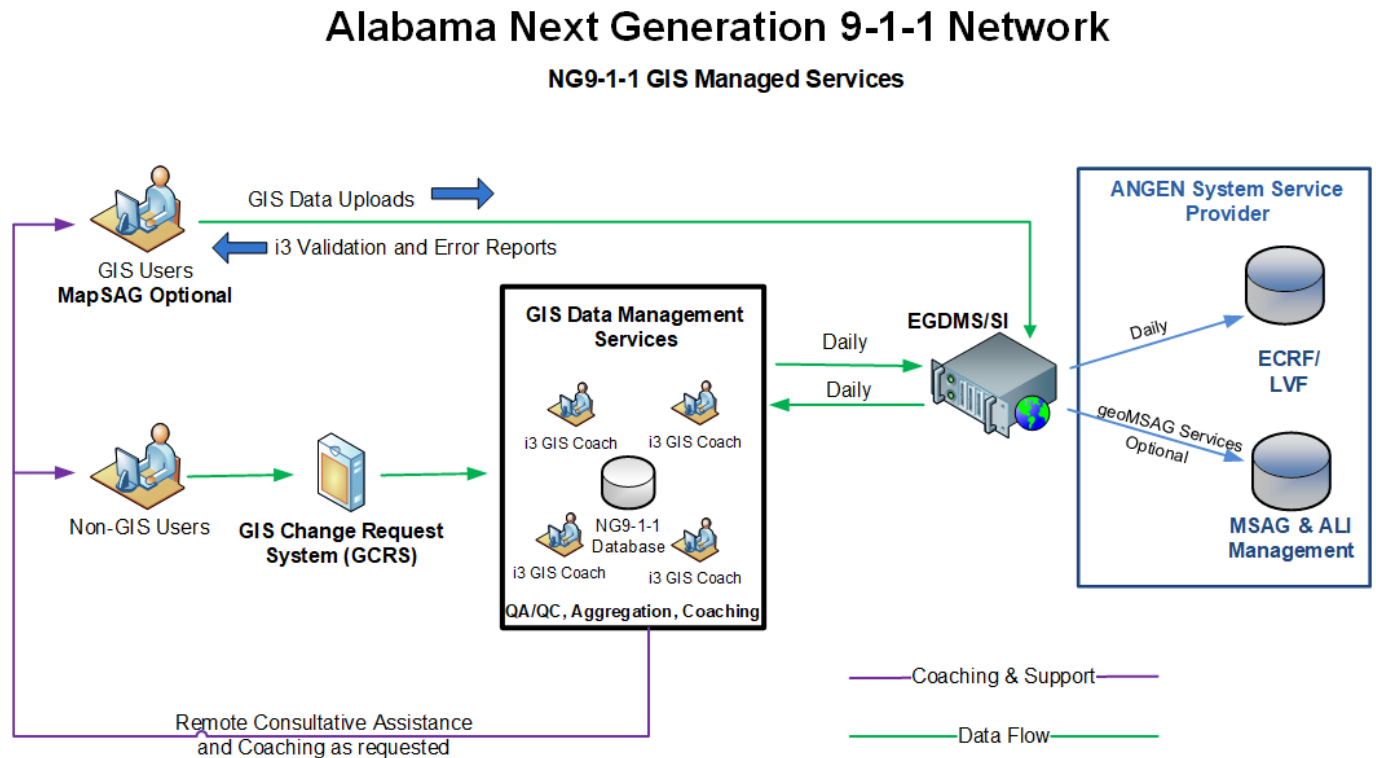


Figure 12: NG9-1-1 GIS Managed Services



4 PROJECT MANAGEMENT

The Vendor shall provide project management and coordination to ensure the success of the overall project. The Vendor shall maintain regular contact with the 9-1-1 board, and the State project management office as well as the NG9-1-1 service provider to configure and implement the geographic (location based) call routing functionality.

Intrado Response: COMPLY

The Intrado Senior GIS Technical Project Manager will be assigned to the 911 Board and provide experienced NG9-1-1 GIS data Project Management services to ultimately ensure the project is successful. Regular contact will be established at the very beginning of the project with the State project management office and ANGEN System Services provider to plan the eventual integration within the NG9-1-1 services provider's network. Ongoing communication will be maintained through routine conference calls, on-site visits, regular status reporting and most importantly, open communication. Primary responsibilities of the Senior GIS Technical Project Manager include oversight of the GIS implementation project plan and schedule, coordinate and manage internal and external resources, communicate status with identified stakeholders, hold regular status meetings, provide monthly progress reporting and monitoring of data submissions and oversight of the overall GIS implementation project.

In addition to any other necessary or suggested project management services, the Vendor will provide the following:

4.1 Single Point of Contact (SPOC)

The Vendor shall assign a single point of contact (SPOC) to serve as the vendor's primary project manager to coordinate all aspects of the project with the 911 Board and the Board's designees. The SPOC will coordinate and work as needed with the NG9-1-1 service provider to ensure deliverables can be utilized for call routing. The SPOC shall remain engaged for the duration of the contract period and only replaced with written approval by the 911 Board. The Board reserves the right of approval of the proposed project manager or any reallocation of project managers for the duration of the contract period.

Intrado Response: COMPLY

The Intrado Senior GIS Technical Project Manager will be assigned to the 911 Board and their approved delegates and serve as the single point of contact. Primary responsibilities include coordinating with the State, other State identified agencies and each of the end users responsible for submitting information and GIS data into the proposed solution. The Senior GIS Technical Project Manager will manage to the GIS implementation project plan and schedule, coordinate, and manage internal and external resources including the ANGEN System Services Provider, communicate status with identified stakeholders, hold regular status meetings, provide monthly progress reporting and monitoring of data submissions and oversight of the overall GIS implementation project.



The Vendor shall provide the name and background of the proposed individual and provide a brief description of the responsibilities of the SPOC. While not required a PMP certified PM is preferred.

Intrado Response: COMPLY

Raymond Horner

Senior Technical GIS Project Manager

Raymond Horner is a Senior Technical GIS Project Manager in the GIS Operations division at Intrado. With over 14 years' experience in the GIS services industry, Raymond has worked with oil and gas companies and state, county and local government agencies on various GIS development and implementation projects. Raymond has worked in the Public Safety GIS industry as a technical project manager for over 9 years. He has managed many statewide NG9-1-1 GIS services projects and works on GIS data processing and provisioning solutions for Intrado's NG9-1-1 systems. Raymond is passionate about emerging location technologies, including indoor and advanced map data.

Mr. Horner has been an active member of various NENA working groups including the NG9-1-1 GIS Data Model Work Group. He has presented at many industry events, including the Esri User Conference and the Texas GIS Forum in 2018 with presentations focusing on GIS data management and the transition to Next Generation 9-1-1.

Vendors shall include a named resource as the single point of contact and provide a description of their experience and responsibilities.

Intrado Response: COMPLY

Raymond Horner

Senior Technical GIS Project Manager, Intrado GIS Operations

Professional Experience

Sr. Technical Project Manager, GIS Operations July 2011 to Present

West Safety Services

- GIS Project Manager – State of Nebraska, NG9-1-1 GIS Managed Services
- GIS Project Manager – State of Virginia, NG9-1-1 GIS Onboarding
- GIS Project Manager – State of Delaware NG9-1-1 Deployment
- Project Manager – State of Kansas NG9-1-1 Deployment
- Project Manager – State of New Mexico Enterprise Geospatial Database Management System
- Project Manager – New York State Street Address Mapping (SAM) Project
- Project Manager – HGAC MapSAG installations, wireless accuracy testing, GIS services



- Project Manager – Texas Commission on State Emergency Communications Enterprise Geospatial Database Management System - NG9-1-1 pilot project
- Provide 9-1-1 GIS, workflow, and software training and technical customer assistance

Project/Product Manager January 2011 to June 2011

Contact One, Inc. (West Acquired Contact One, Inc.)

- Responsible for CSEC EGDMS project planning and contract negotiation
- MapFlex 911 Product Manager

Business Development/Sales/GIS Project Manager July 2006 to January 2010

OGInfo.com, LLC

- Oil and Gas client relations and account management
- Project requirements assessment, project development, implementation and management
- GIS design including online GIS deployment, paper and digital product delivery
- Project Management, detailed instruction for bulk GIS outsourcing projects
- Sales and Customer Service for County Appraisal Districts
- GIS data analysis and quality control
- Customer GIS training

Education

University of Texas at Austin

Bachelor of Arts in Geography

Project Responsibilities

The Senior GIS Technical Project Manager is responsible for collaborating and coordinating with the State, other State identified agencies and each of the end users responsible for submitting information and GIS data into the proposed solution. The Senior GIS Technical Project Manager will manage to the GIS implementation project plan and schedule, coordinate, and manage internal and external resources including the ANGEN System Services Provider, communicate status with identified stakeholders, hold regular status meetings, provide monthly progress reporting and monitoring of data submissions and oversight of the overall GIS implementation project.



4.2 Project Kick-off Meeting

The Vendor shall coordinate a project kick-off meeting with 911 Board representatives and additional project stakeholders as necessary. The Vendor's project manager shall attend the kick-off meeting in person at the Boards designated meeting point.

Intrado Response: COMPLY

Intrado will coordinate an on-site project kickoff meeting with State of Alabama 9-1-1 Board representatives and project stakeholders at the very beginning of the project. The Senior GIS Technical Project Manager along with 2 key members of Intrado project delivery team will be present at the kickoff meeting and come prepared to cover the items described in the following requirement.

The project kick-off meeting shall serve as a session with the entire team to communicate the project objectives and distribute a firm action plan.

Intrado Response: COMPLY

The on-site kickoff meeting will include:

- A presentation to review the project goals and objectives, project plan, methodologies, deliverables, and project schedule
- Introduce Intrado's Project Management and Delivery team
- Review the project's scope, definition, and objectives
- Review the high-level timeline, milestones, and roles
- Review the project deliverables
- Review challenges
- Describe the next steps to be taken

Key members of Intrado project delivery team will be present at the kickoff meeting. In addition, any necessary members of the dedicated project delivery team will attend the kickoff via webinar or conference call. The objective and outcome of the on-site project meeting will be clear expectations set around project approach, goals, milestones and schedule.



Vendors shall conduct a project kick-off meeting to outline the project action plan, assign areas of responsibilities, and create a common understanding of the project outcomes and schedules. All potential stakeholders must be identified, and every effort made by the vendor to conduct the kick-off to accommodate the stakeholders. Based upon the vendor's prior experience, scope of work, and size of the State the vendor will provide a "best effort" action plan here.

Intrado Response: COMPLY

Intrado will work closely with the State to schedule the on-site kickoff meeting in a manner that attempts to include as many project stakeholders as possible to optimize project communications and understanding right out of the gate. One of the main objectives coming from the kickoff meeting will be agreement around an actionable project plan that has clear milestones, tasks and timing identified. In addition, the on-site project kickoff meeting will include:

- A presentation to review the project goals and objectives, project plan, methodologies, deliverables, and project schedule
- Introduce Intrado's Project Management and Delivery team
- Review the project's scope, definition, and objectives
- Review the high-level timeline, milestones, and roles
- Review the project deliverables
- Review challenges
- Describe the next steps to be taken



4.3 Project Planning

The Vendor shall develop a project management plan that will be tailored to the specifications for NG9-1-1 implementation of this effort. With numerous stakeholders and parallel projects/activities in flight proper scoping, scheduling, communications and risk management will be paramount. At a minimum the vendor will provide the following management plans:

- **Scope Management Plan** (Includes: WBS development process, deliverable acceptance process)
- **Communications Management Plan** (Includes: Stakeholder Register, Stakeholder Communication Specifications, Communications Schedule)
- **Schedule Management Plan** (Includes: Performance Measurements Approach (i.e. Schedule Variance, Schedule Performance Index),
- **Change Management Plan**
- **Risk Management Plan** (Includes: Risk Assessment and Mitigation Methodology, Roles & Responsibility, and Timing of Risk Management activities)

Intrado Response: **COMPLY**

Intrado's Project Planning Approach

Intrado's project planning approach is to implement a carefully-planned and organized effort to accomplish the project goals and requirements within the committed timeframe and the project budget. Intrado will develop a detailed Statement of Work, including a project implementation schedule, which will become the foundation of and clearly define the project.

Well-defined project goals and objectives are set at the beginning of the project. Each task is specified and described in terms of how the requirements will be achieved, skillsets and resources are identified based on the project needs, and timelines are identified for each task and the overall project completion. The project plans also include careful controls to effectively manage the project to the plan.

These steps are described in detail below. This diagram illustrates the overall project cycles and their dependencies.

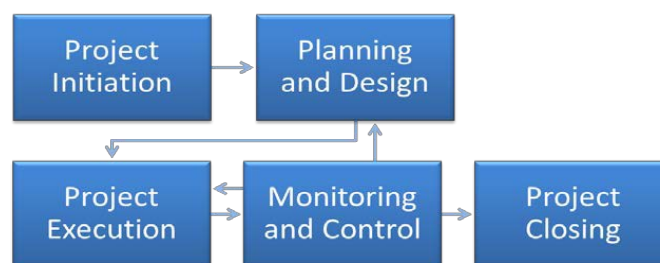


Figure 13: Intrado's Project Planning Steps



Project Initiation (Requirements Gathering and Analysis)

Intrado will utilize the detailed project specifications and work with the 9-1-1 Board to develop a Project Plan. The Initiation stage is a detailed work effort and follows the steps outlined below:

- Communication with State, PSAP, and GIS data submission personnel for the project
- Development of the Project Plan, including tasks, deliverables, and schedule
- Identify any additional data needs and other requirements
- Review and finalize the overall Project Plan

A project plan has been developed in accordance with the proposed project approach and identified the milestones and supporting tasks and activities along with estimated timeframes for each. This is the project plan that will be presented to the 9-1-1 Board and their constituents during the On-Site Project Kickoff meeting and used as the basis for executing project deliverables against during the implementation of Phase 1 and Phase 2 activities. The tables below show the project steps by phase, the expected start date, and the duration of each step. A complete copy is also provided as an attachment to this proposal.

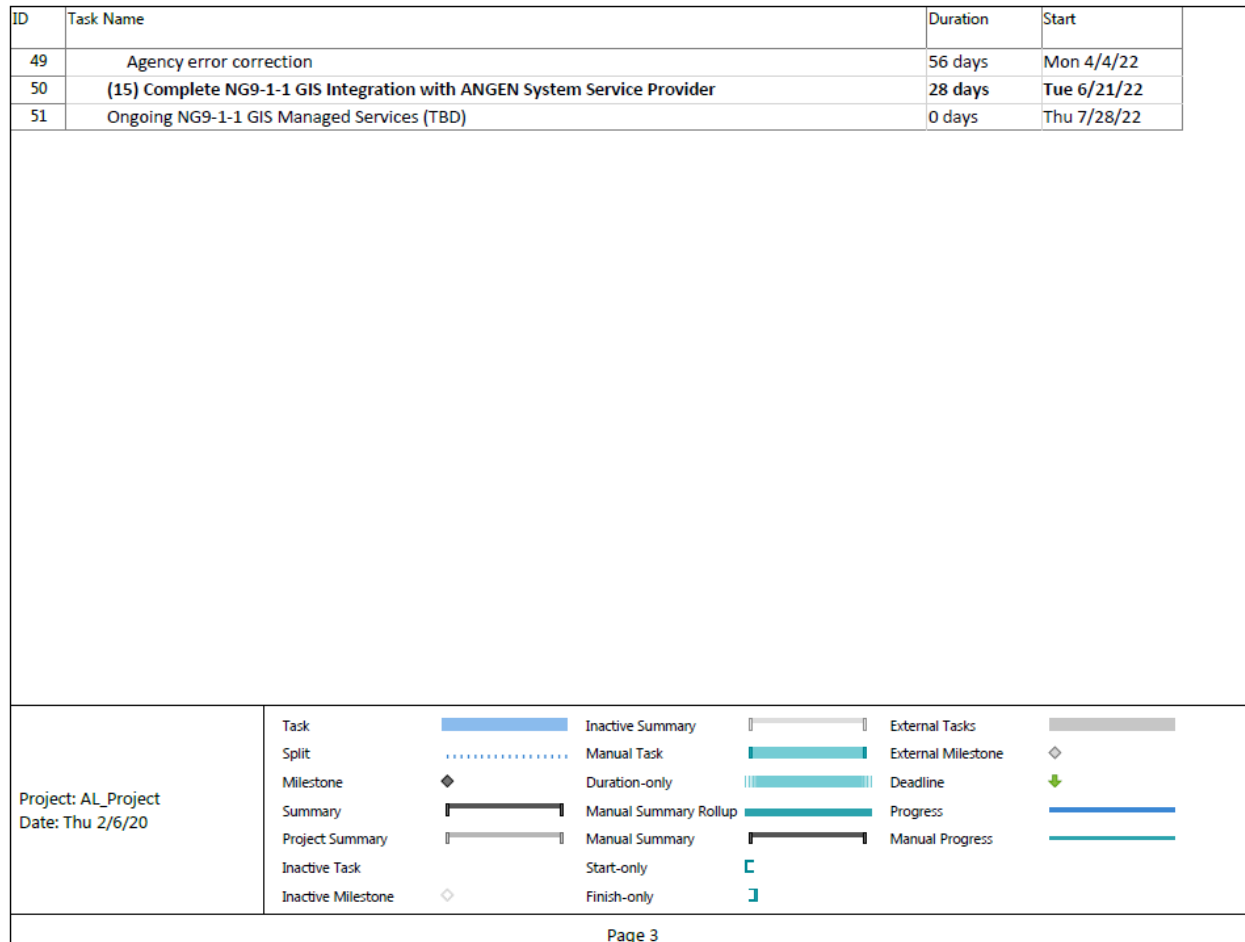
ID	Task Name	Duration	Start
1	Phase 1	192 days	Wed 7/1/20
2	Prepare detailed draft project plan	7 days	Wed 7/1/20
3	Prepare QA/QC Procedures and Workflow Development plans	7 days	Fri 7/10/20
4	Prepare Preliminary Status Reporting formats	7 days	Tue 7/21/20
5	Prepare for On-Site Kickoff Meeting	7 days	Thu 7/30/20
6	(1) On-Site Project Kickoff Meeting	3 days	Mon 8/10/20
7	(2) QA/QC Procedures, Workflow and Project Plan approval	0 days	Wed 8/12/20
8	Prepare and Deliver Stakeholder and Participant Communication	14 days	Thu 8/13/20
9	Identify Project Participants, User Types and Roles	14 days	Thu 8/13/20
10	Participant Setup, Systems Access and Installation	28 days	Thu 8/13/20
11	Prepare for and schedule 4 Regional Training Sessions	14 days	Thu 8/13/20
12	(3) Regional Training Sessions complete – Phase 1	0 days	Tue 9/1/20
13	(4) PSAP and Provisioning Boundary Submission, Error Correction, and Aggregation	21 days	Wed 9/2/20
14	i3 GIS coaching and assistance	21 days	Wed 9/2/20
15	Agency error correction	21 days	Wed 9/2/20
16	(5) PSAP and Provisioning Boundary Seamless Assimilation Activities	42 days	Thu 10/1/20
17	Boundary conflict resolution	42 days	Thu 10/1/20
18	Agency error correction	42 days	Thu 10/1/20
19	ALI records obtainment	14 days	Thu 10/1/20
20	(6) All Regions Providing PSAP & Provisioning Boundary uploads	0 days	Fri 11/27/20
21	Status reporting begins	0 days	Fri 11/27/20
22	(7) Pre-Geospatial PSAP Routing Accuracy Reporting	56 days	Mon 11/30/20
23	i3 GIS coaching and assistance	56 days	Mon 11/30/20
24	Agency error correction	56 days	Mon 11/30/20

Project: AL_Project Date: Thu 2/6/20	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			



ID	Task Name	Duration	Start
25	Establish short term LVF/ECRF provisioning methodology	7 days	Mon 11/30/20
26	(8) PSAP & Provisioning Boundary Integration with ANGEN System Service Provider	28 days	Tue 2/16/21
27	Phase 2	350 days	Fri 3/26/21
28	Stage 1	238 days	Fri 3/26/21
29	Prepare for and schedule 4 Regional Training Sessions	14 days	Fri 3/26/21
30	(9) Regional Training Sessions complete – Phase 2	0 days	Wed 4/14/21
31	(10) Roads, Address Points, ESZ Boundary Submission, Error Correction, and Aggregation	56 days	Thu 4/15/21
32	i3 GIS coaching and assistance	56 days	Thu 4/15/21
33	Agency error correction	56 days	Thu 4/15/21
34	(11) All Regions Providing Roads, Address Points and ESZ Boundaries	0 days	Thu 7/1/21
35	(12) Roads, Address Points, ESZ Boundary Seamless Assimilation Activities	84 days	Fri 7/2/21
36	i3 GIS coaching and assistance	84 days	Fri 7/2/21
37	Agency error correction	84 days	Fri 7/2/21
38	(13) NG9-1-1 GIS Data Assessment Reports and Readouts	84 days	Thu 10/28/21
39	Gather data and perform analysis	7 days	Thu 10/28/21
40	Generate reports	84 days	Thu 10/28/21
41	Agency readouts	28 days	Thu 10/28/21
42	Stage 2	112 days	Wed 2/23/22
43	(14) ALI and MSAG to GIS Synchronization	84 days	Wed 2/23/22
44	ALI records obtainment	14 days	Wed 2/23/22
45	Perform comparisons	14 days	Wed 2/23/22
46	Generate reports	14 days	Wed 2/23/22
47	Agency readouts	14 days	Tue 3/15/22
48	i3 GIS coaching and assistance	56 days	Mon 4/4/22

Project: AL_Project Date: Thu 2/6/20	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			
Page 2						



Page 3

Figure 14: Project Plan - Tasks, Duration, Key Dates



Project Planning and Design

The Planning and Design phase will start in parallel with the Initiation phase. At this stage, controls will be in place to confirm the final deliverables meet the specifications outlined in the Project Plan and are consistent with the proposed products and services. The result of the Project Planning and Design stage includes:

- Definition of process and procedures
- Execution of project plan
- Set up the infrastructure required to complete the project at Intrado facilities

This is also the step where project scoping, scheduling, establishing communications protocol and methodology as well as managing risk. As part of the project planning process, and will be delivered to the 9-1-1 Board with the accompanying Project Plan, are the following project management plans:

- Scope Management Plan
 - Including delivery acceptance and a breakdown of the work activities associated with all project Milestones
- Communications Management Plan
 - Including a stakeholder register, communications plan and schedule
- Schedule Management Plan
 - Including a performance measurement approach with schedule variance and performance index
- Change Management Plan
 - Including a mutually agreed upon change management approach to manage potential changes in scope or project requirements
- Risk Management Plan
 - Including a risk assessment and mitigation plan, roles and responsibilities matrix along with the timing associated with the potential risk mitigation activities.

Project Execution

The project is broken down into several distinct phases so that Intrado project team members can work on the project both independently and collaboratively to accomplish the project goals.

Monitoring and Control

Monitoring and Control consists of processes to observe project execution so that potential problems can be identified in a timely manner and corrective action can be taken to control the execution of the overall project.



Project Wrap-up/Closing

At the conclusion of the project, all deliverables will be met, the 911 Board will have reviewed the data for accuracy and conformance to this proposal, and any outstanding issues will have been resolved by Intrado.

Project Meetings

Intrado will coordinate a project kickoff meeting with the 911 Board and project stakeholders at the beginning of the project. The kickoff meeting will include:

- A presentation to review the project goals and objectives, project plan, methodologies, deliverables, and project schedule
- Introduce Intrado's Project Management team
- Review the project's scope, definition, and objectives
- Review the high-level timeline, milestones, and roles
- Review the project deliverables
- Review challenges
- Describe the next steps to be taken

Key members of Intrado project delivery team will be present at the kickoff meeting.

In addition, the Senior GIS Technical Project Manager and any necessary key staff will attend any progress meetings via conference call.

In order to properly execute and control the project and in conjunction with the previous question the vendor shall address each bulleted plan above detailing the deliverables in each plan and explaining how they will be achieved. In addition, the vendor will provide the following project management documentation:

- Risk Register (Includes: Prioritized Risk List, Risk Response Strategies, and Risk Owners)
- Project Schedule with Critical Path(s) Identification
- Work Breakdown Structure

Intrado Response: COMPLY

Intrado will implement the following plans within the Project Management Plan throughout the execution of the project.

Scope Management Plan

This will be achieved by developing a comprehensive list of every single work activity and their associated Milestones and from this list identify the deliverables that need to be accepted by the 9-1-1 Board, along with the acceptance criteria for each. Intrado and the



9-1-1 Board will mutually agree upon the acceptance process during contract negotiations or the On-Site Project Kickoff meeting.

Communications Management Plan

This will be achieved by working closely with the State and 9-1-1 Board to identify all participating stakeholder agencies and develop a comprehensive register that will be used as the basis of determining the recipients of project communication and status readouts. In addition and included in the stakeholder registry will be the frequency and type of communication required for each stakeholder along with an outline of the content to be included in each communication. Most communication will come from the Senior GIS Technical Project Manager.

Schedule Management Plan

This will be achieved by using the deliverables identified in the Scope Management Plan for the Senior GIS Technical Project Manager to develop performance criteria tied to each project Milestone, criteria for the level of performance achieved by using a performance matrix that will also identify variances in project schedule.

Change Management Plan

Intrado has a well-established change management process to accommodate situation in which there is a potential change in scope or project requirements. The Intrado change management process will be presented to the 9-1-1 Board then mutually agreed upon during project startup activities.

Risk Management Plan

This will be achieved by the Senior GIS Technical Project Manager developing a comprehensive list of potential risks, reviewing with the 9-1-1 Board and identified stakeholders to ensure all risk is identified. Then a mitigation plan will be developed to address each risk, with assigned owners, then again reviewed with the Board for final approval.

In addition, Intrado will provide the following project management documentation with a brief description of what will be included with each:

Risk Register

Includes a prioritized list of risks, mitigation approaches and assigned owners.

Project Schedule with Critical Path(s) Identification

Includes a Microsoft project plan describing each work task, milestone, and their timeframes illustrated. Project milestones are considered the Critical Path items for this project and will be reflected in the project plan.

Work Breakdown Structure

Includes a separate work breakdown structure (WBS) for the tasks identified in the project plan.



4.4 Project Status Reporting

The Vendor shall prepare weekly progress/milestone reports for the Board, until otherwise advised. To ensure on-going communications, project planning and overall awareness of progress, project status reports shall include project progress, milestone achievement and status updates. The project status reports shall include references to any Board responsibilities, upcoming major task elements, deliverables and applicable quality assurance/quality control (QA/QC) metrics. The Vendor shall include a final QC report at the conclusion of the project.

Intrado Response: COMPLY

One month after contract start, the Senior GIS Technical Project Manager will begin supplying weekly progress reports to the 9-1-1 Board until they deem a monthly status reporting cadence will suffice. The weekly report will be provided to the Board representing all participating agencies, before and after statistics, accuracy statistics, milestone achievements, and any major items needing to be jointly addressed. Reports will also indicate any responsibilities of the Board, identify upcoming major work tasks or deliverables. After Phase 2 activities have completed, a comprehensive summary report will be supplied to the State that shows before and after statistics along with a comprehensive snapshot report of the current QA/QC metrics for each agency and the state in aggregate.

As the project progresses from Phase 1 and through the 2 stages within Phase 2, reporting will reflect the increase in work activities to eventually include all status readouts for each project milestone.

In addition, each EGDMS submitting agency receives automated reporting upon each GIS data submission and can access the information specific to their agency on demand/ at any time, including upload history reporting, using the EGDMS portal. EGDMS reporting available to each agency across the State illustrates and provides them with the information needed to understand progress made in achieving State and NENA accuracy recommendations and requirements, and specifically what areas may require their focus and attention.

The vendor will participate in update status teleconferences at the discretion of the Board. The vendor will also provide update status oral reports to the Board in person up to 3 times during the span of the implementation.

Intrado Response: COMPLY

The Senior Technical GIS Project Manager is responsible for status reporting to the 9-1-1 Board, their identified stakeholders and all the participating agencies. The status reporting framework, recipients of different reporting and associated frequency is described in the requirement below. It is the responsibility of the Senior Technical GIS Project Manager to highlight important achievements and issues that may introduce potential project delays and make sure the recipients understand project status and milestone achievement. At the Board's discretion, the Senior Technical GIS Project Manager will attend teleconferences to provide project status updates and answer questions. They will also provide in-person status updates to



be delivered to the Board, at a location determined by the Board, in a presentation format up to 3 times during Phase 1 and Phase 2 implementation.

Vendors shall describe the Project status reporting framework and provide any samples necessary to adequately assess the response.

Intrado Response: COMPLY

Intrado will provide the 9-1-1 Board along with their identified stakeholder agencies such as the ANGEN System Services provider and/or the State Project Management office, initially with weekly followed by monthly status reports showing conceptual and statistical progress made throughout the 2 phases of the GIS integration project that will reflect milestones accomplished, upcoming major task elements, upcoming milestones and deliverables, State of Alabama responsibilities, monitoring statistics of agency uploads and quality QC metrics.

In addition, each EGDMS submitting agency receives automated reporting upon each GIS data submission and can access the information specific to their agency on demand/ at any time, including upload history reporting, using the EGDMS portal. EGDMS reporting available to each agency across the State illustrates and provides them with the information needed to understand progress made in achieving State and NENA accuracy recommendations and requirements, and specifically what areas may require their focus and attention. A copy of an EGDMS GIS Data Upload Report is included in Intrado's proposal to help illustrate the level of detail provided to each agency.

The EGDMS Data Upload Report is included as an attachment to this proposal.



ATTACHMENT 1 – OPTIONAL GEOMSAG MANAGEMENT SERVICES

Optional NG9-1-1 geoMSAG Management Services

As described in this proposal, the following services fall outside the scope of the currently-proposed solution but Intrado would be pleased to discuss these additional NG9-1-1 GIS managed services and pricing for them during the evaluation of this proposal or following award of the RFP.

NG9-1-1 geoMSAG Management Services significantly reduce the amount of work performed by 9-1-1 coordinators and GIS Authorities that make frequent edits to their GIS data by updating the Master Street Address Guide (MSAG) using the GIS data as the source. NG9-1-1 geoMSAG Management Services provide the State with the tools to upload GIS Road Centerline (RCL) GIS datasets into the EGDMS web portal and changes within the RCL data are identified automatically and applicable updates to the geoMSAG are made then provided to the ALI/MSAG databased provider.

NG9-1-1 geoMSAG Management Services can be purchased either as a one-time service including the replacement of the existing MSAG with a GIS-based MSAG (“geoMSAG”), or as an ongoing service that delivers geoMSAG synchronization maintenance as changes to the GIS data are made and received from each GIS submitting agency.

These services are currently provided as part of Intrado's Transitional Data Management Services (TDMS), which is a critical element of the optionally proposed NG9-1-1 geoMSAG Management Services. As such, Figure 14 in this section will refer to TDMS. Please note the TDMS workflows depicted in Figure 14 assume Intrado is providing the ALI database management services either directly or through partnership with an OSP. As a result, Intrado wants to use this as an opportunity to clarify that any reference to replacing the MSAG with the geoMSAG is intended to be the responsibility of the ALI services provider who Intrado assumes is one in the same as the ANGEN System Services Provider.

NG9-1-1 geoMSAG Replacement Services

GIS-Based MSAG Replacement Services (“geoMSAG Services”) provide 9-1-1 and GIS Authorities with the following services and deliverables:

- One GIS RCL-to-ALI data match rate report
- Validations of the RCL layer with a corresponding critical error report
- Creation of a geoMSAG load file from customer-provided GIS RCL data once an agreed upon RCL-to-ALI data match rate had been reached (NENA recommends a 98% or greater match rate) to support ALI simulation
 - If geoMSAG build errors are encountered, each agency will have the opportunity to resolve appropriate errors within its GIS data if and as appropriate
- Perform ALI simulation to identify discrepancies between the newly-created geoMSAG and ALI records



- Intrado will provide the discrepancies between the geoMSAG and ALI data to the State and each agency
- Each agency will then update the GIS data and work with the ALI services provider to resolve any discrepancies
- After all comparison and simulation testing outputs result in either the recommended 98% or greater match rate between the ALI and geoMSAG or an agreed-to match rate is achieved, Intrado will deliver a clean geoMSAG to the ALI service provider to replace existing tabular MSAG.

TDMS Turn-Up Process and Key Milestones

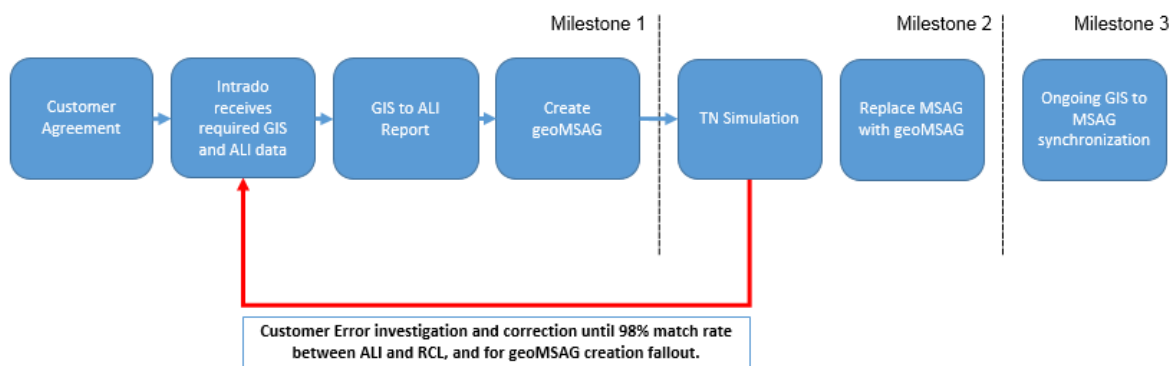


Figure 15: TDMS Turn-Up Process and Key Milestones

Ongoing NG9-1-1 geoMSAG Management Services

Once the legacy MSAG has been replaced with the geoMSAG, the authoritative GIS source data can be used exclusively to drive changes to the geoMSAG.

Ongoing services provide the State with access to purpose-built tools and portals to upload and validate RCL data and to identify and report GIS data discrepancies for error resolution.

Ongoing services enable 9-1-1 address validation and management to be performed against the geoMSAG, which can be updated as often as changes are made to the underlying RCL data. Following the completion of the one-time geoMSAG replacement, the RCL data becomes the master data set and tabular MSAGs are derived from the RCL data, going forward.

Following the successful replacement of the MSAG with the new geoMSAG, ongoing GIS to MSAG synchronization will be performed using EGDMS. The GIS data is used exclusively to drive the tabular MSAG, converted into geoMSAGs delta files on a per agency basis, then provided to the ALI services provider daily.

Ongoing services include ongoing GIS validation services and ongoing geoMSAG processing services. Once implemented, each agency will no longer use MSAG CRs for making MSAG updates and instead make updates to the geoMSAG by submitting RCL updates using EGDMS.



Ongoing NG9-1-1 geoMSAG Management Services are provided to GIS Authorities responsible for managing the jurisdiction's GIS data after the geoMSAG Replacement Service has first completed. Ongoing service billing is based on the population to be serviced by the GIS Authority. In the event Intrado is contracted to provide ongoing TDMS to multiple GIS Authorities billed to a single entity, pricing is not based on the aggregate population of the entity to be billed but will be calculated for each individual GIS Authority Intrado has engaged to deliver TDMS based on the population serviced by each GIS Authority.

Ongoing NG9-1-1 geoMSAG Management Services follows the steps outlined below.

1. Agency submits RCL data to EGDMS
2. EGDMS performs validations on the RCL data
3. EGDMS delivers critical error reports and GIS data representing errors (shapefiles) and each agency corrects critical errors in RCL and resubmits to EGDMS
4. Once RCLs are critical error free, geoMSAG delta files are generated daily and made available to the ALI services provider via a secure file transfer system called MoveIT

Using this process ensure the GIS and 9-1-1 data are in complete synchronization and eliminate the need for each agency to maintain two disparate databases (MSAG and RCL) and spend the time and effort to keep them synchronized.

Data Requirements for the Implementation of NG9-1-1 geoMSAG Management Services

Implementation of services, including geoMSAG replacement and ongoing NG9-1-1 geoMSAG Management Services, requires the following:

- ALI data must be managed by Intrado or a NG9-1-1 system provider partnered with Intrado
- A mutually agreed to ALI and RCL data match rate is to be achieved, prior to NG9-1-1 solution going live, as a condition of implementation
- Intrado requires that all EGDMS critical errors be resolved within the RCL feature class
- The State's GIS data must contain the required data fields and attributes
 - Please refer to the table in the next section for a list of required fields and attribute examples
- The geographic area covered by the RCL data must be equal to or larger than the area covered by the MSAG
 - MSAG records not covered by the RCL data will be omitted from the geoMSAG product or other derived products



Road Centerline (RCL) Fields Required for geoMSAG Replacement

The table below includes the required RCL fields for geoMSAG replacement and ongoing NG9-1-1 geoMSAG Management Services.

Please note this list includes only those fields required for the implementation of NG9-1-1 geoMSAG Management Services and the geoMSAG replacement; it does not include all i3/NG9-1-1 required fields.

Table 2: RCL Fields Required for geoMSAG Replacement

Descriptive Name	Example	Type
RCL Unique ID	13575@county.st.us	A
Left From Address	101	N
Left To Address	199	N
Right From Address	102	N
Right To Address	198	N
Street Name Pre Directional*	S	A
Street Name*	Main	A
Street Name Post Type*	ST	A
Street Post Directional*	N	A
ESN Left	356	A
ESN Right	356	A
MSAG Community Name Left	Smithville	A
MSAG Community Name Right	Smithville	A

*Street name elements should be parsed and abbreviated to match existing / legacy ALI and MSAG format.

A = Alphanumeric text / string field

N = Number field

Note: For ongoing services, if any of the fields listed above or associated attributes are not available in the RCL data, Intrado can discuss options and alternatives available to the State.



ATTACHMENT 2 – EGDMS DATA UPLOAD REPORT

A copy of Intrado's EGDMS GIS Data Upload Report is included in this proposal and begins on the following page.



9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

Date and Time of Data Submission: 2/7/2018 12:07
 Processing started: 2/7/2018 12:22
 Processing completed: 2/8/2018 02:41
 For questions regarding this report, please contact: EGDMSAnalysts.safetyservices@west.com

Upload Summary:

Agency Layer Name	Total Count	Changed/Added Feature Count	Critical Errors*	Proceeded To Production
AUTHORITATIVE_BOUNDARY	1	1	0	1
FIRE	304	304	133	171
LAW	155	155	55	100
MEDICAL	67	67	20	47
MUNICIPAL_BOUNDARIES	121	121	18	103
PSAP	38	38	13	25
ROAD_CENTERLINES	108,666	108,666	162	108,504
SITE_STRUCTURE_POINTS	349,169	349,169	93	349,158

* These features did not proceed to production, and should be reviewed as soon as possible.

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

QAQC Validations

The following validations are performed within the 9-1-1EGDMS. Errors should be corrected within your local GIS data and resubmitted on a regular basis. Please contact your West GIS analyst team with any questions.

Validations for all layers:

- Compare the schema and data structure and properties of the source dataset with the schema and properties of the master database and report discrepancies in the EGDMS Field Mapping Tool
- Database Field Constraint
- All Features fall within the Authoritative Boundary
- Duplicate Feature Detection
- Unique ID Validation (if provided)
- Values are present for required attributes
- Remove features with NULL geometry
- Repair features with bad geometry

Boundary Layer (Authoritative Boundary, PSAP, Fire, Law, EMS)

- Polygon gap/overlap validation (For errors involving multiple agencies, participants must work with neighbor agencies to resolve issues. All polygon gap/overlap issues must be corrected prior to provisioning data to the ECRF/LVF.)
- Routing URI populated and valid

Street Centerlines

- Address Range Overlap Issues

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Error Code Descriptions

Below are descriptions of the validation errors used in this report:

Critical Errors

Error Name	Error Description
Outside Authoritative Boundary	All or part of the feature falls outside the authoritative boundary
Boundary - Neighbor - Gap	A gap exists between the boundary polygon and an adjacent data source's boundary polygon
Boundary - Internal - Gap	A gap exists between the boundary polygon and another boundary polygon within your database
Boundary - Neighbor - Overlap	The boundary polygon feature overlaps an adjacent data source's boundary polygon
Boundary - Internal - Overlap	The boundary polygon feature overlaps another boundary polygon within your database
Routing URI	The Routing URI is either missing or invalid within the service response boundary polygon
Field Constraint	An attribute value is incompatible with the EGDMS database schema and cannot be loaded
True Duplicate	The exact feature is duplicated multiple times in the layer - EGDMS deletes the duplicate features, leaving a single record
Attribute Duplicate	The feature's attributes are duplicated in multiple features, but each feature has a unique location - All records are returned as errors and must be corrected to proceed to production
Address Range Overlap	An overlap exists in one or both sides of the address ranges between two connected and identically named street centerline segments.
Unique ID Duplicate	The feature's Unique ID is duplicated within the agency's layer - these are critical errors and must be corrected to proceed to production
Geometry Error	A record exists in the attribute table that is not associated with a geographic feature or the geometry of a feature is in error.
NULL Value Critical	NULL value for a critical field

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Non-Critical Errors

Error Name	Error Description
NULL Value	A required attribute is blank or NULL.
Domain Addressing Standard	The attribute value does not match an existing addressing standard value within the parsed street name attributes (pre type, pre directional, street type, post directional)
Street Pointing Wrong Direction	A discrepancy between two identically named and connected street segments where the ending point of one segment is different from the beginning point of the connected segment.
Street Name Parsing	Identifies street names that are potentially not properly parsed, example: the street name field contains street types or street directionals
Low Frequency Street Name	A single address point street name exists (this is only a warning, but oftentimes finds street name spelling/parsing issues)
Address Range Parity	Describes street segments that have a mix of odd and/or even addresses on one particular side of that segment and not indicated accordingly in the Left and Right Parity fields. Street centerlines should only have odd addresses on one side and even addresses on the other.
Geometry Warning	A feature had invalid geometry, but that inconsistency was automatically corrected by EGDMS.
Invalid Date	Indicates that the value of the date field was invalid - replaced with current date.

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Validation Error Summary:

Agency Layer Name	Error Code	Error Count
FIRE	Boundary - Internal - Gap	78
	Boundary - Internal - Overlap	22
	Universal Unique ID duplicate	49
	Total	149
LAW	Boundary - Internal - Gap	11
	Boundary - Internal - Overlap	4
	Universal Unique ID duplicate	44
	Total	59
MEDICAL	Boundary - Internal - Gap	7
	Boundary - Internal - Overlap	11
	Universal Unique ID duplicate	8
	Total	26
MUNICIPAL_BOUNDARIES	Boundary - Internal - Gap	9
	Universal Unique ID duplicate	9
	Total	18
PSAP	Boundary - Internal - Gap	8
	Boundary - Internal - Overlap	7
	Universal Unique ID duplicate	2
	Total	17
ROAD_CENTERLINES	Address Range Overlap	162
	Geometry Warning	94
	NULL Value	13,697
	Total	13,953
SITE_STRUCTURE_POINTS	Attribute Duplicate	10
	Field Constraint	1
	Stacked Duplicate	82
	Total	93

NOTE: The above counts represent the total number of errors for each feature class. It is possible for features to have multiple errors thus making these counts higher than the number of error features.

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Validation Error Details:

Address Points:

Indicates Critical Errors (did not proceed to production).

Error Type	Reason	Count
Field Constraint	Field Validation Failed - Cannot convert GC_EXCEPTION to nvarchar: PERMITS_29000\P29000\P29087.PD	1
Attribute Duplicate	Attribute Duplicate, Unique Geometry	10
Stacked Duplicate	Attribute Duplicate, Stacked Features	82

Streets:

Indicates Critical Errors (did not proceed to production).

Error Type	Reason	Count
Address Range Overlap	Address Range Overlap	162
Geometry Warning	Geometry Fails OGC warning	94
NULL Value	Not Null Failed - LeftFromAddress	4231
	Not Null Failed - LeftToAddress	4231
	Not Null Failed - RightFromAddress	2618
	Not Null Failed - RightToAddress	2617

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Fire:

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_1 @ROBERTSON. BVCOG. TX	FRANKLIN	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_1 @ROBERTSON. BVCOG. TX	FRANKLIN	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_1 @ROBERTSON. BVCOG. TX	FRANKLIN	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_10 00016 @NAC OGDOC HES.DE TCOG.T X	MELROSE VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_10 00016 @NAC OGDOC HES.DE TCOG.T X	MELROSE VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_10 00016 @NAC OGDOC HES.DE TCOG.T X	MELROSE VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_10 00021 @NAC OGDOC HES.DE TCOG.T X	SOUTH NACOGDOCHE S VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_10 00021 @NAC OGDOC HES.DE TCOG.T X	SOUTH NACOGDOCHE S VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_10 00021 @NAC OGDOC HES.DE TCOG.T X	SOUTH NACOGDOCHE S VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
GUADA LUPE_N ATIONA L_PARK _FIRE_S ERVICE @RGCO G.ORG	GUADALUPE NATIONAL PARK FIRE SERVICE	GUADALUPE NATIONAL PARK FIRE SERVICE			432-283-2060	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
GUADA LUPE_N ATIONA L_PARK _FIRE_S ERVICE @RGCO G.ORG	GUADALUPE NATIONAL PARK FIRE SERVICE	GUADALUPE NATIONAL PARK FIRE SERVICE				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 1@HO USTON. DETCO G.TX	KENNARD/RAT CLIFF VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 1@HO USTON. DETCO G.TX	KENNARD/RAT CLIFF VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 1@HO USTON. DETCO G.TX	KENNARD/RAT CLIFF VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_80 000001 4@SAN AUGUS TINE.DE TCOG.T X	LAKE SAM RAYBURN					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 4@SAN AUGUS TINE.DE TCOG.T X	LAKE SAM RAYBURN					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_24 @BOSQ UE.HOT COG.TX	Meridian Fire	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_24 @BOSQ UE.HOT COG.TX	Meridian Fire	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_11 @HILL HOTCO G.TX	Whitney FD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_11 @HILL HOTCO G.TX	Whitney FD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_6 @GRIM ES.BVC OG.TX	ANDERSON VFD	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_6 @GRIM ES.BVC OG.TX	ANDERSON VFD	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 8@SABI NE.DET COG.TX	SIX MILE VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 8@SABI NE.DET COG.TX	SIX MILE VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_12 @WAS HINGT ON.BVC OG.TX	PRAIRIE HILL VFD	BREHAM EMERGENCY COMMUNICA TIONS DEPARTMENT			979-337-7272	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_12 @WAS HINGT ON.BVC OG.TX	PRAIRIE HILL VFD	BREHAM EMERGENCY COMMUNICA TIONS DEPARTMENT			979-337-7272	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_2 @LEON .BVCOG .TX	BUFFALO VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_2 @LEON .BVCOG .TX	BUFFALO VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 5@TYL ER.DET COG.TX	BEACH CREEK UNIT					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 5@TYL ER.DET COG.TX	BEACH CREEK UNIT					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_2 @HILL HOTCO G.TX	Aquilla FD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_2 @HILL HOTCO G.TX	Aquilla FD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_8 @MADI SON.BV COG.TX	BEDIAS	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_8 @MADI SON.BV COG.TX	BEDIAS	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000002 1@SABI NE.DET COG.TX	FAIRMOUNT VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_80 000002 1@SABI NE.DET COG.TX	FAIRMOUNT VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000002 1@SABI NE.DET COG.TX	FAIRMOUNT VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000002 1@SABI NE.DET COG.TX	FAIRMOUNT VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000002 1@SABI NE.DET COG.TX	FAIRMOUNT VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000003 1@SABI NE.DET COG.TX	PENDLETON HARBOR VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000003 1@SABI NE.DET COG.TX	PENDLETON HARBOR VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000003 1@SABI NE.DET COG.TX	PENDLETON HARBOR VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000003 1@SABI NE.DET COG.TX	PENDLETON HARBOR VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000003 1@SABI NE.DET COG.TX	PENDLETON HARBOR VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_80 000003 1@SABI NE.DET COG.TX	PENDLETON HARBOR VFD					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_37 @LIME STONE. HOTCO G.TX	GROESBECK FD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_37 @LIME STONE. HOTCO G.TX	GROESBECK FD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_9 @WAS HINGT ON.BVC OG.TX	CARMINE FD (FAYETTE CO)	BRENNHAM EMERGENCY COMMUNICA TIONS DEPARTMENT			979-337-7272	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_9 @WAS HINGT ON.BVC OG.TX	CARMINE FD (FAYETTE CO)	BRENNHAM EMERGENCY COMMUNICA TIONS DEPARTMENT			979-337-7272	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
FIRE_80 000001 9@SABI NE.DET COG.TX	TOLEDO BEND LAKE					TX	US	Boundary - Internal - Gap	
FIRE_9 @ROBE RTSON. BVCOG. TX	WHELOCK / FRANKLIN / EASTERLY	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_80 000002 3@SABI NE.DET COG.TX	SHAMROCK SHORES VFD					TX	US	Boundary - Internal - Gap	
FIRE_17 @ROBE RTSON. BVCOG. TX	EASTERLY / FRANKLIN	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_80 000002 8@TYL ER.DET COG.TX	DAM B VFD					TX	US	Boundary - Internal - Gap	
FIRE_6 @LEON .BVCOG .TX	MADISONVILLE FD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
FIRE_12 @ROBE RTSON. BVCOG. TX	FRANKLIN / BLACKJACK / WHEELLOCK	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_80 000001 0@NE WTON. DETCO G.TX	VERIFY FIRE					TX	US	Boundary - Internal - Gap	
FIRE_10 00013 @NAC OGDOC HES.DE TCOG.T X	MARTINSVILLE VFD					TX	US	Boundary - Internal - Gap	
FIRE_5 @LEON .BVCOG .TX	LEONA VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
FIRE_80 000001 7@SABI NE.DET COG.TX	LAKE SAM RAYBURN					TX	US	Boundary - Internal - Gap	
FIRE_80 000001 2@HO USTON. DETCO G.TX	GRAPELAND VFD					TX	US	Boundary - Internal - Gap	
FIRE_80 000001 2@SAN AUGUS TINE.DE TCOG.T X	POWELLTOWN VFD					TX	US	Boundary - Internal - Gap	

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_4 @GRIM ES.BVC OG.TX	IOLA VFD	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Boundary - Internal - Gap	
FIRE_9 @MADI SON.BV COG.TX	MIDWAY VFD	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Boundary - Internal - Gap	
FIRE_6 @MADI SON.BV COG.TX	NORTH ZULCH FD	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Boundary - Internal - Gap	
FIRE_5 @GRIM ES.BVC OG.TX	RICHARDS VFD	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Boundary - Internal - Gap	
FIRE_9 @LEON .BVCOG .TX	HILLTOP LAKES VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
FIRE_2 @GRIM ES.BVC OG.TX	PLANTERSVILLE VFD	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Boundary - Internal - Gap	
FIRE_33 @BOSQ UE.HOT COG.TX	Westshore Fire	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_7 @GRIM ES.BVC OG.TX	NAVASOTA FD	NAVASOTA POLICE DEPARTMENT			936-825-3257	TX	US	Boundary - Internal - Gap	
FIRE_28 @FREE STONE. HOTCO G.TX	Buffalo FD	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_14 @ROBE RTSON. BVCOG. TX	HEARNE	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_21 @BOSQ UE.HOT COG.TX	Iredell Fire	HOTCOG.TX				TX	US	Boundary - Internal - Gap	

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_28 @BOSQ UE.HOT COG.TX	Walnut Springs Fire	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_23 @BOSQ UE.HOT COG.TX	Lakeside Fire	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_10 00023 @NAC OGDOC HES.DE TCOG.T X	SWIFT/SHADY GROVE VFD					TX	US	Boundary - Internal - Gap	
FIRE_25 @BOSQ UE.HOT COG.TX	Morgan Fire	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_10 00008 @NAC OGDOC HES.DE TCOG.T X	KINGTOWN VFD					TX	US	Boundary - Internal - Gap	
FIRE_7 @BURL ESON.B VCOG.T X	COOKS POINT VFD	BURLESON COUNTY SHERIFFS OFFICE	BVCOG- BURLESON- CO- SO@STATE. TX.US		979-567-4343	TX	US	Boundary - Internal - Gap	
FIRE_1 @GRIM ES.BVC OG.TX	SHIRO VFD	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Boundary - Internal - Gap	
FIRE_80 000001 5@ANG ELINA.D ETCOG. TX	LAKE SAM RAYBURN					TX	US	Boundary - Internal - Gap	
FIRE_80 000003 0@SABI NE.DET COG.TX	HEMPHILL VFD					TX	US	Boundary - Internal - Gap	

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_2 @ROBE RTSON. BVCOG. TX	FRANKLIN / BLACKJACK	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_1 @WAS HINGT ON.BVC OG.TX	GAY HILL VFD	BRENNHAM EMERGENCY COMMUNICA TIONS DEPARTMENT			979-337-7272	TX	US	Boundary - Internal - Gap	
FIRE_10 00005 @NAC OGDOC HES.DE TCOG.T X	DOUGLASS VFD					TX	US	Boundary - Internal - Gap	
FIRE_29 @FREE STONE. HOTCO G.TX	Oakwood FD	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_80 000001 9@HO USTON. DETCO G.TX	WELDON VFD					TX	US	Boundary - Internal - Gap	
FIRE_80 000001 5@SAN AUGUS TINE.DE TCOG.T X	ATTOYAC VFD					TX	US	Boundary - Internal - Gap	
FIRE_10 00012 @NAC OGDOC HES.DE TCOG.T X	LOCO VALLEY VFD					TX	US	Boundary - Internal - Gap	
FIRE_80 000000 9@HO USTON. DETCO G.TX	PORTER SPRINGS VFD					TX	US	Boundary - Internal - Gap	

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_13 @ROBERTSON. BVC OG.TX	BLACKJACK / WHEELLOCK	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_80 000002 S@SAB NE.DET COG.TX	PINELAND VFD					TX	US	Boundary - Internal - Gap	
FIRE_13 @WASH HINGTON. BVC OG.TX	WASHINGTON VFD	BRENNHAM EMERGENCY COMMUNICA TIONS DEPARTMENT			979-337-7272	TX	US	Boundary - Internal - Gap	
FIRE_1 @BURL ESON.B VCOG.T X	SNOOK VFD	BURLESON COUNTY SHERIFFS OFFICE	BVCOG- BURLESON- CO- SO@STATE. TX.US		979-567-4343	TX	US	Boundary - Internal - Gap	
FIRE_6 @ROBERTSON. BVC OG.TX	FRANKLIN / BREMOND	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_80 000002 O@TYL ER.DET COG.TX	SPURGER VFD					TX	US	Boundary - Internal - Gap	
FIRE_10 00003 @NAC OGDOC HES.DE TCOG.T X	CHIRENO VFD					TX	US	Boundary - Internal - Gap	
FIRE_12 @LEON .BVC OG.TX	FLO VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
FIRE_80 000001 S@SAN AUGUS TINE.DE TCOG.T X	BROADDUS VFD					TX	US	Boundary - Internal - Gap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	Display Name	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_10 @ROBE RTSON. BVCOG. TX	CALVERT / HEARNE	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_80 000001 5@HO USTON. DETCO G.TX	CROCKETT VFD					TX	US	Boundary - Internal - Gap	
FIRE_80 000001 4@NE WTON. DETCO G.TX	TOLEDO VILLAGE VFD					TX	US	Boundary - Internal - Gap	
FIRE_11 @LEON .BVCOG .TX	MIDWAY VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
FIRE_16 @ROBE RTSON. BVCOG. TX	CALVERT	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_80 000001 2@ANG ELINA.D ETCOG. TX	RIVERCREST VFD					TX	US	Boundary - Internal - Gap	
FIRE_8 @WAS HINGT ON.BVC OG.TX	BRENHAM FD	BRENHAM EMERGENCY COMMUNICA TIONS DEPARTMENT			979-337-7272	TX	US	Boundary - Internal - Gap	
FIRE_10 00006 @NAC OGDOC HES.DE TCOG.T X	ETOILE VFD					TX	US	Boundary - Internal - Gap	
FIRE_1 @LEON .BVCOG .TX	OAKWOOD VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_7 @ROBERTSON. BVCOG. TX	BREMOND	ROBERTSON COUNTY SHERIFFS OFFICE			979-628-3080	TX	US	Boundary - Internal - Gap	
FIRE_7 @MADISON.BV COG.TX	NORMANGEE FD	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Boundary - Internal - Gap	
FIRE_80 000002 0@HOUSTON. DETCO G.TX	AUSTONIO VFD					TX	US	Boundary - Internal - Gap	
FIRE_10 00009 @NACOGDOCH ES.DEC TCOG.T X	LAKE NACOGDOCHE S VFD					TX	US	Boundary - Internal - Gap	
FIRE_24 @FREESTONE. HOTCO G.TX	Donie FD	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_19 @BOSQUE.HOT COG.TX	Clifton Fire	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_80 000002 4@SABINE.DET COG.TX	ROSEVINE VFD					TX	US	Boundary - Internal - Gap	
FIRE_20 @BOSQUE.HOT COG.TX	Cranfills Gap Fire	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
FIRE_3 @ROBERTSON. BVCOG. TX	HEARNE / BLACKJACK	ROBERTSON COUNTY SHERIFFS OFFICE			979-628-3080	TX	US	Boundary - Internal - Gap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_80 000002 0@JASP ER.DET COG.TX	LAKE SAM RAYBURN					TX	US	Boundary - Internal - Gap	
FIRE_10 00018 @NAC OGDOC HES.DE TCOG.T X	NACOGDOCHE S FD					TX	US	Boundary - Internal - Gap	
FIRE_80 000000 8@HO USTON. DETCC G.TX	HOUSTON LAKE VFD					TX	US	Boundary - Internal - Gap	
FIRE_11 @ROBE RTSON. BVCOG. TX	WHELOCK / FRANKLIN	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Gap	
FIRE_9 @GRIM ES.BVC OG.TX	NAVASOTA FD	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Boundary - Internal - Gap	
FIRE_10 00024 @NAC OGDOC HES.DE TCOG.T X	WODEN VFD					TX	US	Boundary - Internal - Gap	
FIRE_80 000003 4@ANG ELINA.D ETCOG. TX	CENTRAL VFD					TX	US	Boundary - Internal - Gap	
FIRE_3 @WAS HINGT ON.BVC OG.TX	MEYERSVILLE VFD	BRENHAM EMERGENCY COMMUNICA TIONS DEPARTMENT			979-337-7272	TX	US	Boundary - Internal - Gap	
FIRE_7 @LEON .BVCOG .TX	JEWETT VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceJRN	ServiceNumber	State	Country	Error	Comments
FIRE_3 @LEON .BVCOG .TX	CENTERVILLE VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
FIRE_6 @LEON .BVCOG .TX	MADISONVILLE FD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
FIRE_5 @LEON .BVCOG .TX	LEONA VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
FIRE_80 000001 2@HO USTON. DET CO G.TX	GRAPELAND VFD					TX	US	Boundary - Internal - Overlap	
FIRE_9 @MADI SON.BV COG.TX	MIDWAY VFD	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Boundary - Internal - Overlap	
FIRE_36 @LIME STONE. HOTCO G.TX	KOSSE FD	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	
FIRE_38 @LIME STONE. HOTCO G.TX	E. LAKE LIMESTONE FD	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	
FIRE_29 @FREE STONE. HOTCO G.TX	Oakwood FD	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	
FIRE_80 000001 9@HO USTON. DET CO G.TX	WELDON VFD					TX	US	Boundary - Internal - Overlap	
FIRE_80 000000 9@HO USTON. DET CO G.TX	PORTER SPRINGS VFD					TX	US	Boundary - Internal - Overlap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_15 @ROBERTSON. BVCOG. TX	SEALE-ROUND PRAIRIE	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Overlap	
FIRE_21 @FALLS .HOTCO G.TX	REAGAN FIRE	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	
FIRE_4 @ROBERTSON. BVCOG. TX	BREMOND / SEALE	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Overlap	
FIRE_80 000001 5@HO USTON. DETCO G.TX	CROCKETT VFD					TX	US	Boundary - Internal - Overlap	
FIRE_11 @LEON .BVCOG .TX	MIDWAY VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
FIRE_39 @LIME STONE. HOTCO G.TX	W. LAKE LIMESTONE	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	
FIRE_1 @LEON .BVCOG .TX	OAKWOOD VFD	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
FIRE_7 @ROBERTSON. BVCOG. TX	BREMOND	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Boundary - Internal - Overlap	
FIRE_80 000002 0@HO USTON. DETCO G.TX	AUSTONIO VFD					TX	US	Boundary - Internal - Overlap	
FIRE_24 @FREE STONE. HOTCO G.TX	Donie FD	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName		AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
FIRE_80 000000 S@HO USTON. DETCO G.TX	HOUSTON LAKE VFD						TX	US	Boundary - Internal - Overlap	
FIRE_7 @LEON .BVCOG .TX	JEWETT VFD		LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
FIRE_3 @LEON .BVCOG .TX	CENTERVILLE VFD		LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	

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EMS:

ESUnqID	Display Name	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
NORTH ERN_H UDSPET H_COU NTY_E MS@R GCOG. ORG	HUDSPETH_EM S	NORTHERN HUDSPETH COUNTY EMS				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
NORTH ERN_H UDSPET H_COU NTY_E MS@R GCOG. ORG	HUDSPETH EMS	NORTHERN HUDSPETH COUNTY EMS				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
MEDIC AL_2@ GRIMES .BVCOG .TX	MONTGOMER Y COUNTY HOSPITAL DISTRICT	GRIMES COUNTY SHERIFFS OFFICE			936-673-2065	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
MEDIC AL_2@ GRIMES .BVCOG .TX	MONTGOMER Y COUNTY HOSPITAL DISTRICT	GRIMES COUNTY SHERIFFS OFFICE			936-673-2065	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
MEDIC AL_2@ ROBERT SON.BV COG.TX	ROBERTSON COUNTY EMS	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
MEDIC AL_2@ ROBERT SON.BV COG.TX	ROBERTSON COUNTY EMS	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
MEDIC AL_1@ ROBERT SON.BV COG.TX	ROBERTSON CNTY EMS/BLACKJAC K 1ST	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
MEDIC AL_1@ ROBERT SON.BV COG.TX	ROBERTSON CNTY EMS/BLACKJAC K 1ST	ROBERTSON COUNTY SHERIFFS OFFICE			979-828-3080	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
MEDIC AL_1@ LEON.B VCOG.T X	ALLEGIANCE	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
MEDIC AL_2@ LEON.B VCOG.T X	SJ EMS MED 71	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
MEDIC AL_6@ LEON.B VCOG.T X	MADISON COUNTY EMS	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
MEDIC AL_1@ MADIS ON.BVC OG.TX	MADISON COUNTY EMS	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Boundary - Internal - Gap	
MEDIC AL_7@ LEON.B VCOG.T X	MADISON COUNTY EMS	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
MEDIC AL_100 0001@ HOUST ON.DET COG.TX	EAST TEX MED CENTER					TX	US	Boundary - Internal - Gap	
MEDIC AL_100 0002@ HOUST ON.DET COG.TX	GRAPELAND EMS					TX	US	Boundary - Internal - Gap	
MEDIC AL_12 @LIME STONE. HOTCO G.TX	Limestone EMS	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	
MEDIC AL_1@ LEON.B VCOG.T X	ALLEGIANCE	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
MEDIC AL_2@ LEON.B VCOG.T X	SJ EMS MED 71	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
MEDIC AL_6@ LEON.B VCOG.T X	MADISON COUNTY EMS	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
MEDIC AL_3@ ROBERT SON.BV COG.TX	ROBERTSON CO EMS/BREMON D 1ST	ROBERTSON COUNTY SHERIFFS OFFICE			979-628-3080	TX	US	Boundary - Internal - Overlap	
MEDIC AL_1@ MADIS ON.BVC OG.TX	MADISON COUNTY EMS	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Boundary - Internal - Overlap	
MEDIC AL_10 @FREE STONE. HOTCO G.TX	Fairfield EMS	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	
MEDIC AL_5@ FALLS.H OTCOG. TX	ACADIAN EMS	HOTCOG.TX				TX	US	Boundary - Internal - Overlap	
MEDIC AL_100 0001@ HOUST ON.DET COG.TX	EAST TEX MED CENTER					TX	US	Boundary - Internal - Overlap	
MEDIC AL_3@ LEON.B VCOG.T X	JEWETT EMS 2	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
MEDIC AL_100 0002@ HOUST ON.DET COG.TX	GRAPELAND EMS					TX	US	Boundary - Internal - Overlap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

Law:

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
LAW_3 1@FRE ESTONE .HOTCO G.TX	FCSO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_3 1@FRE ESTONE .HOTCO G.TX	FCSO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 07@JAS PER.DE TCOG.T X	JASPER CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 07@JAS PER.DE TCOG.T X	JASPER CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_2 7@FRE ESTONE .HOTCO G.TX	FAIRFIELD PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_2 7@FRE ESTONE .HOTCO G.TX	FAIRFIELD PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 @HILL HOTCO G.TX	HILLSBORO PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 @HILL HOTCO G.TX	HCSO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 07@PO LK.DET COG.TX	POLK CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
LAW_8 000000 07@PO LK.DET COG.TX	POLK CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 07@PO LK.DET COG.TX	POLK CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 07@PO LK.DET COG.TX	POLK CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 07@PO LK.DET COG.TX	POLK CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 07@PO LK.DET COG.TX	POLK CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 07@PO LK.DET COG.TX	POLK CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_4 0@LIM ESTONE .HOTCO G.TX	GROESBECK PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_4 0@LIM ESTONE .HOTCO G.TX	GROESBECK PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_6 0@BOS QUE.H OTCOG. TX	BCSO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
LAW_60@BOSQUE.HOTCOG.TX	BCSO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_41@LIMESTONE.HOTCOG.TX	LCISO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_41@LIMESTONE.HOTCOG.TX	LCISO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_37@FALLS.HOTCOG.TX	LOTT PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_37@FALLS.HOTCOG.TX	LOTT PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_80000011@ANGELINA.DETCOG.TX	ANGELINA CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_80000011@ANGELINA.DETCOG.TX	ANGELINA CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_80000011@ANGELINA.DETCOG.TX	ANGELINA CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_80000011@ANGELINA.DETCOG.TX	ANGELINA CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
LAW_8 000000 11@AN GELINA .DET CO G.TX	ANGELINA CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 11@AN GELINA .DET CO G.TX	ANGELINA CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_2 @GRIM ES.BVC G.TX	GRIMES SO	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_2 @GRIM ES.BVC G.TX	GRIMES SO	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_2 @GRIM ES.BVC G.TX	GRIMES SO	GRIMES COUNTY SHERIFFS OFFICE			936-873-2065	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_3 8@LIM ESTONE .HOT CO G.TX	MEXIA PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_3 8@LIM ESTONE .HOT CO G.TX	MEXIA PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_1 4@HILL .HOT CO G.TX	ITASCA PD	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_1 4@HILL .HOT CO G.TX	HCSO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_4 0@FAL LS.HOT COG.TX	FCSO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
LAW_40@FAL LS.HOT COG.TX	FCSO	HOTCOG.TX				TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_9 @LEON .BVCG.T X	(CENTERVILLE) LEON SO	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_9 @LEON .BVCG.T X	(CENTERVILLE) LEON SO	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 06@SA BINE.D ETCOG. TX	SABINE CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 06@SA BINE.D ETCOG. TX	SABINE CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 06@SA BINE.D ETCOG. TX	SABINE CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_8 000000 06@SA BINE.D ETCOG. TX	SABINE CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
LAW_1 @MADI SON.BV OG.TX	MADISON SO	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Boundary - Internal - Gap	
LAW_8 000000 11@PO LK.DET COG.TX	ONALASKA PD					TX	US	Boundary - Internal - Gap	
LAW_1 @LEON .BVCG.T X	LEON SO	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
LAW_17@HILL.HOTCOG.TX	HCSO	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
LAW_54@BOSQUE.HOTCOG.TX	Clifton PD	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
LAW_80000009@POLK.DETCOG.TX	LIVINGSTON PD					TX	US	Boundary - Internal - Gap	
LAW_10@HILL.HOTCOG.TX	HCSO	HOTCOG.TX				TX	US	Boundary - Internal - Gap	
LAW_10@LEON.BVCG.TX	MADISON SO	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Gap	
LAW_80000008@POLK.DETCOG.TX	CORRIGAN PD					TX	US	Boundary - Internal - Gap	
LAW_80000006@HOUSTON.DETCOG.TX	HOUSTON CO SO					TX	US	Boundary - Internal - Gap	
LAW_8000002@SABINE.DETCOG.TX	PINELAND PD					TX	US	Boundary - Internal - Gap	
LAW_10@MADISON.BVCG.TX	MADISON SO	MADISON COUNTY SHERIFFS OFFICE			936-348-2755	TX	US	Boundary - Internal - Overlap	
LAW_10@LEON.BVCG.TX	LEON SO	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
LAW_10@LEON.BVCG.TX	MADISON SO	LEON COUNTY SHERIFFS OFFICE			903-536-2749	TX	US	Boundary - Internal - Overlap	
LAW_800000006@HOUSTON.DETCOG.TX	HOUSTON CO SO					TX	US	Boundary - Internal - Overlap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

PSAP:

ESUnqID	Display Name	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
PSAP_8 000000 04@AN GELINA .DET CO G.TX	ANGELINA CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
PSAP_8 000000 04@AN GELINA .DET CO G.TX	ANGELINA CO SO					TX	US	Universal Unique ID duplicate	ESUnqID Duplicate
PSAP_1 @BURL ESON.B VCOG.T X	BURLESON COUNTY TX	BURLESON COUNTY SHERIFFS OFFICE	911@burles on-co- so.bvcog.91 1.texas.gov		979-567-7802	TX	US	Boundary - Internal - Gap	
PSAP_1 @NAVA SOTA.B VCOG.T X	NAVASOTA POLICE DEPARTMENT	NAVASOTA POLICE DEPARTMENT	911@navas ota- pd.bvcog.91 1.texas.gov		979-825-6410	TX	US	Boundary - Internal - Gap	
PSAP_1 @ROBE RTSON. BVCOG. TX	ROBERTSON COUNTY SHERIFFS OFFICE	ROBERTSON COUNTY SHERIFFS OFFICE	911@robert son-co- so.bvcog.91 1.texas.gov		979-828-3080	TX	US	Boundary - Internal - Gap	
PSAP_2 @LEON .BVCOG .TX	LEON COUNTY SHERIFFS OFFICE	LEON COUNTY SHERIFFS OFFICE	911@leon- co- so.bvcog.91 1.texas.gov		903-536-2749	TX	US	Boundary - Internal - Gap	
PSAP_1 @WASH INGT ON.BVC OG.TX	BRENNHAM EMERGENCY COMMUNICATI ONS DEPARTMENT	BRENNHAM EMERGENCY COMMUNICA TIONS DEPARTMENT	911@washi ngton-co- 911.bvcog.9 11.texas.gov		979-337-7272	TX	US	Boundary - Internal - Gap	
PSAP_2 @MADI SON.BV COG.TX	MADISON COUNTY SHERIFFS OFFICE	MADISON COUNTY SHERIFFS OFFICE	911@madis on-co- so.bvcog.91 1.texas.gov		(936) 348-2755	TX	US	Boundary - Internal - Gap	
PSAP_1 @GRIM ES.BVC OG.TX	GRIMES COUNTY SHERIFFS OFFICE	GRIMES COUNTY SHERIFFS OFFICE	911@grime s-co- so.bvcog.91 1.texas.gov		936-873-2151	TX	US	Boundary - Internal - Gap	

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9-1-1 EGDMS GIS Data Upload Report - TX - CSEC

ESUnqID	DisplayName	AgencyID	Route	ServiceURN	ServiceNumber	State	Country	Error	Comments
PSAP_8 000000 01@HO USTON. DETCO G.TX	HOUSTON CO SO					TX	US	Boundary - Internal - Gap	
PSAP_7 @LIME STONE. HOTCO G.TX	Limestone		HOTCOG.TX			TX	US	Boundary - Internal - Overlap	
PSAP_1 @ROBE RTSON. SHERIFFS BVCOG. OFFICE TX	ROBERTSON COUNTY SHERIFFS OFFICE	ROBERTSON COUNTY SHERIFFS OFFICE	911@robert son-co- so.bvcog.91 1.texas.gov		979-828-3080	TX	US	Boundary - Internal - Overlap	
PSAP_2 @LEON SHERIFFS OFFICE .TX	LEON COUNTY SHERIFFS OFFICE	LEON COUNTY SHERIFFS OFFICE	911@leon- co- so.bvcog.91 1.texas.gov		903-536-2749	TX	US	Boundary - Internal - Overlap	
PSAP_5 @FREE STONE. HOTCO G.TX	FREESTONE COUNTY		HOTCOG.TX			TX	US	Boundary - Internal - Overlap	
PSAP_2 @MADI SON.BV COG.TX OFFICE	MADISON COUNTY SHERIFFS OFFICE	MADISON COUNTY SHERIFFS OFFICE	911@madis on-co- so.bvcog.91 1.texas.gov		(936) 348-2755	TX	US	Boundary - Internal - Overlap	
PSAP_7 @FALLS HOTCO G.TX	FALLS COUNTY		HOTCOG.TX			TX	US	Boundary - Internal - Overlap	
PSAP_8 000000 01@HO USTON. DETCO G.TX	HOUSTON CO SO					TX	US	Boundary - Internal - Overlap	

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Transmittal Letter

February 14, 2020

Alabama 9-1-1 Board

Reference: AL-GIS-RFP-19-002

1 Commerce Street
Suite 620
Montgomery, AL 36104

To the Alabama 9-1-1 Board,

Intrado has thoroughly reviewed RFP AL-GIS-RFP-19-002 issued by the Alabama 9-1-1 Board and agrees with the information presented in Section 1 of the RFP. Intrado is willing to provide the proposed products, services, and solutions as defined in Section 2.3 of this RFP.

Regarding requirement 1.7 and section 2.3 and, in response to requirements in Sections 1 and 2, a copy of Intrado's agreement for services, software, and equipment is attached to this proposal. This standard Intrado agreement is not meant as a complete substitute or alternative to the Alabama's sample contract. To the extent that Alabama's terms and Intrado's standard terms conflict with each other, Intrado invites further good faith negotiation to enter into a mutually acceptable agreement consistent with industry standards. Any final contract must be mutually acceptable and executed by the parties.

With 40 years of experience delivering 9-1-1, GIS, and NG9-1-1 products and services, Intrado is uniquely positioned to not only meet the State's requirements for preparing GIS data for NG9-1-1 geospatial call routing but can do so in the most cost and operationally efficient manner possible.

Intrado is very familiar with the challenges faced by PSAPs, local and regional GIS managers, and state GIS organizations as they prepare their GIS data for NG9-1-1 GIS data readiness in advance of future i3 system deployment. We are experienced in navigating this complex landscape in partnership with PSAP managers, local and regional GIS data managers, and state GIS / 9-1-1 organizations. Intrado, as a key provider of integrated E9-1-1 and NG9-1-1 GIS solutions, has a unique understanding of the varied needs of GIS and 9-1-1 data stakeholders as a partner to both in the preparation of GIS data for use in E9-1-1 environments and the transition to NG9-1-1.

Intrado's GIS Services Division has extensive experience partnering with GIS and Public Safety agencies across the nation to create, validate, synchronize, and provide ongoing management of GIS data used in E9-1-1 and NG9-1-1 operations. Intrado provides mission-critical GIS data management services to municipal, regional, and statewide customers across the nation and has a comprehensive understanding of NG9-1-1 GIS data requirements how to prepare GIS data to meet NENA i3 recommendations and requirements.

A critical first step toward preparing for NG9-1-1 geospatial call routing deployment is the development of accurate GIS data, a key component of a successful NG9-1-1 deployment for the State of Alabama.

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The proposed products and services have been scoped and developed with an understanding of the State's GIS data requirements and our role in prepare it for use in NG9-1-1 in collaboration with all the project stakeholders.

Intrado's real world experience implementing and managing locally-sourced GIS data within live NG9-1-1 call routing systems sets us apart from other GIS services providers. Intrado currently provides ALI and MSAG services to local, reginal, and state organizations across the country, streamlining and simplifying the labor-intensive process of comparing and synchronizing existing 9-1-1 data with GIS data layers. This differentiator enables Intrado to deliver services faster and more cost effectively than our competitors.

Intrado looks forward to sharing our expertise in managing large and complex GIS data projects for county and statewide agencies across the US to develop a comprehensive data management plan, coordinate with PSAP and GIS personnel to resolve issues with the datasets, and develop a migration path and project plan to migrate the PSAP from the current E9-1-1 GIS data onto a working NENA-compliant NG9-1-1 GIS data model.

The proposed solution leverages our experience designing and implementing end-to-end GIS data management projects, strategies, and processes to migrate locally-sourced disparate GIS data to consolidated statewide GIS data sets to be used in NG9-1-1 call routing. Intrado has developed a project plan and assembled a team of experienced GIS professionals ready to collaborate with and work on behalf of the State. Our project plan and project approach are laid out in detail in this proposal and the project team members ready are introduced in section B. Organization, below.

Signed, _____

Jason Jackson

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