PSAP Grant Program Grant Ranker

View Application--111--Greensville UPS Battery Replacement

Grant Period: 2011

Tier: Replacement of out of service wireless E-911 equipment to enable primary PSAP to maintain current service levels to the general public (**OUT OF SERVICE**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: UPS/generator (**UPS**)

Primary PSAP Applicants: Greensville Sheriff's Communications

Jurisdictions Served: Jarratt, Town of

Project Director:
Charles M. Veliky
Building/Fire Official
1781 Greensville County Circle
434-348-4232 (phone)
434-348-0696 (fax)
mveliky@greensvillecountyva.gov

Project Description:

Total Project Cost $898.00
Amount Requested: $898.00

Statement of Need:
This project is to replace the batteries in a seven (7) year old UPS system that is used to ensure continuous operation of the CPE, Mapping, CAD and Radio systems in Greensville Dispatch.

Comprehensive Project Description:
Greensville Dispatch uses a 3KVA Ferrups FE Series UPS to provide temporary uninterupted power to the E911 equipment until the generator comes on line and up to speed. The UPS system and transfer switch was installed 7 years ago and now is in need of battery replacement to ensure proper operation. This replacement was not budgeted for in the current E911 budget.

How will the equipment purchased will support future technologies for PSAP readiness?:
Future technologies will continue to rely on computerized equipment, which is sensitive to slight voltage drops. Having a reliable UPS system ensures the continuous operation of that equipment.

Budget and Budget Narrative:
See Attached Vendor Supplied Quote

Evaluation:

This project will be considered a success when the batteries have been replaced and properly tested and the system is placed back in operation.

Attachments

PSAP Grant Program Grant Ranker

View Application--112--Replacement of Dispatch Mapping System

Grant Period: 2011

Tier: Replacement of non-vendor supported wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**NON-VENDOR SUPPORTED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: GIS: high priority (refer to GIS-related Grant Request Prioritization Matrix for a description of GIS projects that would have a high funding priority) (**GIS HIGH PRIORITY**)

Primary PSAP Applicants: King & Queen County

Jurisdictions Served: King & Queen, County of

Project Director:
Grace Tressler
Emergency Services Coordinator
P.O. Box 177
804-785-5975 (phone)
804-785-5999 (fax)
gtressler@kingandqueenco.net

Project Description:

Total Project Cost $69,040.00
Amount Requested: $69,040.00

Statement of Need:
King and Queen County's PSAP is currently using ESRI Map Object (MO) Core Engine version 3.3. It is technologically outdated and is no longer vendor supported. Our GIS Department is using an Arc Object (AO) System 9.3.1. When the GIS department creates any changes and send them to the Mapping System in the PSAP, they must retro-convert the information to MO. What we propose to do is upgrade the PSAP Mapping System with the latest ESRI technology, ESRI AO Core Engine version 9.3.1. This will allow us to use the same data base in the PSAP and the GIS department responsible for maintaining their system. It will improve the Address Locator by allowing the PSAP to adjust the sensitivity of their address searches, enabling it to tolerate such things as extra spaces and misspellings. This will allow the Dispatchers to find address ranges more easily. It will also improve our data analysis, improving the overall quality of the E911 data and the accuracy of our automated call plotting. It will also include an Address Data Management System Tool to maintain our accuracy. There is a large training component for Dispatchers and Administrative personnel ensuring that everyone is properly trained and able to use the mapping system effectively.

Comprehensive Project Description:
The goals and objectives of this upgrade it to first and foremost be able to maintain a mapping system in

our PSAP. We will be upgrading the Dispatch Mapping System to ESRI AO Core Engine version 9.3.1 and using it to create GeoLynx 9-1-1 version 7.1.1. This will create a smooth flow of information from the GIS to the PSAP Mapping System and increase our accuracy. We will ensure quality training for our Dispatchers and GIS personnel. A systematic approach to the installation ensuring the least amount of disruption to our existing, ongoing operations will be used. There will be a quality project management process in place. This will include quality control and pre-installation coordination. At contract signing the current GIS map data, ALI databases and MSAG maintenance and addressing for the county will be reviewed. After this is accomplished the consultants will provide preliminary copies of the updated maintenance workflow to be reviewed. Any changes will be worked out and a final maintenance workflow discussion and document deliverable will occur during our Maintenance Workflow Training session. After the conversion contract is in place on site installation will begin. The old software will be uninstalled and the new software will be installed and configured causing the least amount of disruption possible. After installation onsite training will begin and an Acceptance Testing Plan (ATP) will be used to test all aspects of the product and its performance. The system will come with an additional online learning network, continuing education, unlimited hotline support and remote connection services. Software and hardware support and maintenance are also provided. King and Queen County will sustain and maintain this project well into the future.

How will the equipment purchased will support future technologies for PSAP readiness?:

This project is part of a larger upgrade to the County's PSAP, Radio and GIS. The County is deploying a new P25 Compliant Radio System, upgraded console and dispatch center. COMLINK and improvements to our overall GIS capabilities. We are preparing the way for VOIP, 6.5, and interoperability with our surrounding jurisdictions.

Budget and Budget Narrative:

Please see the attached file King and Queen Co VA S8 Pricing Geo for pricing and Geocomm Proposal for explanation

Evaluation:

A collaberation between the GIS Department and the PSAP will be maintained to ensure the ongoing success of this project. Initially weekly and as-needed meetings will take place progressing to mothly and as-needed meetings to keep all parts of the project up to date,. Additional training will be done on an as-needed basis.

Attachments

King and Queen Co VA S8 Pricing Geo.pdf
Goecomm Propsal part 1.pdf
Geocomm Proposal part 2.pdf

Reviews

Reviews will be conducted on the GIS map data, ALI database, and MSAG to verify information contained in each is accurate, consistent, and complete.

Road Centerline Layer

GeoComm will review road names and address ranges in the road centerline layer. Incorrect, incomplete, and inconsistent road names or address ranges in the GIS map data may result in valid 9-1-1 addresses that do not match the GIS map data.

GeoComm will also review the consistency of road segments to ensure they are broken at intersections, ESN boundaries, and political boundaries. Errors may cause valid 9-1-1 address locations to be on the wrong side of an intersection or in the wrong ESN or political boundary.

Also, the consistency of road segment line direction will be reviewed for accuracy. Errors may cause valid 9-1-1 address locations to be on the wrong end or side of a road.

GeoComm will evaluate GIS map data for routing capabilities if provided with documentation on overpasses/underpasses, one-way streets, and direction flow of those streets within the jurisdiction. To route correctly, GeoComm will review the road file to verify there are continuous road segments at overpasses or underpasses, ramps are digitized, segments are broken at true intersections, and segments are snapped to segments. Specific field names and attributes are required to enable the routing capabilities in GeoLynx 9-1-1, if utilized.

Boundary Layers

Another element of the GIS map data review is ensuring topological accuracy of two of the primary boundary layers in GIS map data sets, the ESN boundary and community boundary layers.

GeoComm will use audits to determine the following errors in each of the two layers:

- Overlapping boundaries
- Duplicate boundaries
- Polygons not snapped to road centerlines

Primary Search Layer

GIS map data layers used as a primary search layer typically include: address points, parcels, or building footprints. If a primary search layer is provided, GeoComm will review it to verify:

- the number of duplicate addresses
- the consistency of the address information

- the number of primary search layer features without an address
- the MSAG validity of each address
- the rate at which addresses in the ALI database match the primary search layer

ALI Database

GeoComm will review addresses and community names in the ALI database. Incorrect, incomplete, and inconsistent addresses or community names in the ALI database may result in 9-1-1 addresses not matching the MSAG or GIS map data. Addresses from the ALI database must match the MSAG and GIS map data to plot wireline 9-1-1 calls.

MSAG

GeoComm will review the road names, address ranges, ESN, and community names in the MSAG. Incorrect, incomplete, and inconsistent road names, address ranges, ESNs, and community names in the MSAG may result in valid 9-1-1 addresses not matching the MSAG or GIS map data.

GeoComm will review the MSAG for any overlaps as these could be detrimental in plotting wireline 9-1-1 calls. Although an MSAG containing overlaps may rarely cause problems it is standard to only have one record for a given street name and range.

Synchronization

Following the reviews of each component GeoComm will perform several processes to evaluate the synchronization of all three components. First, the synchronization of the ALI database, MSAG, and GIS map data will be reviewed. This will provide a list of all ALI database records that are not MSAG-valid, as well as a list of ALI database records that do not match the GIS map data.

Second, GeoComm will evaluate the synchronization of the MSAG and the GIS map data. This synchronization review may produce a list of possible errors in the MSAG and GIS map data. Errors are due to MSAG records which are not represented the same in the GIS map data. It may not be necessary to "fix" all errors in the MSAG because the errors may not affect the accuracy of the ALI database records matching the GIS map data.

ALI Database, MSAG, and GIS Map Data

First, GeoComm will compare the MSAG and ALI database. This comparison may result in a list of ALI database records that are not MSAG-valid.

Following this comparison, GeoComm will geocode the address records within the ALI database to the road centerline layer. This process also compares the ESN assigned to the ALI database

addresses to verify addresses locate within the correct boundary in the GIS map data. Geocoding the specific records in the ALI database will denote which addresses match the GIS map data. A list of errors will be compiled from the addresses that do match. These errors could exist for a variety of reasons which will be outlined in the final report.

MSAG and GIS Map Data

GeoComm will geocode records in the MSAG to the road centerline layer. This will be completed to provide a list of possible MSAG errors. The geocoding process also compares the ESN boundaries assigned to the MSAG addresses to verify addresses located in the correct boundary in the GIS map data. Geocoding the low and high addresses in the MSAG denote which MSAG records match the GIS map data. A list of errors will be compiled from the addresses that do not match. These errors could exist for a variety of reasons which will be outlined in the final report.

Final Report

After each step is complete the results will be compiled into a hard copy report and digital lists of the errors will be created. The hard copy report will provide you with examples of errors and possible solutions that may increase the synchronization of the components. The lists of errors will allow you to review each possible issue individually as you are updating the three components.

After the report is provided, GeoComm will schedule a conference call with King and Queen County to review the report. After the conference call is complete, GeoComm proposes to update the GIS map data. King and Queen County will be responsible for MSAG and ALI database updates and for all future maintenance. GeoComm has extensive experience in the processes necessary to update these three components for a greater degree of accuracy and synchronization as well as the continued maintenance of all three.

GIS Map Data Update Services

GeoComm proposes to update existing key map data layers for King and Queen County. The foundation for this project will be the existing GIS map data, ALI database, and MSAG. Multiple tasks will be performed on provided key map data layers for accurate 9-1-1 call plotting.

Depending on the direction of the project, King and Queen County may be required to provide one or more updated ALI databases and MSAGs. If updates have not been made to either the ALI database or MSAG, GeoComm will use the original analysis fallout lists as the basis for the initial map data updates. However, if King and Queen County has made updates to the ALI database or MSAG since the initial analysis newer versions must be provided. GeoComm will compare the updated ALI database and MSAG to the map data and will use the resulting fallout lists as the basis for initial map data updates.

After initial map data updates are complete, GeoComm will provide a list of remaining errors with suggestions to King and Queen County for review and possible updates to the ALI database and MSAG. GeoComm will complete one additional comparison of the ALI database and MSAG to the map data layers if updated versions are provided within one month of the delivery of the suggestions. GeoComm will review the results of this comparison and complete additional map data updates, if needed. When the final updates are complete, GeoComm will provide King and Queen County with a list of remaining errors, suggestions for updating the ALI database and MSAG, and final updated map data layers. Any future map data layer updates can be completed through an additional map data layer update work authorization or a map data maintenance contract.

The following layers provided by King and Queen County will be modified throughout the project:

- Roads (centerline_line)
- ESZ Boundaries (ESN2)
- Address points (access_point)
- Boundaries (after combining Buena Vista Magisterial District, St. Stephens Church, Stevensville Magisterial District, and Shangai Magisterial District)

Roads Layer Updates

GeoComm proposes to update the existing roads layer based on fallout results from the analysis report, follow-up comparisons, and hard copy or digital resources to accurately correspond to the ALI database and MSAG. If there are any discrepancies between the approved resources, GeoComm will work with King and Queen County contact for verification. Updating processes include:

- Spatial Updates
- Name Attribute Updates
- Address Range Attribute Updates
- Topological Updates
- Routing Attribute Updates

Spatial Updates

Where necessary, GeoComm will adjust roads to correspond to the actual location based on the aerial image's depiction. The aerial images used will either be provided by King and Queen County or downloaded by GeoComm from a publicly available source. GeoComm's GIS Specialists will adjust the roads to spatially correspond to the aerial images at a zoom scale of 1:386 feet. The final positional accuracy of the roads layer will be primarily dependent on the quality of the aerial images.

The following other existing GIS map data layers will also be adjusted to correspond to the newly adjusted roads layer:

- ESZ boundaries layer
- Boundaries Layer

Additional pricing can be provided to adjust other layers which are not outlined above.

Name Attribute Updates

GeoComm proposes to update road names based on fallout results and hard copy or digital resources to accurately correspond to those in the ALI database and MSAG. If there are any discrepancies between the approved resources GeoComm will create a screenshot of the road segment(s), MSAG, and ALI database record(s) and submit to King and Queen County for verification and final road name assignment. King and Queen County must provide GeoComm with the approved road name; the final name will then be entered into the roads layer.

Address Range Attribute Updates

GeoComm proposes to update address ranges based on the fallout results and hard copy or digital resources to accurately correspond to addresses in the ALI database and low/high address ranges in the MSAG. If there are any discrepancies between the approved resources GeoComm will create a screenshot of the road segment(s), MSAG, and ALI database record(s) and submit to King and Queen County for verification and final address range assignment. King and Queen County must provide GeoComm with the approved address ranges; the final address ranges will then be entered into the roads layer.

Topological Updates

Based on the results from the initial analysis, GeoComm proposes to break and snap road segments where necessary to create topological accuracy and proper location of 9-1-1 addresses. These updates are necessary to ensure addresses plot on the correct side of an intersection, in the correct ESZ, and in the correct community.

Road centerlines will be broken at:

- emergency service zone boundaries
- municipal boundaries
- true intersections with other roads

Roads will not be broken where there are overpasses and underpasses.

Using a series of topological quality control procedures, roads not broken and areas where end nodes are not snapped together will be identified. This process creates a sound topological road network, which ensures the proper interpolation of addresses.

Line direction will also be adjusted on each road segment to follow the direction of house number increase or, on one-way streets, the direction in which traffic flows. This ensures proper high/low address ranges are on the correct end of each road segment.

GeoComm's topology audits help to ensure no multi-part geometries exist in the final road centerline layer.

Updating address ranges may require that road segments be broken. GeoComm will break road segments where necessary in Customer for attribution of accurate address ranges to properly interpolate addresses as close to the real-world location as possible.

Routing Attribute Updates

GIS routing functionality is directly related to the connectivity and attributes associated with the road centerline layer. The accuracy of a routing inquiry correlates to the accuracy of the road centerline layer. However, in certain situations, user interpretation may be needed to determine necessary route variations based on real world situations. GeoComm will work with King and Queen County to obtain hard copy resources depicting one-ways and overpasses. This information will be embedded into the road centerline layer fields for vehicle routing.

GeoComm proposes to update the three added fields for routing purposes (Routing, Oneway, and *Speed or RdCode*). These fields will be populated with the following attributes:

- Routing - will be populated with a "Yes" or a "No." A "Yes" will be applied to any segment drivable by an emergency vehicle, named and ranged roads, and named and un-ranged roads, such as Highways or Ramps. A "No" will be applied to alleys, private drives (unnamed/unranged), and closed roads. If there are duplicate, overlapping, or double line segments, only one segment will have "Yes" in the routing field. The others will have a "No" in the routing field.
- Oneway - will be populated with a "1", "2" or a "0". A "1" will be applied to any one-way roads. Line direction for consecutive one-way roads will follow the same direction of traffic flow for that road. Address ranges will be adjusted accordingly. A "2" will be applied to all two-way roads. A "0" will be applied to private drives or roads not navigable by emergency services.
- Speed or RdCode – will be populated with a value indicating the speed limit of the segment or a value that indicate some type of roads hierarchy. GeoLynx 9-1-1 will be configured to use these values in determining the best possible route. (e.g. Value 1 = 65 mph, 2 = 45 mph, etc)

Note: The routing function has additional topologic requirements in order to function properly. It is required that street segments are broken and snapped at true intersections. Another requirement is that road segments should not be broken at overpasses, underpasses, etc. The street network should represent actual traffic flow.

ESZ Boundaries Layer Updates

GeoComm proposes to update the existing ESZ boundaries layer. GeoComm will update the ESZ boundaries based on fallout results and hard copy or digital resources to accurately correspond to the ESZs in the ALI database and MSAG. If there are any discrepancies between the approved resources GeoComm will create an ESZ boundary map and submit to King and Queen County for verification. King and Queen County must provide GeoComm with updates to the ESZ boundaries on the hard copy map provided; the ESZ boundaries will then be updated based on this information.

When all updates are made to the ESZ boundaries GeoComm will make any necessary updates to ensure that ESZ boundaries align with the roads that border the boundaries.

Once complete, GeoComm will provide a final approval map to King and Queen County for final verification and approval. This proposal does not include mapping subscription based emergency services (individual residential ESZs). Additional pricing can be provided for these services, if desired.

Boundaries Layer Updates

GeoComm proposes to combine the four boundary layers to create one community boundary layer. There will be two primary fields contained in this layer and attributed with its corresponding information.

- NAME – will be attributed with the name of the community.
- MCD – will be attributed with F since all areas are unincorporated areas.

When updates are complete, GeoComm will provide the boundary map to King and Queen County for final verification and approval.

Address Points Layer Updates

After the road layer has been updated GeoComm will use it as a basis to update the existing access_point address field. GeoComm will update the address field with the updated NENA and USPS standard road name from the road layer.

Quality Assurance/Quality Control

Quality control is an integral part of all our projects. GeoComm uses documented internal processes to assure the highest quality of deliverables are developed and documented. GeoComm proposes to

complete several in-depth project quality assurance/quality control (QA/QC) steps to ensure the map data is accurate.

GeoComm understands it is crucial to proactively identify and correct data errors before problems are realized during an emergency 9-1-1 call in a communications center. That is why, over the years, GeoComm has developed and implemented a structured QA/QC curriculum as well as a variety of tools to assist in these processes. The QA/QC curriculum currently consists of several audits for various layers. In addition to the audits performed, GeoComm GIS specialists understand the importance of quality data and continuously review it throughout the development of the GIS data layers. The QA/QC audits and regular reviews ensure complete and accurate GIS data. All errors discovered are reviewed and corrected throughout the project.

QA/QC audits will be performed on the:

- Roads Layer
- ESZ Boundaries Layer
- Boundaries Layer
- Multi-Layer Topology

Roads Layer

GeoComm will perform several audits to ensure the quality of the roads layer. The audits used for checking the roads layer include:

- Address Range Audit
- Topology Audit
- Missing Attribute Audit
- Road Name Audit
- Length Audit

ESZ Boundaries Layer

GeoComm will perform several audits to ensure the quality of the ESZ boundaries layer. The audits used for checking the ESZ boundaries layer include:

- Topology Audit
- Missing Attribute Audit
- ESZ Duplicate Audit
- ESZ Number Audit

Project Team Development

GeoComm will establish a project team specifically for you with a highly qualified project manager supported by public safety GIS and software development experts based in our main office in St. Cloud, Minnesota.

The project manager will be available as follows throughout the project:

- To provide project status reports and updates to project timelines
- To answer routine questions regarding the project
- To follow-up on inquiries and requests from you regarding the project

An Implementation Specialist will be the primary technical contact for the project and will have overall responsibility for implementing GeoLynx 9-1-1 v7.
A GIS Specialist will be responsible for implementing the GeoLynx DMS GIS Data Manager, MSAG Manager, Mobile GIS Data Manager modules and all GeoLynx DMS training.

Team members will be assigned specific duties related to the technical and administrative elements of the project and the project manager will provide the oversight necessary to ensure all elements of the project are implemented in a timely manner.

The project team utilizes the expertise of individuals from several departments within the company, all specializing in different aspects of the project. This blend offers a diverse understanding and perspective while working cohesively to deliver the required elements of this project.

Kickoff Meeting and Project Coordination

One of the first steps for the team will be to gain an in depth understanding of your project in its entirety…the total scope, goals, and desired outcomes. Detailed knowledge of all the systems involved is essential and results from staff research, analysis, audits, or assessments. During an initial internal meeting, project leaders will ensure the team understands any nuances in the scope of work, the overall schedule, and their individual responsibilities during the course of the assignment. This is an effective step in assuring the project's successful and timely completion.

There are many decisions to make and questions to answer at the project start including gaining a detailed understanding of all constraints that may exist with any particular endeavor, i.e. deadlines and risks. Also, efficient methods for communication among team members both internally and externally related to the project will be established.

Boundaries Layer

GeoComm will perform several audits to ensure the quality of the boundaries layer. The audits used for checking the boundaries layer include:

- Topology Audit
- Missing Attribute Audit
- Boundary Duplicate Audit
- Boundary Name Audit

Multi-Layer Topology

The Multi-Layer Topology audit verifies road centerline segments to determine if they touch or cross any ESZ boundary or community boundary.

Software Implementation and Project Management

Above and beyond typical software installation and training services, GeoComm recognizes implementation services are required to help plan the deployment of various system components and to build a deployment architecture that will meet your operational needs and realities.

Rather than simply installing the software, training your users, and then leaving you with manuals to go ahead on your own, GeoComm's implementation services help turn the key to the ignition for the system so you can begin to realize benefits immediately after deployment of the latest version of GeoLynx 9-1-1and GeoLynx DMS.

As with all of our projects, GeoComm will follow a systematic approach to installation performed to ensure there is the least disruption to the existing, ongoing operations.

One key to successful system implementation is to have a quality project management process in place. Based on established processes and past project experience, GeoComm's processes encompass all facets of project management. This methodology is critical to the success of any assignment.

GeoComm is committed to undertake the work outlined in this proposal. We have the needed resources, processes, and procedures in place to perform this work.

Through open communication between King and Queen County and the entire project team an understanding of the depth of the project scope will be gained. With consensus from all parties, a project synopsis will be developed. This open communication between team members and King and Queen County will be ongoing throughout the entire project and has proven to be an essential part of successful project implementation.

You are an integral part of project implementation with regular meetings scheduled to keep you abreast of the project schedule. To ensure project success, the team will continually identify milestones in the process, tracks all factors, and will inform you of the project status.

Quality Control

Quality control is also an integral part of system implementation. GeoComm will utilize documented internal processes to assure the highest quality of deliverables are developed and documented. In addition, an Acceptance Test Plan (ATP), final report, and approval processes will be utilized with documentation of your ultimate satisfaction with all project elements as the final goal.

Pre-Installation Coordination

Before installation, Implementation Specialists will work with you to assure all hardware is available. Pre-installation conference calls and a project timeline will be outlined in the project plan and reviewed periodically for accuracy.

GeoComm Client Services personnel will work with you to ensure that project requirements are understood and clarified. Conference calls will be made to review installation, hardware, software, and configurations. A Microsoft Visio® diagram will be developed and sent to you to review and to aid in overall project understanding.

The following steps will take place prior to installation and training of the proposed software:

- GIS Data Conversion and Software Set Up
- GIS Data Maintenance Workflow Review and Updates

GIS Data Conversion and Software Set Up

One of the most crucial elements in mapping 9-1-1 calls is the GIS map data. GIS map data is produced in many different formats with file structures that vary. For any specialized software, this format must meet certain minimum GIS map data specifications. In addition to complying with those specifications, software compatibility is one of the most important aspects for mapping 9-1-1 calls - so your GIS map data must be adapted to work cohesively with GeoLynx 9-1-1.

Our team uses years of expertise in GIS map data development to provide the most effective GIS map data solutions. GeoComm's GIS data conversion and set up services include working with your staff to:

- convert the format of your GIS map data and develop an ESRI geodatabase, if required
- supply minimum GIS map data specifications for reference during the set up process and review those specifications, via a conference call, to ensure an understanding of the software needs
- review the map data structure and file naming and deliver a written document outlining any required and recommended modifications
- make recommendations on how to make those modifications to create an acceptable format for successful integration into GeoLynx 9-1-1
- review the map data for topology issues and report findings so you can update your map data to enable accurate routing functionality in the software
- coordinate and identify miscellaneous GIS map data layers that may enhance GeoLynx 9-1-1
- build and configure address locators used in GeoLynx 9-1-1 for plotting wireline 9-1-1 calls and used for finding features or locations on the map
- report any issues regarding desired configurations that may affect the system performance and discuss options
- set up and configure the map document which will be used in GeoLynx 9-1-1 (the map document is the file that includes GIS map data layer symbology, zoom levels, labeling, etc.)

Note: Address locators are a required component of the ESRI geocoding engine used in GeoLynx 9-1-1 to plot wireline 9-1-1 calls and search for features. Address locators define the process for searching. They allow users to find address locations and features throughout a variety of individual reference layers such as streets, parcels, address points, bodies of water, etc.

GeoLynx 9-1-1 uses Maplex labeling for advanced label placement.

GIS Data Maintenance Workflow Review and Updates

GeoComm GIS Consultants are equipped to drive the successful completion of review and updates to King and Queens current maintenance workflow. GeoComm has assisted many counties in establishing maintenance workflows for maintaining their GIS map data, ALI database, MSAG, and addressing effectively. GeoComm's approach ensures the development process maximizes the counties resources with minimal impact while maintaining industry standards.

Upon contract signing, GeoComm will schedule an on-site kick off meeting to be attended by our GIS Consultant. The GIS Consultant will gather the needed information to review the existing maintenance workflow and make adjustments, where necessary, for King and Queen County.

The maintenance workflow will focus on how King and Queen County should structure their maintenance program to ensure the required E9-1-1 mapping and database updates are made efficiently.

Note: The review will not include specific GIS data editing such as updating or reshaping of features.

During the on-site meeting the GIS Consultant will meet with King and Queen County's key personnel who is responsible for the GIS map data, ALI database, and MSAG maintenance and addressing for the county. We will work with personnel to understand existing workflows. The GIS Consultant will coordinate with King and Queen County and the included departments. GeoComm understands multiple departments may play a role in GIS map data maintenance, MSAG synchronization, and addressing. The GeoComm GIS Consultant will coordinate with the multiple departments in updating the county-wide maintenance workflow.

GeoComm anticipates some departments may include:

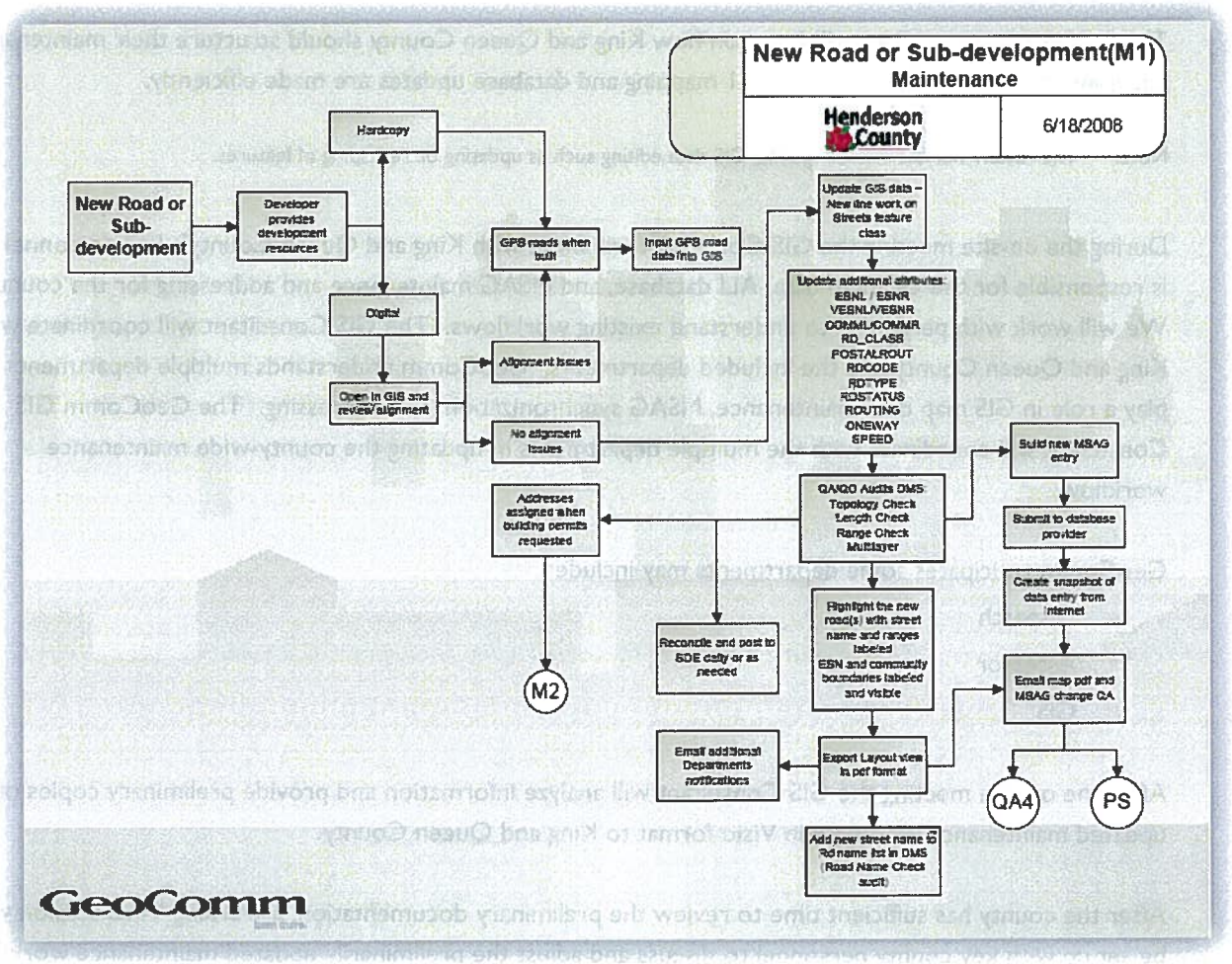
- Dispatch
- Assessor
- GIS

After the on-site meeting the GIS Consultant will analyze information and provide preliminary copies of the updated maintenance workflow in Visio format to King and Queen County.

After the county has sufficient time to review the preliminary documentation, a working Web session will be set up with key county personnel to discuss and adjust the preliminarily updated maintenance workflow diagram. The final maintenance workflow discussion and document deliverable will occur during the Maintenance Workflow Training session explained in Section 5 Installation and Training.

The maintenance workflow diagrams will allow King and Queen County to easily follow a systematic approach to maintaining the GIS map data, ALI database, MSAG, and addressing.

An example of a Visio diagram for public safety maintenance workflow is on the following page.


New Road or Sub-development(M1)
Maintenance
Henderson County
6/18/2008
New Road or Sub-development
Developer provides development resources
Hardcopy
Digital
Open in GIS and review alignment
Alignment issues
No alignment issues
GPS roads when built
Input GPS road data into GIS
Update GIS data – New line work on Streets feature class
Update additional attributes: ESNL / ESNR VESNL/VESNR COMML/COMMR RD_CLASS POSTALROUT RDCODE RDTYPE RDSTATUS ROUTING ONEWAY SPEED
QA/QC Audits DMS: Topology Check Length Check Range Check Multilayer
Addresses assigned when building permits requested
M2
Reconcile and post to SDE daily or as needed
Highlight the new road(s) with street name and ranges labeled ESN and community boundaries labeled and visible
Export Layout view in pdf format
Email additional Departments notifications
Add new street name to Rd name list in DMS (Road Name Check audit)
Build new MSAG entry
Submit to database provider
Create snapshot of data entry from internet
Email map pdf and MSAG change QA
QA4
PS
GeoComm

5 Installation and Training

Installation

As with all of our projects, GeoComm will follow a systematic approach to installation performed to ensure there is the least disruption to the existing, ongoing operations. Installation will be done by GeoComm on customer-provided equipment at the facilities designated by the customer, according to a mutually agreeable schedule.

After the conversion contract is in place, GeoComm's Client Services Department will schedule the on-site implementation. A GeoComm Implementation Specialist will travel on-site to reconfigure and install the newest version of GeoLynx 9-1-1and install GeoLynx DMS modules, if purchased.

While on-site the Implementation Specialist will complete the following for the software conversion:

- Uninstall old version of GeoLynx 9-1-1
- Install and configure the new version of software

For GeoLynx 9-1-1, specifically, the Implementation Specialist will complete the:

- ALI data connection and configuration
- Testing of wireline and wireless calls

Installation for GeoLynx DMS will occur remotely prior to on-site training, if possible. GeoComm will remotely access King and Queen County workstations where each license of GeoLynx DMS will be installed on. King and Queen County must allow remote access to these workstations and they must have ArcView 9.3 or higher with the latest service packs installed on these workstations prior to GeoComm remotely installing GeoLynx DMS.

If installation of GeoLynx DMS cannot occur remotely and on-site installation at more than one location is required additional fees may apply.

On-site Training

For on-site training, GeoComm will provide a combination of classroom instruction and hands-on training. The classroom presentation provides foundational information and introduces software functionality. The hands-on session concentrates on procedural based functionality.

Agendas discussing the recommended training format and scheduling installation and training will be reviewed during contract negotiations.

GeoLynx 9-1-1 User Training

This is accomplished through a combination of the following:

- General Background Discussion
- Functionality Training
- Procedural Training

General Background Discussion

User training highlights the integration of GIS technology, the dispatch GIS software and the 9-1-1 industry. The training session provides the tools for understanding the call processing background required for basic troubleshooting. Some topics covered are:

- Map data layer requirements
- Working relationship with the incoming ALI data
- Function of map data
- ESN boundaries

Functionality Training

The training focuses on basic functionality and features of GeoLynx 9-1-1 and provides the dispatcher with tools needed to take advantage of the command inherent in GeoLynx 9-1-1. The training clearly explains how GeoLynx 9-1-1 will aid a call taker during a 9-1-1 call.

Specific topics covered in the functionality training portion include:

- Drag and Drop map views
- Tool functionality (locating an intersection)
- Responder vehicle drive time recommendations
- Error log reporting (ALI or GIS Discrepancy Report)
- Real-time map markup and road closures
- Wireless call location
- Dynamic vehicle routing (requires optional GeoLynx AVL module)
- Discrepancy tracking procedures
- Hazardous material mapping
- Unique features such as the digital atlas
- 2008 ERG (Emergency Response Guidebook) integration
- Measure tool (aids in determining distances)
- Map data layer requirements

- Entry of coordinates to find a location
- Map navigation (zoom, pan, and specialized tools)

Procedural Training

The procedural or scenario-based training is customized to fit the general procedures followed within each PSAP and the specific needs of the county. These carefully designed scenarios produce optimum "hands-on" learning environment, allowing dispatchers to use the various tools available for map navigation, as well as other tools in GeoLynx 9-1-1. Trainees will obtain a basic comfort level with the software.

The training curriculum will provide call takers the ability to pull the functionality of GeoLynx 9-1-1 into scenarios that could exist during a 9-1-1 call. Some of the simulated scenarios include:

- Landline 9-1-1 call is received: enable dispatch personnel to leverage visual and text location information displayed within GeoLynx 9-1-1 to reduce emergency response time
- Manual Address lookup: GeoLynx 9-1-1 can locate address and responder information even if call is received over administrative (non-emergency) lines
- AutoSend: test wireline 9-1-1 call – send fax to the appropriate fire and medical agency assigned to the Emergency Service Number
- Error Log: wireline 9-1-1 call. The map location does not match the location confirmed by the caller; ALI information is correct, map location is not accurate – GIS Map Discrepancy Log
- Wireline 9-1-1 call that does not find a match, possible match window comes up under certain circumstances
- Creation of an issue report: map errors as well as ANI/ALI errors can be filed by dispatch personnel. This information is accessible to GIS and administrative staff and aids in the maintenance and refining of map layers and the 9-1-1 database.
- A hunter is injured and calls 9-1-1 from a cell phone. He is able to give the coordinates of his location from his personal GPS receiver. Determine a location from DDM coordinates.
- Determining the appropriate responders to a wireless 9-1-1 call

GeoLynx 9-1-1 User Training Plan

Course Title	Staff	Duration	Class Size	Number of Sessions
GeoLynx 9-1-1 User Training	Users	2 hours	6 users 2 administrators	2

Note: The number of training sessions may be revised in contract negotiations based on the availability and location of trainees.

GeoLynx 9-1-1 System Administrator Training

GeoComm has learned through experience the most effective way to train an administrator is to have them attend a user session first then build on that foundation with administrator content. All our training curriculums have been designed to facilitate the acquisition of basic skills and concepts relating to the use of mapping software in the 9-1-1 call answering process.

GeoComm's system administration training is to provide a basic understanding of the functionality and ongoing maintenance of our GeoLynx 9-1-1 Dispatch GIS system. In addition, we will train system administrators on how to make adjustments to better fit the needs of the individual PSAP. This is accomplished through a combination of background lectures with functionality and scenario based hands-on exercises. The system administration training will be broken down into four basic components:

- System Architecture
- Installation
- Configuration Options
- Maintenance Procedures

System Architecture

GeoLynx 9-1-1 is a client/server based architecture. An overview of the following will be covered:

- GeoLynx Family of Products
- GeoComm Configuration Controller
- GeoComm Message Switch
- SQL Server
- Message Queues
- Geodatabases
- Address Locators

Installation

In the event of a hardware or system failure, GeoLynx 9-1-1 will require reinstallation. Materials are left with the administrator for reinstallation. In addition, the GeoComm Implementation Specialist will train the system administrator(s) necessary processes for reinstallation and reconfiguration of the system.

Maintenance Procedures

Maintenance of map data and settings within GeoLynx 9-1-1 is required to preserve accuracy levels established during the original installation. The GeoComm Implementation Specialist will detail how to add updated map data layers into GeoLynx 9-1-1 and the corresponding settings.

Configuration Options

GeoLynx 9-1-1 includes the ability to customize a multitude of settings and configuration options. Configuration training will focus on the options available to the system administrator to accommodate the need of the individual call taker or PSAP. The configuration training will allow the administrator to develop the skill set for maintaining GeoLynx 9-1-1. GeoLynx 9-1-1 provides user-friendly configuration interface that is password protected to allow for easy manipulation of the software.

Some of the settings and configuration options covered in this course include:

- User account configurations/settings
- .mxd maintenance
- Setting zoom levels
- Map data layer requirements
- Configure system to minimize required maintenance
- Customize map data display (set the desired number of map views)
- Set ALI parsing parameters in the system – wireline and wireless
- Update and add AutoSend numbers
- Setting up hyperlinks
- Define and display tolerance zone on Phase II call
- Special feature modules
- New GeoLynx 9-1-1 server and database architecture *
- GeoComm configuration controller *

  *please see diagram provided in the hardware specifications section

The system administrator(s) will be responsible for understanding how GeoLynx 9-1-1 works and what files are affected by changes within the system. The overall focus of the training will revolve around the various options available for making adjustments within the system. These options relate mainly to display options of map data in the map views at workstations and application options such as the status bar configuration.

GeoLynx 9-1-1 System Administrator Training Plan

Course Title	Staff	Duration	Class Size	Number of Sessions
GeoLynx 9-1-1 System Administrator Training	Administrator	Up to 4 hours	2-4	1

Note: The number of training sessions may be revised in contract negotiations based on the availability and location of trainees.

GeoLynx DMS Training

The GeoLynx DMS training sessions will cover all GeoLynx DMS tools as well as a general overview of how these tools interact with the ESRI ArcGIS software.

The goal of GeoComm's GeoLynx DMS training is to provide a comprehensive understanding of GeoLynx DMS GIS toolset and how these tools can be applied to your public safety dispatch GIS system. The training is accomplished through a series of lectures and hands on experience. The lectures will provide a background on specific GeoLynx DMS tool concepts, while the hands on tutorials will demonstrate real world experience in applying the GeoLynx DMS toolset to your dispatch GIS and database management workflows.

Training will include the following items if the GIS Data Manager Module is purchased:

- GeoLynx DMS Basics
  - Logging in and logging off
  - Toolbar components and setup
  - Help
  - Road symbology: vertices/nodes, direction arrows
  - Clearing graphics
- GeoLynx DMS Toolbar
  - Split street and recalculate address ranges
  - Flip street
  - Find address
  - Assign address
  - Batch address assignment
  - Precision address matching
  - Locator address matching
  - Assign address ranges
  - Edit cell sectors

    - Quality assurance/quality control audits
    - Discrepancy manager
    - Administrative configuration screen
  - GeoLynx DMS Publishing Maps
    - Atlas grid creation
    - Atlas generation

Training will also include the following items if the MSAG Manager module is purchased:

- Create MSAG records from a map selection
- Create CAD geofile records from a map selection
- Import an existing tabular MSAG
- Perform MSAG check for overlaps and invalid entries
- Compare MSAG to GIS and GIS to MSAG
- Add, edit, and delete MSAG record
- View, print, email, and export MSAG change report
- Print, email, and export MSAG
- Sort MSAG by available parameters
- Find individual MSAG records
- Filter MSAG based on values
- Merge GIS changes into MSAG
- Validate addresses

Finally, if the Mobile GIS Data Manager module is purchased training will also include:

- Collecting address point features
- Collecting street centerline features
- Data transfer to and from ArcPad

If King and Queen County has GeoLynx 9-1-1 implemented the GeoComm Trainer will review how to:

- Update files in GeoLynx 9-1-1 (if applicable)
- Propagate map file updates to GeoLynx 9-1-1 workstations

Training Materials

GeoComm understands the requirement to provide all necessary training materials to support the aforementioned training programs. Digital and hard copies of the training resource materials will be provided to the King and Queen County prior to and upon completion of the training.

Notes

- A coordinated formal training schedule and agenda will be provided
- The scope is for two-days, 12 hours, of on-site customer GeoLynx DMS E9-1-1 GIS Data Management training
- Maximum number of students is two; instruction for all trainees is concurrent within the agreed upon two-day, 12 hour session

GeoLynx DMS Training Plan

Course Title	Staff	Duration	Class Size	Number of Sessions
GeoLynx DMS Training	Administrator	12 hours	2	1

Note: The number of training sessions may be revised in contract negotiations based on the availability and location of trainees.

Getting Started: Maintaining GIS Data for Public Safety

GeoComm proposes an on-site customized training course to cover basic principles of creating and maintaining GIS map data and ensuring constant synchronization between the GIS map data, the 9-1-1 database, and MSAG. The on-site training course will be conducted by a GIS Consultant on-site over two separate on-site visits. GIS and 9-1-1 basics elements training will be conducted during the kick off meeting with the remainder of the elements being trained on during the same site visit as the maintenance workflow training.

This course is designed for the public safety professional that has little or no background in geographic information systems (GIS) map data maintenance.

It will include hands-on training which will provide real-world experience in applying maintenance procedures to GIS map data and database management workflows.

Elements that will be covered include:

- GIS and 9-1-1 Basics
  - Understanding key components: GIS map data, 9-1-1 database, and MSAG
  - Synchronization of key components

- 9-1-1 Call Types: Wireline, Wireless, and VoIP
- 9-1-1 Call Flow Process

- Public Safety GIS
  - GIS Data types
  - Components of GIS Data: Geometry (Shape) and Attributes
  - Coordinate Systems
  - GIS map data layers used in 9-1-1
  - Topology
  - Geocoding basics
  - GPS basics
- ArcGIS Desktop Basics
  - ArcMap Overview
  - Map navigation/Identify
  - Bookmarks
  - Managing the Table of Contents
  - Adding Data
  - Working with Map Scales
  - Changing Symbology
  - Looking at the Attribute Table
  - Adding/Changing Labels
  - Select by Attribute and by Location
  - ArcCatalog Overview
- ArcGIS Desktop Editing
  - Editor Toolbar
  - Add or delete point, line, polygon features
  - Reshaping or moving features
  - Snapping settings
  - Editing Attributes
- Working with your MSAG and 9-1-1 Database
  - Prep MSAG/9-1-1 Database for geocode
  - Working with fallout from a MSAG/9-1-1 Database geocode
  - Creating MSAG/9-1-1 Database updates

- Updating Files in GeoLynx 9-1-1 (if applicable)
  - Propagate map file updates to GeoLynx 9-1-1 workstations

GeoComm will coordinate the customized GIS training session with GeoLynx DMS to provide the GIS personnel with the background required to maintain the GIS data specifically for 9-1-1.

In addition to the on-site training there will be two hours of Web-based support. The intent of the additional two hours is to provide a training review, as needed by King and Queen County. The two hours can be scheduled in half-hour increments and will expire 30 days upon completion of the initial training.

Getting Started: Maintaining GIS Data for Public Safety

Course Title	Staff	Duration	Class Size	Number of Sessions
Maintaining GIS Data for Public Safety	Administrator	12 hours/broken over two site visits	2	2
Support	Administrator	2 hours	N/A	N/A

Notes: The number of training sessions may be revised in contract negotiations based on the availability and location of trainees.

Maintenance Workflow Training

The resulting success of the maintenance workflow updates is directly measured by the value provided to the end users. GeoComm understands the importance of proper training. GeoComm will provide the training and documentation required for ongoing maintenance workflow.

GeoComm will provide an on-site maintenance workflow training session to King and Queen County staff to ensure successful maintenance of the GIS data layers and MSAG and addressing.

The goal of this session is to provide a solid understanding of GIS maintenance concepts and data layer maintenance related to King and Queen County. Specifically, the training session will focus on how the various data updates flow through a system of maintenance in King and Queen County.

The training will include:

- Interdepartmental communication for maintenance processes
- Evaluation and adjustment of existing maintenance workflow processes

Over the course of the project the GeoComm GIS Consultant will work closely with King and Queen County in clearly identifying the needs of the county on each of these elements.

In addition to the on-site discussion, there will be two hours of Web-based support. King and Queen County will be allowed to call in and receive Web-based follow-up training support from our trainer. The intent of the additional support is to provide a training review, as needed. The two hours can be scheduled in half-hour or greater increments. These additional hours will expire 30 days upon completion of the initial training.

On-site Maintenance Workflow Training

Course Title	Instructors	Staff	Duration	Class Size	Number of Sessions
On-site Maintenance Workflow Training	1	Administrator and End Users	4 hours	6	1

Note: The number of training sessions may be revised in contract negotiations based on the availability and location of trainees.

Maintenance Training Materials

GeoComm will provide Tazewell County with documents, Visio diagrams, PowerPoints, and other training materials as part of the training deliverables. Similar to the software training, GeoComm will work with Tazewell County to develop an ATP for the training course. This ATP will be used as a guide to ensure that the necessary elements are covered.

Acceptance Testing

Upon completion of the installation and training, GeoComm will provide King and Queen County with an Acceptance Test Plan (ATP), which is used to test all aspects of the product and its performance. Ideally, the ATP is completed immediately following installation and training.

Help Guide

GeoComm recognizes the importance of conserving our natural resources…that is why we have joined the effort by providing clients with an on-screen help guide. At a simple click of a button you will have immediate access to the help guide providing you with all the information you need for the operation, administrative set up, and configuration of the software. With the easy-to-use search feature, your answers are quickly found rather than thumbing through countless pages in a paper manual looking for your topic.

Another benefit of the on-screen help guide is help information is always up-to date, with each service pack or system release the on-screen help information is updated as part of the release eliminating out-of-date paper manuals.

Digital copies for printing by King and Queen County are available upon request at no charge at the time of installation. In addition, professionally printed manuals may also be purchased, if desired. A final price will be determined based on the additional manuals purchased.

Online Learning Network

For convenience and flexibility, GeoComm now offers online interactive training through Internet technology. This is an excellent way to offer new hire training, advanced training, and refresher training. Online training for GeoComm's entire Family of Products is conducted by our Implementation Specialists and is available for two audiences:

I. System Administrator Training
II. User Training

GeoComm offers a variety of product training and demonstrations via the GeoComm Learning Network. Information sharing is maximized in online training sessions for first-time users and advanced users who would like extended course instruction. During online training, customers can view and control GeoComm products, ask troubleshooting questions, and receive live coaching from GeoComm trainers on software functionality. One benefit of online training is that several locations may access the training simultaneously so customers may receive help at the same time, and information and ideas can be exchanged between customers.

An online schedule is available at http://geo-comm.com/learning_network.html and includes registration instructions.

Continuing Education

User groups provide an avenue for customers to gather at a central location and be refreshed on software applications. Usually facilitated annually, these sessions provide customers with the opportunity to renew their knowledge of the GeoComm entire Family of Products and to learn new and advanced features of the software.

Remote Connection Services

Support also consists of remote connection into your GeoComm software for troubleshooting by Technical Support Analysts. Remote connection services do not cover calls related to issues with other vendors.

The standard and preferred method for connection is GoToAssist over the Internet. GoToAssist sessions are protected by end-to-end, government-approved, 128-bit Advanced Encryption Standard (AES) encryption, as well as Secure Sockets Layer (SSL) encryption of point-to-point connections. Additional GeoComm remote connection capabilities include:

- PCAnywhere
- Remote Desktop
- Microsoft VPN
- Cisco VPN

Availability

Emergency calls are addressed twenty-four-hours a day, seven-days-a-week via a toll-free number/pager system. A technical staff member will return your emergency calls requiring immediate attention. GeoComm defines emergency calls as one or more of the following:

- System alarms where software does not process calls, or
- System locks up repeatedly without ability to recover.

During our regular business hours, 8 a.m. to 5 p.m. Central Standard Time, Monday through Friday, excluding holidays, you will be allowed unlimited toll-free calls, e-mails, and faxes related to any concern with the software.

If the hotline is called outside of regular business hours with non-emergency matters that could be addressed during regular business hours, you will be billed for such calls at a rate of $95 per hour (minimum one hour). These fees will be payable, in addition to the normal annual support and maintenance fee, within 30 days of receiving an invoice.

Software Maintenance

GeoComm recognizes the importance of continued software enhancements and innovation. Our software applications are systematically developed to ensure new software enhancements and latest technological changes are incorporated regularly into each of the GeoComm software applications.

6 Software Support and Maintenance

GeoComm's friendly and knowledgeable Technical Support Analysts are available to you twenty-four hours a day, seven-days a week. Our response time will be four hours or less…that is our promise. Over 65 percent of the technical support calls made to GeoComm are resolved the day you place the call.

Our response to customer issues is fast because GeoComm develops all proposed software components, trains its technicians on advanced troubleshooting methods, has remote access to your system, and available Web interaction through Internet technology. This results in quicker diagnosis and call closure. Ultimately, this means less downtime and maximum software functionality benefits.

Warranty Period

Following software implementation, GeoComm will provide you with an Acceptance Test Plan (ATP) to test all aspects of the product and its performance. Once the test plan is completed, a 90-day warranty period will begin. During this period, you will have full access to our Technical Support Analysts via telephone, e-mail, or fax. Whether it is a simple question or a complex issue, GeoComm will assist you to ensure full performance of your software.

Once the 90-day warranty period ends, GeoComm offers an annual software support and maintenance agreement for a fixed price or you can opt for services as needed at a rate of $95 per hour, minimum one hour.

Unlimited Hotline Support

Hotline support consists of technical assistance and product coaching by trained and experienced specialists in an advisory capacity via a toll-free telephone number, fax, or e-mail, relating to the operation of any portion of the GeoLynx 9-1-1 Family of Products. All calls for service are logged in our Microsoft Dynamics Customer Relationship Management (CRM) software.

Upon receiving the telephone call, fax, or e-mail regarding a software issue, the Technical Support Analyst will assign a case number in CRM and work with you to resolve it. If all analysts are busy assisting other customers, a return telephone call will be made within four hours.

Support for GeoLynx DMS, related to any technical concerns, system upgrades, and version releases is covered under a formal software support and maintenance agreement. Concerns or questions specifically related to GIS can be answered by a GeoComm GIS Specialist, but will be billed at a rate of $95 per hour with a minimum billable charge of one hour.

Our Software Development Team is charged with staying on top of all industry-related developments and incorporating desirable features into our software family of products.

GeoComm key staff members review software enhancements recommendations from internal and external customers on a regular basis and at scheduled meetings. Each of these enhancement requests are tracked in our CRM system for future review and tracking. Features incorporated into the latest software release are based on a variety of factors such as the number of customers making the request, overall impact to all of our customer base, etc.

Our customers play a significant role by making software enhancement requests and providing feedback during regular communications with their account manager, support calls, or via our customer satisfaction surveys.

It is common practice for GeoComm to release Service Packs and Feature Packs that contain fixes and new functionality respectively.

Software support and maintenance customers are eligible for receipt of all new Service Packs and Feature Packs for the term of their agreement.

Upon release of a Service Pack or Feature Pack, affected and eligible customers are notified by phone or e-mail. Based on the contents, GeoComm Technical Support will determine the most effective method for making the software available.

Hardware Support and Maintenance

Included in the cost of GeoLynx DMS Mobile GIS Data Manager is 12 months of software support for the ArcPad software from ESRI and a 12-month warranty on the GPS hardware from Trimble. After 12 months King and Queen County will be responsible for contracting with ESRI and Trimble for additional software support and hardware warranty.

All hardware warranties begin once GeoComm receives the hardware from the manufacturer and begins configuration. During project implementation, GeoComm's implementation specialists will work with the customer to follow a schedule to provide for the maximum warranty time possible to include time for configuration by GeoComm, on-site installation, and customer ownership. Actual warranty time of equipment at the customer site will vary based on installation date.

7 Responsibilities and Deliverables

King and Queen County Responsibilities

GeoComm believes our clients play a critical role in the overall success of each project. It is desired that King and Queen County will provide local support so the project will be completed in an efficient and timely manner.

One of the key elements to having a successful project is the quality of the resources provided. In addition to quality, the timeliness of receiving them is essential for completing a dependable and accurate project.

GeoComm anticipates King and Queen County staff will play a role in the following elements:

- Assist in coordinating and attend periodic conference calls
- Provide pertinent project information and documentation
- Provide a single point of contact at King and Queen County
- Assist in the ongoing quality assurance
- Be available for communication throughout the project and system implementation
- Assign appropriate staff to attend the training courses provided

Specific King and Queen County responsibilities for each project element follows.

GeoLynx 9-1-1

Prior to the GIS data conversion and software set up, King and Queen County is responsible for:

- providing master ESRI shapefiles currently incorporated in the existing GeoLynx 9-1-1 setup
- providing supplementary layers desired for the new GeoLynx 9-1-1 display, if available
- providing map projection information for all map data provided
- reviewing map display (feature rendering)

GeoLynx 9-1-1 is designed on a server and database architecture so all configuration settings, as well as ALI and optional AVL data, is channeled through the server and database where it is picked up by GeoLynx 9-1-1 client for display of data, therefore a server is required.

Prior to GeoComm's arrival, King and Queen County must:

- Have a dedicated server for GeoLynx 9-1-1.
- Ensure hardware meeting the required specifications on the following page is available at the time of installation.

System Component	Minimum	Recommended
Description:	There are several applications that need to be set up to run GeoLynx 9-1-1 in the dispatch center. These applications include; Message Switch, Configuration Server, GeoComm Database, and GeoLynx 9-1-1 Clients. The GeoLynx Message Switch allows a single connection to E9-1-1 ALI and AVL. Data is distributed from the Message Switch to any network attached GeoLynx 9-1-1 workstation client. The recommended way to configure the dispatch center is to run the Message Switch, Database, and Configuration Server on the one computer and the GeoLynx 9-1-1 Client on other computers. As an alternative, you can configure this to run the Message Switch, Database, Configuration Server, and one GeoLynx 9-1-1 Client on one computer. All the other computers would run a GeoLynx 9-1-1 Client. If CAD is used in the dispatch center then CAD Connector and/or a Standard Interface is used. The CAD interface is installed at the Message Switch computer or on the individual GeoLynx 9-1-1 Clients depending on the environment. The workstation should be accessible 24/7. GeoComm applications cannot be installed on a primary domain controller or backup domain controller.	
CPU:	2.0 GHz Intel Pentium 4 Processor or AMD equivalent single core processor	2.0 GHz Intel Pentium 4 Processor or AMD equivalent dual core processor or better
RAM:	2 GB RAM	3 GB RAM or more
Available Hard Drive:	20 GB- depends on size of map data and size of aerial imagery, if applicable	40 GB or more- depends on size of map data and size of aerial imagery, if applicable
Display:	17" 800x600, 16-bit color depth	17" or 21" monitor, 1024x768, 24- or 32-bit color depth
Video Card:	32 MB integrated video card	256 MB discrete memory video card
Resolution:	1024x768 capable video card with 17" monitor, 16-bit color [LCD or CRT]	1280x1024 capable video card with 19" monitor, 32-bit color [LCD or CRT]
Operating System:	Windows XP Pro, Vista Business, Vista Ultimate	
Network Card:	10/100 Mbps-depends on network speed	10/100/1000 Mbps-depends on network speed. GeoLynx 9-1-1 using enterprise geodatabases requires at least a gigabit network.
Serial Ports:	2 Port DB9 SIIG PCI Serial Card (Dual com ports) for external connection to 9-1-1 equipment and/or AVL subsystem modems on the server application with the GeoComm Message Switch. Note: brands other than SIIG may be used; PCI serial cards eliminate resources and interrupt sharing problems between multiple ports to be used concurrently.	
Optical Drive	DVD-ROM Drive	
Modem:	Optional 56 kbps hardware-based fax modem [for faxing maps]	
Remote Access:	Dial-up or high-speed Internet connection	High-speed Internet connection

System Component	Minimum	Recommended
Network:	• TCP/IP Protocol installed, static IP address assigned • 10/100/1000Base-T Network Interface Adapter • 10/100/1000Base-T hub/switch for connecting workstations • Network speed requirements depend on usage: o 10Base-T: suitable for message switch operations and periodic scheduled file update processes o 100/1000Base-T: suitable for message switch operations and frequent periodic scheduled file update processes, as well as live access of GIS data from a server	

*Optional in lieu of external USB memory

- Have all computers installed and connected to the LAN. GeoComm is not responsible for setup or maintenance of the LAN connections or LAN infrastructure. Facilities that have not been properly setup upon our arrival may cause significant delay in our portion of the installation and may be subject to an extended visit or additional visits. The cost of these extensions or extra visits shall be invoiced according to our normal labor rates plus additional travel expenses, including any penalties assessed for pre-arranged accommodations.
- Make remote connections available on each workstation. GeoComm will test the connection prior to arrival to ensure it provides the expected connectivity between GeoComm and King and Queen County workstations. Without remote access, help support will be limited.
- Have RS232 cable or CAT5 cable ran from the ALI Controller location to the GeoLynx 9-1-1 or Message Switch location.
- Provide an operational link from the GeoLynx 9-1-1 location to a NENA standard CAD port on the ALI controller, including a valid and operational ALI data stream. Have the parameters configured on the CAD as outlined by GeoComm's documentation.
- Provide data meeting GeoLynx 9-1-1 map data specifications with the data layers projection information. GeoLynx 9-1-1 required map data layers and description of each are included in the table below.

Layers	Description
Roads Layer (polyline)	▪ The roads layer is a required layer (line feature). ▪ No specific file or field names are required. ▪ The following minimum attributes are required: MSAG-valid road names, street ranges, and left and right Emergency Service Number (ESN). ▪ Road names can be concatenated in a single field or parsed out. ▪ **Important:** Extra spaces and punctuation should be removed from all data fields. ▪ **Important:** It is required that road name fields be in upper case letters. ▪ It is recommended that address ranges are broken down into four fields. There is no specific field names that need to be used. ▪ Routing attributes are required if routing functionality is desired. ▪ A road code field populated with road type or speed limit is required for computing drive time distance using GeoLynx 9-1-1's routing functionality.

Layers	Description
Emergency Service Zones Layer (polygon)	▪ The ESZ layer is a required layer (polygon feature). ▪ No specific file name or field names are needed. However, minimum attributes include emergency service number, fire responder, law responder, and medical responder broken into five fields.
Political Boundaries Layer (polygon)	▪ The boundaries layer is a required layer (polygon feature). ▪ It is recommended that datasets containing more than one jurisdiction have political boundaries all on one layer. ▪ No specific file name or field names are needed. However, two separate fields are required. One attributed with community name and the other attributed with unique codes depicting individual jurisdictions for color rendering and setting zooming levels in the GeoLynx Family of Products.
Address Locator(s)	Address locators define the process for finding address locations and map features based on a variety of different reference data, such as streets, parcels, address points, etc. At a minimum, a single address locator is required for plotting addresses or locations on a roads layer or other primary search layer. GeoComm recommends a refining zone be used with the selected address locator style, but is not a requirement. For refining attributes, GeoComm recommends an ESN or MSAG-valid community name be used. There are no required naming conventions for this address locator style. However, GeoComm does recommend the naming convention reflect if the address locator is for a point or polygon layer and whether or not a refining zone is included as an attribute.
Other Map Data Layers	
Primary Search Layer	To use a primary search layer to locate wireline 9-1-1 calls it must meet the following requirements: ▪ The primary search layer must contain either point or polygon features. ▪ The house number must be in its own field. ▪ The road name can be concatenated in a single field or parsed out. ▪ The road names should be capitalized and extra spaces should be removed. ▪ Any other information that may be displayed, such as apartment, suite, lot, etc., should be contained in a field other than the combined address field.
Label Layers	There are two options for applying labels to map data layers used in the GeoLynx Family of Products. They include: ▪ Dynamic labeling (auto-label) using the Maplex Label Engine ▪ Annotation text When applying dynamic labels, map data layers are labeled based on the Maplex Label Engine using an auto-label process that generates and positions labels automatically based on set properties. Dynamic labels are not a separate text feature, they are drawn each time the map redraws. Note: The Maplex extension for ArcGIS is an automated high-quality cartographic text placement and labeling extension for ArcGIS Desktop. Maplex for ArcGIS uses the proven Maplex text placement engine to produce high-quality cartographic automated labeling for digital and hard copy maps. Maplex for ArcGIS greatly enhances cartographic quality. Annotation labels are an alternative to dynamic labeling. With annotation, each piece of text stores its own position, text string, and display properties. The main advantage that an annotation label has over dynamic labels is it allows for more precise control over label placement. Both Standard Annotation and Feature Linked Annotation are supported.

Layers	Description
Alternate Name Table	In some cases, roads may be known by more than one name or a road name may have multiple spelling variations. For example, Arlington Highway is alternatively known as W Main Street and US Highway 66. The alternate road name table enables GeoLynx 9-1-1 to utilize multiple road names for the same segment of road. To account for these situations, an address locator style should be selected that supports alternative searches, such as US Streets with Zone and AltName or US One Address with AltName. When building an address locator for alternative name searches, we recommend following specifications as outlined by ESRI. These specifications can be referenced in ArcGIS Desktop Help.
Wireless Sector Layer	Due to the increasing use of wireless telephones, it is becoming imperative to be able to locate wireless 9-1-1 calls. GeoLynx 9-1-1 is capable of mapping wireless Phase I and Phase II 9-1-1 calls. To map wireless Phase I calls the following is required: ▪ A wireless sector layer containing polygon features depicting the coverage area of the sector. ▪ The layer file name must be called "cell_l" and include minimum fields such as unique id and wireless carrier information. Attribute data should be capitalized. Note: The wireless mapping functionality can be implemented only after a wireless 9-1-1 network has been established by the wireless carriers and the PSAP is receiving Phase I wireless E9-1-1 calls.
Place Name Alias Table	A place name alias table is a table that contains place names and addresses. An address locator will use this table to search for a place name and then use the associated address to locate the location on the map. For example, in GeoLynx 9-1-1, a user may search for a location by its name, such as Wrigley Field. When the user searches for Wrigley Field, the address locator will reference the alias table and look for Wrigley Field to determine the address 1060 W Addison St to locate on the map. When building an alias table, we recommend following specifications as outlined by ESRI. These specifications can be referenced in ArcGIS Desktop Help.

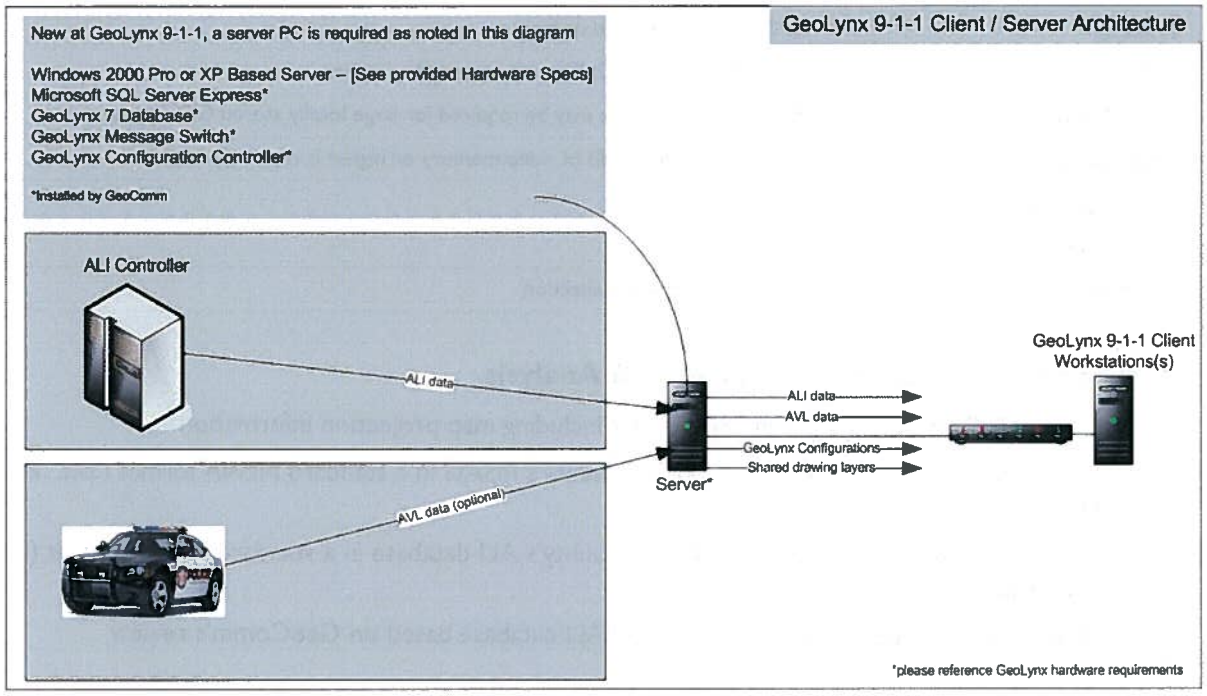
Notes: GeoLynx 9-1-1 also supports shapefile, ArcSDE geodatabase, and personal geodatabase formats from release 9.2 or higher.

At the time of the software setup GeoComm's GIS personnel will provide our detailed GIS map data specifications. These specifications will provide the layer by layer detailed description and file structure requirements. Ultimately, the quality and availability of the map data provided will directly affect the functionality of the software.

The GIS data layers can be in any coordinate system or projection supported by the ESRI projection engine (State Plane, UTM, etc.), as well as any geodetic datum. If a custom coordinate system is used, the .prj file will need to be supplied to GeoComm for review/verification of use within the GeoLynx Family of Products. It is recommended that all map layers be in the same projection. However, GeoLynx Family of Products do have the ability to display map data layers that are in different projections.

In addition to these GIS data layers, there is no set limit on the number of other GIS data layers that can be integrated into the map display setup.

GeoLynx 9-1-1 Network Diagram



GeoLynx DMS

Prior to software implementation and training King and Queen County must:

- Have ESRI ArcGIS software (version 9.3 or later) installed and licensed on the GeoLynx DMS PC.
- Provide a training PC(s) for the tutorial portion of the training sessions. There should be a minimum of one PC and software license per every two students.
- Be experienced in ArcGIS and GIS in general. Each student should be comfortable in navigating and basic functionality in ArcGIS. As an option, GeoComm does provide additional training courses such as, *Getting Started: Maintaining GIS Data for Public Safety,* developed by GeoComm's training and GIS staff. This is a live, Web-based, instructor-led course.
- Have a backup tape or other secure backup system. These are highly recommended, along with a systematic backup procedure.
- Provide on-site training space.
- Be experienced in ArcPad. Each student should be comfortable in navigating and basic functionality in ArcPad.
- Have a workstation meeting the specifications on the following page for GeoLynx DMS to be loaded on:

GIS Workstation	Minimum Hardware Requirements
Software Prerequisites	ArcGIS 9.3 and the latest service pack
Description	Typical GIS desktop computer workstation
Processor	1.6 GHz recommended or higher
RAM	RAM 1 GB minimum, 2 GB recommended or higher
Available Hard Drive	20 GB or higher, more may be required for large locally stored GIS data sets
Graphic Cards	32 MB minimum, 64 MB of video memory or higher is recommended
Operating System	Windows XP or Vista
Media Player	CD or DVD drive
Remote Access	high speed internet connection

GIS Map Data, ALI Database, and MSAG Analysis

- Provide GIS map data layers in ESRI format including map projection information
- Provide a digital copy of King and Queen County's MSAG in a standard NENA format (.txt, .xls, or ascii)
- Provide a digital copy of King and Queen County's ALI database in a standard NENA format (.txt, .xls, or ascii)
- Make necessary updates to the MSAG, and ALI database based on GeoComm's review

GIS Map Data Update Services

- Provide existing GIS map data in ESRI format including projection information
- Provide written explanations of existing addressing schemes, including municipalities and information on other special addressing situations
- Provide aerial images in a standard agreed format, e.g. TIFF, BIL, Mr. SID, etc., including the corresponding world file. Images must be rectified.
- Provide hard copy or digital resources referencing existing road names in the county
- Provide hard copy or digital resources depicting one-ways and overpasses plus information on roads to not include in the network for routing purposes
- Provide a digital copy of the King and Queen County MSAG and ALI database in a standard format (.txt, .xls, or ascii)
- Provide hard copy or digital resources, as needed, to complete proposed work for the following layers:
  - Roads Layer
  - ESZ Boundaries Layer
  - Address Point Layer
  - Boundaries Layer

GeoComm Deliverables

Overall project deliverables to King and Queen County include:

- Project schedule
- Regular status updates and conference calls

Specific GeoComm deliverables for each project element follows.

GeoLynx 9-1-1

- GeoComm will deliver the final GIS map data layers in an agreed upon standard ESRI projection. in ESRI feature class format. GeoComm will provide a CD with the master GIS data set.
- Two GeoLynx 9-1-1 software licenses
- One GeoLynx 9-1-1 admin license
- New product installer CDs
- On-site installation
- Acceptance test plan
- One on-site system administrator training session
- Two on-site user courses

GeoLynx DMS

- One GeoLynx DMS GIS Data Manager module license
- One GeoLynx DMS MSAG Manager module license
- One GeoLynx DMS Mobile GIS Data Manager module license including:
  - GeoCollector
    - GeoExplorer 2008 series handheld unit (submeter accuracy)
    - ESRI's ArcPad software
    - Trimble's GPScorrect extension for ESRI's ArcPad software
    - Integrated GPS antenna
  - Two custom forms
  - An external GPS antenna for vehicle-based field collection
  - GeoComm's Customized Feature Tools
- Product Installer CD
- Software installation
- On-site training

- Acceptance test plan

GIS Map Data, ALI Database, and MSAG Analysis

- A data analysis report
- One conference call following the delivery of the analysis report

GIS Map Data Update Services

GeoComm will deliver the final GIS map data layers in an agreed upon standard ESRI projection, typically the projection of the aerial images. The map data layers will be in ESRI format. GeoComm will provide a CD with the master GIS data set including metadata information. The GIS map data layers delivered will include:

- Roads Layer
- ESZ Boundaries Layer
- Address Point Layer
- Boundaries Layer

1 Summary

King and Queen County will be using the latest version of the nation's premier 9-1-1 dispatch GIS system by converting existing licenses to GeoComm's latest version, GeoLynx 9-1-1 v7. GeoLynx 9-1-1 v7 is built from the ground up on Microsoft .NET and ESRI ArcGIS technology bringing the latest and best GIS tools to your PSAP. This conversion process is streamlined utilizing our highly experienced GIS and implementation staff to bring this latest technology to you in an efficient and cost effective manner.

The new version of GeoLynx 9-1-1 is fully integrated dispatch GIS software built on ESRI's latest ArcGIS Engine, bringing GIS technology advancements of the ESRI ArcGIS framework to your 9-1-1 centers. This framework is the most current and future technology platform from ESRI. It will increase response rates by being easy-to-use, fully functional software.

GeoLynx 9-1-1 includes numerous enhanced features including:

- Built-in basic hazard plume modeling and advanced ALOHA chemical plume modeling.
- Integrated electronic Emergency Response Guide (ERG) database with isolation protocol mapping.
- Drive time polygons and barrier routing to dispatch closest responders and concentrate search efforts based on drive time and distance.
- Integration of Pictometry technology offers additional location display functionality.
- Hyperlink feature for users to reference related information.

After a comprehensive GIS map data, ALI database, and MSAG analysis GeoComm proposes to complete GIS map data update services to ensure calls will plot properly at a higher rate than they are today. Updates will be completed on the roads, address points, ESZ boundaries, and community boundaries layers. After updates are complete the data will be provided back to King and Queen County to continue maintaining.

To maintain the data accurately, GeoComm proposes a review and updates be completed on the county's current maintenance workflow and E9-1-1 GIS Data Management software, GeoLynx DMS. After the review and updates to the maintenance workflow and implementation of GeoLynx DMS, GeoComm will also provide the necessary training to ensure a successful maintenance plan is in place with user-friendly software.

GeoLynx DMS is our E9-1-1 GIS Data Management software used for accurately maintaining GIS data for use in our latest version of GeoLynx 9-1-1. GeoLynx DMS includes three modules: the GIS Data Manager, MSAG Manager, and Mobile GIS Data Manager. GeoComm proposes one license of each module.

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The GIS Data Manager module is an ESRI-based GIS data management software toolbar added onto a license of ArcView 9.3 or higher. The GIS Data Manager module will not only enable King and Queen County to efficiently update GIS data layers specifically for 9-1-1, but it will also provide higher data accuracy with the use of the software's automated Quality Assurance/Quality Control (QA/QC) tools. Tools such as the following are included in the GIS Data Manager module and will assist King and Queen County in all future development and maintenance of GIS data layers.

- Assign Address
- Find Address
- Batch Address Assignment
- Batch Geocoding
- Address Range Assignment
- Flip and Split Street tools

The MSAG Manager is an add-on to the GIS Data Manager which enables users to better manage the synchronization among the MSAG and GIS data. The MSAG Manager allows you to:

- Add new MSAG records based on the GIS data or manually
- Delete MSAG records
- Complete comparisons of the MSAG and GIS data
- Develop a new MSAG

The Mobile GIS Data Manager module field collection tools installed on a GeoXT handheld GPS unit would enable GIS personnel to collect GPS coordinates in the field to add to existing layers, update existing layers, or develop new layers from highly accurate field collected data. The Mobile GIS Data Manager tools allow the system administrator to set up standard fields and attributes for field specialists to collect and accurately attribute address point, road centerline, and other layers' fields.

All modules are used daily by clients and in-house GIS staff. This ensures King and Queen County will be using software that helps keep data accurate while ensuring industry standards using ESRI-standard tools.

The following sections contain descriptions of:

- GeoLynx 9-1-1 v7
- GeoLynx DMS
- System implementation services including:
  - GIS map data, MSAG, and ALI database analysis
  - GIS map data update services

- Software implementation and project management services
- GIS data conversion and software set up services
- GIS data maintenance workflow review and updates

- Installation and training services
- GeoComm deliverables, customer responsibilities, and hardware specifications
- Software support and maintenance services
- The costs to convert your current software and for new software and services

GeoComm looks forward to assisting King and Queen County meet their GIS map data and software goals specific to public safety.

2 GeoLynx 9-1-1 System Description

GeoLynx 9-1-1
DISPATCH GIS

Locating and displaying emergency incidents in your jurisdiction is fully automated by installing GeoLynx 9-1-1. When a 9-1-1 call is placed, GeoLynx 9-1-1 automatically captures the address from the ALI stream and instantly plots an arrow at the caller's location on your digital base map.

GeoLynx 9-1-1 is a full-featured, professional-level desktop mapping software package specifically tailored for 9-1-1 emergencies.

Benefits and Features

- Instantaneous call plotting of wireline and Wireless Phase I and Phase II calls on a map
- Built on ESRI's ArcGIS Engine, bringing the GIS technology advancements of the ESRI ArcGIS framework to your dispatch center
- Built on a Microsoft .NET framework, bringing Microsoft's most current and future technology to your dispatch center
- New modern Vista-inspired command and control style user interface to streamline 9-1-1 call taker and dispatcher workflows using GIS to speed emergency response time
- Built-in basic hazard plume modeling and advanced ALOHA chemical plume modeling
- Integrated electronic Emergency Response Guide (ERG) database with isolation protocol mapping
- GeoLynx 9-1-1 can be configured to view Web GIS data for real-time weather maps and natural hazard maps such as wildfires and floods
- Drive time polygons and barrier routing to dispatch closest responders and concentrate search efforts based on drive time and distance

- Integration of Pictometry technology offers an additional location display functionality
- Simple navigation to all functionality options
- Hyperlink feature for users to reference additional information such as structure photos, floor plans, emergency preparedness documents, etc.
- Intelligent 9-1-1 call aging with no user interaction to easily determine call age
- Easily view, print, and search GIS data
- Specifically developed for use in your 9-1-1 environment
- Sophisticated GIS engineering with simple user operations
- Raster and vector layer translucency in same map view
- Greatly enhanced cartographic map rendering capabilities
- Re-projects both raster and vector GIS datasets on-the-fly
- Directly reads many supporting GIS layers, formats, projections, and coordinate systems on-the-fly with no conversion or translation required
- Open API for seamless third-party software integration
- Immediate detection of GIS data and ALI errors
- E-mail or fax mapped call locations
- Expandable to other modules in the software family to enhance dispatch mapping system specifically geared toward 9-1-1 emergencies such as emergency notification, automatic vehicle tracking, and in-vehicle mapping
- Life-saving information is visible and easily accessible with GeoLynx 9-1-1

Supported Formats

GeoLynx 9-1-1 is compatible with standard data formats (raster, vector, AutoCAD, etc.) and supports GIS data formats of all variations including:

- ESRI file geodatabase
- ESRI personal geodatabase
- ESRI enterprise geodatabase
- ESRI shapefile

In addition, services can be offered to convert many other data formats to an acceptable ESRI format for use within GeoLynx 9-1-1.

System Architecture

GeoComm is proud to be an ESRI Business Partner. Partnering with the industry leader in GIS allows GeoComm to provide you with products and services that exceed your expectations.

Because GeoComm is an ESRI business partner, we are able to provide the latest version of GeoLynx 9-1-1 dispatch mapping software. GeoLynx 9-1-1 uses ESRI's ArcGIS Engine, bringing the GIS technology advancements of the ESRI ArcGIS framework to 9-1-1 dispatch centers.

GeoComm recognizes the need for the most current technology to be implemented to ensure the software is maintained and supported for years to come. Our proposed ArcGIS framework is the most current and future technology platform from ESRI.

GeoLynx 9-1-1 is also built on the Microsoft .NET framework. This is Microsoft's current and future platform and it is ensured to work with the new Microsoft technology, such as Windows Vista.

In addition, advanced, scalable Database Management System (DBMS) technology is used in GeoLynx 9-1-1 for storing data and configuration settings. Benefits of using SQL server include significantly increased performance capacity for both AVL and CAD. For example, for AVL, Microsoft SQL server allows 100, 1,000, and more units to be moved on the map in a single transaction unlike other DBMS technology which move units individually on a map during a transaction. This same efficiency extends to CAD calls for service.

User Interface

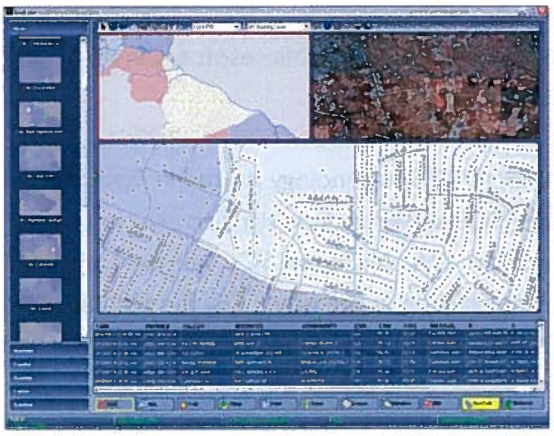
The GeoLynx 9-1-1 user interface (UI) is a command and control (C2) style. C2 UIs are more like dashboards, control panels, and cockpits, unlike office automation applications where there are many menus and dialog boxes to navigate. The intent is to put all needed information and functionality on a single screen, to enable users do their jobs more efficiently, in high stress, high speed environments.

Immediate access to features and functions in the side panels are available in the GeoLynx 9-1-1 display. Some major features include HazMat, Routing, Markups, and much more. The ability to expand the map is useful when GeoLynx 9-1-1 is on a large format screen or projected on a wall of a PSAP as an overview, with no human interaction. With no user, there is no need for the human interface tools.

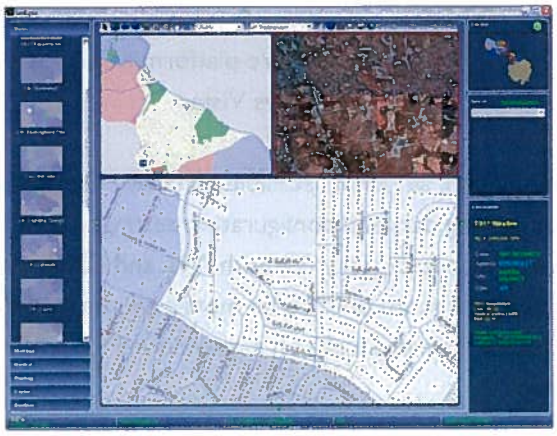
To maximize the map view display, the panels to the left, right, and bottom of the main map view can be hidden. Any combination of panels can be hidden:

Original view.

After expanding the left side of the map view.



After expanding the right side of the map view.



After expanding the bottom of the map view.

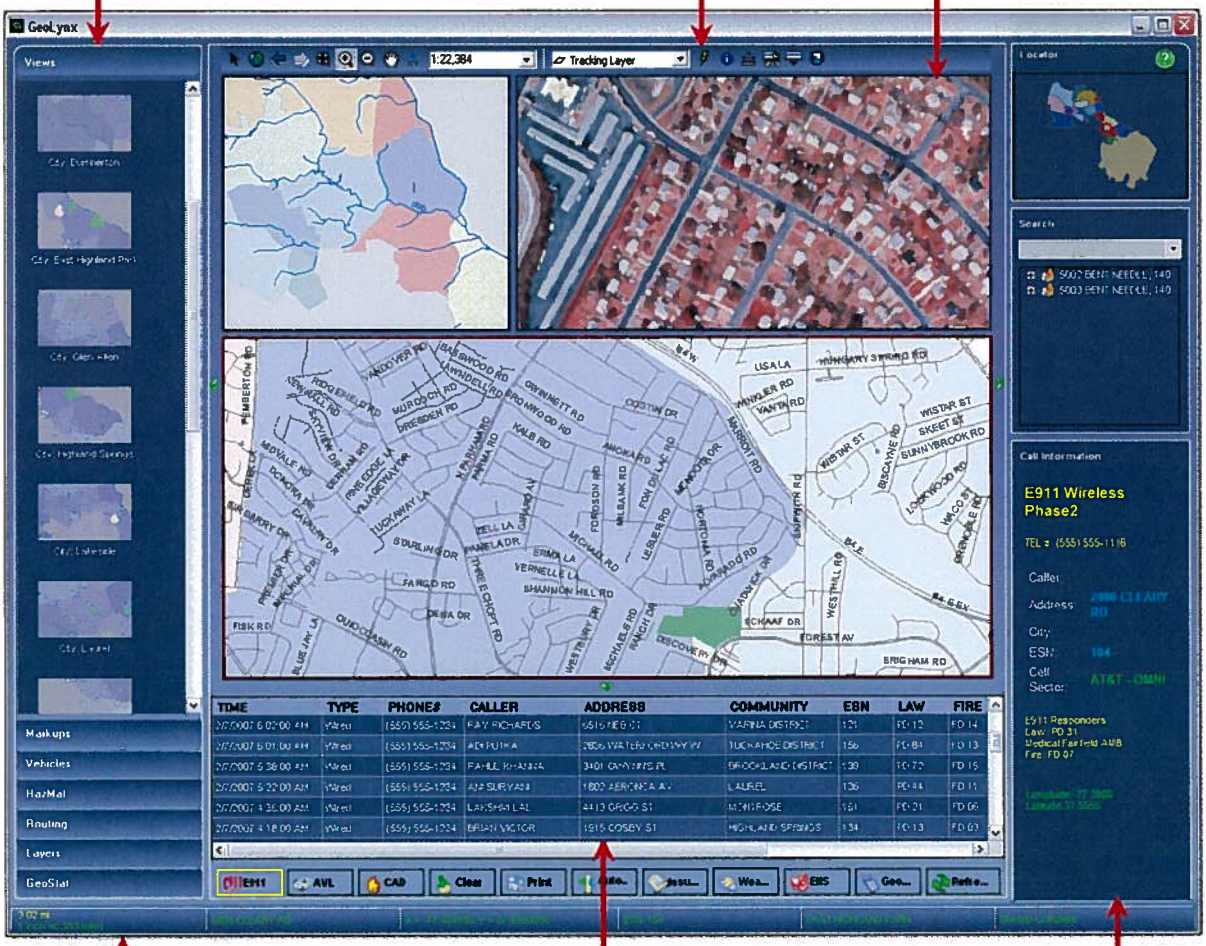
After expanding all sides of the map view.

GeoLynx 9-1-1 Screen Components

Features Panel
Includes the **Views**, **Markups**, **Vehicles**, **HazMat**, **Routing**, **Layers**, and **GeoStat** panes.

Map Toolbar
Displays map tools for exploring data and features in the map views, including **Zoom In**, **Hyperlinks**, and **Measure**.

Main Map View
Displays maps, address locations, and tracked vehicles. Can be configured to display up to three different map panes.

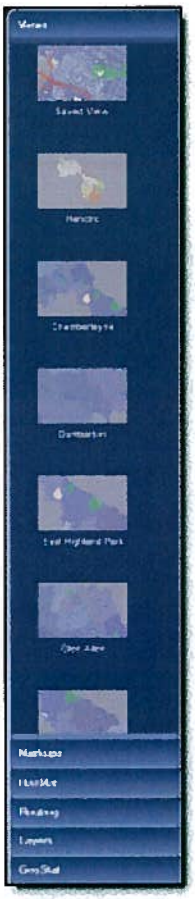


Status Bar
Displays quick reference information such as map scale, pointer coordinates, and street address at the pointer.

Results Grid
Displays results of several GeoLynx functions, including E9-1-1 calls, plume model results, and calculations for routing requests.

Information Panel
Includes the **Locator**, **Search**, and **Call Information** panes.

Features Panel



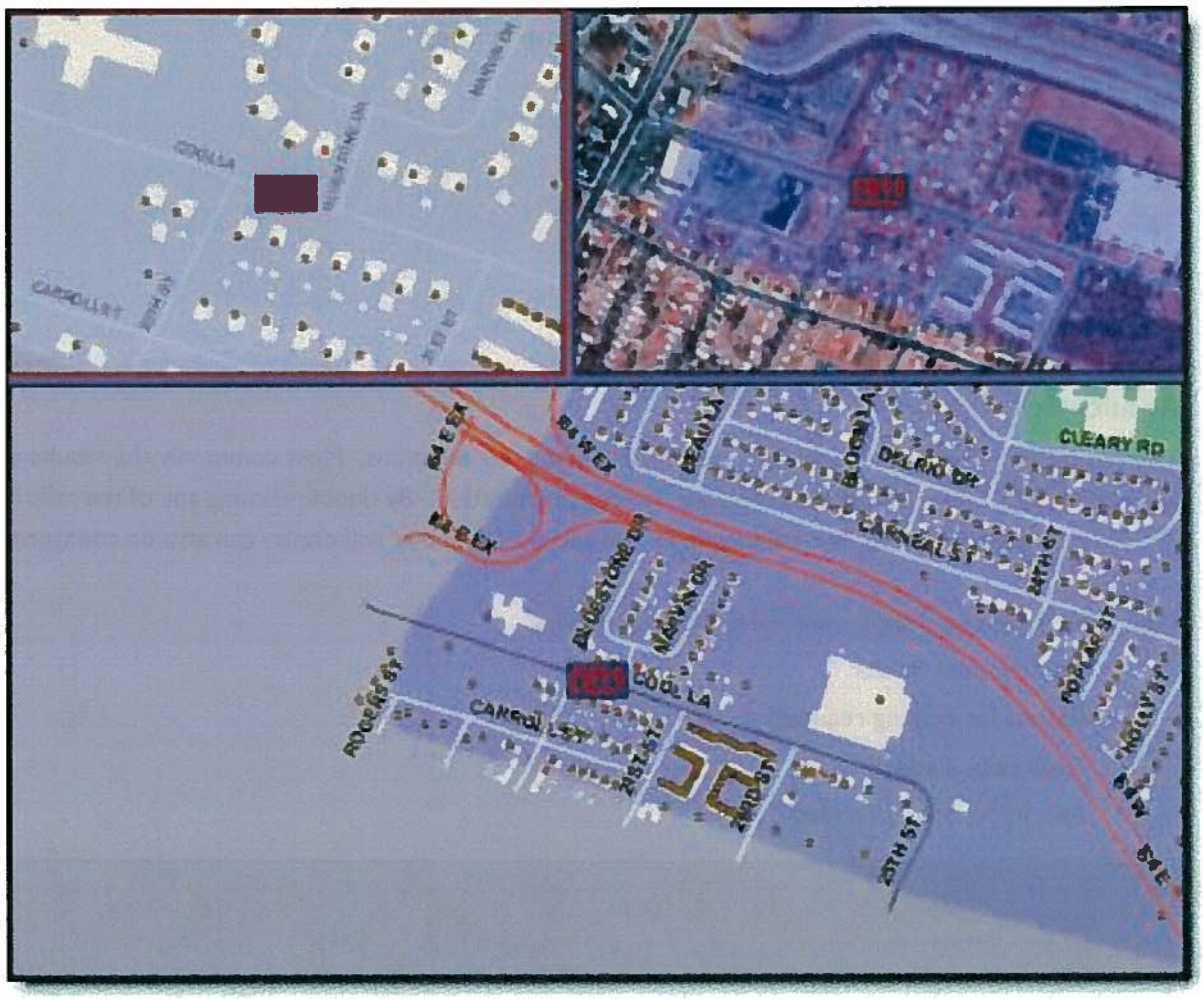
The features panel includes several features to help your organization more effectively navigate to specific map views, display map layers, and use geographic information.

Map Toolbar

As you work with your map, you can easily change how you view the data it contains. Most of the tools for navigating such as zoom in, zoom out, pan, and full extent are found on the map tools toolbar, the topmost toolbar in the GeoLynx 9-1-1 window. Because GeoLynx 9-1-1 is built on ESRI's ArcGIS Engine these tools resemble those found in other ESRI products such as ArcView.

Main Map View

The main map view displays the GIS data, ALI, and any tracked vehicles and is configurable for up to three map panes. So users can customize their individual map display to meet their emergency dispatch needs.



Status Bar

GeoLynx 9-1-1 displays a status bar at the bottom of the application window at all times. The status bar contains information about the current mouse pointer location. The system administrator can configure the status bar to display any combination of the following:

- Current zoom level of the map (width of the map in miles)
- Calculated street address at the mouse pointer
- Coordinates of the mouse pointer:
  - In decimal degrees
  - In degrees/minutes/seconds (DMS)
  - In degrees/decimal minutes (DDM)
- ESN of the current mouse pointer location

Results Grid

The results grid displays the results of several GeoLynx 9-1-1 functions. Most commonly the results grid will display a list of the E9-1-1 calls received by your organization. By double-clicking any of the calls in the list, the map views zoom to that call location. The specific fields that will display can also be configured.

Other data which may display in the results grid includes

- Plume model results
- Results for routing requests
- CAD calls, if added
- AVL information, if added

TIME	PHONE#	CALLER	ADDRESS	COMMUNITY	ESN	LAW	FIRE	MEDICAL	X
5/15/2007 12:22:00 AM	(555) 555-1112	MARTIN SMITH	2003 COOL LA	EAST HIGHLAND PARK	104	PD 31	FD 07	Fairfield AMB	287295.33
5/15/2007 8:08:00 AM	(555) 555-1115	JOHN JONES	6175 CHARLES CITY RD	VARINA DISTRICT	152	PD 03	FD 04	Varina1 AMB	302622.64
5/7/2007 7:43:00 PM	(555) 555-1100	DAVID KLOSE	2308 APOLLO RD	EAST HIGHLAND PARK	104	PD 31	FD 07	Fairfield AMB	287482.57

Features Toolbar

Button	Description
E911	Displays, in the results grid, a list of the E9-1-1 calls received in your center.
AVL	Accesses AVL add-on module.
CAD	Accesses optional CAD features.
Clear	Clears all symbols from the map views and all data from the call information pane.
Print	Prints, e-mails, faxes, and saves a map view.
AutoSend	Sends a map view by fax, fax server, e-mail, or printer to preprogrammed destinations.
Issues	Logs ANI/ALI and GIS issues.
Weather	Accesses weather information, if configured.
ENS	Accesses ENS add-on module.
GeoCell	Displays a list of cell sectors and locates map features for wireless calls.
Refresh	Refreshes the database connection and redraws the map.

Information Panel

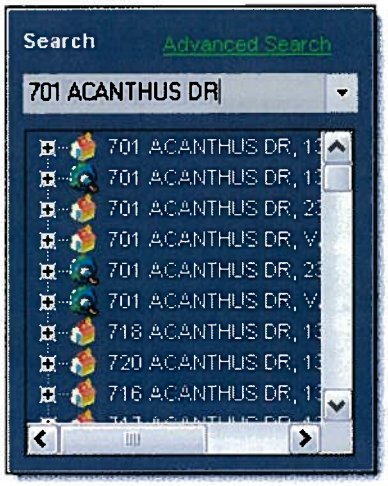
The information panel includes the Locator Pane, Search Pane, and Call Information Pane.

Locator Pane

The locator pane displays an overview of the jurisdiction. This panel can be used to quickly move the active map view to another location in your jurisdiction with the click of a mouse. At any time, the user can click on the locator map and the active map view will automatically zoom to that location.

Search Pane

The search pane is an interactive pane that allows you to manually map a location.



Map a location by typing an address or street in the search field. You can also click the drop-down arrow to scroll through a list of roads in your jurisdiction.

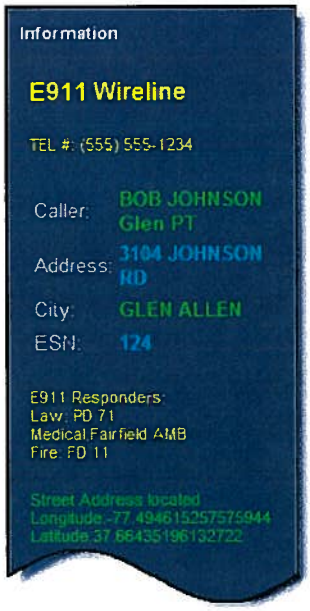
In addition, this search pane is used to find features in any of your GIS map data layers which are searchable. This one search function is streamlined so users only need to go to one location to find items within their GIS map data.

Leveraging locator technology in ArcGIS you are able to create aliases which allow searches to be done within GeoLynx 9-1-1 using the search pane. For example, you can type Old City Park into the search pane which will then zoom to the point or parcel containing the attribute information. These locators can be developed for an additional fee by GeoComm's GIS department, if desired.

Call Information Pane

Important, detailed information related to the current dispatch environment including ALI, responder information, and vehicle list populate in the information pane to aid the call taker.

This data displays automatically for an incoming call. It also displays when you select a call from the results grid.



Wireline E9-1-1 Call Plotting

GeoLynx 9-1-1 displays the most immediate and important information in an emergency call situation on one screen. When an E9-1-1 call is received, address, caller name, and responding agency data is parsed out of the ALI data stream sent from the E9-1-1 ALI controller. The map automatically searches the primary and secondary GIS data layers and then locates the address, where appropriate, in all map views with an arrow and the caller and responder information panels populate. The active call location symbol also displays in the locator map.

GeoLynx 9-1-1 taps directly to the ANI/ALI controller by way of a serial connection on the Computer-Aided Dispatch (CAD) port, via the IP network, or software API connection depending on the specific equipment present. When an E9-1-1 call is received, GeoLynx 9-1-1 accepts the ANI/ALI data stream and parses the information for name, address, and telephone number (ANI and/or p/ANI as appropriate).

When the call is processed, the map display centers on the call location which is marked by a designated icon. The icon display changes when a new E9-1-1 call is received to distinguish the current call from past calls.

Wireless E9-1-1 Call Plotting

GeoLynx 9-1-1 provides configuration of different location processing methods based on class of service and provider. When a 9-1-1 call is received, GeoLynx 9-1-1 will examine the class of service and provider to determine the type of call (wireline, wireless PI, wireless PII, wireless PII with PI attributes and no PII attributes – indicating that a re-bid is required to receive x,y coordinates). Symbology is configurable by the system administrator for each class of service.

GeoLynx 9-1-1 can also list map features from any layer contained within a call's coverage area (for Wireless Phase I) or confidence interval (for Wireless Phase II).

Phase I Wireless Call

When GeoLynx 9-1-1 receives a Phase I wireless call the coverage information is received from the ALI data stream. The map of the cell sector or omni-directional coverage area displays on the map.

The map indicates the wireless caller was likely within the cell site/sector coverage area when they pressed send on their telephone to dial 9-1-1.

Phase II Wireless Call

When GeoLynx 9-1-1 receives a Phase II wireless call the x,y coordinate location on the map is found from the ALI data stream for that call. The screen below also shows ALI rebid locations of the wireless call.

Phase II Confidence Interval / Tolerance Zone

To display the confidence interval the cell phone provides or GeoLynx 9-1-1 utilizes a distance set as a default by the system administrator. The circle defines the highest probability where the caller may be located. GeoLynx 9-1-1 can automatically and manually search the tolerance zone for closest features, such as parcel polygons, building footprints, and address points.

3 GeoLynx DMS System Description

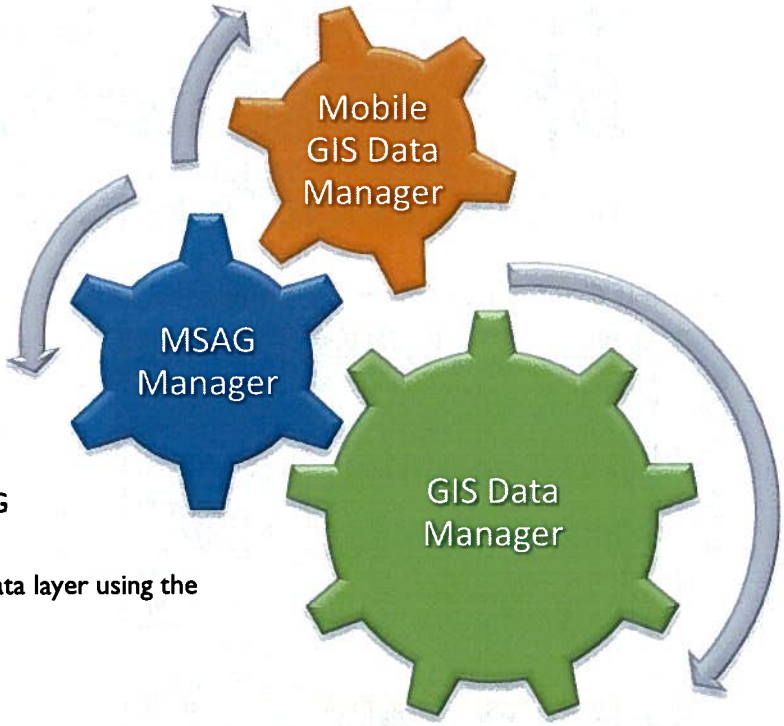
GeoLynx DMS

E9-1-1 GIS DATA MANAGEMENT

GeoComm proposes ESRI-based GIS data management software, GeoLynx DMS. Using GeoLynx DMS you will immediately benefit from the automated tools designed specifically for developing and maintaining high quality GIS data and Master Street Address Guides (MSAG). By installing GeoLynx DMS a toolbar will display within ESRI ArcMap, exposing features and functions specific to maintenance of these two primary data components used for 9-1-1 call plotting in dispatch GIS systems and CAD. These features and functions will enable efficient updates to GIS data layers, such as road centerline layers and address point layers, and your MSAG.

GeoLynx DMS is deployable in modules for specific end use. The modules include:

- GIS Data Manager for GIS data management, discrepancy management, and atlas building
- MSAG Manager for building and updating the MSAG and ensuring high synchronization rates of the MSAG and GIS data
- Mobile GIS Data Manager for "in-the-field" GPS collection



GeoLynx DMS not only enables efficient updates, but it also enhances the maintenance by providing higher data accuracy by utilizing automated Quality Assurance/Quality Control (QA/QC) tools in the GIS Data Manager module and using the Mobile GIS Data Manager module for collecting high accuracy GPS data in the field. By using the MSAG Manager module it also increases the synchronization of the MSAG and GIS data layer using the automated tools within the module.

Benefits and Features

- Decreases the time and effort it takes to build and maintain quality public safety GIS data and the MSAG for 9-1-1 and CAD dispatch GIS systems
- GIS Data Manager module includes tools for efficient accurate GIS data maintenance including:
  - address assignment
  - address range creation (linear and grid)
  - precision address matching
  - wireless cell sector maintenance
  - atlas generation
  - MSAG and CAD geofile management
  - a broad range of QA/QC audits
- Increases quality and accuracy by providing several automated QA/QC procedures, specifically designed for 9-1-1 GIS data management
- Mobile GIS Data Manager includes software, hardware, and custom forms for collecting GPS data and attributing the collected GPS data efficiently
- MSAG Manager module assists in ensuring high synchronization rates of the GIS data and MSAG
- Automated MSAG maintenance functions such as change order reports automatically develop reports of all additions, deletions, and modifications to the MSAG on a regular basis for export to your database provider
- MSAG Manager supports numerous file types including .txt, .csv, .tab, .xls, and .mdb
- Adds a toolbar to ArcMap providing common GIS for 9-1-1 functions including: Assign Address, Find Address, Batch Address Assignment, Precision Address Matching, Address Range Assignment, Flip and Split Street tools, QA/QC audits
- Provides operational functionality to users across all licensing levels of ArcGIS 9.3 or greater (ArcView, ArcEdit, and ArcInfo)
- Built on the ESRI ArcGIS platform it supports ESRI SDE and interfaces with enterprise class commercial grade DBMS's such as Microsoft SQL and Oracle, and personal and enterprise geodatabases
- Wireless cellular sector manager for developing and maintaining cellular sectors for Phase I wireless call plotting
- Discrepancy manager tool for saving, tracking, and managing error reports generated by GeoLynx 9-1-1 dispatch mapping application
- Mobile GIS Data Manager enhances ESRI's ArcPad functionality and offers streamlined option for collecting accurate GPS data
- Atlas generator included with the base GIS Data Manager module enhances ESRI's atlas application for an automated method of creating atlases

ESRI ArcGIS™
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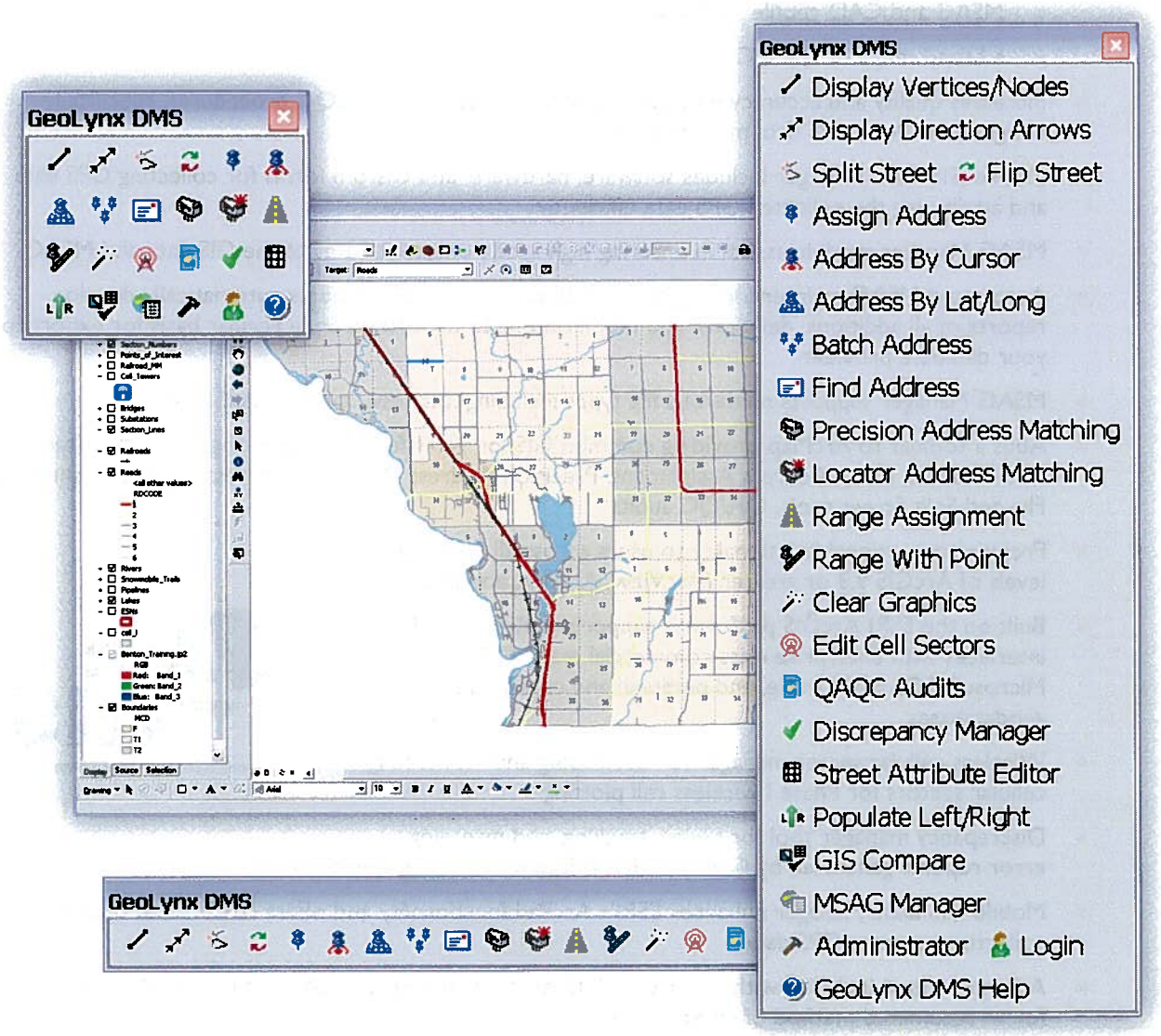
GIS Data Manager Module

The GIS Data Manager module is accessed directly from within ArcMap.

Toolbar

When GeoLynx DMS is installed, a new toolbar is added to ArcMap. Each button on this new toolbar performs different functions for maintaining public safety and CAD mapping GIS data and tabular databases.

The toolbar may be docked at the top or side of the ArcMap screen or may be free floating. You may change button icons or remove or change text labels for buttons using the standard toolbar configuration options in ArcMap.



Display Vertices/Nodes Tool

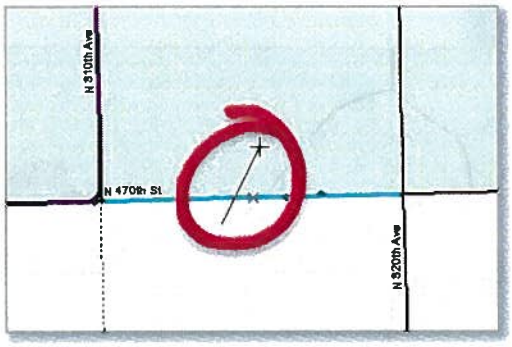
Display vertices/nodes tool is a toggle button that will display the nodes on the street centerline layer and can display different colored nodes based on the number of meeting nodes at one point. This tool can also display the vertices on the street centerline, ESN, and community boundary layers. The color, shape, and size of the symbols used are configurable in the GeoLynx DMS Administrator.

Display Direction Arrows Tool

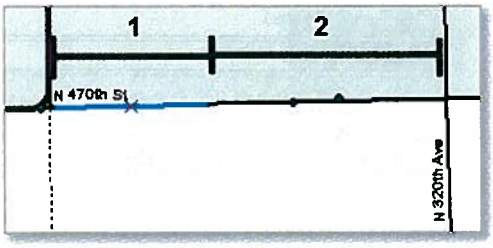
Display direction arrows tool is a toggle button that will display arrow heads on street segments indicating which way the street is digitized. The color, size, and number of arrowheads per segment (one to five) are configurable.

Split Street Tool

The split street tool allows you to interactively split a street into two segments and re-range the two road segments with one click. After selecting a road segment and splitting it all address ranges are recomputed for the two new segments and all other static attributes will be propagated to the two new features. This function is especially useful when streets cross an ESN or township boundary and need to be split.



A line intersects the selected segment.



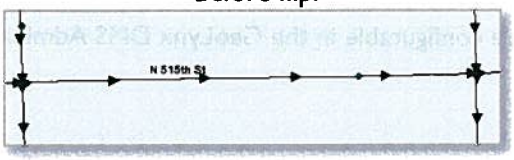
The segments are identified above.

Flip Street Tool

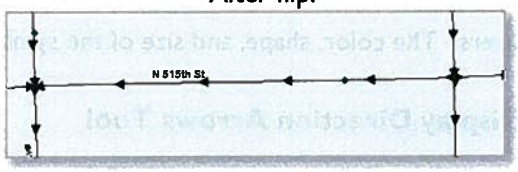
The Flip Street tool allows you to flip the direction of any selected street segment with one simple click. Flip Street exactly reverses the topology of a street centerline, flipping the digitized direction of the street segment.

This tool is useful when your addressing scheme requires addresses increasing from east to west and you have nonconforming street segments. Street direction is also important for routing and driving directions along one-way streets in dispatch GIS software.

Before flip:

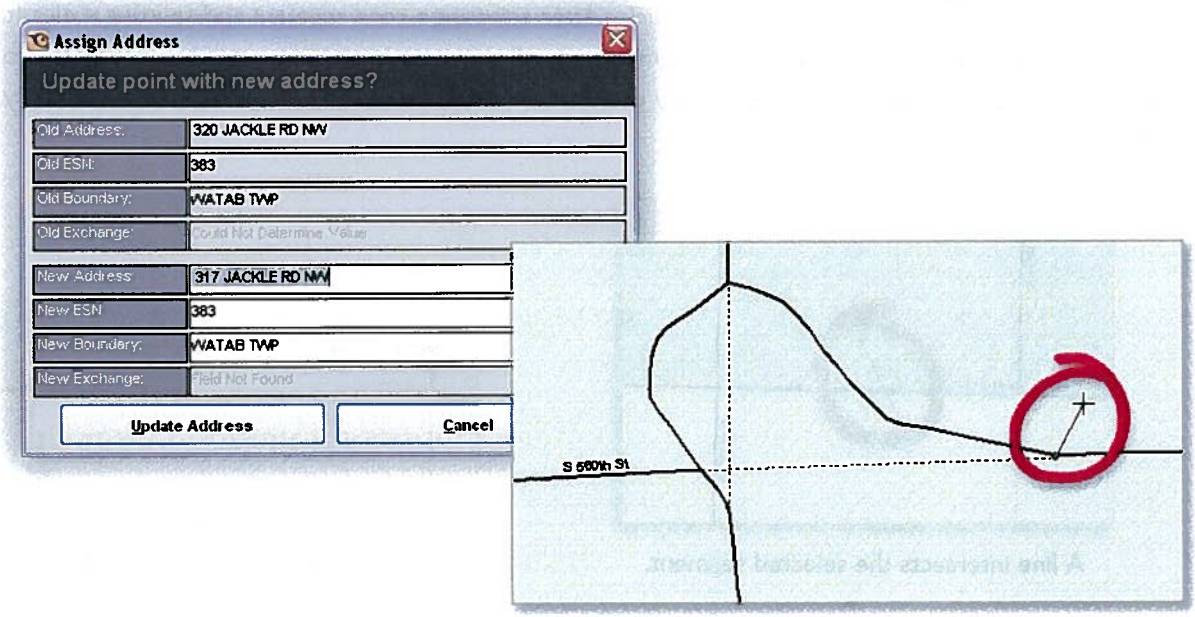


After flip:



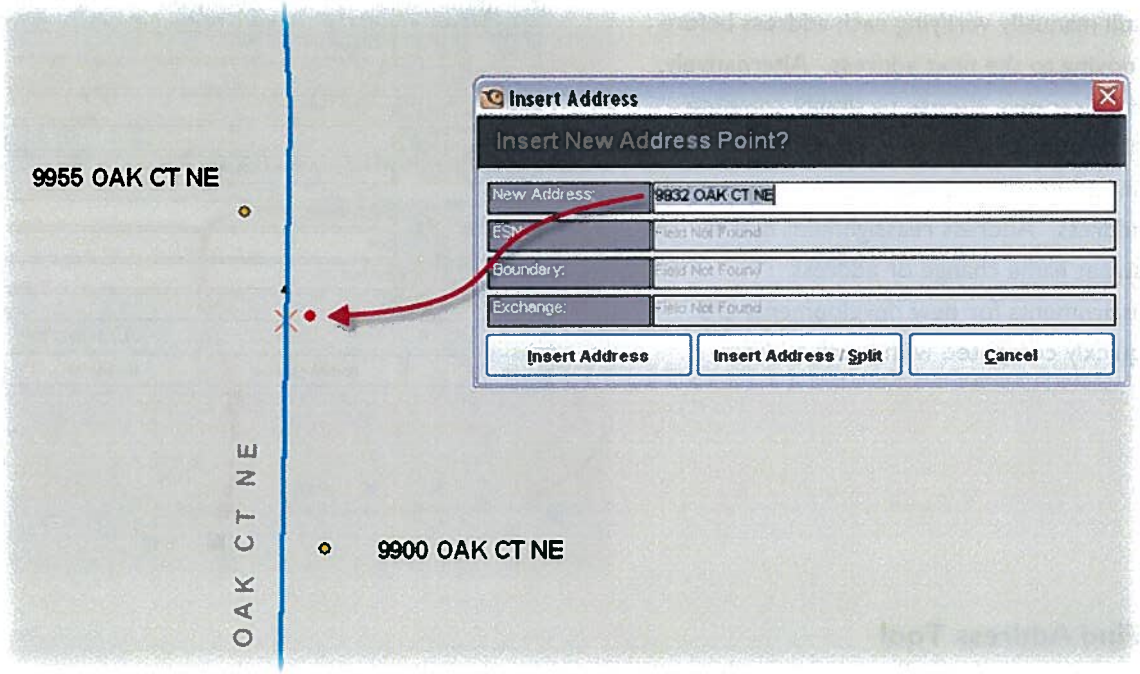
Assign Address Tool

The assign address tool automatically computes a locatable address (house number and street name) for a point on the map, such as newly collected GPS points. The "old address" displays the current address of the point, if there is one, and then the new address based on the current street centerline layer.



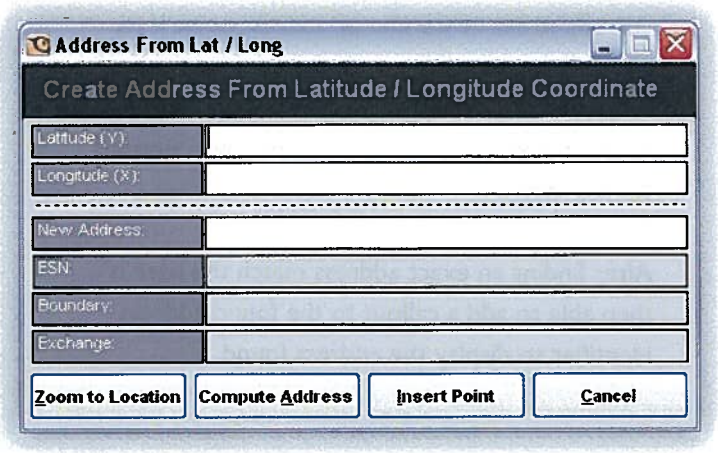
Address by Cursor Tool

The address by cursor tool allows users to either create a new point or select an existing point in the address layer and assign an address to it. The address is assigned based on the street segment which the user has the cursor closest too when letting up on the mouse button. This allows users to address a point from a street segment that may not be the closest segment to the point.



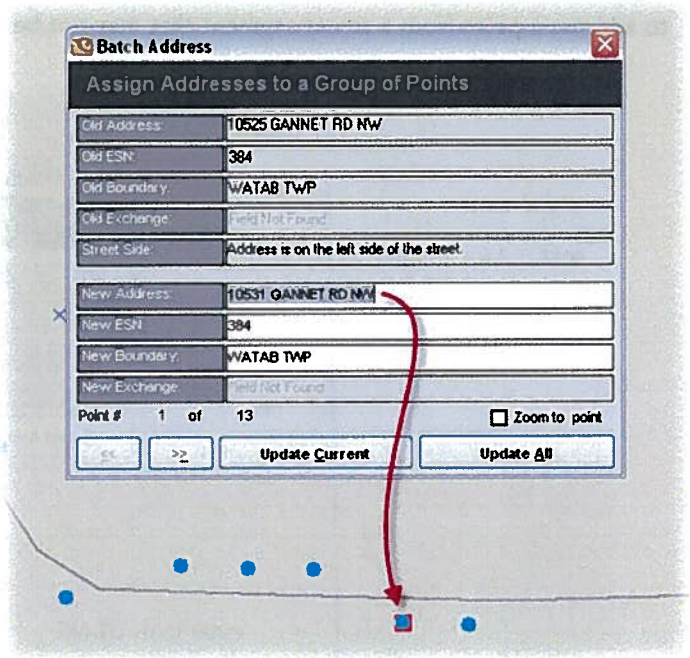
Address by Lat/Long Tool

The address by lat/long tool opens a dialog box where the user can specify the latitude and longitude to create a new point. The tool can also calculate the new address for the new point or the user can type in the new address manually. With a click of a button, the new point is added to the map.



Batch Address Tool

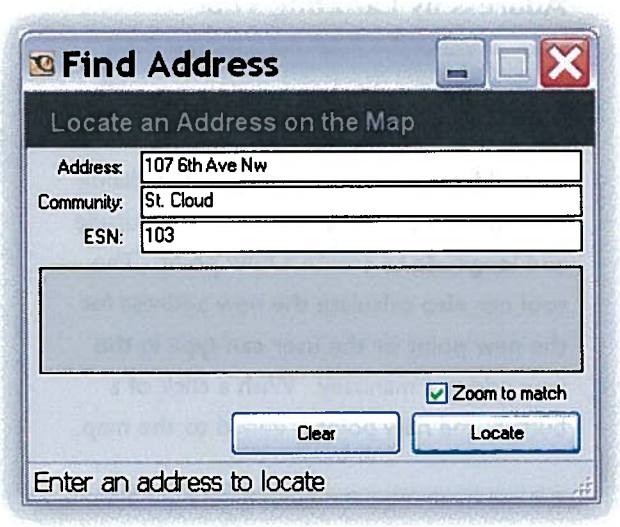
The batch address tool is similar to the assign address tool described above, except it can run on a selection of multiple address points. With one click the user can automatically assign an address to one point and then zoom the map to the next location and automatically assign an address to the next point, while still manually verifying each address before moving to the next address. Alternatively, the user may choose to simply compute new addresses for all points in the selection without stopping to validate each address. Address reassignment due to street name change or address assignments for new developments are quickly computed with batch address.



Find Address Tool

The find address tool allows you to type in an address to locate it on the map. When searching for an address the tool converts the address into an x, y coordinate based on the current street centerline or address point layer and refining search layer. It then zooms to the location and places an icon on the map. If the exact address is not found, you are given options to help locate it.

After finding an exact address match the user is then able to add a callout to the found address identifier to display the address found.



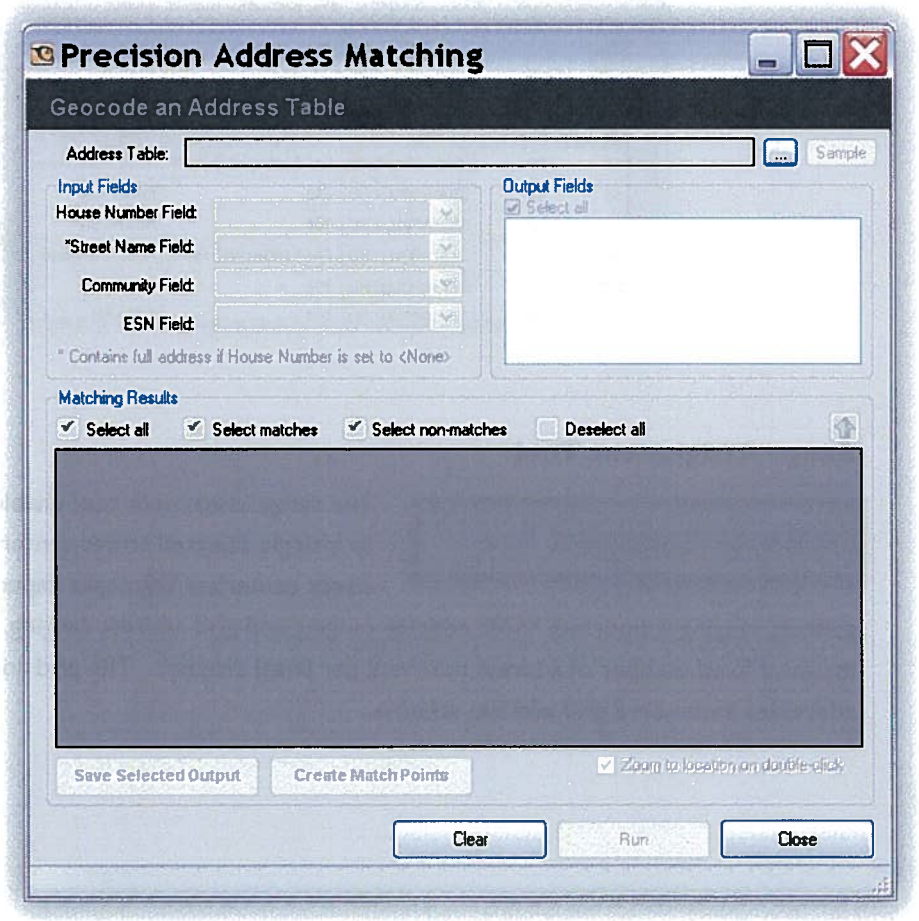
Precision Address Matching Tool

The precision address matching tool allows the user to verify addresses in a tabular database to the map data. GeoLynx DMS allows you to browse to a table containing multiple addresses and then have the software attempt to convert the addresses into x, y coordinates based on street name and address range attributes in the street centerline layer, as well as refining information from another layer such as an emergency service zone layer.

Results are displayed in a window which can be filtered to only display the matches or only display the non-matches. It can also be sorted by the result of the verification or any other field contained in the tabular database the user compared to the map data. The precision address matching tool also identifies the match rate percentage and the number of matches.

In addition to viewing the results in the window, users can save the results to a Comma Separated (*.csv) file or create a shapefile of the addresses from the tabular database that matched the map data to view in ArcView.

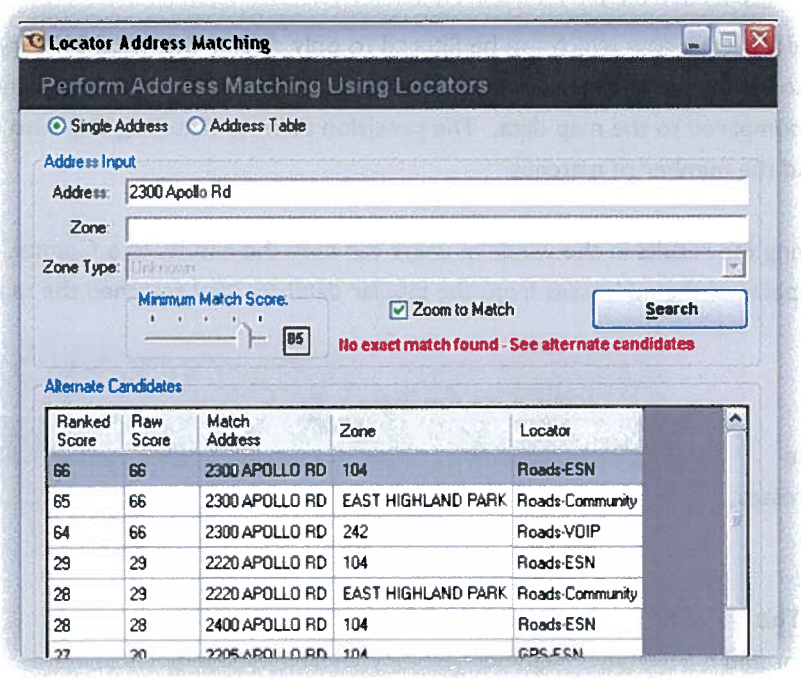
To save time in troubleshooting the non-matching addresses, users can send the address to the find address window. This will display the error and provide possible match options. Users can use this method to try to find where the address should be in the map data and what needs to be updated to ensure the address in the tabular database matches the map data in the future.



Locator Address Matching Tool

The locator address matching tool allows users to search for an address using ESRI address locators. It also evaluates address locators against a database of physical addresses.

Users are able to configure the minimum match score which controls how closely addresses must match the most likely candidate in the reference data to be considered a match for the address.

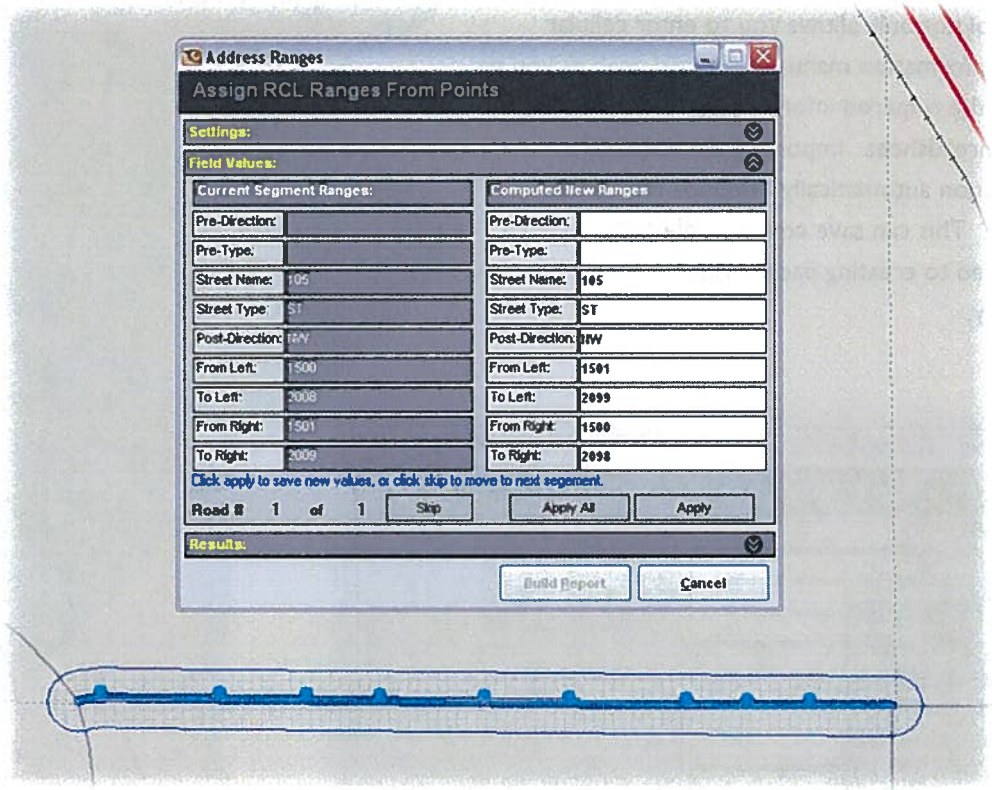


Range Assignment Tool

The range assignment tool enables users to assign address ranges to a single selected street centerline segment or multiple selected street centerline segments depending on one of the two types of address ranging supported: linear address ranging and grid address ranging. The linear address ranging tool assigns a fixed number of address numbers per lineal distance. The grid address ranging tool assigns addresses based on a grid address scheme.

Range With Point Tool

The range with point tool calculates and assigns road centerline address ranges based on the address numbers in the points near the segment. The user is then able to adjust these ranges prior to assigning the final attributes to the road.



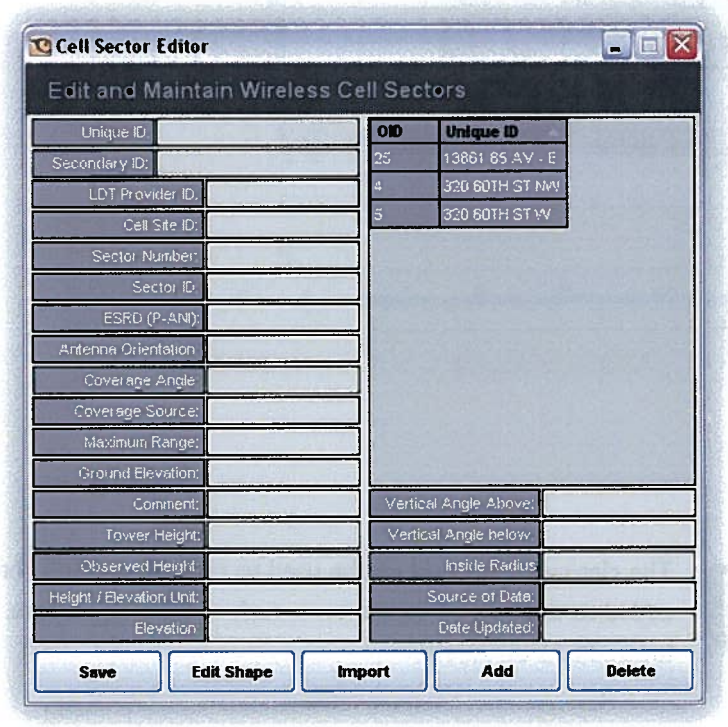
Clear Graphics Tool

The clear graphics tool can be used to remove symbols that are added to the map to depict items such as topology errors, located addresses, etc.

Edit Cell Sectors Tool

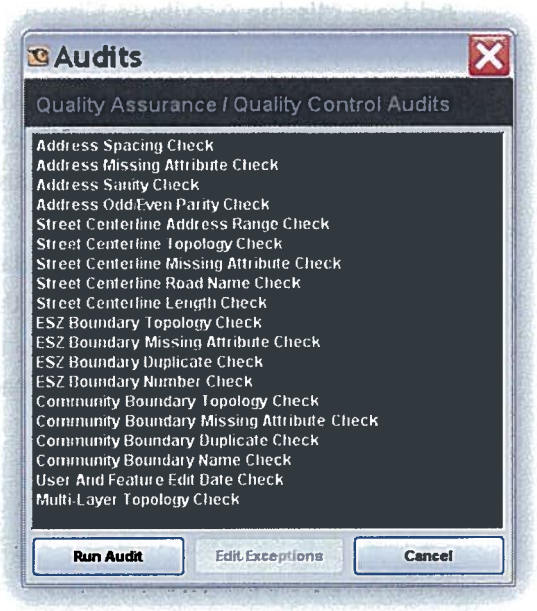
The edit cell sectors tool opens a control panel for creating and maintaining Phase I wireless cell sectors. NENA recommend fields for cell sector GIS data are included in the tool. You can edit an existing sector, create a new sector, or delete a sector.

This tool not only allows you to enter cellular sector information manually but also enables you to import the required information from a Microsoft Excel spreadsheet. Importing the required information automatically develops the cellular sectors. This can save considerable time compared to creating each cellular sector manually.



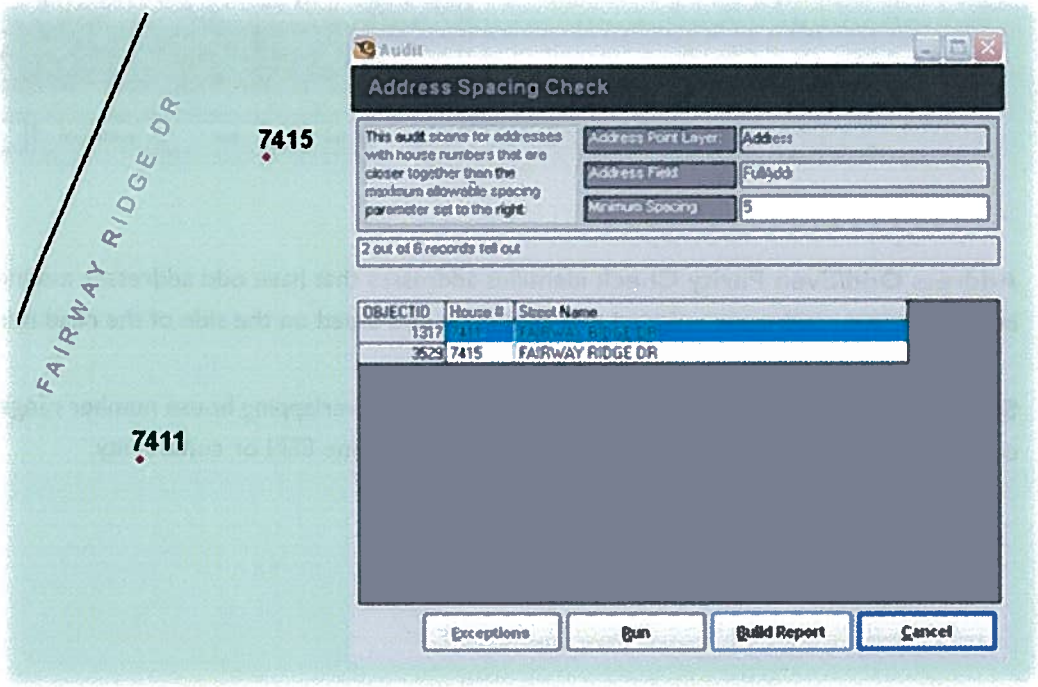
QA/QC Audits Tool

The QA/QC audits tool opens a list of available quality assurance and quality control audits. These audits enable you to check quality of your GIS data and to proactively determine errors. There are six broad categories for these audits: Address Attributes, Street Centerline, ESZ Boundaries, Community Boundaries, User Edit Reporting, and Multi-Layer Topology.



A summary description of each QA/QC Audit follows:

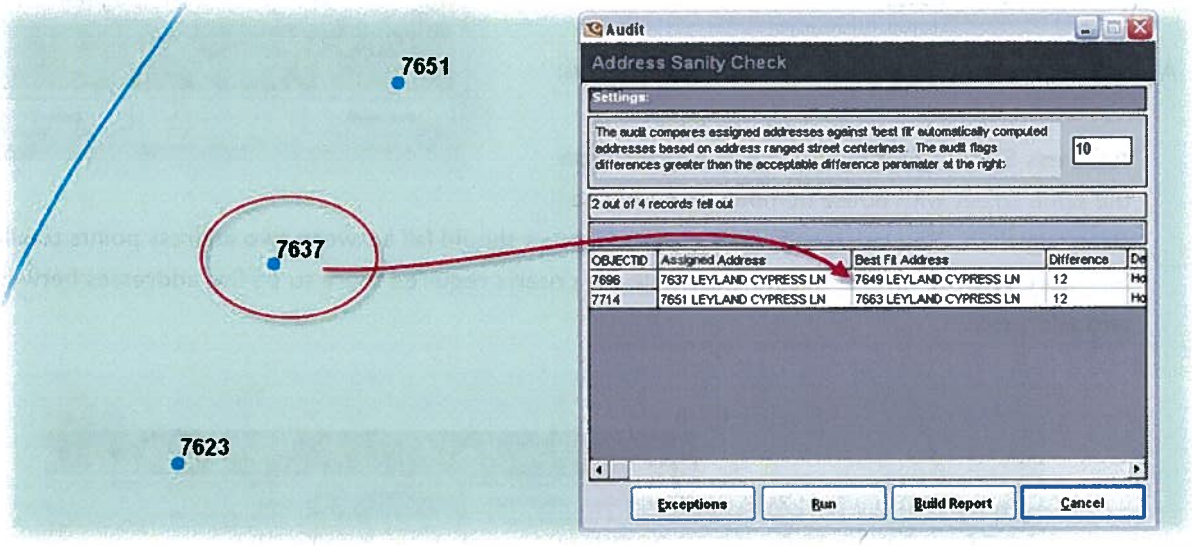
Address Spacing Check identifies addresses on the same street with house numbers that are too close together. You can specify how many addresses should fall between two address points to allow for future growth. In the following example the criteria required there to be five addresses between two addresses.



Address Missing Attribute Check identifies addresses that are missing primary search data.

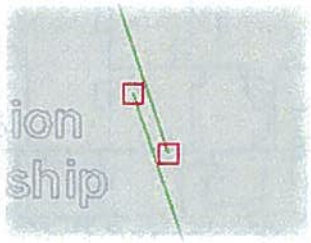
Address Sanity Check compares assigned addresses against automatically computed "best fit" addresses. This identifies if an assigned address is clearly different from what is expected based on street centerline address ranges and street names for the location of the address point.

In the example it shows that 7637 Leyland Cypress Ln should be addressed 7649 Leyland Cypress Ln according to the address ranges in the road centerline layer. This would either require the road centerline layer address ranges to be adjusted or the point to be readdressed. Since the point just northeast of it also seems to be incorrect, it is most likely an issue with the address ranges.

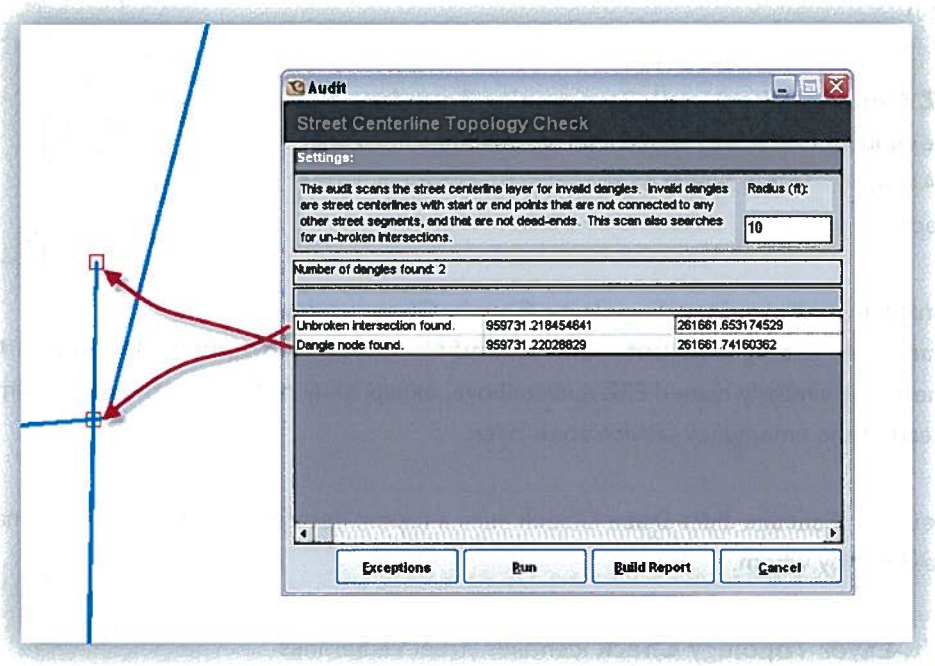


Address Odd/Even Parity Check identifies addresses that have odd addresses assigned that should be even or even addresses assigned that should be odd based on the side of the road it is on.

Street Centerline Address Range Check identifies overlapping house number ranges on street centerlines with the same street name attributes in the same ESN or community.



Street Centerline Topology Check identifies invalid dangles (street start or end points that are not connected to any other streets and that are not dead-ends, as well as for intersecting streets that are not broken at intersections). This topology tool is designed by GeoComm for street centerlines, and is much easier to use than built-in ESRI ArcGIS topology tools and includes a fuzzy tolerance value to accept marginally imprecise data as acceptable, if desired.

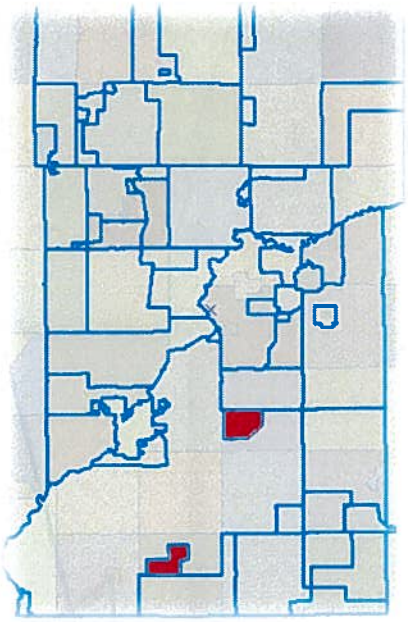


Street Centerline Missing Attribute Check identifies streets with missing street name, address range, or zero range attributes.

Street Centerline Road Name Check identifies streets attributed with non MSAG-valid street names.

Street Centerline Length Check identifies street centerline segments greater or less than a specified length.

ESZ Boundary Topology Check identifies gaps or overlaps in the emergency service zone layer.



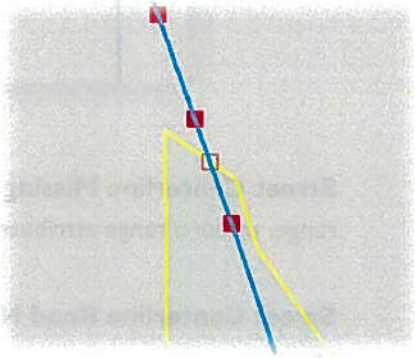
ESZ Boundary Missing Attribute Check identifies emergency service zones with missing primary search key attributes.

ESZ Boundary Duplicate Check identifies emergency service zones with the same emergency service zone number (ESN).

ESZ Number Check and Community Boundary Name Check identify if street names and community names are MSAG-valid. This is similar to the Street Centerline Name Check.

Community Boundary Topology Check, Community Boundary Missing Attribute Check, and Community Boundary Duplicate Check are the same as the similarly named ESZ audits above, except they operate on the community boundary layer instead of the emergency service zone layer.

User and Feature Edit Date Check runs a report describing when features in map layers were edited and by whom.



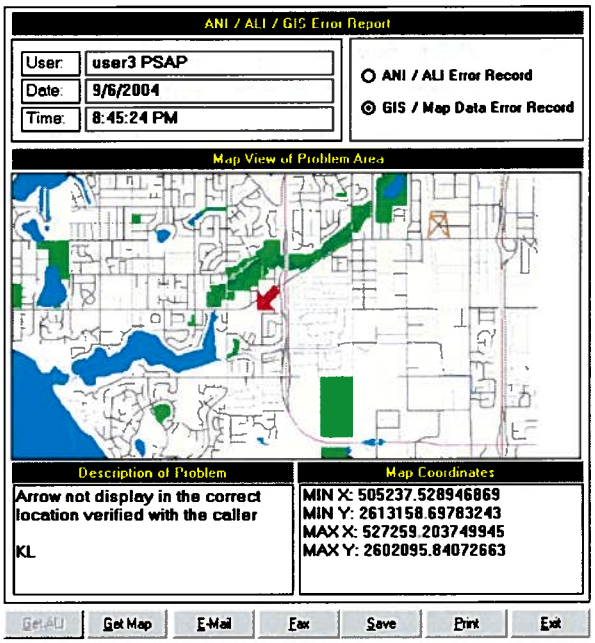
Multi-Layer Topology Check identifies street centerlines that cross emergency service zones or community boundaries but are not broken at intersections. It also checks for streets that run along ESZ or community boundaries but where a 1 for 1 node correlation is not found.

All audits generate reports that can be saved, printed, or e-mailed. Users can easily navigate the map to an issue location by double-clicking a row on the result grid on any of the QA/QC audit windows. Audits may be run on the entire data set or on selected portions of the map, such as recently edited areas.

Discrepancy Manager Tool

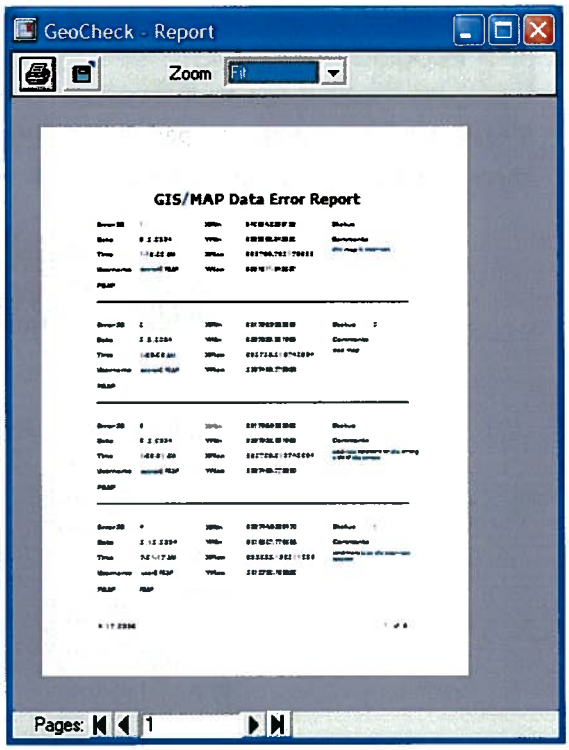
✔ Discrepancy Manager

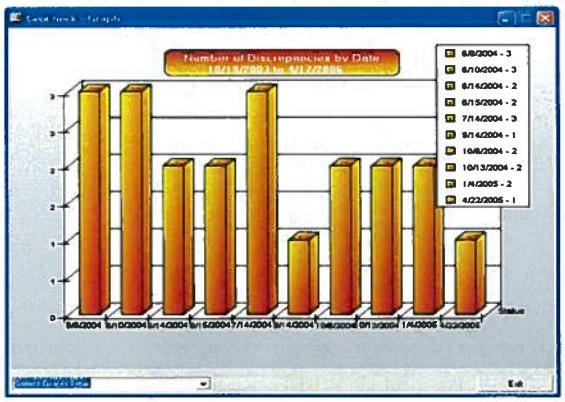
The discrepancy manager tool that offers interoperability between GeoLynx DMS and GeoComm's dispatch GIS software, GeoLynx 9-1-1, and GeoComm's Web-based emergency operations system, GeoLynx EOC. End users of GeoLynx 9-1-1 and GeoLynx EOC may log ANI/ALI errors as well as GIS errors manually using auto-assisted error forms. In addition, GeoLynx 9-1-1 captures some errors automatically with no user interaction required, such as unmapped 9-1-1 calls, and Phase II wireless 9-1-1 call coordinates falling outside of the Phase I cell sector reported for the same call.



GeoLynx DMS allows data managers to query open issues, generate reports and graphs about discrepancy loads, and to close issues after they have been handled.

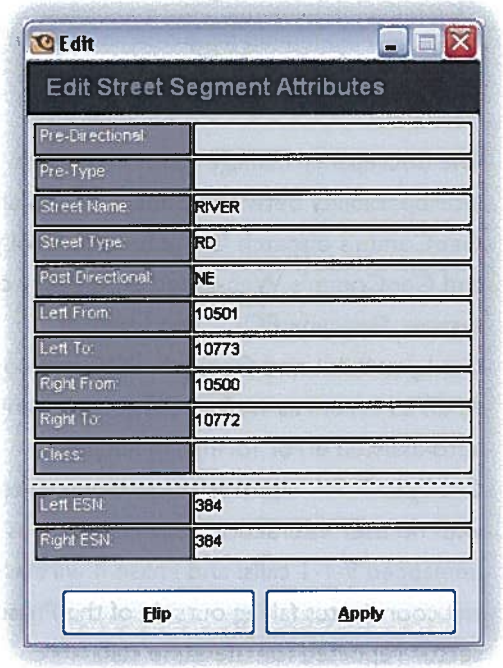
The discrepancy manager tool can be opened from the GeoLynx DMS toolbar. Opening a GIS error report in GeoLynx DMS will red-line the area of the problem on the map and ArcMap will zoom to the location.





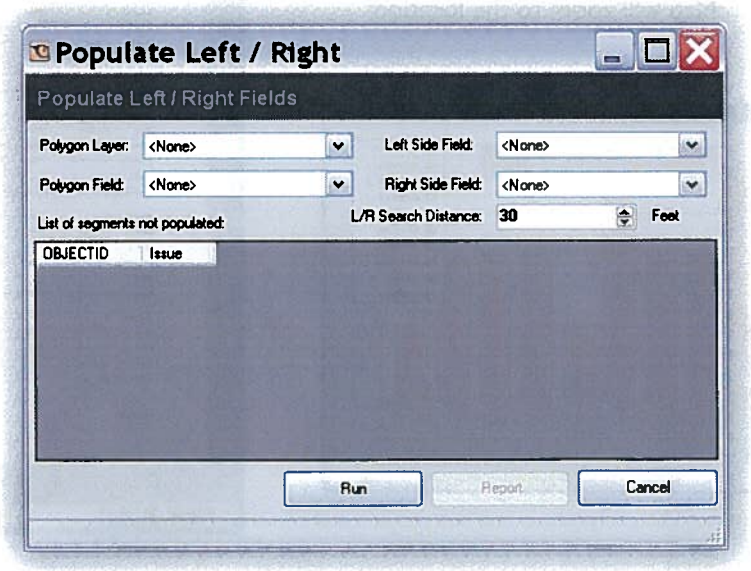
Street Attribute Editor Tool

The street attribute editor tool enables users to easily select a road segment and edit street names, address ranges, and any other selected attribute fields efficiently without having to scroll through a list of fields as with typical ArcMap attribute editing.



Populate Left/Right Tool

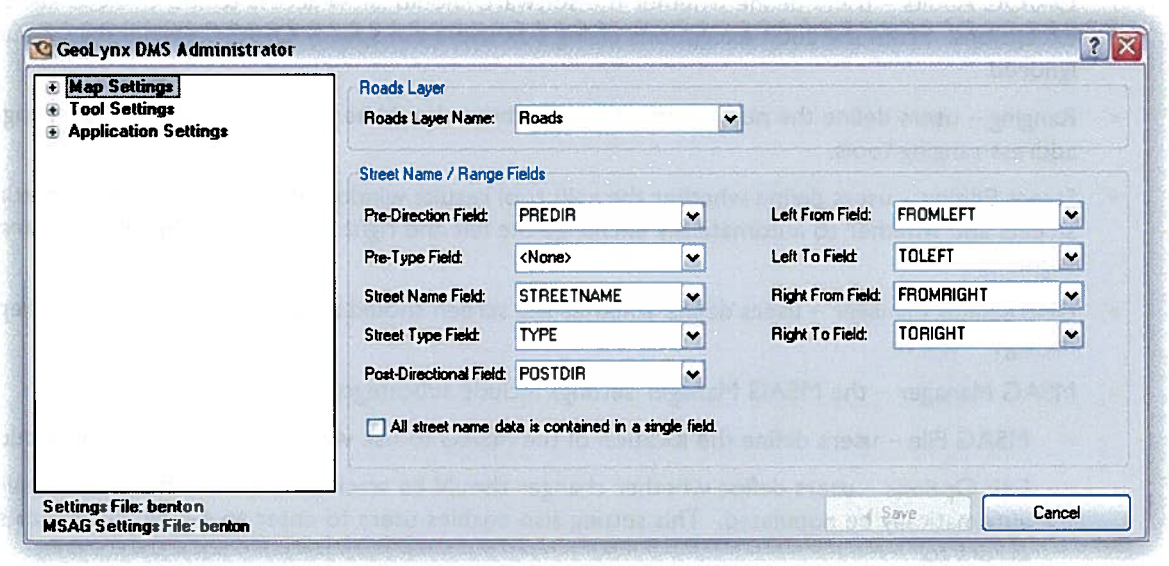
The populate left/right tool enables users to easily assign left and right attributes to road segments based on attributes in adjacent boundaries such as zip codes, communities, and ESZs. If roads are not properly snapped to boundaries they are discovered through thte multi-layer topology check that occurs when populating the fields with this tool.



Administrator Tool

The administrator tool enables users to configure the map, tool, and application settings. It provides a single location to configure the settings of particular GIS Data Manager tools and the Mobile GIS Data Manager MSAG Manager modules.

The map settings include the options to select the layers and appropriate fields in those layers for attribution and editing using the GIS Data Manager tools.



The map settings include the following setting options:

- Roads Layer – users define which fields should be attributed when using the GeoLynx DMS address ranging tools and are able to setup automatic editor tracking functions.
- Point Layers – users define which point layers are available (e.g. address point layer and the cell tower layer) and what fields should be attributed when using the addressing tools. Users can also set up automatic editor tracking functions.
- Polygon Layers – users define which polygon layers are available (e.g. ESN layer, boundary layer, exchange layer, and cell sector layer) and what fields should be attributed when using the GeoLynx DMS tools. Users can also set up automatic editor tracking functions.
- Map Properties – users define what type of database is being used and what map units should be used.

The tool settings include the following setting options:

- Addressing – users define the tool tip transparency.
- Address Matching – users define settings used when using the find address tool and the geocoding tools within GeoLynx DMS. Settings include items such as the distance an address plots off the road segment.
- Display – users define the vertex, node, and line direction settings. It allows users to define what color and style symbols should be when using the display vertex/node tool and the line direction tool in GeoLynx DMS.
- QA/QC Audits – users define whether the software should allow access to the QA/QC audit exceptions. From the audit exceptions dialog box users can specify QA/QC errors that should be ignored.
- Ranging – users define the number of addresses there should be assigned per mile when using the address ranging tools.
- Street Editing – users define whether the split tool results window should display when splitting streets and whether to automatically exchange the left and right ESN values when flipping street segments.
- Discrepancy Manager – users define whether the screen should automatically zoom to discrepancy manager results.
- MSAG Manager – the MSAG Manager settings include subcategories including:
  - MSAG File – users define the location of the MSAG to use with the MSAG manager module.
  - Edit Options – users define whether changes should be tracked and if the date field should automatically be populated. This setting also enables users to enter an e-mail address to send errors to.
  - Build Options – users define the appropriate layers and fields to use when developing an MSAG. This setting also offers output options.
  - MSAG Fields – users define the MSAG fields.
  - Field Mapping – users define what street layer fields to use when building an MSAG.

The application settings include:

- Setting Files – users define what saved settings files to use for the GIS Data Manager and MSAG Manager modules.
- Administrator – administrators define whether user password protection should be used and enables the administrator to configure user login name and passwords.
- About – provides software license information.
- Help – opens the user reference manual.

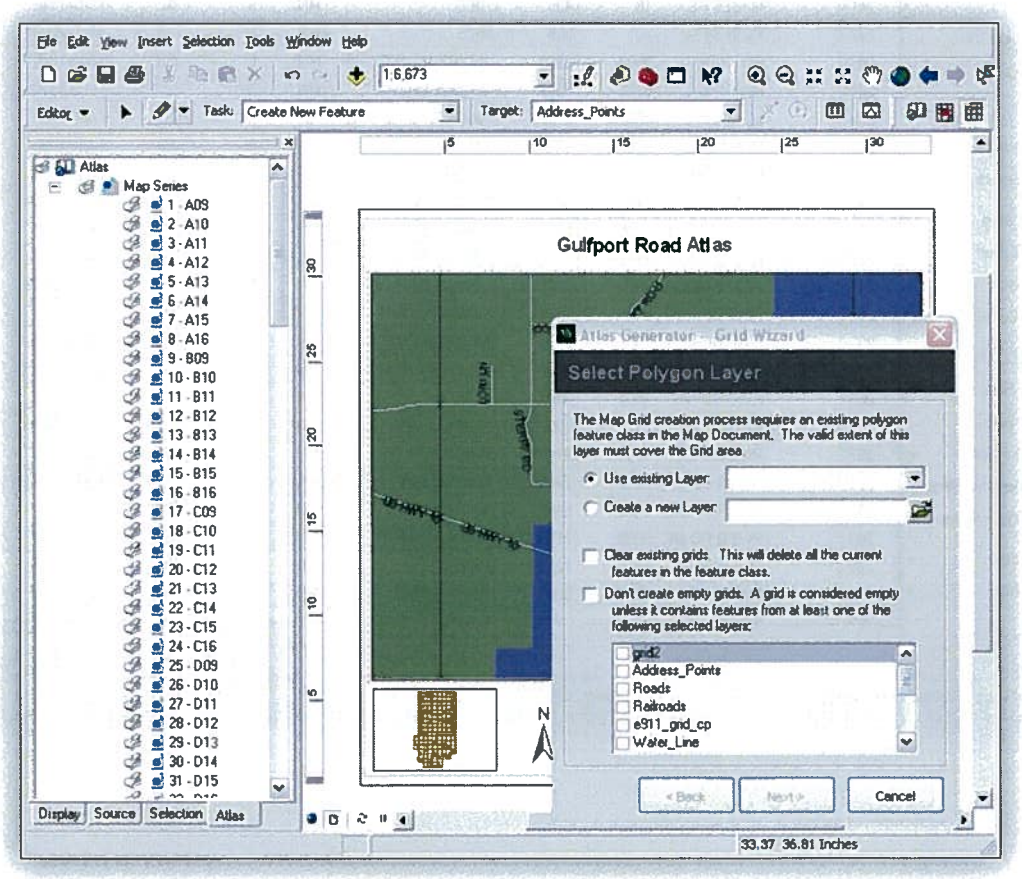
Login Tool

GeoLynx DMS may be configured to prompt for a username and password before activating the rest of the tools. If setup this way, all tools will be disabled until a user authenticates with their system administrator assigned credentials. This feature is used for updating editor name fields in GIS data layers so it is possible to track edit histories for features in map layers.

Optionally, you may configure the system to bypass the logon screen.

GeoLynx DMS Atlas Generator

The GeoLynx DMS Atlas Generator is an additional toolbar that is bundled as part of GeoLynx DMS GIS Data Manager at no additional cost. The Atlas Generator is based on a popular developer example application available from ESRI. GeoComm has added custom programmed features to the ESRI atlas application and packaged it under GeoLynx DMS which has ongoing support, maintenance, and continued development of the tool from GeoComm. Once an atlas template is constructed the user can generate an emergency atlas with an index and references for the entire jurisdiction with a single-click.

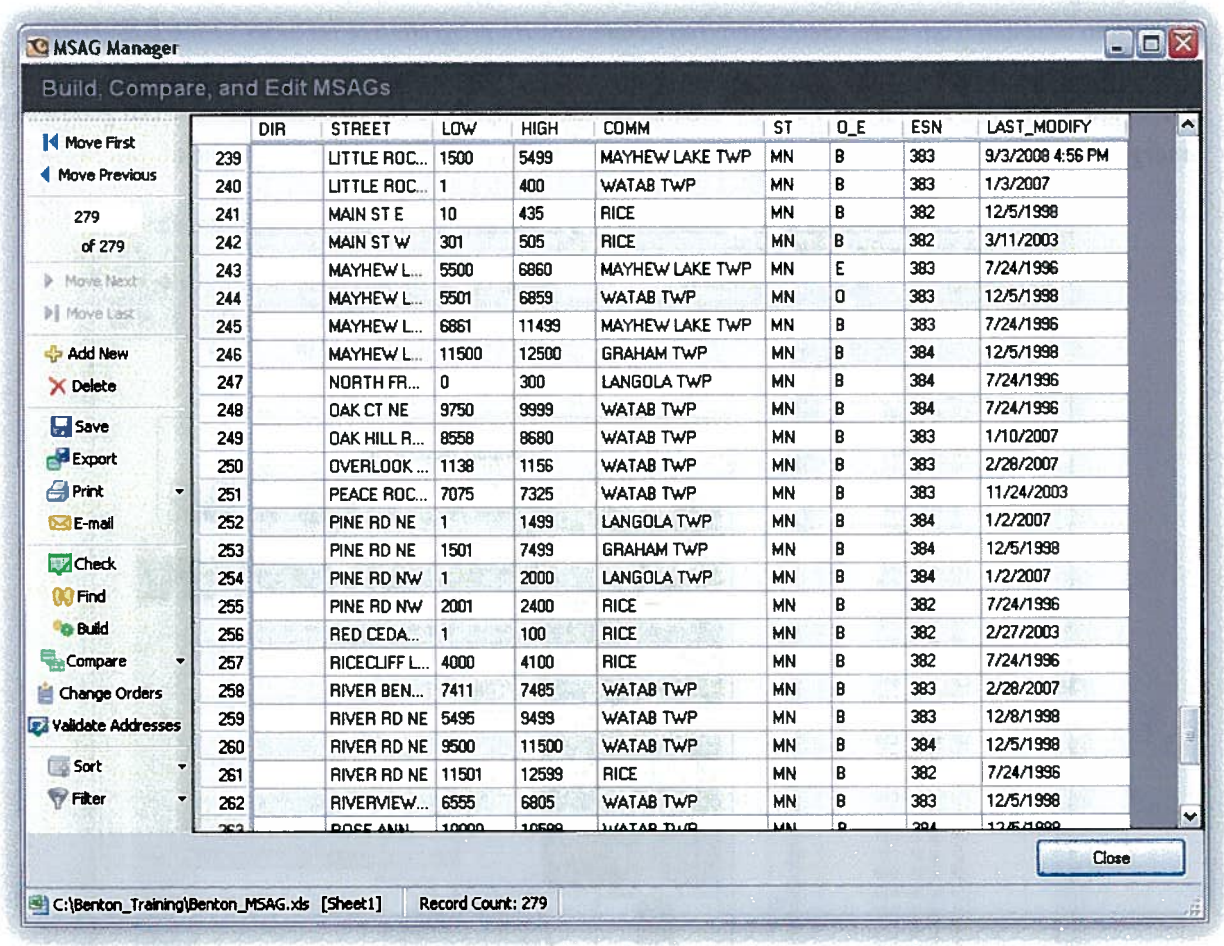


MSAG Manager Module

By selecting the MSAG Manager button the MSAG management window opens. The MSAG Manager is an add-on module to the GIS Data Manager. It can be purchased for an additional fee. It is accessed directly from the GeoLynx DMS toolbar.

MSAG Manager enables you to develop, edit, and quality check an MSAG. The MSAG Manager also includes tools to verify how closely your MSAG compares to the GIS map data.

Developing an entirely new MSAG or creating new records is done directly from the GIS map data, therefore ensuring synchronization between the data and the MSAG.

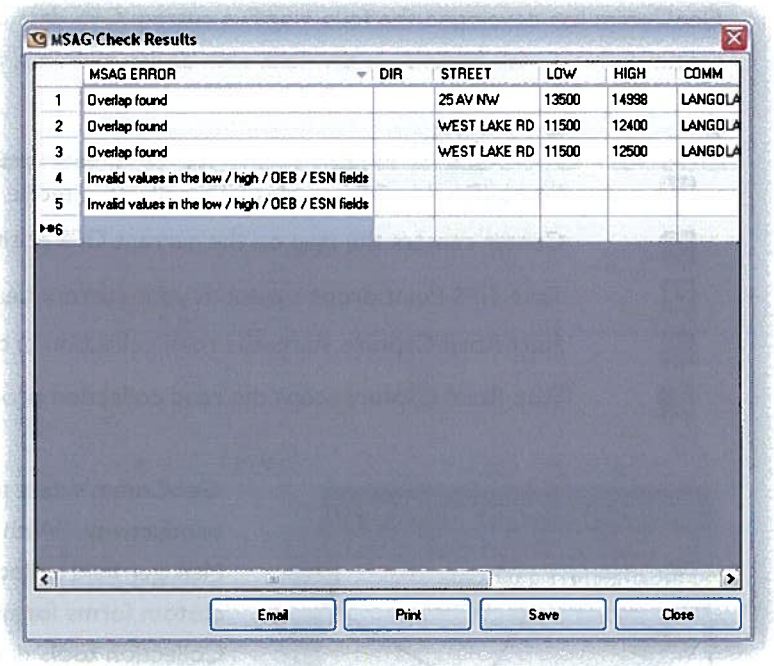


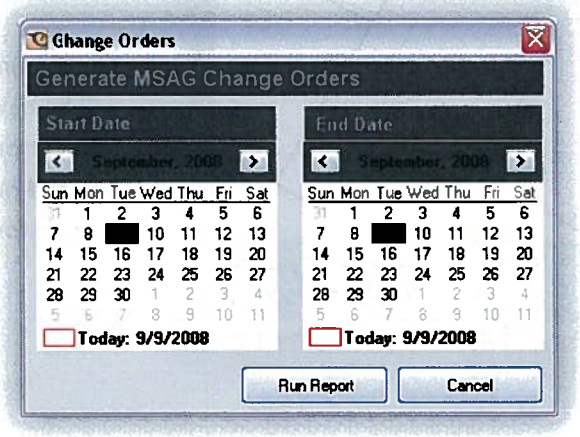
	DIR	STREET	LOW	HIGH	COMM	ST	O_E	ESN	LAST_MODIFY
239		LITTLE ROC...	1500	5499	MAYHEW LAKE TWP	MN	B	383	9/3/2008 4:56 PM
240		LITTLE ROC...	1	400	WATAB TWP	MN	B	383	1/3/2007
241		MAIN ST E	10	435	RICE	MN	B	382	12/5/1998
242		MAIN ST W	301	505	RICE	MN	B	382	3/11/2003
243		MAYHEW L...	5500	6860	MAYHEW LAKE TWP	MN	E	383	7/24/1996
244		MAYHEW L...	5501	6859	WATAB TWP	MN	O	383	12/5/1998
245		MAYHEW L...	6861	11499	MAYHEW LAKE TWP	MN	B	383	7/24/1996
246		MAYHEW L...	11500	12500	GRAHAM TWP	MN	B	384	12/5/1998
247		NORTH FR...	0	300	LANGOLA TWP	MN	B	384	7/24/1996
248		OAK CT NE	9750	9999	WATAB TWP	MN	B	384	7/24/1996
249		OAK HILL R...	8558	8680	WATAB TWP	MN	B	383	1/10/2007
250		OVERLOOK ...	1138	1156	WATAB TWP	MN	B	383	2/28/2007
251		PEACE ROC...	7075	7325	WATAB TWP	MN	B	383	11/24/2003
252		PINE RD NE	1	1499	LANGOLA TWP	MN	B	384	1/2/2007
253		PINE RD NE	1501	7499	GRAHAM TWP	MN	B	384	12/5/1998
254		PINE RD NW	1	2000	LANGOLA TWP	MN	B	384	1/2/2007
255		PINE RD NW	2001	2400	RICE	MN	B	382	7/24/1996
256		RED CEDA...	1	100	RICE	MN	B	382	2/27/2003
257		RICECLIFF L...	4000	4100	RICE	MN	B	382	7/24/1996
258		RIVER BEN...	7411	7485	WATAB TWP	MN	B	383	2/28/2007
259		RIVER RD NE	5495	9499	WATAB TWP	MN	B	383	12/8/1998
260		RIVER RD NE	9500	11500	WATAB TWP	MN	B	384	12/5/1998
261		RIVER RD NE	11501	12599	RICE	MN	B	382	7/24/1996
262		RIVERVIEW...	6555	6805	WATAB TWP	MN	B	383	12/5/1998

The MSAG manager includes the following features.

- Sort MSAG by multiple fields
- Quick pull down lists for fast searching by street, community, or ESN
- Quick find tool to search by street name, address range, community name, ESN, and many other fields included in the MSAG

- Audit to determine overlapping ranges and invalid entries in the MSAG/geofile
- Audit to compare current GIS map data to the current MSAG
- Build an entire MSAG/geofile from GIS map data or from a partial GIS map data selection such as a new subdivision
- Automatically merge changes made in the GIS map data to the MSAG
- Save, export, print, and e-mail MSAG/geofile listings
- Save, export, print, and e-mail MSAG/geofile change orders
- All changes to an MSAG/geofile are kept in a cumulative change log. The change log can be queried and printed or e-mailed at anytime.





Mobile GIS Data Manager Module

GeoComm, an ESRI authorized business partner and value-added reseller, is able to offer our customers GeoCollector. This product pairs ESRI's ArcPad software with Trimble's GPScorrect extension for ArcPad on Trimble's GeoExplorer 2008 series handheld unit.

GeoComm's GeoLynx DMS Mobile GIS Data Manager tools installed with the GeoCollector package streamlines and enhances the ArcPad user interface with new tools for collecting 9-1-1 address points and road centerline GPS data.

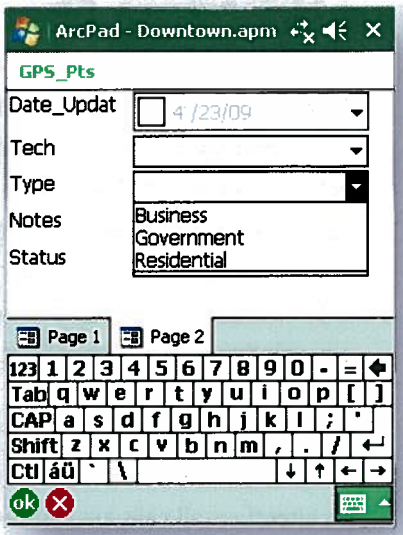
GeoComm has developed the following five custom GPS data collection tools to add into ArcPad for capturing 9-1-1 map features in the field, such as fire hydrants, address locations, and road centerlines.

Button:	Description:
	Enable/Disable GPS toggles GPS collection mode on and off.
	Center centers the map on the current GPS position.
	Take GPS Point drops a point at your current bearing.
	Start Road Capture starts the road collection process.
	Stop Road Capture stops the road collection process.

GeoComm's data management tools are intended to increase productivity. With the purchase of the Mobile GIS Data Manager field collection tools, GeoComm will also develop custom forms for use within the Mobile GIS Data Manager Field Collection tools during data collection.

GeoComm GIS Specialists will develop two custom forms. One will be developed for the collection of point features and another one for line features. Through discussions between you and our GeoLynx DMS trainers, GeoComm will design the custom form to meet your needs.

To increase productivity during data collection, the custom forms allow you to only view and edit desired fields during the data collection process. Data layers may contain multiple fields but only some of the fields need to be populated during the data collection process.



GeoComm can also provide you with any necessary drop-down menus that are desired for specific fields. These allow you to select from a list of possible attributes so the attributes in the field will be consistent.

Since the custom forms allow you to keep all of the original fields in the working files but only display the needed ones during the data collection process the transfer of collected data to the master files is not complex. It allows you to simply copy and paste the new data from the working files into the master files and ensures that all attributes will copy into the fields named the same.

If additional custom forms or updates to the original custom forms are desired, GeoComm can provide you with a price quote for the updates to the originals or the creation of each new custom form.

GeoComm's GeoLynx DMS Mobile GIS Data Manager is provided with the following:

- GeoComm's Customized Feature tools
- An external GPS Antenna for vehicle-based field collection
- GeoCollector
  - GeoExplorer 2008 series handheld unit (Submeter Accuracy)
  - ESRI's ArcPad software
  - Trimble's GPScorrect extension for ESRI's ArcPad software
  - An Integrated GPS antenna

Included in the cost of GeoLynx DMS Mobile GIS Data Manager is 12 months of software support for the GeoCollector software and a 12-month warranty on the GeoCollector hardware, GeoExplorer 2008 series handheld unit, from ESRI and Trimble. In addition, GeoComm offers renewable annual support and software maintenance on the customized feature tools that is separate from the inclusive one year of maintenance offered by ESRI and Trimble.

4 System Implementation

GIS Map Data, ALI Database, and MSAG Analysis

As a company that specializes in GIS, specifically for Enhanced 9-1-1 (E9-1-1) call plotting, GeoComm knows the importance of accurate GIS map data. Of equal importance is the synchronization of the three data components related to accurately locating the origin of a 9-1-1 call: the GIS map data, Automatic Location Identification (ALI) database, and Master Street Address Guide (MSAG). For over 14 years, GeoComm has developed GIS processes based on the need to ensure these three components are accurate and synchronized - the greater synchronization between them the higher probability for accurately pin-pointing emergency call locations.

In addition, GIS map data and the synchronization of it with the ALI database and MSAG will play an even more critical role in Next Generation 9-1-1 (NG9-1-1). In the NENA i3 Next Generation 9-1-1 architecture, all calls are routed based on location, including wireline 9-1-1 calls. This presents new challenges and requirements for local and regional GIS data planning and management. There are two important issues to consider for NG9-1-1.

- GIS map data will have a heightened degree of criticality because calls will be routed to NG9-1-1 ESInets and PSAPs geographically based on a caller's location and a point in polygon selection.
- GIS map data, ALI database, and MSAG synchronization is even more crucial to properly determining the location of calls.

GIS map data has an expanded role in NG9-1-1 based on the geographical routing that will occur. Currently, GIS map data for E9-1-1 is used to locate the address of an incident. With NG9-1-1, GIS map data will manage where the 9-1-1 call is routed. In other words, identifying which Public Safety Answering Point (PSAP) will receive the call based on the accuracy of your GIS data.

GeoComm proposes to perform an analysis that will provide you with an overview of issues related to the synchronization and accuracy of the GIS Map Data, ALI database, and MSAG. Synchronization issues may be due to errors in any of the three components or a combination of all of them. This analysis is important to identify any potential errors that could occur between these three elements during a live 9-1-1 call so they can be corrected.

The issues will be identified by first reviewing each component individually and then comparing them to one another. The following sections describe some of the processes used by GeoComm GIS Specialists to identify and then compile a report detailing synchronization and accuracy of the data.

8 Pricing

Prices valid for 90 days.

Cost Proposal Summary

GIS Services	$12,275
Software Conversion	$12,200
GeoLynx DMS E9-1-1 GIS Data Management Software	$21,645
Maintenance Workflow Review, Updates, and Training	$22,920
Cost Proposal Total:	**$69,040**

Notes: Interface fees, if applicable, are not included in this total.

This fee includes all travel and associated costs and should be considered firm.

Software support and maintenance services shall commence 90 days after software installation and continue for one year.

Typical software implementation turnaround is 90 days. A finalized project schedule will be determined at the start of the project.

Maplex labeling is used in the GeoLynx Family of Products. If you maintain your GIS data you should not change the .mxd used by GeoLynx 9-1-1 unless you use ArcInfo (which contains the Maplex labeling extension) or if you use ArcView or ArcEditor with the Maplex labeling extension. If you edit the .mxd and you do not have the Maplex labeling engine, labeling in the GeoLynx Family of Products may not work properly. Services can be provided to eliminate the need for Maplex labeling or editing your .mxd, if desired.

Cost Detail

GIS Services

Description	Qty	Price/Unit	Total Price
GIS Map Data, ALI Database, and MSAG Analysis			$1,375
GIS Map Data Update Services			$10,900
		GIS Services Total:	**$12,275**

Notes: The analysis costs proposed are based on receiving data that includes minimum fields and files needed to complete a comprehensive analysis. Additional costs may apply if edits to the data are needed to prior to completing the analysis.

Software Conversion

Description	Qty	Price/Unit	Total Price
GIS Data Conversion and Software Set Up Services			$1,950
GeoLynx 9-1-1 Software License(s)	2	$1,500	$3,000
GeoLynx 9-1-1 Installation and Training			$3,500
Annual GeoLynx 9-1-1 Software Support and Maintenance			$2,750
GeoLynx 9-1-1 Admin Software License(s)	1	$500	$500
GeoLynx 9-1-1 Admin Installation and Training			No Charge
Annual GeoLynx 9-1-1 Admin Software Support and Maintenance			$500
		Software Conversion Total:	**$12,200**

Notes: GeoLynx 9-1-1 is a single use license. One license is needed per workstation.

GeoLynx 9-1-1 workstations must meet the minimum GeoLynx 9-1-1 hardware requirements as outlined in this proposal.

GeoLynx 9-1-1 operation requires a computer act as the system server. The customer is responsible to provide this system server.

Software support and maintenance cost to be prorated based on actual date of installation and term of existing support contract.

Final implementation schedule will be determined at contract signing and project start. This schedule depends on all system components.

GeoLynx 9-1-1 Admin does not plot 9-1-1 calls or CAD incidents.

GeoLynx DMS E9-1-1 GIS Data Management

Description	Qty	Price/Unit	Total Price
GeoLynx DMS GIS Data Manager	1	$6,995	$6,995
Annual GeoLynx DMS GIS Data Manager Software Support and Maintenance			$1,400
GeoLynx DMS MSAG Manager	1	$2,500	$2,500
Annual GeoLynx DMS MSAG Manager Software Support and Maintenance			$500
GeoLynx DMS Mobile GIS Data Manager(submeter accuracy GeoXT)	1	$6,400	$6,400
Annual GeoLynx DMS Mobile GIS Data Manager Software Support and Maintenance			$200
Custom Field Collection Form	1		included
GeoLynx DMS Training			$3,650
		GeoLynx DMS Total:	**$21,645**

Notes: All GeoLynx DMS modules are single use licenses. One license is needed per workstation.

King and Queen County must purchase or own ArcGIS 9.3 or greater (ArcView, ArcEditor, or ArcInfo are all compatible) as a required component for each license of GeoLynx DMS. ArcGIS 9.3 or greater must be installed on the GeoLynx DMS user computer(s). GeoLynx DMS is deployed within ArcGIS.

GeoLynx DMS users must have, at a minimum, a basic knowledge of ESRI and ArcGIS 9.3 or greater.

A GPS antenna will be supplied with the purchase of the Mobile GIS Data Manager component at no charge. GeoComm does not provide software support and maintenance of the GPS antenna but the contact information of the manufacturer will be provided.

Support for GeoLynx DMS, related to any technical concerns, system upgrades, and version releases is covered under a formal Software Support and Maintenance agreement. Concerns or questions specifically related to GIS can be answered by a GeoComm GIS Specialist, but will be billed at a rate of $95 per hour with a minimum billable charge of one hour.

Included in the cost of GeoLynx DMS Mobile GIS Data Manager is 12 months of software support for the ArcPad software from ESRI and a 12-month warranty on the GPS hardware from Trimble. After 12 months Customer will be responsible for contracting with ESRI and Trimble for additional software support and hardware warranty. GeoComm does not provide support or maintenance for any of the software and hardware provided by ESRI and Trimble.

Maintenance Workflow Review, Updates, and Training

Description	Qty	Price/Unit	Total Price
Maintenance Workflow Review, Updates, and Training			$22,920
		Maintenance Workflow Review and Training Total:	**$22,920**

PSAP Grant Program Grant Ranker

View Application--113--FY11 Radford City

Grant Period: 2011

Tier: Replacement of non-vendor supported wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**NON-VENDOR SUPPORTED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: CPE (**CPE**)

Primary PSAP Applicants: Radford Police Communications

Jurisdictions Served: Radford, City of

Project Director:
Angie Simpkins
Sergeant
601 West Main Street
540-267-3205 (phone)
540-731-3620 (fax)
arsimpkins@radford.va.us

Project Description:

Total Project Cost $186,641.00
Amount Requested: $150,000.00

Statement of Need:
Replace three (3) position CPE system that is currently non-supported as of October 4, 2009. In the event 9-1-1 system fails, we will be unable to provide 9-1-1 services.

Comprehensive Project Description:
Replace non-supported/outdated CPE to allow continuation of current level of 9-1-1 services; The project will include necessary procurement practices, and will be procured and installed as soon as possible upon notification of grant award.

How will the equipment purchased will support future technologies for PSAP readiness?:
Quoted product is Next Generation technology. This will support all wireless communication, to include e-mail, text messaging, etc.

Budget and Budget Narrative:
See attachment

Evaluation:
Post-installation system checks to determine full system functionality prior to payment for equipment.

Attachments

Positron Quote 2009.pdf

POSITRON
Public Safety Systems

Positron VIPER with
Power 911 and Power MIS
for the
City of Radford, VA

Summary - Base Systems

Item	Cost	
Positron VIPER	$	49,622.00
Power 911 Software	$	28,836.00
Power MIS	$	3,374.40
e-Printer	$	1,056.60
Power IWS Hardware	$	30,824.47
Peripherals	$	5,652.79
On-Site Spares	$	10,468.00
Site Survey	$	3,350.00
Installation	$	19,550.00
Training	$	8,450.00
Miscellaneous Hotfixes	$	-
Project Management Services	$	5,981.93
On Site Support - 1 Year	$	19,475.14
Total	**$**	**186,641.33**

Summary - Maintenance Services

Item	Cost	
On Site Support - Years 2 to 5	$	83,921.02
Help Desk - Yearly Cost, Starting Year 2	$	3,895.03
Prepaid Help Desk - Warranty Plus 4 Years	$	15,580.11
Software Evergreen - Yearly Cost, Starting Year 2	$	9,241.86
Prepaid Software Evergreen - Warranty + 4 Years	$	36,967.44

****** The above Summary does not include the quoted Options ******

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Configuration Parameters

Positron VIPER

Total Number of E9-1-1 Trunks	6
Total Number of Administrative Lines	4

Answering Positions

Number of Power 911 Intelligent Workstations	4
Number of Buttons per Position	1,280 on-screen.

Power 911 Intelligent Workstation Features

Location Module (ANI/ALI)	Included
Computer Telephony Module (on-screen telephony)	Included
Contact Module (Call & Transfer - Voice and/or Data)	Included
On-line Message Board (a.k.a. Flash Bulletin Module)	Included
Lists Module (Call Lists and Queries)	Included
Toolbar (a.k.a. Call Detail Tool)	Included
Incident Manager Software (Incident Detailing + Premise + SOP)	Included
Integrated Call Recorder	Included
Integrated Telephone & Radio Recorder	Optional
Integrated TDD	Included
AgentToolkit	Included
Data Transfer to Remote FAX Machines or via E-Mail (XDC)	Optional
UPS on Server and Workstation PCs (30 minutes)	Included
VIPER UPS	Included
Tape Backup System	Included
RAID Disk Array (data redundancy)	Included

MIS Solution

Power MIS	Included
ePrinter	Included

Miscellaneous

Number of Monitors per position	1
Monitor Type	21 Inch LCD

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Model #	Description	Qty	List	Unit Cost	Total
	[1] **Positron VIPER**				
912890	VIPER Media Kit				
912800	Positron CAMA Gateway Shelf				
912801	Positron CAMA Interface Module				
912802	Positron Primary Backroom Server				
912803	Positron Primary VoIP Soft Switch				
912814	ADMIN I/F MODULE 4 PORT				
912806	24 Port Switch				
912807	4' VIPER IT Cabinet				
912811	Backroom Position Access License				
912812	PBX Access License - Per Workstation				
912813	Power Supply (-48V DC)				
914414	Rackmount UPS 1000VA				
912822	Positron Secondary Backroom Server				
912823	Positron Secondary VoIP Soft Switch				
913850/G2	Positron VIPER Enabling Kit				
				Subtotal	**$ 49,622.00**
	[9] **Power 911 Software**				
913100	Power 911 Client Access License (CAL)	4			
913202	Power 911 Server Access License (SAL)	4			
913100/CD	Power 911 Media	1			
				Subtotal	**$ 28,836.00**
	Power MIS				
920100	Power MIS Server Software License (SSL)	1			
920102	Power MIS Data Access License	4			
920101	Power MIS Concurrent client Access License	3			
920100/CD	Power MIS Media & Documentation	1			
				Subtotal	**$ 3,374.40**

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Model #	Description	Qty	List	Unit Cost		Total
	e-Printer					
917310/11	ePrinter Software and Documentation	1				
917311/11	ePrinter - Self Tutorial CD	1				
				Subtotal	**$**	**1,056.60**
	Power IWS Hardware					
914101/NS	IWS G2 Workstation Computer (No Monitor)	4				
914702	LCD 21" DISPLAY	4				
914120/1	IWS G2 Workstation - Configuration & Software	4				
914410	IWS Workstation UPS	4				
	ePrinter					
914101/NS	IWS G2 Workstation Computer (No Monitor)	1				
914702	LCD 21" DISPLAY	1				
914120/1	IWS Underlying System Software - Workstation	1				
	Power 911 Server					
914210	IWS Type 1 Server (1U 1CPU) 160GB SATA HD	1				
914245	160GB SATA Non Hotplug Hard Disk (ML110, DL	1				
914120/2	IWS Underlying System Software - Server	1				
914431	IWS BSC.SV(RMT)TAPE BKP SYS	1				
914410	IWS Workstation UPS	1				
	Power MIS Server					
914210	IWS Type 1 Server (1U 1CPU) 160GB SATA HD	1				
914245	160GB SATA Non Hotplug Hard Disk (ML110, DL	1				
914120/2	IWS Underlying System Software - Server	1				
914410	IWS Workstation UPS	1				
				Subtotal	**$**	**30,824.47**
	Peripherals					
915109	ALARM PANEL	1				
912645	Serial Printer	1				
914514	Color Laser Printer	1				
600150	50 Pin Punch Blocks	2				
207-990000-046	25 Pair Amphenol Cable	2				
960103	Network Cabling	10				
				Subtotal	**$**	**5,652.79**

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Model #	Description	Qty	List	Unit Cost	Total
	On-Site Spares				
912800	Positron CAMA Gateway Shelf	1			
912801	Positron CAMA Interface Module	1			
912802	Positron Primary Backroom Server	1			
912806	24 Port Switch	1			
912813	Power Supply (-48V DC)	1			
912814	Positron Admin Interface Module (AIM)	1			
913850/G2	Positron VIPER Enabling Kit	1			
				Subtotal	**$ 10,468.00**
	[3] **Site Survey**				
950100	Site Survey	1			
960575	Site Survey - Living Expense Per Day	3			
960580	Site Survey - Travel Fee	1			
				Subtotal	**$ 3,350.00**
	[3] **Installation**				
950850	Positron IWS Staging - up to 8 positions	1			
950856	Backroom Staging - up to 8 positions	1			
950104	Professional Services - Price Per Day	7			
960575	Installation - Living Expense Per Day	9			
960580	Installation - Travel Fee	1			
				Subtotal	**$ 19,550.00**
	[3] **Training**				
960801	Power 911 and MIS Call Taker Training	2			
960801	Power 911and MIS Administrator Training	2			
960575	Training - Living Expense Per Day	6			
960580	Training - Travel Fee	1			
				Subtotal	**$ 8,450.00**

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Model #	Description	Qty	List	Unit Cost	Total
	Miscellaneous Hotfixes				
999999	Miscellaneous Hotfixes	1			
				Subtotal	**$ -**
	Project Management Services				
950510	Project Management	1			
				Subtotal	**$ 5,981.93**
	[7] **On Site Support - 1 Year**				
	On Site Support - Year 1	1			
				Subtotal	**$ 19,475.14**
		Total			**$ 186,641.33**

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Model #	Description	Qty	List	Unit Cost	Total

Maintenance Services

[7] On Site Support - Years 2 to 5

	On Site Support - Year 2	1		$	20,059.39
	On Site Support - Year 3	1		$	20,661.18
	On Site Support - Year 4	1		$	21,281.01
	On Site Support - Year 5	1		$	21,919.44
				Subtotal $	**83,921.02**

[4] Help Desk - Yearly Cost, Starting Year 2

911000/HD1	Positron VIPER Help Desk One (1) Year	1			
913100/HD1	Power 911 Help Desk One (1) Year	1			
920000/HD1	Power MIS Help Desk One (1) Year	1			
914100/HD1	IWS Hardware Help Desk One (1) Year	1			
				Subtotal $	**3,895.03**

[4, 6] Prepaid Help Desk - Warranty Plus 4 Years

912800/HD5	Positron VIPER Help Desk Warranty Plus Four (4) Years Pre-Paid	1			
913100/HD5	Power 911 Help Desk Warranty Plus Four (4) Years Pre-Paid	1			
920000/HD5	Power MIS Help Desk Warranty Plus (4) Years Prepaid	1			
914100/HD5	IWS Hardware Help Desk Warranty Plus Four (4) Years Pre-Paid	1			
				Subtotal	**15,580.11**

[5] Software Evergreen - Yearly Cost, Starting Year 2

912800/SE1	Positron VIPER Software Evergreen One (1) Year	1			
913100/SE1	Power 911 Software Evergreen One (1) Year	1			
920000/SE1	Power MIS Software Evergreen One (1) Year	1			
				Subtotal $	**9,241.86**

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Model #	Description	Qty	List	Unit Cost	Total
	[5, 6] **Prepaid Software Evergreen - Warranty + 4 Years**				
912800/SE5	Positron VIPER Software Evergreen Warranty Plus Four (4) Years Pre-Paid	1			
913100/SE5	Power 911 Software Evergreen Warranty Plus Four (4) Years Pre-Paid	1			
920000/SE5	Power MIS Software Evergreen Warranty Plus Four (4) Years Pre-Paid	1			
				Subtotal $	**36,967.44**

Options

	[8] **XDC**				
	Software				
913351/200	POSITRON XDC V.2.00 SR S/W N/L	1			
913353/200	POSITRON XDC V2 CLIENT S/W N/L	4			
	IWS Hardware				
914210	IWS Type 1 Server (1U 1CPU) 160GB SATA HD	1			
914245	160GB SATA Non Hotplug Hard Disk (ML110, DL	1			
914120/3	IWS Underlying System Software - Server	1			
914510	Serial Port Expansion board (4 port)	1			
914520	IWS EXTERNAL FAX/MODEM	2			
	Installation				
950104	Professional Services - Price Per Day	1			
960575	Installation - Living Expense Per Day	1			
				Subtotal $	**10,575.65**

	[8] **ITRR**				
913152	Power 911 Add-on Recorder for Radio	4			
				Subtotal $	**1,440.00**

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Notes

1 The Customer to provide the following equipment:

Additional VIPER Equipment Required:
* One (1) Dial-Up Line for Remote Monitoring and Maintenance must be provisioned.

2 The Standard Operating Procedure and Premise Information Modules require customer-input of data. Positron can provide a data-entry service at additional cost.

3 The Site Survey is intended to identify any additional miscellaneous equipment or services required to ensure smooth installation and operation of the quoted system. Additional costs may be incurred upon completion of the Site Survey.

4 This service is designed to provide 24x7 access to our customer call center for product support.

It also provides remote diagnostics capabilities, allowing our technicians to dial in and troubleshoot remotely.

In the event that a problem cannot be corrected remotely, a Positron technician will be dispatched to the site in order to remedy any critical service affecting issue. A mutually agreed upon response time will be negotiated between Positron and the customer upon the award of the contract.

If the site has not contracted on-site maintenance services, the customer will then be charged for on-site assistance at the current Positron labour and material rates plus air fare cost.

Please note that this service does not cover the cost of either Positron or third party hardware or software components (except for the period of standard Warranty coverage and optional, additional Extended Warranty or Software Evergreen coverages available for purchase from Positron).

required. Should this option not be selected, service calls made to Positron's Help Desk will be individually charged at Positron's current rates.

5 This service is designed to protect the customer's initial Software investment by maintaining optimized system performance and functionality. The most recent versions of the purchased software product will be available during the contract period to the customer's designated maintenance personnel who will be responsible for its deployment at the site.
The Software Evergreen Program includes shipment of new software versions, minor and major releases, and problem workarounds to be deployed by the customer's designated maintenance personnel.
This service covers Positron developed software only, and does not include coverage for third party software such as the Windows Operating System, SQL, etc..

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6 This is a pre-paid and discounted service.

7 The On-site Manitenance Services consist of the following:

- On-site remedy of any critical service affecting issues that cannot be resolved via Help Desk; A mutually agreed upon response time shall be negotiated between Positron and the customer upon award of contract.

- Hardware and Software replacement or repair (labor and associated travel and living expenses)

Please note that this service does not cover the cost of either Positron or third party hardware or software components.

These costs are covered by the standard Positron Hardware and Software Warranty (included with the initial solution purchase) and the optional Extended Hardware and Software Warranty, available for purchase from Positron.

- Periodic site visits by a Positron technician to inspect the proper operation of Positron's hardware and software. The frequency of the site visits shall be negotiated between Positron and the customer upon award of contract.

- On-site installation of Software updates provided that the software is covered by the optional Software Evergreen service, available for purchase from Positron.

The quoted price is budgetary and would be finalized subject to Positron locating a suitable local contractor.

8 All optional modules in this quote have been priced under the assumption that they will be purchased and installed concurrently with the base system. If these modules are to be installed at a later date, additional costs will apply.

Maintenance Services have not been included for optional modules. Once the customer has finalized their configuration, a revised quotation will be provided with equipment and services costs revised as necessary.

8 The customer is assumed to provide sufficient phone lines to support the modems of the XDC system.

Terms

PRICING All prices are in U.S. Funds.
Taxes, if applicable, are extra.
FOB Positron, Montreal. Shipping costs are prepaid and charged.

PAYMENT As per existing contract.

DELIVERY TBD.

VALIDITY 120 days.

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PSAP Grant Program Grant Ranker

View Application--114--Roanoke County / Town of Vinton Consolidation

Grant Period: 2011

Tier: The initial, primary, or first consolidation of two or more primary PSAPs. (**INITIAL CONSOLIDATION**)
Grant Program: Continuity and Consolidation **Grant Type:** Consolidation Project
Priority: Physical Consolidation (**PHYS CONS**)

Primary PSAP Applicants: Roanoke County Police Communications

Jurisdictions Served: Roanoke, County of

Project Director:
Pat Shumate
Chief Communications Officer
5925 Cove Road
540-777-8656 (phone)
540-777-9769 (fax)
pshumate@roanokecountyva.gov

Project Description:

Total Project Cost $465,578.00
Amount Requested: $394,578.00

Statement of Need:
After extensive research, Roanoke County and the Town of Vinton identified significant service improvements such as: -EMD dispatch for the Town of Vinton -additional economy of scale pricing for future technologies -elimination of redundant calls for service We have also identified significant costs avoidances and eventual cost savings to the citizens of both localities. However, the implementation costs to conduct the physical merger are proving to be a significant hurdle for the localities to overcome, particularly in the current economic downturn.

Comprehensive Project Description:
The goals of the merger are to reduce the budgetary impact and to enhance the level of service to the citizens and visitors of both jurisdictions This would be accomplished by moving the Vinton PSAP into the existing Roanoke County PSAP. The localities share a common radio system and will utilize a shared CAD after the merger. The merger will take place in the fiscal year 2010/2011. The agreements will be reviewed every three years and adjustments will be made as needed. See the Feasibility Study for Roanoke County & Town of Vinton Emergency Communications Centers Merger for further explanation.

How will the equipment purchased will support future technologies for PSAP readiness?:
Additional furniture and wiring will allow for expansion of additional dispatch positions for future use. All

hardware and software purchased will be to current County technology specifications and will put the merged ECC in the best position to adopt future services and features (i.e. next generation 911) as they become mainstream.

Budget and Budget Narrative:
See Cost Analysis (Merged Center)attachment.

Evaluation:
In addition to measuring the anticipated financial benefits, we will also measure and track performance against the benefits identified in section 8.1 in the feasability study. Roanoke County already has extensive performance measures in place in order to ensure CALEA compliance. The new merged center will continue to operate under these stringent measures.

Attachments

Cost Analysis (Merged Center).xls
Roanoke County Feasibility Study.docx

County Consolidated NWS TOV Costs (Merged ECC)						
	Cost-Key					
	O=One Time Fee A=Annual Fee E= 5 Year Fee					
New World Costs (year one, based on additional TOV Licensing needs):		Hardware	Software	Service	Miscellaneous	Total
New World Systems TOV CAD, as quoted	O		$57,267			$57,267
1st Year Maintenance Fee for TOV licenses, due 90 days after delivery	5 Yrs at $14,804 per year		$14,804	$59,216		$74,020
ESRI GIS Runtime License per workstation ($500 each)	O		$1,000			$1,000
GLINK/FOX	A		$400			$400
Estimated Installation/Training Hours - 120 hrs ***	O				$22,140	$22,140
NWS Project Management services, as quoted	O		$2,916			$2,916
Total		$0				$0
Radio related costs (Gold Elite set-up & wiring) (move 2 Positions)				$21,600.00		$21,600
Plant 911 Phone System costs (2 Positions from Vinton)		$121,500.00				$121,500
CAD Workstation HW/OS, Monitors, other HW (2 Positions)		$31,402.00				$31,402
TOV CAD Workstations (hardware / software)		$10,500.00				
Administrative Phone system costs (2 Positions)		$2,268.00				$2,268
Expansion of existing servers and back room equipment to accommodate two new workstations for TOV Staff	A			$47,491		$47,491
Training Costs for six new County Employees					$2,074	$2,074
		$165,670	$76,387	$128,307	$24,214	$394,578

Statistics used to come up with charge allocations:								
Variables / Qualifiers / Factors:								
Calls For Service (CFS) includes 911 Lan, 911 Wireless, and Non-Emergency incoming calls								
*Outgoing calls not included since not related to	Town of Vinton:		911-LAN	911-Wireless	Non-Emergency	Totals		
CAD system resources utilized/software licenses*	CFS	2009	2,747	6,395	17,412	26,554		
CFS = 2009 as Reported to State - by Pat Shumate ROCO and Craig Sheets TOV								
TOV estimated CFS % calculated from:	RkeCounty:		911-Lan	911-Wireless	Non-Emergency	Totals		
TOV total calls (26554)/Total all ROCO + TOV calls (223625) = 12% (rounded from 11.87%)	CFS	2009	19,424	27,669	149,978	197,071		
Roanoke County and Vinton CAD Incidents								
	Roanoke County			TOV				
	911 Calls	20,791		911 Calls	Wireline	1,712		
Incidents = (TOV) 19428/ (total Roco & TOV) 109703	Non-Emergency	16,144			Wireless	1,640	3,352	
Incident % = 18% (17.8%)	Self Initiated Calls	53,340		Non-Emergency		5,911	5,911	
				Self Initiated	Radio	8,291		
					Walk In	1,874	10,165	
	Total CAD Incidents	90,275	Roco			TOV	19,428	
	Police Incidents	78,995			Police Incidents		17,564	
	Fire & EMS Incidents	11,280			EMS Incidents		1,550	
					Fire Incidents		314	
		90,275					19,428	
Software Licensing								
	Town of Vinton:		CAD	LERMS	Mobiles			
32 TOV/111 Total = 22.4%	Licenses	Contract	2	10	20			
SW licensing % = 22.4%								
	RkeCounty:		CAD	LERMS	Mobile			
	Licenses	Current	33	38	40			
17% average TOV impact on costs to support CAD								

Training Costs for Roanoke County

	Cost per Employee	Total
EMD Books	79	474
Academy Fees	100	600
EMD Cards	---	1000
Total		2074

***Costs are calaulated for 6 employees to become Roanoke County Employees

Feasibility Study for **Roanoke County & Town of Vinton**
Emergency Communications Centers Merger

1. Executive Summary

In July of 2009, the Town Council of Vinton and the Board of Supervisors of Roanoke County held a joint meeting to hear remarks from Town Manager Chris Lawrence and County Chief Information Officer Elaine Carver on the potential benefits of developing a plan to merge the Town and County's Emergency Communications Center. After hearing the positive potential of such a merged center, the governing bodies unanimously agreed to approve further investigation and study of the concept of a merged emergency communications center that would service both the Town and the County with call-taking and dispatching services.

The purpose of this document is to provide to the governing bodies the details of the sanctioned study including a cost-benefit analysis, general conclusions and a recommendation for action.

2. Introduction

2.1 Scope

The scope of this study and the information contained herein is focused exclusively on the development of a joint emergency communications center (ECC) that would provide direct service to the citizens of Roanoke County and the Town of Vinton and their respective public safety and public service agencies. This study includes a comprehensive list of the procedural, staffing and technology implications inherent in a potential merger. This study also includes details of the estimated financial impact, cost avoidance and direct cost savings that would be presented to both organizations as a result of such a merger. The benefits, risks, assumptions and cost sharing methodologies are based exclusively on the current situation and operations of the Town of Vinton and Roanoke County.

2.2 Methodology

The Town and County formed a steering committee to lead the exploration process. The Steering Committee met on a regular basis to outline tasks, resolve issues and determine the best proposed course of action. The Steering Committee consisted of the following Town and County personnel:

- Chris Lawrence, Town Manager, Vinton
- Herbert Cooley, Police Chief, Vinton
- Benjamin Cook, Police Lieutenant, Vinton
- Barry Thompson, Finance Director, Vinton

- Elaine Carver, Chief Information Officer, Roanoke County
- Rebecca Owens, Finance Director, Roanoke County
- Bill Greeves, Director of Communications & Information Technology, Roanoke County
- Bill Hunter, Assistant Director for Communications, Roanoke County
- Pat Shumate, Chief Communications Officer, Roanoke County

In order to obtain an accurate listing of identifiable concerns and solutions of a merger between the Town and the County, the Steering Committee appointed several subcommittees to identify, review and provide potential solutions to any foreseeable issues and concerns arising from the potential merger. The following sub-committees were established to focus on specific areas of consideration:

- Fire & Rescue Policies and Procedures
- Police Policies and Procedures
- Public Works Policies and Procedures
- Technology & Logistics
- Human Resources
- Finance (later absorbed into the Steering Committee)

2.3 Structure of Evaluation

The sub-committees included representatives of the appropriate Town and County departments to address each area of operation. Refer to Appendix A for a complete list of each sub-committee's participants. The sub-committees met on a regular basis to outline the commonalities and differences between each respective ECC's operational procedures. The groups identified each issue and researched potential solutions. Additionally, each group identified any opportunities for cost or time savings or improvement in efficiency resulting from a merger. Together with the leadership provided by the Steering Committee, each sub-committee worked diligently to develop reports that documented the issues, risks, considerations and logistics that had to be addressed in order to provide an educated and comprehensive report and associated recommendations. This report includes the operational and cost impacts of such a merger, as well as the proposed solutions identified by each operational group and approved by the Steering Committee, as shown in Appendix B.

3. Current Community Profiles

3.1 Roanoke County[1]

In 1838, Roanoke County was carved out of portions of Botetourt and Montgomery Counties. The County is located in the southernmost end of the Shenandoah Valley, between the Allegheny and Blue Ridge Mountains. It is nearly hexagonal in shape, with a land area of approximately 250 square miles. Dividing the county is a northeast-to-southwest valley. According to the U.S. Census Bureau, the county has a total area of 251 square miles (650 km²), of which, 251 square miles (650 km²) of it is land and 0 square miles (0 km²) of it (0.07%) is water.

Roanoke County has a County Administrator and a five-member Board of Supervisors. The county is divided into five Supervisory Districts: Catawba, Cave Spring, Hollins, Vinton, and Windsor Hills.

As of 2006[2], there were 90,482 people residing in Roanoke County. The census[1] of 2000 reports 34,686 households, and 24,696 families residing in the county. The population density was 342 people per square mile (132/km²). The racial makeup of the county was 93.63% White, 3.35% Black or African American, 0.12%Native American, 1.61% Asian, 0.02% Pacific Islander, 0.39% from other races, and 0.89% from two or more races. 1.04% of the population was Hispanic or Latino of any race.

There were 34,686 households out of which 30.60% had children under the age of 18 living with them, 59.90% were married couples living together, 8.50% had a female householder with no husband present, and 28.80% were non-families.

The median income for a household in the county was $47,689, and the median income for a family was $56,450. The per capita income for the county was $24,637. About 2.70% of families and 4.50% of the population were below the poverty line, including 5.20% of those under age 18 and 4.90% of those ages 65 or over.

3.2 Town of Vinton[3]

The Town of Vinton was incorporated by the Virginia General Assembly on March 17, 1884. The Town is located in Roanoke County, and is bordered on its western and northern limits by the City of Roanoke. To the east lie Roanoke County and the Blue Ridge Parkway, and to the south is the Roanoke River. According to the United States Census Bureau, the Town has a total area of 3.2 square miles (8.2 km²), all of it land.

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[1] "Roanoke County, Virginia" Wikipedia, The Free Encyclopedia. 26 July 2009, 23:43 UTC. Wikimedia Foundation, Inc. 3 Nov 2009. <http://en.wikipedia.org/wiki/Roanoke_County>

[2] From Roanoke County Comprehensive Annual Financial Report, Year Ended 2009 Unaudited.

[3] "Vinton, Virginia" Wikipedia, The Free Encyclopedia. 8 July 2009, 9:44 UTC. Wikimedia Foundation, Inc. 3 Nov 2009. <http://en.wikipedia.org/wiki/Vinton,_Virginia>

As of the census[1] of 2000, there were 7,782 people, 3,327 households, and 2,179 families residing in the Town. The population density was 2,451.4 people per square mile (947.8/km²). There were 3,471 housing units at an average density of 1,093.4/sq mi (422.8/km²). The racial makeup of the Town was 94.35% White, 3.35% African American, 0.10% Native American, 0.66% Asian, 0.04% Pacific Islander, 0.59% from other races, and 0.91% from two or more races. Hispanic or Latino of any race were 1.11% of the population. There were 3,327 households out of which 30.2% had children under the age of 18 living with them, 47.1% were married couples living together, 14.2% had a female householder with no husband present, and 34.5% were non-families

The median income for a household in the Town was $32,620, and the median income for a family was $40,701. The per capita income for the Town was $16,817. About 6.9% of families and 9.7% of the population were below the poverty line, including 15.3% of those under age 18 and 7.7% of those age 65 or over.

4. Current Communications Environment

4.1 Roanoke County

4.1.1 Roanoke County Emergency Communications Center

The Roanoke County Emergency Communications Center (ECC) is a division of the Department of Communications & Information Technology (CommIT). Daily operations are overseen by the Assistant Director for Communications. Strategic planning and oversight are provided by the Director of Communications and Information Technology. As the County's Public Safety Answering Point (PSAP), the ECC is responsible for call-taking and dispatching services for Roanoke County's Police and Fire & Rescue Departments. The ECC responds to calls to 911 and the non-emergency public safety phone lines. All Communication Officers are also trained to provide Emergency Medical Dispatch (EMD) service to E-911 callers. EMD service provides citizens with medical instructions and comfort while emergency services are on the way. These services are accredited by the Virginia Office of Emergency Medical Services.

In addition to call taking and dispatching, the County's ECC processes warrants and protective orders. In 2009, the County's ECC entered into an agreement to receive and handle after-hours Calls for Service and dispatch for the Western Virginia Water Authority.

The County ECC's annual budget for FY10, including personnel, operating and small capital is $2,287,400. There are currently 35 full-time employees assigned exclusively to the ECC. The ECC operates three traditional 8 hour shifts and two 10 hour "power shifts" in each 24 hour period. These shifts are staffed by Leads and Communications Officers according to trends in call volume:

Shift	Time	Allotted Positions	Minimum Staffing
Daylight	7AM – 3PM	1 Lead/8 COIII/COII (9 Total)	4
Daylight Power	8AM – 6PM	1 Lead/2 COII (3 Total)	1
Evening	3PM – 11PM	1 Lead/8 COIII/COII (9 Total)	4
Evening Power	6PM – 4AM	1 Lead/2 COII (3 Total)	1
Midnight	11PM – 7AM	1 Lead/6 COIII/COII (7 Total)	3

The ECC is located in the new 83,000 sq ft Roanoke County Public Safety Center, a building that opened for service in 2007. The Public Safety Center houses the County's Police Department, Fire & Rescue Department, CommIT and the County's Emergency Operations Center. The building, while not a hardened facility, contains many features for redundancy, diversity of operations, and its own UV water filtration system. Dual 130 KVA UPS systems provide filtered, uniform commercial power and support all critical systems until the 25,000 KVA generator system takes over in the event of a commercial power outage. The generator has a hot-refuel capability and the ability to power the full facility for 10 days between refueling. Bunk rooms, galleys, a fitness center and shower facilities support staffing during emergency operations. All critical equipment has dual power supplies, each plugged into alternate UPS systems. Redundant copper and fiber entry points with geographically separated Central Office phone facilities allow path diversity on E-911 and administrative phone circuits. Self healing microwave loop and optical SONET ring carry radio, WAN, and Internet service. Below grade radio and data centers along with bullet resistant glass add to the facility's survivability.

4.1.2 Roanoke County Police Department

The Roanoke County Police Department assumed law enforcement activities on July 1, 1990. The Department has an assigned strength of 146 sworn officers and 13 civilian support staff positions, with an annual budget of $10,923,393 (FY2009).

Roanoke County is divided into 9 distinct policing districts; each district is patrolled by 1 Officer for a total of 9 Officers and 1 Supervisor on duty per shift. In FY2008, the department responded to 83,023 Calls for Service and completed 2028 Incident Reports.

The Department is nationally accredited by the Commission on Accreditation for Law Enforcement Agencies. The Department has maintained national accreditation since November 1997.

4.1.3 Roanoke County Fire & Rescue Department

The Roanoke County Fire and Rescue Department was formed on June 24, 1986 from a loosely organized volunteer system. The Department is considered a full service fire/rescue agency providing the following services from 12 fire/rescue districts; Emergency Medical Services both first responder and Advance Life Support (ALS) transport, Fire Suppression, Fire Investigation, Fire Inspections, Emergency Management, Hazardous Materials Response, Technical Rescue Response, Community Outreach Programs, and Public Education.

The Department is approved for 151 full time personnel with all but five being sworn firefighters/EMT's or firefighter/paramedics and approximately 200 volunteers. The Department provides extensive mutual aid to the six surrounding counties and has automatic mutual aid agreements with the cities of Roanoke and Salem. The current annual budget is approximately $12,430,000 (FY 09-10) and the average emergency incidents per year are 11,400. The Department has been extensively recognized by the Virginia's Governors Office and the Virginia Department of Health for both fire and EMS activities.

4.1.4 Roanoke County Sheriff

Since 1838, the Office of the Sheriff has proudly served Roanoke County as the original law enforcement agency. Now, deputies provide three main areas of service to the community--corrections, court security, and civil process. The Roanoke County Sheriff's Office has 83 sworn and 4 civilian personnel which serves a population of 90,482.

The Roanoke County ECC provides monitoring of the emergency button on all the radios assigned to the Sherriff's office. If the button is activated, the ECC will contact the Deputy and/or the Sheriff's office to verify the safety of the deputy to whom the radio is assigned.

The Roanoke County ECC also provides support for the County Sheriff's deputies when they are serving civil papers. Deputies will "mark out" on the call and the ECC will track their location and disposition until they have completed the task.

The Department is nationally accredited by the Commission on Accreditation for Law Enforcement Agencies.

4.1.5 Western Virginia Regional Jail

Located in Western Roanoke County near Dixie Caverns, the Western Virginia Regional Jail is a regional partnership between the Counties of Franklin, Montgomery, Roanoke and the City of Salem. This state-of-the-art jail facility is approximately 264,000 sq. ft.

and provides a rated capacity for 605 inmates with another 200 beds double-bunked for a total of 805 inmates.

The Roanoke County ECC provides monitoring of the emergency button on all the radios assigned to the Western Virginia Regional Jail. If the button is activated, the ECC will contact the Deputy and/or the WVRJ to verify the safety of the deputy to whom the radio is assigned.

Additionally, because the Regional Jail is physically located in the County of Roanoke, all criminal process papers must be served by the County Police. The ECC facilitates this process through receipt of the documents and coordination with County Police and Regional Jail staff.

4.2 Town of Vinton

4.2.1 Town of Vinton Communications Services (911)

The Town of Vinton Communications Services is a division of the Town's Police Department. Daily operations are overseen by a Lieutenant and the strategic planning and oversight is provided by the Police Chief.

As the Town's Public Safety Answering Point (PSAP), the Dispatch Center is responsible for call-taking and dispatching services for the Town's Police and Fire & Rescue Departments. Communications responds to calls to 911 and the non-emergency public safety lines.

The Town Dispatch Center's annual operating budget for FY10 is $496,333. There are currently 8 full-time employees within the ECC. The ECC is located in the Town's Municipal Building, a building that opened for service in 1981. The building houses Administration, Planning and Zoning, Human Resources, Treasure's Office/Finance Department, Police Department, Town Council Chambers and the Mayor's Office.

4.2.2 Town of Vinton Police Department

According to available records, Vinton has always had at least one law enforcement officer since it was formed in 1884. When the town manager form of government was adopted in 1936, a police department, headed by a chief, was organized. The town has had six police chiefs in its history.

The Department has an assigned strength of 24 sworn officers and 10 civilian support staff positions, including the Dispatch Center. The department has an annual budget of $1,939,348 (FY2009).

The Town is typically patrolled by one Sergeant and two to three officers per 12 hour shift. In FY2008, the department received and responded to 13,456 Calls for Service and completed 1383 Incident Reports.

The International Association of Chiefs of Police (IACP) annually conducts The Chiefs Challenge. It is designed to challenge police agencies to excel in traffic safety enforcement, make a measurable difference in their community, and share their success with other law enforcement agencies by targeting three crucial traffic safety priorities, Occupant protection (seat belts and child safety seats), Impaired driving (alcohol-and drug-impaired driving) and Speed enforcement. In 2007, the Vinton Police Department received **first** place recognition in the state for its size category. This was the 6th straight year the Vinton Police Department received recognition in the challenge.

The department is accredited through Virginia Law Enforcement Professional Standards Commission (VALEPSC). They were initially accredited in 2002 and are preparing for their second re-accreditation in 2010.

4.2.3 Town of Vinton Fire & Rescue Department

The Vinton Fire and EMS Department serves the corporate limits of Vinton, as well as eastern Roanoke County. They also provide back-up emergency services to other locations in Roanoke, Bedford, and Botetourt Counties. The station is staffed by (Vinton and Roanoke County) career firefighters and paramedics Monday through Friday from 6 a.m. to 6 p.m., and an advanced life support unit is staffed 24 hours a day, 7 days a week. The Vinton First Aid Crew and Vinton Volunteer Fire Department provide Fire and EMS coverage for the area primarily on nights, weekends, and holidays. The department is funded by the Vinton Town Council, Roanoke County Board of Supervisors, and citizen and corporate donations.

The Town of Vinton currently receives all 911 emergency calls from within the corporate limits and dispatches both Vinton and Roanoke County Fire/Rescue Units. If the call is in the Town of Vinton, the Town manages the radio traffic and provides any Dispatch Center assistance for the respective call. County Fire/Rescue Units will complete an Incident Report for Roanoke County while the Town of Vinton Units complete a separate Town Incident Report.

All calls originating from Eastern Roanoke County are handled by Roanoke County's 911 Center. Roanoke County's 911 Center will dispatch both Town of Vinton and Roanoke County Fire/Rescue Units to the incident. The County ECC manages all aspects of the call and all responding units will only complete a Roanoke County Incident Report.

4.2.4 Town of Vinton Public Works Department

The Town of Vinton operates a Public Works Department that is responsible for street and sidewalk maintenance, management of the storm water runoff system, water and sewer services in Vinton and East Roanoke County, garbage and recycling collections, and traffic signal maintenance. The Department also handles utility service problems such as low water pressure, sewer backups, leaks on public property, requests for utility taps, or other service related items.

Currently, the Town's Dispatch Center receives calls for service and dispatches Public Works personnel accordingly. In 2008, the Center received 382 Calls for Service related to Public Works. The Dispatch Center is also responsible for after-hours callout of Public Works personnel when needed, and reporting of street lights out, traffic signal problems, inclement weather events, etc.

5. Requirements of a Merged Dispatch Center

In order to properly weigh the value proposition of developing a merged communications center, the steering committee first had to identify what it felt were the ideal conditions of such a center, along with the major considerations that had to be addressed during any discussion of merger.

A 911 Dispatch center is comprised of at least two separate functions: Operations and Technology.

5.1 911 Operations

911 operations includes dispatch protocols for Police, Fire and Emergency Services, working with increasingly complex and highly integrated computer and emergency radio systems and handling non-emergency related duties such as record keeping, administrative telephone duties and dispatch for agencies outside of public safety, in this case the Town of Vinton Public Works Department.

Operations also includes very intensive personnel scheduling and management issues, statistical reporting, intensive records management, staff training and retention.

5.2 911 Technology

911 technology includes Automatic Number Identification (ANI) and Automatic Location Information (ALI) controller and extensive Master Street Address Guide (MSAG) database for ensuring the ANI/ALI data is correct and routing calls to the right jurisdiction. Additionally there are TCP/IP based Customer Premises Equipment (CPR) which integrates the telephony equipment with a computer offering several applications in one piece of equipment.

The Computer Aided Dispatch (CAD) system is what keeps track of all field units and calls for service. It also assigns case numbers and run numbers, ties into the Geographic Information System (GIS) allowing the system to make recommendations to the dispatcher concerning which units to assign to calls. Additionally the CAD support mobile data terminals in patrol cars and Fire and Rescue apparatus.
The emergency radio system is critical to all emergency dispatch functions within the center as well as communications with the first responders in the field.

5.3 Support Systems

Within a 911 center, there are ancillary subsystems such as logging recorders to record both telephone and radio traffic, internal security systems, paging systems for notifying Fire and Rescue and power fail over systems, just to name a few. These systems are do not have to be in place in order for a dispatch center to take an emergency call and send help, but these systems provide additional accuracy, security, and redundancy thereby insuring that the citizen and public safety personnel are receiving and giving the most effective and timely response humanly possible.

5.4 Human Resources

Everyone recognizes that the most important component of any dispatch center is its personnel. It is critical to have and retain well trained and productive staff for such a complex and stressful job. The Human Resources sub-committee worked closely with the Steering Committee to address the critical questions of dispatcher pay, transfer of annual and sick leave and differences between the Town benefits package and that of the County.

5.5 Facilities

It was clear from the beginning that any merged dispatch center would be located in the County's Public Safety Building which opened in 2007. This building houses the County's Public Safety Agencies and the Communications & Information Technology Department of which the Emergency Communications Center is a part. This center was designed specifically to support the current dispatching needs of the County while providing expansion capabilities which will support the staffing and technology demanded by this merger.

6. Concerns & Proposed Solutions Identified

Throughout the process, the Steering Committee and subcommittees have been focused on determining the best methods and approach to the potential merger while ensuring that the

services provided the County and Town citizens and public safety agencies either remained at current service level or were improved.

In order to obtain an accurate listing of identifiable concerns and solutions of a merger between the Town and the County, the Steering Committee appointed several subcommittees to identify, review and provide potential solutions to any foreseeable issues and concerns arising from the potential merger.

Through their work, the subcommittees identified several differences in operations within PD, F&R, and Public Works and in the technology used in general. However, the majority of these differences were easily addressed through minor modifications of existing procedures, training and policy changes. All of the details of these modifications can be found in Appendix B. However, in summary, this merger would require no changes in procedure that would put undue hardship on the Town and County public safety agencies or create a drop in service level to the citizens of the Town or the County. In fact, in many areas, as outlined in Section 8 below, the work of the subcommittees identified several areas of service improvement and efficiency.

7. Financials

7.1 Current Expenditures

The current authorized budget for the County and Town of Vinton for the 2009-10 fiscal year totals $ 2,625,010 excluding transfers as follows:

	Roanoke County	Town of Vinton	Total
Salaries & Wages	$ 1,329,604	$ 259,511	$ 1,589,115
Overtime	15,000	11,000	26,000
Employee Benefits	527,508	105,372	632,880
Total Personnel Costs	1,872,112	375,883	2,247,995
Equipment Repair	21,600	7,000	28,600
Contractual Services	42,927	90,000	132,927
Communications	113,450	10,300	123,750
Office Supplies	6,200	750	6,950
Education & Training	10,000	1,500	11,500
Other Operating Costs	56,950	8,900	65,850
Operational Expenses	251,127	118,450	369,577
Capital Outlay	5,438	2,000	7,438
Total costs	$ 2,128,677	$ 496,333	$ 2,625,010

Currently, the County and Town fund their respective emergency dispatch operations through their general fund, funds received from the E-911 wireless board, and the communication sales and use tax.

7.2 Implementation Costs

Implementation Costs for this merger total approximately $344,411 and include the one-time hardware, software, service and miscellaneous costs associated with the initial planning and execution of the transfer of services from Town Dispatch Center to the Roanoke County ECC. Items included in these implementation costs are CAD, Mobile Data Terminal and GIS software licenses, servers, installation and training, etc. There are grants available from several sources for start-up costs. Details of these costs will be provided in a separate Memorandum of Understanding. Below is a summary of the implementation costs:

Implementation Costs	Amount
Software	$ 100,229
Hardware	146,529
Services	82,213
Miscellaneous	15,440
Total	$ 344,411

7.3 Consolidated Expenditures

The projected consolidated budget for the County and Town of Vinton for the 2010-11 fiscal year totals $ 2,408,895, excluding transfers as follows:

	Full Consolidation
Salaries & Wages	$ 1,522,739
Overtime	20,000
Employee Benefits	602,831
Total Personnel Costs	2,145,570
Equipment Repair	26,900
Contractual Services	80,227
Communications	114,200
Office Supplies	7,850
Education & Training	18,780
Other Operating Costs	7,930
Operational Expenses	255,887
Capital Outlay	7,438
Total costs	$ 2,408,895

Personnel Costs-The estimated yearly personnel costs would be $2,145,570. For planning purposes, we have used actual salary for filled positions and average salary for vacancies. See section 9.3.2 for additional information.

Operational Expenses-includes office supplies, training, travel, equipment repair, telephone, and telecommunications. For planning purposes, we estimate the costs to be $255,887.

Estimates were developed for the major categories of equipment as they apply to the general design for the consolidation described in this study. The cost information is

obtained from historical data. Estimates reflect expected pricing. The prices are recommended for planning and budgetary purposes.

Capital Outlay-includes small hardware replacement based on a five year schedule. For planning purposes, we estimate the costs to be $7,438.

7.4 Annual Service Charges

Annual Service Charges for this merger will include the recurring hardware, software, service and miscellaneous costs associated with the ongoing call-taking and dispatching services. Details of these costs will be provided in a separate Memorandum of Understanding. Below is a summary of the annual service charges:

Annual Service Charges	Town of Vinton
Software	$ 15,204
Hardware	9,355
Services	40,253
Total	$ 64,812

7.5 Cost Allocation Formula Factors

The cost allocation formula factors will be utilized to determine a localities proportionate share of the expenditures. The formula should be based equally on the calls for service and the number of incidents. Since residents of the Town of Vinton pay taxes both to the town and to the County, it is appropriate to include the population in the Town of Vinton's figures in addition to calls for service and number of incidents.

7.5.1 Calls For Service

Relative Calls for Service-represents the total number of incoming and outgoing calls for each locality

Obtain calls for service for each locality, add together to get a total, and divide the locality number of calls for service by that total to obtain the relative calls for service

7.1.5.2 Number of Incidents

Number of Incidents- represents the total number of police, fire and EMS incidents for each locality.

Obtain the number of incidents for each locality, add together to get a total, and divide the number of incidents by that total to obtain the relative number of incidents.

7.1.5.3 Population

Population data was obtained from the 2009 Comprehensive Annual Finance Report. The Town population was 7,902 and the County 90,867. Since residents of the Town of Vinton pay taxes both to the Town and to the County, it is appropriate to provide a credit to the Town to recognize this. The relative population percentage for the Town is 8%. The Town will receive an 8% credit of the County's savings. See Appendix C for cost allocation formula.

8. Additional (Non-Cost) Considerations

8.1 Benefits of Merger

8.1.1 Quality of Service

With immediate access to others delivering the same service, dispatchers will have instant feedback on best practices. Fully documented policies and procedures will ensure consistent service delivery levels. Training and knowledge sharing will keep dispatchers performing at a high level even though they are consistently operating in a very complex and stressful environment. The move to "Next Generation 911" (Next Gen 911) services will be faster and more appropriately targeted giving citizens access to 911 services in the ways they communicate best and not be limited to only telephone technology.

8.1.2 Operational Efficiency

By merging the County and Town dispatch centers we will be eliminating redundant systems such as CAD, telephony, GIS and logging recorders. In addition we will reduce and/or eliminate any wait time for citizens caused by transferring calls from the Town to the County for things such as EMD. Training, which is a key component of any effective dispatch center, will now be more accessible and affordable with costs being shared between the County and Town.

8.1.3 Increased Number of Dispatchers to Answer Emergency Calls

Once the merger is complete the Town's citizens will have access to 6 dispatchers per shift resulting in their calls being answered faster and eliminating any wait times they may have experienced in the past.

8.1.4 Grant Competitiveness

The trend for all public safety grants is to give preference to regional initiatives. Dispatch centers are no different and by merging the Town and County's dispatch centers we will become more competitive when applying for grants, stretching tax dollars for service delivery.

8.1.5 Emergency Medical Dispatch (EMD) for Town

Emergency Medical Dispatch is a systematic program of handling medical calls for assistance. Currently this service is passed from the Town dispatch center to the County causing delays in service for Town citizens. With the merger of the two centers this delay will be eliminated and all current Town dispatchers making the move to the County will be trained in EMD.

8.1.6 Potential for Enhanced Services

Citizens are becoming more and more comfortable with technology. They use Facebook, Twitter, LinkedIn and many other "Social Networking" services. Because of this they want to reach out to 911 using these technologies with videos of incidents, text messages and EMD services using chat, just to mention a few. These services are already being offered in other localities and we must prepare for their utilization in the Roanoke Valley. The County and Town's partnership will enable us to afford the service delivery technology and critical training necessary to provide citizens with these services. Let's not lose sight of the help these technologies will bring to the First Responder in the field if they can have video of a fire or burglary in progress, they can plan and execute their response more appropriately potentially saving additional lives and property.

8.2 Maintaining Town Identity

Maintaining the Town's identity and meeting the expectations of our citizens is paramount in all the services provided by the Town of Vinton. A similar theme was identified in both the Charlottesville and York/Williamsburg communities visited during the spring in the efforts to learn more about how merged dispatch center were successful. The initial concern and perception was there would be a loss of identity and control in a merged dispatch center. The results of these communities were to the contrary and the perception of identity loss did not materialize. This was accomplished primarily because the actual street level service response continued to be the primary responsibility of each respective locality. Thus, the Town's citizens will continue to receive services by Town Police, Fire,

EMS, and Public Works personnel. Therefore, the values, accountability, and responsibility of services, still lie with the locality providing the primary service.

9. Recommendations

9.1 Establishing a Merged PSAP

After an extensive review of the cost savings and the benefits available through such a merger, the Steering Committee unanimously recommends that the Roanoke County Board of Supervisors and the Town of Vinton Council proceed with a merger of the Town of Vinton and Roanoke County Emergency Communications Centers using the recommended structure, personnel and resources below. Due to the size differential and the existing resources available with the Roanoke County Emergency Communications Center, this merger will be an expansion of resources and personnel with the County's ECC and will include modifications to the existing County ECC's SOPs to ensure that all services currently provided by the Town's Dispatch Center are accounted for within the new operations.

9.2 Proposed Governance

9.2.1 ECC Advisory Board

The Roanoke County ECC currently utilizes an Advisory Board to assist in the development of the organization's strategic direction. The primary focus of the advisory board is to offer input and advice on the operations of the ECC to ensure that the ECC functions are optimized to serve the needs of its primary customers, namely the public safety agencies of Roanoke County. This board will also provide input during the development of the capital budget for the merged center. This group meets on a quarterly basis (or as needed) and is led by the Director of CommIT. Currently, the membership of this board consists of:

- Roanoke County Police Chief (or his designee)
- Roanoke County Fire Chief (or his designee)
- Roanoke County Sheriff (or his designee)
- Roanoke County Department of Communications & Information Technology Director (or his designee)
- Roanoke County CommIT Assistant Director for Communications

As a part of this merger, we recommend that we add the Town's Chief of Police and Chief of Fire & EMS as members of this Advisory Board to ensure that all strategic decisions related to the ECC are reflective of the Town's needs as well.

9.2.2 ECC Inter-Agency Team

The ECC Inter-Agency Team provides tactical and operational feedback to the ECC to ensure that policies, procedures and general orders amongst the public safety and support agencies are consistent and cohesive as they pertain to the operations of the ECC. The team will work closely with the Advisory Board as necessary to make operational changes for the benefit of the County and Town public safety agencies. This group is led by the Assistant Director for Communications and the membership of this team includes:

- Roanoke County Police Services Lieutenant
- Roanoke County Police Daylight Shift Commander
- Roanoke County Fire and Rescue Division Chief
- Roanoke County Fire and Rescue Battalion Chief
- Roanoke County CommIT Assistant Director for Communications
- Roanoke County CommIT Assistant Director for Information Technology
- Chief Communications Officer

Other personnel attend as warranted, based on agenda topics. As a part of this merger, we recommend adding the Town of Vinton Police Captain and the Town Fire/EMS Chief (or his designee) as members of this team to ensure that all operational activities related to the ECC are reflective of the Town needs as well.

9.3 Proposed Organizational Structure

The County's Emergency Communication Center is organizationally located within the Department of Communications and Information Technology (CommIT).

9.3.1 Administrative Staff

The Emergency Communications Center (ECC) will remain a division of the County's Department of Communications & Information Technology (CommIT). The administrative staff of the Center will include a Lead Communications Officer for each shift and a Chief Communications Officer on site during traditional daylight hours. Daily operations of the center will be lead by the Assistant Director for Communications. The strategic planning and oversight is provided by the Director of Communications and Information Technology, with input from the ECC Advisory Board.

9.3.2 Operations Staff

The merged center will not require modifications in the existing shift schedule currently operating within the Roanoke County ECC. However, staffing for the ECC will need to expand to accommodate the additional resulting call volume. Based on

historical trend information, this merger would require six additional Communication Officer positions. The table below illustrates the shift details of the merged center.

Shift	Time	Allotted Positions	Minimum Staffing
Daylight	7AM – 3PM	1 Lead/10 COIII/COII (11 Total)	5
Daylight Power	8AM – 6PM	1 Lead/2 COII (3 Total)	1
Evening	3PM – 11PM	1 Lead/10 COIII/COII (11 Total)	5
Evening Power	6PM – 4AM	1 Lead/2 COII (3 Total)	1
Midnight	11PM – 7AM	1 Lead/8 COIII/COII (9 Total)	4

Below is the staffing assignment of a typical 24-hour period.

7AM - 8AM	1 Supervisor, 2 CO PD, 1 Vinton PD, and 1 F&R Dispatcher
8 AM - 11 PM	1 Supervisor, 2 CO PD, 1 Vinton PD, 1 F&R Dispatcher & 1 Call Taker
11 PM - 4 AM	1 Supervisor, 2 CO PD, 1 Vinton PD, and 1 F&R Dispatcher
4 AM - 7 AM	1 Supervisor, 1 CO PD, 1 Vinton PD, and 1 F&R Dispatcher

9.3.3 Personnel Issues

As an outcome of this proposed merger, Roanoke County will hire additional communications officers at the level appropriate to accommodate Town-specific call taking and dispatching services. As deemed necessary by the Human Resources sub-committee, all current Town communication officers will be required to complete the (non-competitive) Roanoke County application for employment process and will be subject to the same standards of hiring used for all existing Roanoke County communications officers. Roanoke County will make every effort to accommodate the transition of current Town Dispatch Staff into the merged center.

Once this process is completed, all communications officers will be exclusively County employees. Any personnel issues specific to ECC service provided to the Town will be addressed through the chain of command and governed by the County's Human Resources policies and procedures.

9.3.3.1 Vacation and Sick Leave

It is proposed that Town of Vinton allow their dispatch personnel to "cash out" some of their vacation time. Any remaining vacation time would be transferred to the County and become the beginning balance in their FLP account. Any sick leave would be placed in a frozen sick leave bank and could be accessed based on established policy.

9. 3.3.2 Length of Service

Credit for length of service (Seniority) as it relates to shift scheduling and leave time will be finalized once the Board and Council agree to move forward with merging the two centers. Seniority is not a consideration when staff applies for promotions within the center, such as moving from Communication Officer II to Communication Officer III, etc.

9.3.3.3 Insurance

Health Insurance, Disability Insurance, Holidays, etc will be discussed in detail with each Town of Vinton dispatcher that transitions to Roanoke County once the Board and Council agree to move forward with the merger.

9.4 Proposed Facilities

The merged center will utilize the existing Roanoke County Emergency Communications Center, located with the County's Public Safety Building. Enhancements will be made to the Center to accommodate the additional staffing levels, including new consoles and furniture and staff amenities as needed (i.e. lockers, etc.). outlined in Section 10.6 below.

9.5 Proposed Equipment

Below is a detailed description of the proposed equipment to be used to support the joint ECC operations for Roanoke County and the Town. In order to accommodate the additional calls for service and dispatching associated with Town; Roanoke County will add two additional complete consoles to the ECC. These consoles will be outfitted identically to the existing consoles and will include the workstations, hardware and software described below.

9.5.1 Customer Premises Equipment

911 Customer Premises Equipment (CPE) is the 911 telephony hardware and software that integrates incoming phone calls into the console. Currently the telephony (Plant/CML Vesta) and the radio (Motorola) software reside on the same dual-monitor computer.

9.5.2 Computer Aided Dispatch/Records

Computer Aided Dispatch/Records (CAD) is the software used to record Police and Fire & Rescue activities. The software categorizes and prioritizes calls for service and recommends responses. It runs on a computer workstation equipped with three monitors.

9.5.3 Radio Consoles

The radio console consists of Motorola Gold Elite software residing on the Plant/CML dual-monitor computer workstation. Each console also includes foot controls and wireless headsets to provide additional efficiency for the communications officer when using the radio system.

9.5.4 Logging Recorder

The logging recorder records all designated radio and telephone conversations. The equipment records from three sources. The first source is the 911 telephone trunks. All incoming 911 calls are recorded from the time the connection is made, even before the call is answered up through call completion. The second source is the radio. A predetermined selection of talk groups is recorded. The third source is the consoles. All the radio talk groups "selected up" on a particular console and any phone call answered, emergency or non-emergency, is recorded from the console.

The system has recently been updated to record digital radio talk groups. The upgrade consisted of adding a digital recorder to the existing analog recorder and connecting the two on the same network system. This adds greatly to the capabilities of the recorder in both retrieval and the depth of the system.

9.5.5 COMLINK

The COMLINK system is also available at each console. COMLINK is a statewide interoperability system that enables field units from different jurisdictions to communicate with each other via a temporary radio connection.

9.5.6 Dispatch Workstation Furniture

The streamlined console furniture used in the ECC is built by Wright-line and is arranged in a "quad" or "X" configuration. (Only two consoles will be configured for the purposes of this merger). The furniture features a console that enables a communications officer to sit or stand to work and provides sufficient work area and storage to allow the officer to complete tasks and assignments without having to leave his or her position.

10. Conclusions

10.1 Service Improvement

A shared communications center, with proper implementation, offers significant service improvements to the County and Town as well as the citizens and visitors to the Roanoke Valley. By establishing high standards of performance and assuring that those standards of service are consistently achieved and that the center is well managed and properly staffed the service level provided to all of the citizens will be equal to or better than the highest levels provided now.

Improved service delivery and quality coupled with greater operational efficiency, significantly improved grant competitiveness, seamless delivery of EMD services and greater potential for enhanced 911 services are just some of the service improvement benefits a merged center would provide. The Steering Committee believes that a merger of the Town and County's emergency communications centers makes both economic and service delivery sense for both localities.

10.2. Finance

The regional initiative of consolidating the County of Roanoke Emergency Communications Center and Town of Vinton Dispatch Center will result in cost savings for both the County of Roanoke and the Town of Vinton. These savings are in the areas of personnel, operating, and long-term capital costs. See Appendix C for savings information.

The County of Roanoke will recognize an estimated $60,000 in additional E911 wireless funds and operational savings of $55,823 for a total savings of $115,823. This amount will be reduced by 8% or $9,266 which will be credited to the Town of Vinton to recognize the Town's population. Projected net savings for the County is $106,557.

The Town of Vinton will recognize operational savings in the amount of $95,480. Also, the Town will be able to redirect $72,853 of general fund revenues to other areas. Over the next several years the Town would need to invest approximately $319,288 into their dispatch center for staffing and equipment. Through this consolidation, these costs will be avoided. Also, the Town will receive a credit of $9,266 of additional savings for population. The projected total cost savings and cost avoidance for the Town of Vinton is $496,887.

Currently, the County of Roanoke and the Town of Vinton fund their respective dispatch operations through the general fund, communication use and sales tax, and wireless E911. Most of the general fund revenues come from property and local taxes. Communication use and sales tax is derived from five percent that is imposed on communication services. In addition, funds are received through the Wireless E911 board distribution of the statewide surcharge on wireless telephones.

We recommend the funds received by each locality through the Communications Sales and Use tax remain with the government to fund the consolidated communications center. Also, all wireless surcharges distributed by the E911 Wireless Services Board will be deposited into the County.

A suggested operating budget and cost comparison is attached in Appendix C of this report. It appears that both the County and Town will recognize cost savings by consolidating. We recommend that each organization contribute based on a formula that considers calls for service and number of incidents equally. Based on this formula, the amount for the County is 86.05% and the Town of Vinton is 13.95%. Also, the Town will receive an 8% credit of County savings to recognize the Town of Vinton citizens that pay taxes both to the Town and County. This formula would be evaluated every three years as outlined in the memorandum of understanding and the contribution rate adjusted accordingly. Annual expenditures will be billed monthly at 1/12 of the budget and settled up at the end of each fiscal year.

The recommended consolidation will include significant capital expenditures as part of the start-up operations. For the start-up costs, there are grants available from several sources. The Virginia Wireless E911 Services Board has developed a PSAP Grant Program to assist in the purchase of new or upgraded equipment in support of wireless 911 of which we will apply. Since this consolidation is a regional initiative, the program may provide up to 100% of the purchase amount for items such as 911 customer premise equipment, mapping systems, and CAD systems.

10.3. Proposed Timetable

It is anticipated that early FY2011 will be go-live for a merged dispatch center. One of the major factors in finalizing a timeline will be the outcome of the Wireless Board grant application for offsetting some if not all of the onetime merger costs. The exact timeline and implementation plan will be the first priority of the Advisory Board.

Appendices

A - Committees

B - Fire and Rescue, Police and Public Works Policies and Procedures Worksheets

C – Financial Information

PSAP Grant Program Grant Ranker

View Application--115--ES911 - MSAG/Verizon Database Update

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Regional Initiative
Priority: GIS: high priority (refer to GIS-related Grant Request Prioritization Matrix for a description of GIS projects that would have a high funding priority) (**GIS HIGH PRIORITY**)

Primary PSAP Applicants:	Eastern Shore 9-1-1
Jurisdictions Served:	Accomac, Town of Belle Haven, Town of Cape Charles, Town of Cheriton, Town of Eastville, Town of Exmore, Town of Hallwood, Town of Keller, Town of Melfa, Town of Accomack, County of Northampton, County of Nassawadox, Town of Onancock, Town of Onely, Town of Painter, Town of Parksley, Town of Saxis, Town of Tangier, Town of Wachapreague, Town of

Project Director:
Jeff Flournoy
9-1-1 Director
PO Box 337
757-787-0909 (phone)
757-787-1044 (fax)
jflournoy@esva911.org

Project Description:

Total Project Cost	$5,394.00
Amount Requested:	$5,394.00

Statement of Need:
Examples of ANI/ALI (telephone company) data not being correct (for various reasons) are numerous and

this project would correct these instances. This data is relied upon (in addition to information provided by callers) and is crucial for determining incident dispatch information. This project will not occur without outside funding.

Comprehensive Project Description:
Deliverables include a list of additions and deletions to be sent to Verizon for changes to be made in their database that will accurately reflect the road and address ranges in both Accomack and Northampton counties. The project will also provide the 9-1-1 Center with the ability to send accurate and timely updates to the telephone company in the future (to keep pace with GIS maintenance). With the Verizon MSAG database maintained (with recent development in the counties) it will insure that all calls are routed to the ESVA 911 Center correctly and these calls make it with the correct ANI/ALI information. Overall this project would "clean-up" crucial data and help streamline this process.

How will the equipment purchased will support future technologies for PSAP readiness?:
Addressing, GIS data, and telephone company data is crucial for 9-1-1 and dispatch operations. Accurate data will continue to promote an efficient and effective operations (using appropriate technology).

Budget and Budget Narrative:
One Attachment Included.

Evaluation:
Information from all parties (ESVA 911 PSAP, Chincoteague PSAP (potentially), MSAG Inc., and Verizon) will be obtained to determine effectiveness of initiative.

Attachments

Eastern Shore MSAG Update.pdf

MSAG

Tuesday, February 24, 2009

Mr. Jeff Flournoy
Director
Eastern Shore of Virginia 911 Communications
23201 Front St
Accomac, VA 23301

RE: MSAG Database Update.

Dear Mr. Flournoy,

The following is a services quote to reconcile the current Eastern Shore E911 GIS data with the Verizon MSAG database. The final deliverable of this project will be a list of additions and deletions to be sent to Verizon so that they can make the changes to their database that will accurately reflect the roads and address ranges in both Accomack and Northampton Counties. This project will also give the Communications Center the ability to send accurate and timely updates to Verizon in the future in order to keep pace with ongoing GIS maintenance.

Keeping the Verizon MSAG database up to date with recent development in the Counties will insure that all calls that should be routed to the Eastern Shore PSAP are routed there correctly. It will also ensure that those calls make it to the PSAP with the correct ANI/ALI information. It will also give Verizon access to correct mapping information so that they do not need to call the Communications Center to verify new customer addresses.

MSAG LLC will need to work closely with Eastern Shore Communications personnel in order for this project to be completed successfully. The first step to updating Verizon is to establish accurate Emergency Service Zones for both Counties. MSAG LLC will provide Eastern Shore Communications PDF maps that show the boundaries of the Fire and Rescue Companies. These boundaries must be carefully reviewed and any changes made and submitted back to MSAG LLC for incorporation in the GIS data. These boundaries will be overlayed with law enforcement boundaries to produce accurate Emergency Service Zones.

Once these Zones are completed they will be compared to the existing Eastern Shore road network. This comparison will yield an up-to-date and accurate MSAG database for both Accomack and Northampton Counties. At this time Eastern Shore Communications must request the current version of the Verizon MSAG for both Counties. MSAG LLC will compare the database for Accomack and Northampton Counties that was requested from Verizon to the databases that were created using the GIS data.

From this comparison MSAG LLC will be able to create a report that lists every record in the Verizon MSAG database that needs to be added, changed, or deleted. Eastern Shore Communications can submit this report to Verizon. After

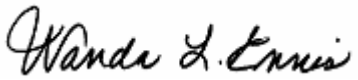
making the changes specified in the report the Verizon MSAG database will exactly match the GIS data in both Accomack and Northampton Counties.

Quoted Cost

Description	Price
Update Eastern Shore MSAG Database	$5,394.00

If you have any questions, or require any additional information, please don't hesitate to contact me by phone at (919) 617-7889 or via email at wanda.ennis@msag.com. MSAG LLC will provide a detailed contract upon acceptance of this quote.

Sincerely,



Wanda Ennis
Account Executive
MSAG LLC

PSAP Grant Program Grant Ranker

View Application--116--VOICE LOGGING RECORDER SYSTEM

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Regional Initiative
Priority: Voice Recorders and logging system (**VOICE**)

Primary PSAP Applicants:	Twin County E-911
Jurisdictions Served:	Galax, City of Carroll, County of Grayson, County of

Project Director:
EDDIE HINES
E-911 REGIONAL COORDINATOR
P. O. BOX 510
276-236-5122 (phone)
276-236-2965 (fax)
ehines@galaxva.com

Project Description:

Total Project Cost	$63,835.00
Amount Requested:	$63,835.00

Statement of Need:
Our logger/recorder is in need of replacement not only is it out-dated, but unable to record the digital audio from the (Next-Generation) Patriot System. We have had several service calls for repair, and have been advised to replace the unit.

Comprehensive Project Description:
The new logger/recorder would enable us to maintain a recording of calls not only in analog format, but also in (Next-Generation) digital.

How will the equipment purchased will support future technologies for PSAP readiness?:
As er move forward with the (Next-Generation) digital, our logger/recorder would be there for future expansion.

Budget and Budget Narrative:
Basic Digital Logger/Recorder System with 32 digital set tapping record channels.

Evaluation:
That all incoming audio channels are being recorded and logged with date, time and channel, as well as

captured ani/ali data.

Attachments

PSAP Grant Program Grant Ranker

View Application--117--CPE

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: CPE (**CPE**)

Primary PSAP Applicants:	Nelson County
Jurisdictions Served:	Nelson, County of

Project Director:
Susan Rorrer
Director of Information Systems
PO Box 336
434-263-7122 (phone)
434-263-7004 (fax)
srorrer@nelsoncounty.org

Project Description:

Total Project Cost	$314,154.00
Amount Requested:	$150,000.00

Statement of Need:
The CPE currently in use in Nelson County is technically outdated and has been in service in the County since September 2000. It is the County's goal to strive to achieve and maintain the provision of cutting edge E911 services. The County is requesting funding for replacement of the existing CPE and proposes to accomplish the replacement in conjunction with relocation to a new ECC facility in late 2010. The County is in the process of constructing a judicial center that includes a new emergency communications center. It is anticipated that emergency communications will occupy this new facility in late 2010. The County is currently developing a cutover plan including planning for replacement or relocation of all equipment associated with the provision of E911 services. Relocation to the new facility is the optimum time to move forward with the implementation of Next Generation E-911 capable facilities. Installation of the new system will provide necessary upgrades in equipment functionality, minimize downtime during cutover and help to avoid problems and extended system downtime related to an attempt to move existing equipment. Nelson County will find it extremely difficult to move forward with this purchase without funding through the PSAP Grant Program. The County is committed to maintaining the system and will pay any ongoing operational costs for the life of the system

Comprehensive Project Description:
Goals and Objectives: 1) Replacement of outdated equipment 2) Improved system functionality and capability 3) Continued use of vendor supported system 4) Training of users and supervisors to fully utilize system functionality 5) Streamlined transition of services to new ECC. Implementation Strategy and Work

Plan: 1) Define specific CPE requirements 2) Develop and issue an RFP for the CPE 3) Evaluate vendor equipment/proposals 4) Select vendor and negotiate contract 5) Implement selected system. Activities to be accomplished: Full implementation of new CPE including installation, configuration and training. Timeline: Jan. 2010- Define CPE requirements, Feb. 2010 - Develop RFP, Mar. 2010- Issue RFP, April 2010- Receive vendor responses, April-June 2010- Evaluate responses, June 2010- Select vendor, negotiate and sign contract, Sept. - Oct. 2010- Implement system, Nov. 2010- Accept system. Longevity and Sustainability: The resulting system will be operated and maintained by the County until such a time as it becomes technically outdated or inoperable.

How will the equipment purchased will support future technologies for PSAP readiness?:
The selected CPE will support future initiatives through requirements for compliance with industry standard, expandable and upgradable technology.

Budget and Budget Narrative:
Nelson County is requesting $150,000 in funding through the grant program for use in purchasing new E-911 customer premise equipment. The total system cost is expected to be $314,154 and includes equipment and other associated costs as shown in the attached budgetary quote. The County was awarded $150,000 in funding for CPE replacement in FY2010. As noted in the FY2010 application the County's original plans included seeking funding through the FY2010 and FY2011 grant cycles in order to obtain funding adequate for the purchase of the new system. Also, please note that the County is exploring solutions for hosted services and would like to have the option under this grant request to utilize funding toward the implementation of hosted services should such services become available prior to or during the grant period and the solution be determined to be in the best interest of the County.

Evaluation:
Nelson County will require that the selected vendor's equipment meet predefined standards of acceptance and performance. Prior to acceptance the County wil be in receipt of all software, manuals and documentation for the system. System acceptance testing will be conducted prior to acceptance. Any defects or items that have not been delivered as contracted will be identified and corrected prior to system acceptance. A system acceptance testing period of 30 days following the date the system is installed and ready for testing will also be required.

Attachments

Nelson Co 911 Patriot BUDGETARY 10-14-09.xls

EMBARQ

r Legal Name: -

Billing Name: E911 Nelson County
94 Courthouse Square
-
Lovingston, VA 22949

Valid Until **December 13, 2009**

Description of Work to be Performed:
9-24-09 Please update Patriot quote.Budgetary quote Patriot upgrade
from SeNTinel; 5 positions, none at Wintergreen.
** doesn't include any premise wiring.
-
-
-
-
Qtt09120

Equipment pricing shown is based upon direct sale accompanied by new Centurion Maintenance contract on same.

Description	Quantity	Unit Price	Extended Price
Sentinel Patriot	-	-	-
PAT 3.0 SYS SW DC L M	2	2,055.77	4,111.54
PATRIOT SYS CFG	1	1,370.51	1,370.51
PAT/CM CAD INTFC LIC	2	685.26	1,370.52
-	-	-	-
Server Equipment	-	-	-
SVR HP MINI 2G 160HD	4	2,401.13	9,604.52
USB TO SERIAL HUB KIT	2	423.49	846.98
SVR WIN 2003 + 5CAL	2	1,418.48	2,836.96
PAT PTS CENT OS	2	1,418.48	2,836.96
PAT SVR CFG	4	1,027.88	4,111.52
-	-	-	-
Position Equipment	-	-	-
PAT 3.0 PER SEAT LIC	4	10,964.08	43,856.32
PAT 3.0 SW SPT 3YR	4	5,262.76	21,051.04
WKST INTG HP XW4600 XP	4	2,154.44	8,617.76
MNTR 19IN W/SPKRS NEC	4	430.34	1,721.36
4-CHANNEL, PCI SOUND CARD	4	751.04	3,004.16
PAT 3.0 SENT HARDWARE	4	2,192.82	8,771.28
SENT IWS CFG	4	616.73	2,466.92
SENT STAGING FEE PP	4	856.58	3,426.32
CPR/SYSPREP IMAGING	1	-	-
KEYPAD, 24 KEY PS2/USB	4	135.69	542.76
-	-	-	-
Dual IRR Module	-	-	-
PAT/CM IRR LIC/DOC/MED	4	1,363.66	5,454.64
PAT/CM IRR SW SPT 3YR	4	655.10	2,620.40
-	-	-	-
Sentinel Patriot Stats	-	-	-
PAT STATS VIEW SW LIC	1	815.46	815.46
PAT STATS DATA CLCTN LIC	4	815.46	3,261.84
PAT STATS SW SPT 3YR	4	391.97	1,567.88
WKST INTG HP XW4600 XP	1	2,154.44	2,154.44
MNTR 19IN W/SPKRS NEC	1	430.34	430.34
GENERIC WKSTN CONFIG FEE	1	342.63	342.63
-	-	-	-
Peripherals & Gateways	-	-	-
PAT/CM ALARM PANEL	1	2,741.02	2,741.02
PAT PERIPHERALS	1	3,426.27	3,426.27
MODEM PKG 56K EXT	1	860.68	860.68
24-PORT 2610 PRCRVE SWTCH	2	720.89	1,441.78
PAT FXO GATEWAY 8PORT	2	1,807.71	3,615.42
PAT FXS GATEWAY 8PORT	2	1,807.71	3,615.42
SECURITY FIREWALL 410 AP	1	3,170.00	3,170.00
SECURE SPT 410 3YR	1	4,802.27	4,802.27

Prices do not include charges for taxes, duties, tariffs, telecommunication services,
or professional services such as Centurion Maintenance or Managed Network Services.

VPN CONFIG SERVICE	1	274.10	274.10
-	-	-	-
Peripherals & Cabinet Equipment	-	-	-
CABINET, 42U 19 INCH W RM	1	4,522.68	4,522.68
MNTR, 17IN RACK KYBD 1U	1	2,764.32	2,764.32
KIT RACK MNT 330/310 SVR	4	566.03	2,264.12
FAN KIT BLACK	1	119.24	119.24
42U CAB ROOF W/FAN HOLES	1	202.84	202.84
SEISMIC BRACING KIT	1	26.05	26.05
SERVER CABINET CONFIG FEE	1	1,507.56	1,507.56
KVM 4-PORT SWITCH	1	605.77	605.77
CBL KVM PS/2 CONSOLE	1	38.37	38.37
CBL KVM PS/2 PC	4	76.75	307.00
BRKT 19IN RACK MTG/ARBITR	1	43.86	43.86
-	-	-	-
Backroom Equipment - spares	-	-	-
24-PORT 2610 PRCRVE SWTCH	1	720.89	720.89
PAT FXO GATEWAY 8PORT	1	1,807.71	1,807.71
PAT FXS GATEWAY 8PORT	1	1,807.71	1,807.71
KEYPAD, 24 KEY PS2/USB	1	135.69	135.69
-	-	-	-
Field Engineering Services	-	-	-
FIELD ENG-PRIMARY	240	137.05	32,892.00
PROJECT MGT-SECONDARY	160	137.05	21,928.00
-	-	-	-
Training	-	-	-
SENTINEL PATRIOT AGENT	24	171.32	4,111.68
SENTINEL PATRIOT AGT TTT	6	513.95	3,083.70
SENTINEL PATRIOT ADMIN	6	513.95	3,083.70
TRAVEL EXPENSE	1	730.49	730.49
DAILY TRAINER EXPENSE	5	415.27	2,076.35
CUTOVER COACHING	1	1,713.14	1,713.14
TRAVEL EXPENSE	1	730.49	730.49
DAILY TRAINER EXPENSE	1	415.27	415.27
-	-	-	-
Remote Site - Wintergreen	-	-	-
Position Equipment	-	-	-
PAT 3.0 PER SEAT LIC	1	10,964.08	10,964.08
PAT 3.0 SW SPT 3YR	1	5,262.76	5,262.76
WKST INTG HP XW4600 XP	1	2,154.44	2,154.44
MNTR 19IN W/SPKRS NEC	1	430.34	430.34
4-CHANNEL, PCI SOUND CARD	1	751.04	751.04
KEYPAD, 24 KEY PS2/USB	1	135.69	135.69
PAT 3.0 SENT HARDWARE	1	2,192.82	2,192.82
SENT IWS CFG	1	616.73	616.73
SENT STAGING FEE PP	1	856.58	856.58
-	-	-	-
Dual IRR Module	-	-	-
PAT/CM IRR LIC/DOC/MED	1	1,212.91	1,212.91
PAT/CM IRR SW SPT 3YR	1	655.10	655.10
-	-	-	-
Sentinel Patriot Stats	-	-	-
PAT STATS DATA CLCTN LIC	1	815.46	815.46
PAT STATS SW SPT 3YR	1	391.97	391.97
-	-	-	-
Peripherals & Gateways	-	-	-
24-PORT 2610 PRCRVE SWTCH	1	720.89	720.89
TS-4 PORT TERMINAL SVR	1	888.09	888.09
-	-	-	-
misc. material; wire, blocks, equipment	1	3,426.27	3,426.27

-	-	-	-
PlantCML Loyalty/Churn Discount	5	(2,666.67)	(13,333.35)
-	-	-	-
Optional - Managed Services - Main site	-	-	-
Monitoring & Response Activation Fee	-	-	-
M&R ACT FEE, SMALL SITE	1	2,329.87	2,329.87
-	-	-	-
Monitoring & Response License Fees	-	-	-
M&R LIC, SERVER	2	489.28	978.56
M&R LIC, WORKSTATION	5	91.83	459.15
M&R LIC, IP DEV	7	57.56	402.92
-	-	-	-
Monitoring & Response Support Fees	-	-	-
M&R SERVER SRVC 3YR	2	4,899.58	9,799.16
M&R WORKSTATION SRVC 3YR	5	1,356.80	6,784.00
M&R IP DEV SRVC 3YR	7	1,206.05	8,442.35
-	-	-	-
Optional - Managed Services - Remote site	-	-	-
Monitoring & Response License Fees	-	-	-
M&R LIC, WORKSTATION	1	91.83	91.83
-	-	-	-
Monitoring & Response Support Fees	-	-	-
M&R WORKSTATION SRVC 3YR	1	1,356.80	1,356.80
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

SUBTOTAL: Gross Material Price	$	310,900.46
SUBTOTAL: Gross Discount	$	(13,333.35)
Net Material Price	$	297,567.11
Labor (Includes Project Management if not shown separately below)	$	11,636.40
Project Management	$	2,335.04
Shipping	$	2,615.27
TOTAL PRICE	**$**	**314,153.82**

Prices do not include charges for taxes, duties, tariffs, telecommunication services,
or professional services such as Centurion Maintenance or Managed Network Services.

EMBARQ

Embarq Centurion Maintenance

Customer Legal Name: -

Customer Billing Name: E911 Nelson County
94 Courthouse Square
-
Lovingston, VA 22949

Valid Until December 13, 2009

Contract Term: 24 Months (Best Value not available for term below 36 months)

Description	Quantity			Annual Extended Rate Unit	Annual Extended Rate Total
PAT 3.0 SYS SW DC L M	2	-	-	-	-
PAT/CM CAD INTFC LIC	2	-	-	-	-
SVR HP MINI 2G 160HD	4	-	-	4,635.72	18,542.88
USB TO SERIAL HUB KIT	2	-	-	-	-
PAT 3.0 PER SEAT LIC	4	-	-	-	-
WKST INTG HP XW4600 XP	4	-	-	-	-
MNTR 19IN W/SPKRS NEC	4	-	-	-	-
4-CHANNEL, PCI SOUND CARD	4	-	-	-	-
PAT 3.0 SENT HARDWARE	4	-	-	-	-
KEYPAD, 24 KEY PS2/USB	4	-	-	-	-
PAT/CM IRR LIC/DOC/MED	4	-	-	-	-
PAT STATS VIEW SW LIC	1	-	-	-	-
WKST INTG HP XW4600 XP	1	-	-	-	-
MNTR 19IN W/SPKRS NEC	1	-	-	-	-
PAT/CM ALARM PANEL	1	-	-	-	-
PAT PERIPHERALS	1	-	-	-	-
MODEM PKG 56K EXT	1	-	-	-	-
24-PORT 2610 PRCRVE SWTCH	2	-	-	-	-
PAT FXO GATEWAY 8PORT	2	-	-	-	-
PAT FXS GATEWAY 8PORT	2	-	-	-	-
SECURITY FIREWALL 410 AP	1	-	-	-	-
CABINET, 42U 19 INCH W RM	1	-	-	-	-
MNTR, 17IN RACK KYBD 1U	1	-	-	-	-
KIT RACK MNT 330/310 SVR	4	-	-	-	-
FAN KIT BLACK	1	-	-	-	-
KVM 4-PORT SWITCH	1	-	-	-	-
24-PORT 2610 PRCRVE SWTCH	1	-	-	-	-
PAT FXO GATEWAY 8PORT	1	-	-	-	-
PAT FXS GATEWAY 8PORT	1	-	-	-	-
KEYPAD, 24 KEY PS2/USB	1	-	-	-	-
PAT 3.0 PER SEAT LIC	1	-	-	-	-
WKST INTG HP XW4600 XP	1	-	-	-	-
MNTR 19IN W/SPKRS NEC	1			-	-
4-CHANNEL, PCI SOUND CARD	1			-	-
KEYPAD, 24 KEY PS2/USB	1	-	-	-	-
PAT/CM IRR LIC/DOC/MED	1	-	-	-	-
PAT STATS DATA CLCTN LIC	1	-	-	-	-
24-PORT 2610 PRCRVE SWTCH	1	-	-	-	-
TS-4 PORT TERMINAL SVR	1	-	-	-	-

Options Included:
-
-
-
-
-
-

SUBTOTAL: ANNUAL RECURRING EQUIPMENT COVERAGE	$ -	$ 18,542.88
TOTAL ANNUAL RECURRING COVERAGE CHARGES	$ -	$ 18,542.88
TOTAL CONTRACT TERM RECURRING COVERAGE CHARGES	$ -	$ 37,085.76

CONTRACT TERM: 24 Months

Project Notes

October 14, 2009

-

94 Courthouse Square

-

Lovingston, VA 22949

PSAP Grant Program Grant Ranker

View Application--118--Greensville Mapping Server/Workstations

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: Primary mapping servers and workstations (**MAPPING SUPPORT**)

Primary PSAP Applicants: Greensville Sheriff's Communications

Jurisdictions Served: Jarratt, Town of

Project Director:
Charles M. Veliky
Building/Fire Official
1781 Greensville County Circle
434-348-4232 (phone)
434-348-0696 (fax)
mveliky@greensvillecountyva.gov

Project Description:

Total Project Cost $17,928.00
Amount Requested: $17,928.00

Statement of Need:
This Project is to provide a separate Mapping Server for the Dispatch Center, and four (4) mapping workstations for key personnel.

Comprehensive Project Description:
The Dispatch Center uses a MicroData Mapping System, which is maintained by the county's GIS department and resides on a server that also houses other county department information and multiple layers of information and data. This project would provide a stand alone Mapping Server for the MicroData system, and four mapping workstations.

How will the equipment purchased will support future technologies for PSAP readiness?:
The current method, because of the multiple uses of the server, is slower and more cumbersome than it should be. New technologies are evolving that require more and more processor speed and storage capacity. Greensville is upgrading our CPE to IP based MicroData equipment, and will be recieving updated mapping information as part of that process. Faster, newer servers are required to adequately process the information.

Budget and Budget Narrative:

See Attached Vendor Provided quote.

Evaluation:
The PSAP Manager, IT Manager and GIS Specialist will review the specifications and installation and sign off on this purchase once all requested systems are in place and operating properly.

Attachments

PSAP Grant Program Grant Ranker

View Application--119--Conversion/Replacement Wireless Headset Equipment

Grant Period: 2011

Tier: Replacement of non-vendor supported wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**NON-VENDOR SUPPORTED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: Other (**OTHER**)

Primary PSAP Applicants:	Lynchburg ECC
Jurisdictions Served:	Lynchburg, City of

Project Director:
William A. Aldrich
Director of Emergency Communications
3621 Candlers Mountain Rd
(434)455-4285 (phone)
(434)846-6727 (fax)
william.aldrich@lynchburgva.gov

Project Description:

Total Project Cost	$10,900.00
Amount Requested:	$10,900.00

Statement of Need:
The wireless headsets we are using are no longer supported by the vendor and need to be replaced and related equipment needs to be upgraded.

Comprehensive Project Description:
We will be upgrading the wiring at each console to be compatible with the new base units. Each unit will also need new batteries.

How will the equipment purchased will support future technologies for PSAP readiness?:
This upgrade will allow our call takers to continue to process wirless 911 and also dispatch those calls.

Budget and Budget Narrative:
See Attachment

Evaluation:

Each console will have been upgraded to the new technology.

Attachments

6 WIRE HEADSETS budget.xls

MODEL	DISCRIPTION	QTY	PRICE	TOTAL PRICE
CA12CD	WIRELESS HEADSET BASE UNIT	9	$590.00	$5,310.00
SHS1890-10	PTT DISPATCH CABLE	10	$170.00	$1,700.00
90225-01	BATTERY	10	$49.95	$499.50
2C-KDV1201069/127	SIX WIRE JACK BOX	6	$549.70	$3,298.20
				$10,807.70

PSAP Grant Program Grant Ranker

View Application--120--EMD Implementation

Grant Period: 2011

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Individual PSAP
Priority: EMD/ Police Dispatch/Fire Dispatch software or protocols (not funded through another grant program) (**DISPATCH**)

Primary PSAP Applicants: Lynchburg ECC

Jurisdictions Served: Lynchburg, City of

Project Director:
William A. Aldrich
Director of Emergency Communications
3621 Candlers Mountain Rd
(434)455-4285 (phone)
(434)846-6727 (fax)
william.aldrich@lynchburgva.gov

Project Description:

Total Project Cost $179,000.00
Amount Requested: $179,000.00

Statement of Need:
We are planning to implement an EMD program that will be utilized to assist with prioritizing calls for service.

Comprehensive Project Description:
EMD will allow our agency to provide further information to callers to help contribute to their continued safety and well being until emergency responders arrive on the scene. Sufficent training will be provided to operations employees prior to the program being implemented.

How will the equipment purchased will support future technologies for PSAP readiness?:
This will allow us to continue to fine tune our efficiency in assessing wireless 911 calls and their need for emergency services.

Budget and Budget Narrative:
See Attachment

Evaluation:
Once the program has been implemented our calltakers/dispatchers will be using the established protocols to better guide their questioning and the assistance that they provide to our callers.

Attachments

Lynchburg MFP 12-17-09.xls

Priority Dispatch Corp.
139 E. South Temple, 5th Floor
Salt Lake City, Utah 84111
United States of America
800-363-9127 ext. 114

Name	**Lynchburg** **Attn: Melissa Foster**	Date	**12/17/09**
		By	**Dixon Brown**
	melissa.foster@lynchburgva.gov	Title	**Regional Account Manager**
Phone		Dept.	**Sales**
Fax			

	Qty	Description	Unit Price	TOTAL
	8	**ProQA Software Stations CAD NAE**	**3,300.00**	**26,400.00**
				-
Dispatch	**8**	**Fire Software Stations CAD NAE**	**3,100.00**	**24,800.00**
Software				**-**
	8	**Police Software Stations CAD NAE**	**4,900.00**	**39,200.00**
				-
	1	**Faircom Server Software Application**	**2,200.00**	**2,200.00**
	1	**AQUA Quality Improvement/Case Review Software**	**1,900.00**	**1,900.00**
	1	**EMD Module**	**800.00**	**800.00**
AQUA	**1**	**EFD Module**	**600.00**	**600.00**
	1	**EPD Module**	**1,000.00**	**1,000.00**
				-
	8	**MPDS Manual Dispatch Card Sets NAE**	**395.00**	**3,160.00**
				-
	2	**MPDS Quality Assurance Guides**	**45.00**	**90.00**
	80	**MPDS Field Responder Guides**	**10.00**	**800.00**
Cards	**8**	**EFD Manual Dispatch Card Sets NAE**	**395.00**	**3,160.00**
				-
	2	**EFD Quality Assurance Guides**	**45.00**	**90.00**
	80	**EFD Field Responder Guides**	**10.00**	**800.00**
	8	**EPD Manual Dispatch Card Sets NAE**	**495.00**	**3,960.00**
				-
	2	**EPD Quality Assurance Guides**	**45.00**	**90.00**
	80	**EPD Field Responder Guides**	**10.00**	**800.00**
				-
	31	**EMD Protocol Training and Certification (3 days)**	**295.00**	**9,145.00**
	31	**EFD Protocol Training and Certification (3 days)**	**295.00**	**9,145.00**
	31	**EPD Protocol Training and Certification (3 days)**	**295.00**	**9,145.00**
Training	**1**	**ED-Q Quality Assurance Training and Certification**	**6,000.00**	**6,000.00**
	2	**ProQA Software Training (+1500.00 per trip)**	**1,500.00**	**4,500.00**
	1	**AQUA Software Training (+1500.00 per trip)**	**1,500.00**	**3,000.00**
	15	**Development/Install days (+1500.00 per trip)**	**1,500.00**	**24,000.00**
		(NAED Accreditation)		**-**
				-
		Year 1 Annual Maintenance		**15,233.00**
		Annual Maintenance (Gold)	**20,792.00**	**-**
		Annual Maintenance (Platinum)	**28,928.00**	**-**
Support				**-**
				-
				-
		* Assumes training site with 2/1 PC training stations		-
		** ESP (Extended Service Plan) adds additional technical telephone support, free updates to current version, and additional discounts on new versions (editions).		
		All Amounts are in U.S. Dollars		

		Year 1 Total	**$ 190,018.00**
		Multiple Disciplin Discount	**$ (11,400.00)**
Shipping	0.00%		**$ 40.00**
Local Tax	0.00%		
		Total	**$ 178,658.00**

Signature
Expires 180 Days Delivery Upon Request

PSAP Grant Program Grant Ranker

View Application--121--Bedford Radio Console

Grant Period: 2011

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Regional Initiative
Priority: Radio consoles (**CONSOLES**)

Primary PSAP Applicants: Bedford Communications Center

Jurisdictions Served: Bedford, City of
Bedford, County of

Project Director:
John Barrett
E-911 Director
1345 Falling Creek Road
540-587-5991 (phone)
540-586-7668 (fax)
j.barrett@co.bedford.va.us

Project Description:

Total Project Cost $66,738.00
Amount Requested: $66,738.00

Statement of Need:
At this time we have one dispatch position that does not have a radio console. When we have full staff working that position has to rely on a portable radio to communicate with field units. This is not acceptable. With increasing phone and radio traffic this position is often needed. Our call volumes are increasing. If we do not receive the requested funding for this console there will be no local funding available. The addition of this console will greatly improve our operational services to Bedford City and Bedford County.

Comprehensive Project Description:
We seek to provide the agencies and citizens that we serve with the best possible service that we can. With the addition of this radio console it will allow us to better serve all agencies and citizens by allowing better communications to field personnel hence providing better service to the citizens of Bedford City and Bedford County. This radio console will be installed as soon as practical after the award of the grant and should serve the needs of our center for the future.

How will the equipment purchased will support future technologies for PSAP readiness?:
The purchase of this equipment will allow us to have the most current techonology available for our radio system. We operated a regional radio system that serves Bedford City and Bedford County and also includes the City of Lynchburg and the County of Amherst and allows us to have interoperablity communications with these agencies. We can also serve as a backup to these agencies when needed.

Budget and Budget Narrative:

I am attaching a copy of the quote provided to us by our vendor. This includes equipment needed and installation of the radio console.

Evaluation:

The sucess of this project will be measured by having the equipment purchased, installed and operating appropriately at a speed that maintains or exceeds the current service levels to the agencies that we serve and to the public. The success of the project will be evaluated by dispatch personnel and by the field providers that we serve.

Attachments

Bedford County Console Quote JB 12-09.xls

Harris
C/O Valley Communications

6720 Thirlane Road, NW
Roanoke, VA 24019
(540) 362-1918
(540) 362-1625 Fax

Date: December 14,2009

Bedford County
1345 Fallaing Creek Road
Bedfrod, VA 24523

Dispatch Console Addition

Attn: John Barrett

Part Number	Description	Quantity	Unit List	Total
2C-KDV1201069/4	MODULE,ENHANCED AUDIO ENCLOSURE	1	9,410.00	9,410.00
2C-KDV1201069/103	COMPUTER,C3 MAESTRO WITH SOFTWARE	1	16,805.00	16,805.00
2C-KDV1201069/65	CABLE,DATA,CONSOLE TO CEC,100FT	1	212.50	212.50
2C-KDV1201069/64	CABLE,AUDIO,CONSOLE TO CEC,100FT	1	555.00	555.00
CM-022218-000208	Monitor, 21 inch LCD	1	3,630.00	3,630.00
2C-KDV1201069/34	MOUSE,TRACKBALL,3 BUTTON	1	65.00	65.00
2C-KDV1201069/8	KIT,2 SPEAKERS,DESKTOP	1	1,703.00	1,703.00
2C-KDV1201069/57	FOOTSWITCH,SINGLE	1	255.00	255.00
2C-KDV1201069/66	MICROPHONE,DESK	1	245.00	245.00
2C-KDV1201069/63	Module,Headset Jack,4 Wire	1	470.00	470.00
2C-KDV1201069/48	POWER SUPPLY,EXT UPS,60 HZ	1	422.50	422.50
MM002CR	MANUAL,MAINT,C3 MAESTRO NT CONSOLE	1	65.00	65.00
2C-KDV1201069/117 (	OBSOLETE-SFTWR,QCK RECVRY CD FOR CD-RW DR	1	0.00	0.00
MSCE7R	CABLE,BACKPLANE(SHORT)	1	40.00	40.00
MSCIM3	KIT,C3 MAESTRO INTERFACE,W 28 TB(CIM)	1	5,040.00	5,040.00
MSDE3U	KIT,AUXILIARY I/O CROSSCONNECT	1	575.00	575.00
MAMS-NAA3F	Module,Audio Interface Card (AIC),UAC	1	10,000.00	10,000.00
SSSG3Z	LICENSE,UPGD,MAX EDACS AD IMC CONSOLES	1	4,875.00	4,875.00
IX-MA-305	MODULE,4 CHANNEL VOICE INTERFACE	2	235.00	470.00
IX-VF-25	MODULE,4 CHANNEL 4 WIRE E&M VOICE,T1	2	345.00	690.00
19D438890G7	PANEL,PUNCH BLOCK (SINGLE) (REAR ACCESS)	1	160.00	160.00
IX-MA-404	ADAPTER,FOR 4 AND 5 PORT DATA MODULE	2	340.00	680.00
IX-DA-191A	MODULE,4 PORT ASYNCHRONOUS DATA	2	985.00	1,970.00

Sub-total Equipment	58,338.00
Installation	8,400.00
Total	66,738.00

PSAP Grant Program Grant Ranker

View Application--122--Netclock Replacement

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: Time Synchronization (**TIME SYNCH**)

Primary PSAP Applicants:	Fluvanna County
Jurisdictions Served:	Columbia, Town of

Project Director:
Tammy Johnson
Director of Communications
PO Box 113
434-591-2005 (phone)
434-591-2006 (fax)
tjohnson@fluvannasheriff.com

Project Description:

Total Project Cost	$7,500.00
Amount Requested:	$7,500.00

Statement of Need:
This grant would allow for the replacement of our current Netclock which is past of it's "End of Life". Time synchronization has been identified as a priority on the project focus list. Historically this piece of equipment has not required any repairs, and now that repair is not possible, a fail will require replacement, that will be costly. A failure of this equipment will impact operations by not allowing for needed time synchronization of 911 calls and may cause undo down time of our 911 center. Any needed repairs and/or service of new equipment will be accomplished with local funds.

Comprehensive Project Description:
Goal: To continue to provide needed/required time synchronization of 911 calls received by Fluvanna County 911 center. Objectives: To replace end of life equipment with equipment that parts and/or software is available. New equipment will also include 3-5 yr warranty. Plan: Coordinate with vendor to ensure a smooth transition of service from old equipment to new. Timeline: Is dependent on vendor's delivery and installation availability. Sustainability: The equipment will be supported by general funds. This equipment is expected to functional for 5+ years, or until equipment reaches end of life.

How will the equipment purchased will support future technologies for PSAP readiness?:
This equipment should be compatible with future upgrades and technologies for PSAP readiness.

Budget and Budget Narrative:

Replacement Netclock and any associated installation and shipping.

Evaluation:
Daily evaluation while receiving and processing 911 calls. Any discrepancies found will be reported immediately for repair.

Attachments

PSAP Grant Program Grant Ranker

View Application--123--CPE Upgrade

Grant Period: 2011

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Individual PSAP
Priority: Other (**OTHER**)

Primary PSAP Applicants:	Charlotte County
Jurisdictions Served:	Charlotte Court House, Town of Drakes Branch, Town of Keysville, Town of Charlotte, County of Phenix, Town of

Project Director:
Lisa Myers
911 Coordinator
222 Law Lane
434-542-5141 (phone)
434-542-5100 (fax)
ccs0911@cchshseriff.com

Project Description:

Total Project Cost	$50,000.00
Amount Requested:	$50,000.00

Statement of Need:
To enhance current CPE equipment to allow dispatchers to track and handle 911 calls more efficiently and maintain integrity and reliability to our current system. Without this funding our upgrades will not take place due to the current funding constraints put on our local government.

Comprehensive Project Description:
To enhance our current CPE equipment from 4.0 to 5.0 or greater (depending on the latest release). This will be done within six months of being granted this funding.

How will the equipment purchased will support future technologies for PSAP readiness?:
The equipment purchased will support and enhance our current CPE equipment for handling all 911 calls.

Budget and Budget Narrative:
see attachment

Evaluation:
The project will be measured for success by the usage of our 911 equipment on a daily basis.

Attachments

Charlotte County 911 - Budgetary pricing for RescueSTAR upgrade and new computers 12-16-09.xls

EMBARQ

Legal Name:	-
Billing Name:	Charlotte County E911
	222 Law Lane
	-
	Charlotte, C.H., VA 23923

Valid Until **February 14, 2010**

Description of Work to be Performed:

BUDGETARY PRICING - RescueSTAR upgrade with new computers
-
** Customer to provide any cabling as needed.
** Labor does not include re-loading MicroDATA mapping - this will be done on a T&M basis.
-
-
Qtt09171

Equipment pricing shown is based upon direct sale.

Description	Quantity	Unit Price	Extended Price
RescueSTAR Upgrades	-	-	-
RECUESTAR 5.0 U/STATS NC	1	-	-
R5.8.1 UPGRADE PACK	1	-	-
REL 5.10 UPG V591	1	-	-
ECS/RSTAR REL 5.11 UPG	1	-	-
-	-	-	-
SEALI	-	-	-
SEALI 2.2.0 UPGRADE KIT	1	-	-
WKST INTG HP XW4600 XP	2	2,314.38	4,628.76
MNTR 19IN W/SPKRS BLK NEC	1	426.95	426.95
SWITCH KVM 4-PORT USB	1	220.84	220.84
GENERIC WORKSTATION FEE	2	357.14	714.28
-	-	-	-
SMART	-	-	-
WKST INTG HP XW4600 XP	1	2,314.38	2,314.38
MNTR 19IN W/SPKRS BLK NEC	1	426.95	426.95
GENERIC WORKSTATION FEE	1	357.14	357.14
-	-	-	-
Sentinel	-	-	-
Sentinel 9-1-1 5 Upgrade	2	732.14	1,464.28
SENT R5.1.1 URGRADE PACK	2	-	-
SEN REL 5.2 UPG	2	-	-
WKST INTG HP XW4600 XP	2	2,314.38	4,628.76
4-CHANNEL, PCI SOUND CARD	2	806.79	1,613.58
CBL DELTA44 NORSTAR	2	26.50	53.00
MNTR 19IN W/SPKRS BLK NEC	4	426.95	1,707.80
EXTERNAL SPEAKERS	2	45.65	91.30
HLIM w/ CML I/O	2	2,058.20	4,116.40
GENERIC WORKSTATION FEE	2	357.14	714.28
CPR/SYSPREP IMAGING	1	-	-
-	-	-	-
Stats MIS	-	-	-
Stats 3.0 Upgrd.	1	1,142.86	1,142.86
SENTINEL STATS 3.4.4 UPG	1	-	-
Stat3.0 Upgrade Data Coll	2	146.43	292.86
WKST INTG HP XW4600 XP	1	2,314.38	2,314.38
MNTR 19IN W/SPKRS BLK NEC	1	426.95	426.95
GENERIC WORKSTATION FEE	1	357.14	357.14
-	-	-	-
Workstation Extended Warranty	-	-	-
WARR 5YR 24X7 4300/44/46	6	712.86	4,277.16
-	-	-	-
PlantCML Support - 1 year	-	-	-
SPT FIRMWARE 1 YR RSTAR	1	385.71	385.71
HARDWARE SUP MED 1 YR	1	2,571.43	2,571.43
SENTINEL 5.X SPT 1 YR	2	777.14	1,554.28
STATS SPT DATAC 1YR	2	111.43	222.86
-	-	-	-
misc. materials; wire, blocks, equipment	1	2,208.37	2,208.37
-	-	-	-

SUBTOTAL: Gross Material Price	$	39,232.70
SUBTOTAL: Gross Discount	$	-
Net Material Price	$	39,232.70
Labor (Includes Project Management if not shown separately below)	$	5,818.20
Project Management	$	-
Shipping	$	317.77
TOTAL PRICE	**$**	**45,368.67**

Prices do not include charges for taxes, duties, tariffs, telecommunication services, or professional services such as Centurion Maintenance or Managed Network Services.

Project Notes

December 16, 2009

-

222 Law Lane

-

Charlotte, C.H., VA 23923

Labor hours:
Upgrade RescueSTAR - 16 hours
Upgrade/install SEALI - 16 hours
Replace SMART computer - 5 hours
Replace STATS computer - 5 hours
Replace Sentinel computers - 10 hours
Install/connect LAN - 8 hours

Total 60 hours

PSAP Grant Program Grant Ranker

View Application--124--Regional Backup Phase II

Grant Period: 2011

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Regional Initiative
Priority: Next Generation 9-1-1 (**NG**)

Primary PSAP Applicants:	Pittsylvania County Emergency Management
Jurisdictions Served:	Chatham, Town of Danville, City of Gretna, Town of Hurt, Town of

Project Director:
James E. Davis
Director
P.O. Box 426
434-432-7920 (phone)
434-432-7950 (fax)
jim.davis@pittgov.org

Project Description:

Total Project Cost	$250,000.00
Amount Requested:	$250,000.00

Statement of Need:
This project will be Phase II of the two year plan to create a seamless backup and fully redundant operation of the two psaps. If we do not receive the funding, we will have completed phase 1 with seeing the end of the mile result of the project. we will not be fully redundant. We will have radio backups, but not CAD and phones. Danville is applying for an individual CPE NG911 system. They will be purchasing a Positron VIPER that will connect to ours. this will allow either locality to piggy back on the other with NG911 redundancy.

Comprehensive Project Description:
This system will be installed beginning July 2010. Pittsylvania County has already acquired the IEN solution for our NG911 VIPER, we will be IEN Operational by Feb 10. Much of the network will be in place this funding will provide Danville IEN VOIP connectivity and then to us.

How will the equipment purchased will support future technologies for PSAP readiness?:
The technology for this project is groundbreaking. Text Messaging, Photo and video messaging are two of the technologies that we will implement with this funding.

Budget and Budget Narrative:
IEN Network $145,000 VIPER Connection between the two centers $75,000 CAD Redundant servers and

data connections $40,000 Text messaging applications for both centers $30,000

Evaluation:
The City of Danville and Pittsylvania County has a committee that is comprised of the two 911 Directors and their respective IT Directors that will provide oversight and guidance of this project.

Attachments

PSAP Grant Program Grant Ranker

View Application--125--EMD ProQA & AQUA Automated Program

Grant Period: 2011

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Individual PSAP
Priority: EMD/ Police Dispatch/Fire Dispatch software or protocols (not funded through another grant program) (**DISPATCH**)

Primary PSAP Applicants: Stafford County Sheriff's Communications

Jurisdictions Served: Stafford, County of

Project Director:
Carol Adams
Director
P.O. Box 189
540-658-4712 (phone)
540-658-4419 (fax)
cadams@co.stafford.va.us

Project Description:

Total Project Cost $82,809.00
Amount Requested: $82,809.00

Statement of Need:
In reviewing the tier prioritization established by the Virginia Wireless Board, it is our assessment that even though the grant application standards place our grant request at a lower tier/prioritization(Tier F & Enhancement “G”), that our request in its truest form is one of which addresses the most prominent and on-going public safety service impediment facing the Emergency Communications Division to date and thus having a detrimental impact on the emergency medical services provided to our citizens. The life altering impediment of which we are seeking 100% grant funding for is a lack of Emergency Medical Dispatch protocols that are automated and cohesive with existing CAD operations. Stafford County Emergency Communications personnel processed (44) CPR/Cardiac Arrest calls for service in 2008 and (101) CPR/Cardiac Arrest calls as of January 1, 2009 to present day, these call types are just a minute portion of the total calls processed by our emergency communications personnel yet are the most critical. The emergency communications officers perform unfathomable feats of extraordinary skill all without access to an existing certified and medically approved automated EMD Protocol System. From a financial perspective funding is the apparent and predominant factor that is having an adverse impact on our agency’s ability to provide such an imperative and vital public health service by means of utilization of an automated EMD program thus enabling emergency communications officers to efficiently and effectively provide medical instructions to callers that is consistent with AHA guidelines regarding early access to 911 and CPR, which

truly begins with the onset of the 911 call. Stafford ECC had its operating budget for FY2009 reduced by 47% and fiscal year 2010 poses an equivocal amount of financial constraints for the agency and county. Stafford County Sheriff's Office Emergency Communications applied for funding for an automated EMD program with the Virginia State Office of Emergency Medical Services in September 2008 and did not receive OEMS grant approval for funding for the EMD software. The resounding consequences of not receiving funding for this automated EMD program will resonate through Stafford County for years to come due to the lack of expeditious medical call processing by use of an automated EMD system and related software, provision for a comprehensive and dynamic Quality Assurance/Quality Improvement component that is encompassed within the automated EMD system and provision for assuring that the Stafford County Emergency Communications Division is meeting the standard within our public safety communications industry that of which is access and utilization of state-of-the-art technology to assure that callers are provided with the BEST quality of care in the most appropriate, accurate, and expedient manner possible as to not delay the onset of potentially life saving measures. Implementation of an automated EMD program is the second phase in Stafford County Emergency Communications implementation of an Emergency Medical Dispatch Program not seen in the history of the county until now. Stafford County Emergency Communications has included in its future budget forecasts a fiscal plan for maintenance and sustainability for an automated EMD program that encompasses upgrades to existing software and CAD maintenance costs.

Comprehensive Project Description:

The goal of the Stafford County Sheriff's Office Emergency Communications Division is to provide for the county's citizens a comprehensive and integral component of the emergency medical system that is absent from our present day EMS system. This EMD component will fill the void within the system that directly affects the pre- arrival care of persons seeking medical attention providing for the immediate medical intervention necessary for the nature of the call prior to the arrival of EMS personnel. With the acquisition of the automated EMD program, and immediate implementation, Stafford County Emergency Communications will begin working towards obtaining state EMD Accreditation through the Office of EMS and concurrently international accreditation through the National Academy of Emergency Dispatch (NAED). Upon approval of our grant requests, Stafford County Emergency Communications will purchase all required software from the vendors and will implement a training schedule for January-February 2010.

How will the equipment purchased will support future technologies for PSAP readiness?:

This advanced technology within the Emergency Medical Dispatch program will be the first component in a total automated dispatch protocol system that will include future installations of Fire and Police protocol interrogation systems to be utilized when conducting telephone questioning and provision of pre-arrival instructions of a potentially life saving and evidentiary importance. The implementation of a fully automated call processing system will assure that Stafford County Emergency Communications meets and adheres to all NFPA, ICMA (International City/County Managers Association Center for Performance Measurement), and all state & national EMS dispatch standards. The acquisition of an automated EMD system will afford Stafford County Emergency Communications the ability to conduct QA/QI (which is not presently feasible to conduct in a manual mode of operation)for all components of our medical call processing, provide for immediate corrective feedback and or remediation, tracking dispatching/call processing trends, and compliancy to protocol reports for individual EMDs, shift reports, and overall division assessment reports.

Budget and Budget Narrative:

See attached.

Evaluation:

Ongoing program assessment is incorporated into the automated EMD protocol system by means of using the accompanying QA/QI software (AQUA). The AQUA software is capable of providing for Time Analysis by Dispatch Level reports that track call processing times for each medical determinant on each of the independent EMD protocols, individual & shift compliancy reports, agency assessment reports. The report data will assist our agency with implementing immediate and decisive courses of action with regards to protocol compliancy and thus assuring the diligent and stringent adherence to the EMD standards. The pinnacle of our agency's success and achievement will be achieving state and NAED international EMD Accreditation. NAED EMD Accreditation standards are a conglomerate of 20 Points of Accreditation requiring no less than 90-95% protocol compliance in each aspect of the EMD Protocol system and maintenance of

said standards for accreditation continuum.

Attachments

Stafford County Imp 11-17-09.xls

Priority Dispatch Corp.
139 E. South Temple, 5th Floor
Salt Lake City, Utah 84111
United States of America
800-363-9127 ext. 114

Name	**Stafford County 911**	**Attn: Karen Hileman**	
	GEAC/EnRoute		
Phone		Fax	

Date	**11/17/09**
By	**Dixon Brown**
Title	**Regional Account Manager**
Dept.	**Sales**

	Qty	Description	Unit Price	TOTAL
Dispatch Software	**21**	**ProQA Software Stations CAD NAE**	**3,300.00**	**69,300.00**
				-
				-
				-
				-
				-
	1	**Faircom Server Software Application**	**1,250.00**	**1,250.00**
AQUA	**1**	**AQUA Quality Improvement/Case Review Software**	**1,900.00**	**1,900.00**
	1	**EMD Module**	**800.00**	**800.00**
				-
				-
				-
Cards				-
				-
				-
				-
				-
				-
				-
				-
				-
				-
				-
Training	**5**	**ED-Q Quality Assurance Training And Certification**	**500.00**	**2,500.00**
	1	**ProQA Software Training (+1500.00 per trip)**	**1,500.00**	**3,000.00**
	1	**AQUA Software Training (+1500.00 per trip)**	**1,500.00**	**3,000.00**
	1	**Install Implementation and Accreditation**	**15,000.00**	**15,000.00**
	1	**Instructor Kit**	**4,500.00**	**4,500.00**
				-
				-
				-
				-
Support		**Year 1 Annual AQUA Maintenance (ESP@15%)****		**405.00**
		Year 1 Annual ProQA Maintenance (ESP@15%)**		**10,395.00**
		Year 1 Annual Card Set Maintenance (ESP@10%)**		**-**
				-
				-
		* Assumes training site with 2/1 PC training stations		-
		** ESP (Extended Service Plan) adds additional technical telephone support, free updates to current version, and additional discounts on new versions (editions).		
		All Amounts are in U.S. Dollars		

	Year 1 Total	**$ 112,050.00**
		$ (29,958.00)
State Tax	0.00%	
Local Tax	0.00%	
	Total	**$ 82,092.00**

Signature			
Expires		Delivery	Upon Request

PSAP Grant Program Grant Ranker

View Application--126--Stafford RCL (Road Centerline) Inclusion into Northern Virginia RCL Project

Grant Period: 2011

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Regional Initiative
Priority: GIS: high priority (refer to GIS-related Grant Request Prioritization Matrix for a description of GIS projects that would have a high funding priority) (**GIS HIGH PRIORITY**)

Primary PSAP Applicants: Stafford County Sheriff's Communications

Jurisdictions Served: Stafford, County of

Project Director:
Dave Capaz
GIS Manager
1300 Courthouse Rd
540-658-5499 (phone)
540-658-8716 (fax)
dcapaz@co.stafford.va.us

Project Description:

Total Project Cost $43,320.00
Amount Requested: $43,320.00

Statement of Need:
Stafford County is in northern Virginia, along the busy I – 95 corridor. The PSAP's in northern Virginia rely on each other for mutual aid and each uses a different CAD system. As the demand for mutual aid and the ability to route across jurisdictional boundaries increases, the resources available to provide GIS data to support those activities are not increasing. Currently, to support mutual aid and the routing of emergency vehicles into other jurisdictions, counties and cities must maintain data outside their jurisdiction and well as within its borders. There is an updated source for this information, the VGIN RCL data that is maintained by the state. While this data was developed with the intention of supporting 911, it is not completely capable of doing that for routing purposes in its current format. The problems are shown in more detail in the project description section of this document. This request will build upon the existing data from VGIN, the enhanced data model currently being built and populated in the NOVA RCL project, with the end result being a routable centerline that will be usable by jurisdictions in any CAD system to support mutual aid and routing across jurisdictional boundaries. The additional information added to the RCL data is not something that can be done by the local jurisdiction, but it will be data than can be maintained by the local jurisdiction

and VGIN going forward. Further, this problem is not unique to northern Virginia, - it persists throughout the state. The methodology and data structure being currently developed for the NOVA RCL project will be a template that will be usable for our local jurisdiction. Operationally this project will reduce data maintenance costs for data outside jurisdictional boundaries at every participating jurisdiction and provide data to support real-time routing across jurisdictional borders. It will assist the jurisdictions in determining and making any changes to their existing CAD – street centerline maintenance operations. It will also provide each jurisdiction with the enhanced data. Once the changes are made, the local jurisdiction will maintain the data to make the approach sustainable. Adding Stafford County to the NOVA RCL project helps fulfill the long term vision of the VGIN RCL data and its ability to support local CAD systems in urban northern Virginia. The data will be of immediate assistance to Stafford County, as well as the other jurisdictions as they incorporate a regional approach to mutual aid. Failure to support this project will mean that there will continue to be a fragmented network of road data as it relates to supporting 911.

Comprehensive Project Description:

Summary Stafford County's inclusion into the "Northern VA. Regional Centerline Routing to Support CAD and Mutual Aid" project, approved last fiscal year, will further enhance the VGIN RCL data set to create a regional street centerline data layer capable of supporting routing, geocoding, and persistent updates to local 911 map systems. The project will directly benefit wireless 911 response as well as traditional land line calls. It will allow for the design, development, update, and population of an enhanced RCL data model which will fully support our CAD system for data outside their our jurisdiction while not forcing us to change the data model we use for CAD. The proposal also outlines storage and distribution of the enhanced data as well as unique provisions for elements critical to supporting CAD systems. This project should also result in the creation of a model capable of being used by other regional areas for supporting data updates to their CAD mapping systems. Detailed project description: Supporting the mapping and routing component of Computer Aided Dispatch (CAD) systems at the local government level is a very challenging task. Every CAD system has its own unique and usually very detailed requirements for how data must be entered to support geo-verification of addresses, routing, and map display. Usually a jurisdiction will spend hundreds if not thousands of hours each year maintaining the core GIS data required to support these applications. While local governments are committed to maintaining core GIS data for their jurisdictions, it is completely impossible for them to maintain data for surrounding jurisdictions. Data for surrounding jurisdictions is necessary for supporting mutual aid responsibilities and sometimes to determine proper ownership of incoming calls. It will become absolutely critical to supporting Phase II wireless as calls will no longer always be tied to an address or intersection. With tightening budgets local governments are required to do more with less. The only logical source for this information is the existing VGIN RCL statewide centerline data set. The Northern Virginia GIS Managers (Stafford is included in this group) have been working with the VGIN RCL since its inception and there is an existing data sharing process between VGIN and the local governments to incorporate new local government data into the RCL data set each year. However, while the original intent of the VGIN RCL data set was to support routing, mapping, and geocoding for 911 purposes, it is not capable of being used for all of those purposes today. This project will address all of the issues associated with the RCL data for the jurisdiction, be incorporated into the framework data model being developed currently in the NOVA RCL project, and provide an increased level of routable centerline data back to the local jurisdictions which they will then be able to maintain and continue to improve. Conceptually the project will add a regionally routable data layer to the VGIN data library. The Stafford RCL enhancement project will address the same issues that the current NOVA RCL project is addressing: Persistent Unique Id's and parent child id tracking for relationship management: The current VGIN data has a unique ID field but it is not completely populated with unique ID's nor is there a process in place to track parent ID's. VGIN has recently implemented a GeoID field which is a combination of x and y values for the centerline midpoint. While this ensures uniqueness it does not yet provide for parent child relationships of arcs. A further problem with the geoid values are that some CAD systems don't allow for ID values of that size. This parent child relationship is critical for local governments supporting CAD because CAD incident records are tied to a street ID. Once the data is updated a change in ID's means that CAD records essentially become orphaned and can no longer be related to the map data. The new VGIN regional routable model will provide for the storing of parent child ID's in centerline data and for a way for local governments to process those values throughout an ongoing maintenance cycle. Establish standards and a methodology for dealing with border streets: As part of the maintenance process VGIN collects and distributes data from local jurisdictions based on a FIPS code (jurisdiction designation) for each arc. Figure 1 For the current use of the VGIN data, it makes no difference which jurisdiction an arc straddling two

jurisdictions comes from. However once those local governments try and use that data in a CAD system it makes a huge difference. Stafford is unique in that it has physical and jurisdictional barriers in place so that only two border roads, albeit it major ones, connect with Prince William county on our northern border. The Potomac River is the physical barrier and Quantico Marine Corps Base is the jurisdictional barrier that encompasses a third of Stafford's northern area and part of the southern area of PWC. The two roads are Interstate 95 & US 1 (Jefferson-Davis Hwy). The latter is depicted in Figure 1. Note that the address ranges (PWC – blue, Stafford – red) are labeled also. Both jurisdictions need a representation as part of their database to support CAD. Using the current process, only one would get imported into the VGIN data causing problems with future updates. This project will develop a technical solution to this problem as well as a methodology and best practices guide which other jurisdictions can use to resolve the same issue. Establish a speed limit attribute: The current VGIN data set does not include a speed limit attribute. Stafford County has speed limit data for their road centerline network. VGIN also now has access to additional speed limit data based on an agreement with NAVTEQ. Using those sources as a guide, a new populated speed limit attribute will to be added to the VGIN data set for Stafford, just like its currently being added to the 5 NOVA RCL PSAP jurisdictions as well as those covered geographically (Fairfax City, Falls Church City, Ft. Belvoir). QC of this new data will also be conducted. Since this data does exist and is essential to supporting CAD currently, this data will be maintained by each jurisdiction in the future. It is import to note that there can be a difference between the posted speed limit and a CAD speed limit, which is a value many jurisdictions maintain to ensure certain roads are used only when an incident occurs on them. A provision for this data will also be made in the regional data set. Establish a common state-wide road classification scheme: Stafford County, like most jurisdictions, maintains their own road classification scheme. Road classification values are used in CAD systems for a variety of purposes from cartographic display to defining other attribute values. There are several nationally recognized road classification schemes with the most likely being the CFCC scheme developed by the US Census Bureau. Using the jurisdictional source data and other data available to VGIN, all roads will be classified into a chosen road classification scheme. Assignment of road classification values for future roads will be done at the local level and updated by VGIN as part of the existing maintenance process.

How will the equipment purchased will support future technologies for PSAP readiness?:

The equipment purchased will support the maintenance and improvement of spatial data to support CAD. It will support the future technologies for PSAP readiness by creating a central storage and dissemination point of the GIS data needed for mutual aid. Should there be other data and information that is required to be shared regionally, the hardware to support this effort could be used Figure 2 Establish a state-wide methodology for dealing with elevated crossings: How jurisdictions deal with elevated crossings is a critical issue not just for supporting CAD but for supporting any routing application. Consider the graphic in figure 2. This is an image of the flyover starting off US 17, going underneath it to Celebrate Virginia Pkwy. In Stafford CAD this is represented as field ELEV = '-1' to indicate that these street segment(s) are going underneath US 17. Other jurisdictions in the NOVA region probably deal with this situation in a different manner

Budget and Budget Narrative:

The task list for this project is listed below. It is anticipated that most of the data conversion work and documentation will be done through outside consulting. Representatives from Stafford as well as one from VGIN will work with any data conversion and consulting vendors to ensure job completion. It should be noted that some of the work listed in these tasks can be done in parallel and does not have to be done sequentially. Specific information about each task along with cost is included in the budget narrative. The overall time frame for this project is one year from the initiation time. Cost estimates were based on taking the total number of streets segments in all the NOVA jurisdictions (taking part in the NOVA RCL Project) = 109,000. Then dividing that number by the total number of Stafford street segments = 6,300 to get 6%. So every cost estimate for each task below is 6% of what the NOVA RCL Project task estimates were. Task 1: Document Summary of Existing Jurisdiction and Source Data Quality and Completeness: A chosen vendor will document completely the existing data quality and accuracy in each participating jurisdiction and area covered. A basic documentation of existing data exists and is included as appendix 1 however before completing any kind of data update project it will be necessary to fully evaluate each existing data source. These meetings will also identify specific areas of work that might require additional assistance from the vendor or additional support from the CAD vendor. (4.2K) Task 2: Define Data Model: Using the information from this grant as well as the data from step 1, a new updated data model will be defined to include the

routing elements necessary to support mutual aid routing. If need be this step will be sub-divided into a logical data model design and a physical data model design. (1.2K) Task 3: Develop Statement of Work: Based on the information gathered in step 1, a statement of work for data conversion and conflation will be developed. This will detail all of the data elements and the necessary work. Included in this statement of work will be the processes necessary to run quality control checks on the data developed. ($ 600) Task 4: Develop RFP: An RFP for the work defined in task 3 will need to be developed and put out for bid. ($ 720) Task 5: Data Conversion to New Model: Once an RFP is awarded the work to populate an updated regional data model will take place. (9K) Task 6: Data QC: Once developed, the data will be checked by a second Quality Control vendor to ensure the best possible accuracy and to verify the terms of the data conversion contract were met. (2.4K) Task 7: Develop Maintenance Tools: Based on the information gathered in task 1, it may be necessary to develop editing tools to assist our jurisdiction in maintaining their data in the future. These tools will be developed as part of the grant work. Any updates to these tools for software compatibility will be done by local jurisdictions and VGIN. (6K) Task 8: Specific Changes to Support Local Installation: Based on the findings in Task 1, and the resulting data model, assistance will be provided to determine the data model impact and implement necessary changes. (12K) Task 9: Develop Best Practices Guide: One of the important products from this work will be a best practices guide for maintaining regional data. Any lessons learned as well as detailed documentation on maintaining the data will be included in this step. (1.2K) Hardware / Software Costs: The overall hardware costs will support servers at the state and local level to store and manage the additional information. Likely software costs will include additional GIS software licenses to maintain and disseminate spatial data such as ArcInfo and ArcGIS Server. (6K) Total: $43,320

Evaluation:

The evaluation of the success of this project will be based on several key factors and deliverables: 1. A uniform data model that is capable of being used regionally to support routing within each NOVA's CAD system. 2. The successful conversion of existing data into the new model. 3. Ability to maintain the information in the new data model. 4. Improved metrics on the time it takes emergency vehicle to respond to mutual aid calls. A final success factor will be the ability of the defined model to be used by other jurisdictions around the Commonwealth to support mutual aid.

Attachments

PSAP Grant Program Grant Ranker

View Application--127--Text Messaging to 9-1-1

Grant Period: 2011

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Regional Initiative
Priority: GIS: high priority (refer to GIS-related Grant Request Prioritization Matrix for a description of GIS projects that would have a high funding priority) (**GIS HIGH PRIORITY**)

Primary PSAP Applicants: Stafford County Sheriff's Communications

Jurisdictions Served: Stafford, County of

Project Director:
Carol Adams
Stafford County ECC Director
P.O. Box 189
540-658-4712 (phone)
540-658-4419 (fax)
cadams@co.stafford.va.us

Project Description:

Total Project Cost $87,973.00
Amount Requested: $87,973.00

Statement of Need:
Short messaging service (SMS), or text messaging, has become a dominant means of communication. CTIA - the Wireless Association, a well known and reputable wireless industry organization, has estimated that the number of SMS text messages exceeded one trillion in 2008. While SMS was not initially developed for use in public safety, it continues to gain widespread acceptance and popularity within our society, in particular with the Speech and Hearing Impaired Community. Consequently, citizens are increasingly demanding and expecting access to 9-1-1 by means of SMS. As a result, 9-1-1 industry stakeholders continue to make strides to ensure access to 9-1-1 from any device. This is, in part, the vision of the Wireless E-911 Services Board's Statewide Comprehensive 9-1-1 Plan: "Virginia's 9-1-1 Centers receive, process, and dispatch requests for emergency aid quickly and accurately: from any geographical location; from any communication device; in any language." In keeping with the Statewide Comprehensive 9-1-1 Plan and in an effort to advance 9-1-1 technology for its citizens and the 9-1-1 industry at-large, Stafford County, through its recognition of benefits from Next Generation 9-1-1 applications (theoretical and known) and capabilities arising from current and future uses of communication technologies, realizes the importance to provide an avenue for study, research and implementation of SMS access to 9-1-1. In the summer of 2009, the Black Hawk 9-1-1 Board became the first PSAP in the nation to successfully receive text messages sent directly to 9-1-1. A broad team worked to support the research, development and eventual

implementation of this technology. This implementation, though successful, was completed with a relatively small, local wireless service provider. The significant difference between that project and this proposed project is that this project would require the input and collaboration of a major nationwide wireless carrier. Accomplishing SMS access to 9-1-1 by way of a major nationwide wireless carrier is the next logical step in the progression of this technology.

Comprehensive Project Description:

Goals and Objectives: • Goal: Provide a proven and effective method to allow for the smooth accessibility of emergency/9-1-1 text messaging into the PSAP • Objective: o Ensure a secure method by which transfer of text directly to/from the PSAP's customer premise equipment (CPE) in cases of emergencies can occur o Ensure a means by which calls and/or subscriber information can be verified and is readily available, on demand, to the PSAP o Provide a reliable plan by which other providers of devices enabling communications to have access to 9-1-1 Implementation Strategy and Work Plan: • Identify and obtain commitment from project partners (currently, have spoken with Intrado, Nine-One-One, Inc. and Sprint/Nextel). • Implement project plan, clearly defining roles and responsibilities of all project partners. • Clearly identify tasks and outcomes as "mandatory" and those "like-to-haves." For those defined as "mandatory," if any one is not met, the project cannot continue. • Stafford has the ability to implement and test a plan utilizing a single carrier within a closed network. • Provide input and information for the research and development to further the technology of providing text messaging into the emergency communications center. Activities to be Accomplished: • Receipt of text messaging for the purpose of facilitating a means of reporting 9-1-1 emergencies. • Insure call-back information (current, automatic and up-to-date) available to the PSAP, on demand. • Where applicable, work with other state and national initiatives in developing protocols and promoting legislation which will encourage and improve efforts of insuring every communication device can facilitate a 9-1-1 call. Timeline: • To date, discussions have been held to determine the feasibility and locate project partners • 1st Quarter: Obtain firm commitment from all project partners; kick-off meeting; evaluate current systems for any upgrades or other activities which must take place for a positive and successful outcome • 2nd Quarter: Initiate findings to project team, defining any other "behind the scenes" work which must take place • 3rd Quarter: Continue to develop process, establish MOUs and other means to implement project (i.e. access to carrier information, etc.) • 4th Quarter: Successful complete a text messaging solution and place it in a 60 (sixty) day test period; report findings back to Virginia Wireless Services Board. Identification of longevity or sustainability of project: This is a project which is long overdue and which has an insurmountable sustainability factor applicable to many solutions currently available for communication devices and many which will be provided in the future to consumers. In an attempt to ascertain the various investments necessary to implement SMS to 9-1-1 with large nationwide carriers in general, short-term pilot projects such as this are a necessary step. While the SMS to 9-1-1 solution implemented through this project could certainly be sustainable long-term, the feasibility of a long-term solution is yet to be determined based on the findings of this project. Moreover, it is intended that this project will support the Comprehensive 9-1-1 Plan by presenting the project findings (lesson's learned, etc.) to the Wireless E-911 Services Board upon the project's completion.

How will the equipment purchased will support future technologies for PSAP readiness?:

Current PSAPs in the Commonwealth are not ready to support the current technology or future technologies which will provide communication tools for the consumer. This project serves to guage the feasibility of providing an avenue by which communication devices can be utilized in a safe and productive manner for both the consumer while insuring the credibility of the systems, call data, subscriber information, etc., to the PSAP.

Budget and Budget Narrative:

See attached.

Evaluation:

The project will be measured for success and achievement based upon the progress made through implementation of a solution which will provide two-way communication directly to 9-1-1 in the PSAP through SMS technology. The project will be evaluated in final report to be submitted to the Wireless E-911 Services Board.

Attachments

Budget Narrative_v2.doc

Budget Narrative

Stafford Text Messaging to 9-1-1 Project

	Price
Non-recurring Service Costs	$10,475
Monthly Recurring Service Costs (4 month minimum)	$318
Testbed Support 80 hours per month (4 months)	$43,588
	$54,381
Pass Through Costs (MPLS and Short Code)	$33,592
Total to the PSAP	$87,973
Each Additional Month per Seat after 4 months	$200
80 hours testing per each addt'l month	$10,897
	$11,097

Assumptions/Conditions:

- The testbed is expected to last 4 months.
- Additional months or hours of testing are available for an incremental amount.
- The testbed assumes **non-redundant** MPLS
- MPLS can only be purchased in minimum terms of 12 months without facing a term penalty. Model assumes 12 months of MPLS costs.
- If Stafford wants more than 12 months of testing a second 12 month term of MPLS and the short code is required at an additional amount.
- Training costs have been removed. It is assumed that the 80 hours of testing time with Intrado per month covers any training costs.

PSAP Grant Program Grant Ranker

View Application--128--PSAP 911 Wireless Calls

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: PSAP Recruitment Programs (**PSAP**)

Primary PSAP Applicants:	Pulaski County
Jurisdictions Served:	Dublin, Town of Pulaski, County of Pulaski, Town of

Project Director:
John Spangler
GIS / 911 Coordinator
52 West Main St
540-980-7714 (phone)
540-980-4013 (fax)
jspangler@pulaskicounty.org

Project Description:

Total Project Cost	$16,000.00
Amount Requested:	$16,000.00

Statement of Need:
The Pulaski County Sheriff's Office's communications center is responsible for answering all wireless 911 calls for the county and towns located within. In addition, the County dispatches calls for service for two law enforcement agencies, seven fire departments, and five EMS stations. They also provide supportive communications services to the Virginia Department of Game and Inland fisheries, Claytor Lake State Park, and the Virginia Department of Forestry. The communications center currently is need of replacing three radio communications computers. These computers are responsible for running the radio communications system that enables the communications officers to dispatch calls for service received via wireless 911, wire line 911, and land line telephone calls. In addition, this grant will enable the communications center to upgrade the firmware and software for the radio communications controller which is responsible for enabling radio communications. As is the case with nearly every local government entity, the County of Pulaski is experiencing tough economic times. Funding to complete this project will not be readily available for the foreseeable future. If funding for this project is not awarded, the communications center will not be able to replace their aging computers and in return could experience service effecting failures. A failure of the radio communications system would have a detrimental effect in dispatching resources to calls received via emergency 911 lines such as wireless and wire line 911 calls.

Comprehensive Project Description:

The goals and objectives for this project are as follows: 1.)To upgrade the 911 communications radio equipment to enable effective and efficient call dispatching activities. 2.)To position the 911 communications center for growth and adaptation of emerging radio communications technologies. 3.)To ensure continuity of communications by mitigating potential hardware and software failures associated with aging equipment. This project will be implemented within 90 days of a notification of funding. The Sheriff's Office will utilize their current communications services provider to perform the activities listed in this project. As mentioned before, this project will be sustained through annual service contracts funded by the Sheriff's Office. Such contracts ensure that the communications equipment will be maintained and repaired as needed to maximize its longevity and usability.

How will the equipment purchased will support future technologies for PSAP readiness?:
The equipment purchased with this grant will bring the communications center's radio system up to current technology standards and prepare their system for future growth.

Budget and Budget Narrative:
The expenditures for this grant include the purchase of three (3) new radio workstations, software and firmware upgrades for the radio communications controller. A quote is provided as an attachment to this application. The new radio workstations will replace aged computers which have been experiencing intermittent problems and have began to require much more maintenance to keep running. The firmware and software upgrades will enable the communications system to support new features and fixes minor problems noted in the current configuration.

Evaluation:
This project will be evaluated through the continuity of emergency communications. Simply stated, once the project is completed, we will be able to evaluate its effectiveness by having continuous non-interrupted radio communications operations. The communications officers should experience fewer service interruptions and should see an improvement in the responsiveness of their radio control workstations. This will be observed by direct interaction with the communications staff and through trouble ticket requests.

Attachments

Zetron Console QUOTE2 include labor.pdf

PROFESSIONAL COMMUNICATIONS

QUOTE

3805 SOUTH MAIN STREET, BLACKSBURG, VA. 24060
Phone 800-277-1777 Fax 540-951-0074
procomm@vawireless.com

TO : County of Pulaski
ATTN: Chris
Reference: InterAct Upgrade

DATE : December 15, 2009

SALESPERSON	JOB	SHIPPING METHOD	SHIPPING TERMS	DELIVERY DATE	PAYMENT TERMS
Bruce Grimes	Dispatch Ctr				Net 10

ITEM #	QTY	PART #	DESCRIPTION	UNIT PRICE	LINE TOTAL
1	3	930-0187	Stacked Instant call Paging	$995.00	$2,985.00
2	3	905-0315	Integrator RD Computers with Firmware and software	$3,625.00	$10,875.00
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

SUBTOTAL	$13,860.00
LABOR	$1,925.00
Shipping	$185.00
TAX	
TOTAL	$15,970.00

Installation Labor is $1725.00. Training is $200.00.

WE APPRECIATE YOUR BUSINESS

PSAP Grant Program Grant Ranker

View Application--129--HPD Mapping in RMS & Crime Analysis

Grant Period: 2011

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Individual PSAP
Priority: GIS: low priority (refer to GIS-related Grant Request Prioritization Matrix for a description of GIS projects that would have a low funding priority) (**GIS LOW PRIORITY**)

Primary PSAP Applicants: Hopewell Police Communications

Jurisdictions Served: Hopewell, City of

Project Director:
Kimberly M. Parson
Administrative Services Manager
300 N. Main Street
804-541-2272 (phone)
804-541-2345 (fax)
kparson@hopewellva.gov

Project Description:

Total Project Cost $27,800.00
Amount Requested: $27,800.00

Statement of Need:
Violent crime in Hopewell has increased by 11.7% in the last year alone, as reported by the Richmond Times-Dispatch in April 2009, despite a statewide decrease of 1.5%. These statistics reflect the City of Hopewell‘s continuing challenge of maintaining a safe community for its ever growing population. Further exacerbating the City’s efforts to combat rising crime is the economic downturn and loss of revenues. These factors have made budget cuts necessary and put numerous projects on hold indefinitely. The reality of dwindling resources is a serious threat to the continuation of high quality, responsive service delivery. Hopewell Police Department understands its community, the needs of its citizens, and the factors contributing to its rising crime. In addition, the department has engaged in significant research to determine the best solution to remedying the rising crime in the most cost-effective and efficient method. The most logical solution is to expand the current inventory of technology with software that will both complement and enhance existing programs, specifically the CAD mapping functionality. The new technology will allow officers to conduct future-crime analysis, identify high crime areas, pin-map events, and eliminate hours of research. SunGard’s mapping and crime analysis software will strengthen the current wireless E-911 operations by utilizing call and report data stored in its Record Management System (RMS) to conduct real-time analysis and forecasting. This software has the advantage of being integrated with Hopewell’s current software and utilizes an ESRI-compliant map imbedded within its Computer Aided

Dispatch (CAD) system. These features will ultimately serve as a force multiplier, making the most of existing personnel and equipment resources with minimal on-going costs. One of the major advantages of this software is its ease of use. Front-line officers must currently rely solely on Hopewell's Crime Analyst to process and respond to requests in order to produce patterns and trends. This takes considerable time and cannot always provide the level of specification requested. The Mapping and Crime Analysis software allows officers to immediately retrieve the information they need and perform complex analytical operations through simple selections and automatic geo-verification. The impact this software will have on operations cannot be underestimated. It will increase efficiency, reduce time delays, improve response, and reinforce the Hopewell Police Department's strategic goals and plans. In essence, this software will support the agency's Scan, Analyze, Respond, Assess (SARA) model and enforce its SMART (Specific, Measurable, Attainable, Realistic, Timely) goals. Hopewell does not currently possess the financial means to acquire Mapping in RMS & Crime Analysis and will need 80% funding to purchase the technology. The E-911 grant is the department's best opportunity to purchase and implement this solution. Without this grant and given the uncertain economic outlook, it is highly unlikely this technology can be purchased within the next 3 years. The resulting consequence is surely a continued upward swing in crime rates. This in turn has negative effects on the community trust and police/citizen relationships the department has been building. Hopewell Police Department requests approval of this funding. These requested funds will provide the tools to combat growing crime and uphold the department mission of providing the community with the highest level of innovative policing through professionalism, integrity, and accountability.

Comprehensive Project Description:

The new Mapping and Crime Analysis software will streamline numerous internal operations for the Hopewell Police Department. The goals and associated objectives of this project are concentrated on improving service delivery and broadening the existing CAD mapping functionality. Full project implementation is defined as the date the software is fully installed and 100% functional. Goal 1: Reduce the time delay in analyzing the existence of trends and patterns in crime events. Objective: Officers will use the new software to analyze RMS data and identify trends and patterns at their discretion within 6 months of full project implementation. Goal 2: Improve police personnel's access to crime information that meets their needs and enable them to make informed decisions. Objective: Officers will utilize the software and its analysis tools to build profiles of criminal activity within an area and use this information to form their response to future incidents within 6 months of full project implementation. Goal 3: Make more efficient use of limited resources to combat and ultimately reduce crime. Objective: Officers will use mapping and crime analysis software to pin-point areas of high crime, allowing them to concentrate their efforts in areas that need it most within 8 months of project implementation. Objective: Officers will use crime analysis to predict future-crime allowing them to be pro-active versus reactive, preventing crime before it occurs within 6 months of full project implementation. Objective: Supervisors will use the statistical geographic analysis feature of Crime Analysis to predict the likelihood of crime enabling them to schedule sufficient resources within 8 months of full project implementation. Implementation strategy and work plan Hopewell Police Department's current CAD/RMS system was purchased in 2004 through SunGard. The Mapping and Crime Analysis software will also be through SunGard in order to take full advantage of its capabilities and ensure 100% compatability. Formal quotes have already been obtained. Once the grant funds are awarded, the first step in project implementation will be entering into a contractual agreement with SunGard. Once there is a formal contract, SunGard will begin building the interfaces necessary to realize full system integration with the new software. Hopewell's Crime Analyst and GIS Coordinator will oversee this process and its sufficient progress, providing any material support necessary to realize strategy goals. This process will take from three to 6 months. Training of Hopewell's Crime Analyst, GIS Coordinator, and other selected personnel will take up to seven days. Full implementation for this project will be achieved in a total of seven months. SunGard provides 24-hour customer support services should any issues arise, guaranteeing maximum utilization of this software. Activities to be accomplished Successfully implementing this software will require multiple activities in order to achieve the desired results. Hopewell's Crime Analyst and GIS Coordinator will be responsible for overseeing the progress and ultimate completion of these activities. Activity 1: Work with SunGard to build Mapping and Crime Analysis software to specification and ensure data integrity. Hopewell personnel will engage in this activity to verify their satisfaction with product development and adherence to agreed timelines. Activity 2: Participate in the Product Go-Live. All selected personnel will work with SunGard on launching the Mapping and Crime Analysis software during the go-live. Activity 3: Selected personnel will train in the use of the new software and ensure sufficient comprehension of its utilization. Activity 4: Provide basic training for front-line officers, patrol supervisors, investigators, and

community police officers. Training on use of this software will be provided to the appropriate personnel to ensure the software is being fully utilized. Activity 5: Maintain strong communication with SunGard to resolve any issues and ensure full functionality of the software. The timeline of activities is attached. As a one time purchase, this software module will be bundled with the department's annual maintenance agreement with SunGard. Fees to fund the maintenance agreement are available as City of Hopewell General Fund dollars.

How will the equipment purchased will support future technologies for PSAP readiness?:
The Mapping and Crime Analysis software has the capability to process large amounts of data within a short time frame, providing valuable information to public safety decision makers on the front line. This feature fills a current recognized gap in E-911 capabilities. The software also has the ability to geo-verify addresses, automatically determining if it is the correct location to deploy resources. This drastically reduces the potential for delay and/or sending valuable resources to an incorrect address. The software can be interfaced with a diverse array of existing technologies and can be reasonably predicted to have the same interchange with future technologies.

Budget and Budget Narrative:
The expenses associated with the Mapping and Crime Analysis software are minimal considering the significant improvements in efficiency and resource utilization it will make possible. The total initial cost of this software will be $27,800. There will be reoccurring costs associated with annual product maintenance and licensing fees. The majority of cost is for the Crime Analysis module. This module will allow users to perform predictive crime analysis, identify high crime areas, pin-map events, and other statistical analytical functions. This module uses the same standard search method utilized in Hopewell's current RMS system, allowing users to quickly learn the software. First year maintenance costs for the RMS Map display and map maintenance will be $5,500. Initial Licensing fees for the RMS display and pin mapping license will be $6,000. Other expenses include an installation cost of $1,400 and project management fees of $1,200. Training on product use will be $1,200. The training will provide users in-depth education on how to properly use the software and allow them to fully utilize the software. Total first year costs will be $27,800. Reoccurring annual costs will be $3,840. Over a five year period, the total costs of this software will be $43,160.

Evaluation:
See attached evaluation chart.

Attachments

PSAP11TimelineHopewell.doc
PSAP2011Evaluation PlanHopewell.doc

HPD Mapping in RMS & Crime Analysis
PSAP 2011 Application
Timeline

Activities geared towards successful implementation of the Mapping and Crime Analysis software have already begun. Hopewell has completed conducting extensive research into available mapping products and has selected a vendor based on their product's compatibility with existing software, the quality of their product and user training, and their ability to provide long term customer support. Further activity will commence upon date of grant award. These activities are divided by quarter.

Period	Activity	Activity Manager
1st Quarter	Finalize Contract and product specifications	Kim Parson, Adm Svcs Mgr Karrie Toland, Crime Analyst
	Provide oversight and input during product development	Karrie Toland, Crime Analyst
	Implement software solution and "go-live"	Karrie Toland, Crime Analyst
2nd Quarter	Train necessary personnel to fully utilize software's capability	SunGard, Vendor Karrie Toland, Crime Analyst
	Monitor software's performance to ensure full functionality	Karrie Toland, Crime Analyst
	Monitor users' performance and remedy any problems internally or with the assistance of SunGard Support Staff	Karrie Toland, Crime Analyst
3rd Quarter	Continue monitoring software's performance and address any users' needs for additional training	Kim Parson, Adm Svcs Mgr Karrie Toland, Crime Analyst

HPD Mapping in RMS & Crime Analysis
PSAP 2011 Application
Evaluation Plan

Activity	Action Steps	Expected Outcomes	Measurements	Responsible Party
Purchase software.	Sign an agreement to purchase Mapping and Crime Analysis module.	Software is delivered as requested.	All terms and conditions of signed purchase agreement will be met.	Kim Parson, HPD
Oversee product development.	Maintain regular communication with SunGard and stay aware of progress.	Product will be completed according to pre-arranged timeline.	SunGard answers all questions on product development to Hopewell's satisfaction. Product is completed and full functional on the agreed go-live date.	Kim Parson, HPD Karrie Toland, HPD Hopewell GIS
Software installation.	Work with SunGard personnel to install software.	Software will be fully functional upon installation.	All procedures, analysis tools, and mapping features work as directed.	Kim Parson, HPD Karrie Toland, HPD Hopewell IS
Product Training	Engage in software training provided by	Users understand how to utilize the software	Users can effectively use all functions of the software and can	Kim Parson, HPD

	SunGard.	applications.	perform any analysis and mapping requested or needed.	Karrie Toland, HPD Hopewell IS
Operability Testing	Periodic review of software operability.	Software will perform as expected.	Software performs all analysis and mapping functions requested to the satisfaction of the user.	Kim Parson, HPD Karrie Toland, HPD Hopewell IS Hopewell GIS

PSAP Grant Program Grant Ranker

View Application--130--Lancaster County PSAP Telephone and E-911 Equipment Upgrade

Grant Period: 2011

Tier: Replacement of out of service wireless E-911 equipment to enable primary PSAP to maintain current service levels to the general public (**OUT OF SERVICE**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: CPE (**CPE**)

Primary PSAP Applicants:	Lancaster County
Jurisdictions Served:	Lancaster, County of

Project Director:
Glenn D. Rowe
Director of Information Technology
8311 Mary Ball Rd
804-462-5129 (phone)
804-462-0031 (fax)
growe@lancova.com

Project Description:

Total Project Cost	$150,000.00
Amount Requested:	$150,000.00

Statement of Need:
This project involves replacement of equipment which is essential to the operation of an E-911 call center and as such is identified as a major funding priority under the continuity and consolidation program. The primary operational need is to replace equipment which has become obsolete and is no longer supported by our equipment vendor. The current system is being held together with parts not available through normal or appropriate support channels. Funds to replace this system are not available within the current budget, nor is it likely that funds could be approved for the next budget cycle without significant negative consequences to local tax payers.

Comprehensive Project Description:
Lancaster County is seeking to purchase an E-911 system/digital PBX. The primary objective is to replace obsolete equipment and avoid any possibility of long term E-911 service disruptions. Secondary objectives include seamless integration with existing radio equipment and mapping and CAD software, addressing the problem of rising call volume and placing the Lancaster PSAP in a better starting position for a transition to future technologies. This purchase is one component of a dispatch center upgrade which will eventually include reconfiguring the existing space to accommodate the current two call taker positions and adding a supervisor position that could be used as a third call taker position if necessary. The steps required to complete this project from the county's perspective include drafting a set of detailed specifications,

advertising for proposals, awarding a contract to perform the work, equipment ordering and installation (obviously the responsibility of the equipment vendor), accepting the work once the system is installed and tested and dispatcher and supervisor training. We expect the total start-to-finish project time frame to span five to six months. The current telephone/E-911 system has been in place at least since the county cut over to E-911 in July 1998. It is possible that some components have been around longer. It is hoped that the new system, with its emphasis on support for new technologies, will remain functional for at least that amount of time or will prove to be a suitable bridge to the next generation of E-911 technology.

How will the equipment purchased will support future technologies for PSAP readiness?:
The system to be purchased will accommodate additional call taker positions (should the opportunity arise to physically enlarge the current dispatch center). It is also anticipated that the system will accommodate emerging technologies such as IP telephony and facilitate the migration away from the traditional handset/headset telephone system in favor of the more flexible and feature-rich PC-like telephone interface. Additional enhanced capabilities such as long-term storage of detailed call data (and, of course the ability to retrieve said call data) and the ability to handle non-emergency, administrative calls and functions (a necessary evil in a small jurisdiction such as Lancaster County) will also be realized.

Budget and Budget Narrative:
Digital PBX Telephone system for 2 dispatch positions and supervisor position to include E-911 and administrative call processing, equipment and software installation and training - $150,000 according to an estimate provided by Radio Communications of Virginia. This estimate was provided on the assumption that the vendor selected by the county would perform all work necessary to complete the project on a turnkey basis. Therefore, it is not possible to provide a detailed line item breakdown at this time.

Evaluation:
The success of the project will be measured entirely by how the equipment replacement helps Lancaster County achieved its previously stated goals, especially those of avoiding system downtime and meeting the demands of rising call volumes.

Attachments

PSAP Grant Program Grant Ranker

View Application--131--Data Manipulation

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: GIS: high priority (refer to GIS-related Grant Request Prioritization Matrix for a description of GIS projects that would have a high funding priority) (**GIS HIGH PRIORITY**)

Primary PSAP Applicants:	Scott County
Jurisdictions Served:	Clinchport, Town of Duffield, Town of Dungannon, Town of Gate City, Town of Scott, County of Nickelsville, Town of Weber City, Town of

Project Director:
Tim Addington
9-1-1 Director
PO Box 395
276-386-7220 (phone)
276-386-9098 (fax)
taddington@scottcountyva.com

Project Description:

Total Project Cost	$33,893.00
Amount Requested:	$33,893.00

Statement of Need:
Scott County 9-1-1 is in need of funding to maintain our level of service to the Wireless, Wireline 9-1-1 and VOIP community. Our recent budget was cut this current fiscal year so drastically that all capital expenditures were not budgeted. Our current addressing tools are shutting down and reporting errors randomly. By not receiving funding potential disruption to the minimal components of a PSAP could suffer drastically by incorrectly or delaying the addressing of structures.

Comprehensive Project Description:
The project goal and objective is to continue our current level of operations by replacing the key components of our addressing tools and GPS unit. July 1-2010 begin purchase Sept 15 -2010 begin use of equipment and close out Project to be maintained for the life expectancy of the equipment

How will the equipment purchased will support future technologies for PSAP readiness?:
The equipment purchased will be state of the art and in compliance with the latest NENA standards and prepare the center to adjust to upcoming technologies while maintaining current level of services. The addressing tools and related GPS will provide for submeter accuracy in addressing.

Budget and Budget Narrative:

Please see attached Budgetary Quote The quote attached reflects the components that are necessary for the upgrade and continuity of services for the 9-1-1 addressing. Each item requested are intregal components to effectively assign and maintain addresses.

Evaluation:

The evaluation will be conducted by the successful acquisition and implementation of equipment and services acquired. Evaluation of each individual component will include testing and operation to insure the continuity of services.

Attachments

A&A tool letter.doc
Scott Co VA E9-1-1 GIS Data Management.pdf

SCOTT COUNTY E9-1-1

TIM ADDINGTON, DIRECTOR
P. O. BOX 395
GATE CITY, VA 24251
PHONE: 276-386-7220
FAX: 276-386-9098

Date: April 19, 2013

To: Tim Addington

Tim,

I wanted to fill you in on the status of the addressing tool I currently use in ArcMap. As you know it was developed for us by Anderson & Associates before I came on at Scott County E9-1-1. It was developed to use within ArcView version 8. We are currently running version 9.3.1.

In the past 8 months, the addressing tool has been experiencing some glitches and will report errors randomly and become non-operational. A full reboot will sometimes solve the problem, or renaming the ArcMap project will help in some instances. It's very unpredictable.

I wouldn't be so concerned if Anderson & Associates were still in business in our area. The program code could probably be fixed if the developers employed by Anderson could be reached.

Sincerely,
Levi Coldiron
GIS Technician

GeoComm

been there.

Scott County Virginia

E9-1-1 GIS Data Management

December 15, 2009

Public Safety Consulting, GIS, and Software
www.geo-comm.com

Main: 320.240.0040 Fax: 320.240.2389 Toll-free: 888.436.2666
601 West St. Germain Street St. Cloud, MN 56301

Budgetary Pricing

GeoLynx DMS E9-1-1 GIS Data Management

Description	Qty	Price/Unit	Total Price
GeoLynx DMS GIS Data Manager	1	$6,995	$6,995
GeoLynx DMS GIS Data Manager Software Support and Maintenance (Year One)			$1,400
GeoLynx DMS GIS Data Manager Software Support and Maintenance (Year Two)			$1,400
GeoLynx DMS GIS Data Manager Software Support and Maintenance (Year Three)			$1,470
GeoLynx DMS GIS Data Manager Software Support and Maintenance (Year Four)			$1,544
GeoLynx DMS GIS Data Manager Software Support and Maintenance (Year Five)			$1,621
GeoLynx DMS MSAG Manager	1	$2,500	$2,500
GeoLynx DMS MSAG Manager Software Support and Maintenance (Year One)			$500
GeoLynx DMS MSAG Manager Software Support and Maintenance (Year Two)			$500
GeoLynx DMS MSAG Manager Software Support and Maintenance (Year Three)			$525
GeoLynx DMS MSAG Manager Software Support and Maintenance (Year Four)			$551
GeoLynx DMS MSAG Manager Software Support and Maintenance (Year Five)			$579
GeoLynx DMS Mobile GIS Data Manager(subfoot accuracy GeoXH)	1	$7,600	$7,600
GeoLynx DMS Mobile GIS Data Manager Software Support and Maintenance (Year One)			$200
GeoLynx DMS Mobile GIS Data Manager Software Support and Maintenance (Year Two)			$200
GeoLynx DMS Mobile GIS Data Manager Software Support and Maintenance (Year Three)			$210
GeoLynx DMS Mobile GIS Data Manager Software Support and Maintenance (Year Four)			$221
GeoLynx DMS Mobile GIS Data Manager Software Support and Maintenance (Year Five)			$232
Training			$3,650
Custom Field Collection Form	1		included
GPS Analyst for ArcGIS Desktop	1	$1,995	$1,995
		GeoLynx DMS Total:	**$33,893**

Notes: Interface fees, if applicable, are not included in this total.

This fee includes all travel and associated costs and should be considered firm.

Software support and maintenance services shall commence 90 days after software installation and continue for one year.

Typical software implementation turnaround is 90 days. A finalized project schedule will be determined at the start of the project.

All GeoLynx DMS modules are single use licenses. One license is needed per workstation.

Scott County must purchase or own ArcGIS 9.3 or greater (ArcView, ArcEditor, or ArcInfo are all compatible) as a required component for each license of GeoLynx DMS. ArcGIS 9.3 or greater must be installed on the GeoLynx DMS user computer(s). GeoLynx DMS is deployed within ArcGIS.

GeoLynx DMS users must have, at a minimum, a basic knowledge of ESRI and ArcGIS 9.3 or greater.

A GPS antenna will be supplied with the purchase of the Mobile GIS Data Manager component at no charge. GeoComm does not provide software support and maintenance of the GPS antenna but the contact information of the manufacturer will be provided.

Support for GeoLynx DMS, related to any technical concerns, system upgrades, and version releases is covered under a formal Software Support and Maintenance agreement. Concerns or questions specifically related to GIS can be answered by a GeoComm GIS Specialist, but will be billed at a rate of $95 per hour with a minimum billable charge of one hour.

To purchase GeoLynx DMS Mobile GIS Data Manager without the base GeoLynx DMS components, Customer must also contract with GeoComm for map data maintenance services as outlined in Section 2 GIS Services.

Included in the cost of GeoLynx DMS Mobile GIS Data Manager is 12 months of software support for the ArcPad software from ESRI and a 12-month warranty on the GPS hardware from Trimble. After 12 months Customer will be responsible for contracting with ESRI and Trimble for additional software support and hardware warranty. GeoComm does not provide support or maintenance for any of the software and hardware provided by ESRI and Trimble.

Four additional years of software support and maintenance has been proposed for GeoLynx DMS. The cost of software support and maintenance increases by only five percent following the second year if it is paid over the life of the contract. The costs will decrease if software support and maintenance, for all five years, is paid upfront at contract signing.

PSAP Grant Program Grant Ranker

View Application--132--Portsmouth POlice Communications Wireless Headsets

Grant Period: 2011

Tier: Replacement of out of service wireless E-911 equipment to enable primary PSAP to maintain current service levels to the general public (**OUT OF SERVICE**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: Other (**OTHER**)

Primary PSAP Applicants: Portsmouth Police Communications

Jurisdictions Served: Portsmouth, City of

Project Director:
Chris Patterson
PSAP Manager
307 County Street Suite 210
757-718-2525 (phone)
757-393-3226 (fax)
pattersonc@portsmouthva.gov

Project Description:

Total Project Cost $25,152.00
Amount Requested: $25,152.00

Statement of Need:
The Portsmouth Police Communications Units currently use wireless headsets to answer all incoming wireless calls to the Communication Center. We currently use headsets that are no longer manufactured and are now unavailable. We are forced to buy the new headset which are more expensive than the previous headset. Call One is the only vendor providing the headset that is compatible with our phone and CAD system. The headsets that is now compatible with our phone system is the CA12CD with remote base. The new headset will allow us to continue to answers all incoming wireless calls for service and give the dispatcher the ability to continue to have mobility as they multi-task in their daily job operations.

Comprehensive Project Description:
The headsets could be put into place right away and implemented into our center. Minimum training would be required to implement the new headsets.

How will the equipment purchased will support future technologies for PSAP readiness?:
The wireless headets are compatible with the majority of CADS and phone systems and new New Gen technology.

Budget and Budget Narrative:

see attachment

Evaluation:
Headsets will be evaluted on performance and clarity of reception.

Attachments

Wireless Headset Quote.xls

Equipment Proposal

Call One, Inc.

E:Mail: hbm@calloneonline.com

Toll Free # **800/749-3160 ext. 128**

#1 Source for OCS Endpoints

400 Imperial Blvd., Cape Canaveral, FL 32920

Customer ID# **11713**

Proposal Date: 24-Nov-09

Quote No. 1124-1406

CUSTOMER: **City of Portsmouth**
601 Crawford Street
Portsmouth, VA 27304

Fed. ID **59-2866791**

Tele:

Fax:

Attention: **KEITH FREAS**

Salesman **Herb McMahan**

TERMS: ☐ Credit Card ☑ Terms 30 ☐ COD ☐ Cash

Qty.	Part Number	Model	DESCRIPTION	$ Mkt Cost	$ Cost/Unit	$ Ext Price
48	P2-CA12/CD	CA12CD	**Plantronics Wireless Base**	$ 590.00	**$ 350.00**	$ 16,800.00
32	P3-90224-01	REMOTE	**Plantronics Pistol Grip Remote/CA12CD**	$ 270.00	**$ 155.20**	$ 4,966.40
64	P3-90225-01	BATTERY	**Replacement Battery for CA12/CD**	49.95	**28.75**	$ 1,840.00
32	P1-H-141	DUOSET	**Plantronics DuoSet Combo Headset Top**	84.00	**48.30**	1,545.60
			Accessories			

	Yes	No
Rush!	☐	☐
UPS Ground:	☑	☐
UPS Blue:	☐	☐
UPS Red:	☐	☐
Fedx Standard:	☐	☐
Fed-X Overnight:	☐	☐
Install	☐	☑

Install Fee: included

Special Concerns Instructions:

TOTAL EQUIPMENT:	**$ 25,152.00**
Sales Tax @	NA
Shipping:	NO CHARGE
Program Fee:	
License Fee:	
Installation Fee:	
Other Fee:	
SUB TOTAL	**25,152.00**
TOTAL AMOUNT DUE:	**$ 25,152.00**

Proposal Valid For: 30 days If Lease: _____ per month for _____ Years

Terms: C.O.D. ○

Terms: Net 15 Days ◉

PSAP Grant Program Grant Ranker

View Application--133--CPE Upgrade

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: CPE (**CPE**)

Primary PSAP Applicants:	Scott County
Jurisdictions Served:	Clinchport, Town of Duffield, Town of Dungannon, Town of Gate City, Town of Scott, County of Nickelsville, Town of Weber City, Town of

Project Director:
Tim Addington
9-1-1 Director
PO Box 395
276-386-7220 (phone)
276-386-9098 (fax)
taddington@scottcountyva.com

Project Description:

Total Project Cost	$120,215.00
Amount Requested:	$120,215.00

Statement of Need:
Scott County 9-1-1 is in need of funding to maintain our level of service to the Wireless, Wireline 9-1-1 and VOIP community. Our recent budget was cut this current fiscal year so drastically that all capital expenditures were not budgeted. Our current computers and related equipment for the CPE is 5 years old and we have been replacing monitors and increasing service calls. By not receiving funding potential disruption to the minimal components of a PSAP could suffer drastically.

Comprehensive Project Description:
The project goal and objective is to continue our current level of operations by replacing key components of our 9-1-1 CPE. This will be the replacement of components that are exceeding their useful life cycle and upgrading to the latest version of our CPE. Upon notification of grant award the procurrement process will begin. July - August acquisition and installation of equipment will begin. January 2011 - closeout of grant. This hardware refresh will keep Scott County 9-1-1 operational and in order to develop CIP for NextGen to be implemented when it is standardized.

How will the equipment purchased will support future technologies for PSAP readiness?:
The equipment purchased will be state of the art and in compliance with the latest NENA standards and prepare the center to adjust to upcoming technologies while maintaining current level of services. The main CPE (CML RescueStar) will not be replaced but maintained in preparation for NextGEN standards to be

developed.

Budget and Budget Narrative:
Please see attached Embarq Budgetary Quote The quote attached reflects the components that are necessary for the upgrade and continuity of services for the 9-1-1 telephony equipment. The estimate is based upon the LEC's determination of the upgrades and relacement items that will be technically outdated.

Evaluation:
The evaluation will be conducted by the successful acquisition and implementation of equipment and services acquired. Evaluation of each individual component will include testing and operation to insure the continuity of services.

Attachments

Scott County VA 911 computers outdated letter 121709.doc
Scott County VA BUDGETARY RescueSTAR upgrade and equip replacement quote121609.pdf

EMBARQ

Customer Legal Name: -

Customer Billing Name: Scott County 911

-

-

Valid Until **February 14, 2010**

Description of Work to be Performed:

BUDGETARY PRICING- RescueSTAR upgrade with new computers.

-

** Computers need to be replaced before Aug. 2010 due age and the expiration of factory support.

** If computers are not replaced, CenturyLink can no longer offer a Centurion Maintenance agreement on them.

Equipment pricing shown is based upon direct sale.

Description	Quantity		
RescueSTAR Upgrades -System Software	-		
R5.8.1 UPGRADE PACK	1		
REL 5.10 UPG V581	1		
ECS RELEASE 5.11 UPG	1		
SPT FIRMWARE 5 YR RSTAR	1		
SEALI	-		
SEALI 2.2.0 UPGRADE KIT	1		
WKST INTG HP XW4600 XP	2		
GENERIC WORKSTATION FEE	2		
RescueStar SMART Workstation	-		
WKST INTG HP XW4600 XP	1		
GENERIC WORKSTATION FEE	1		
Sentinel RescueSTAR Workstations	-		
WKST INTG HP XW4600 XP	4		
4-CHANNEL, PCI SOUND CARD	4		
CBL DELTA44 NORSTAR	4		
GENERIC WORKSTATION FEE	4		
CPR/SYSPREP IMAGING	1		
SENTINEL 5.X SPT 5 YR	4		
Sentinel IRR	-		
IRR MAINT REL NO CHRG	4		
SENTINEL IRR SPT 5 YR	4		
RescueStar Sentinel STATS	-		
SENTINEL STATS 3.4.4 UPG	1		
WKST INTG HP XW4600 XP	1		
GENERIC WORKSTATION FEE	1		
STATS SPT DATAC 5YR	4		
Sentinel CommandPOST	-		
SENTINEL CPOST HARDWARE	1		
GENERIC WORKSTATION FEE	1		
SEN REL 5.2 UPG	1		
SENTINEL 5.X SPT 5 YR	1		
STATS SPT DATAC 5YR	1		
Misc. Equipment	-		
1928L INTELLITOUCH MONITOR	4		
19IN BLACK 360 DEGREE SWIVEL LCD	2		
4PORT USB SOHO KVM SWITCH	1		
-	-		
misc. materials; wire, blocks, equipment	1		
-	-		
Workstation Extended Warranty	-		
WAR 5YR 24X7 XW4300/44/46	8		
CPOST 6910/6930 WARR 5YR	1		
-	-		
RescueSTAR Upgrade B:6.0	1		
-	-		
TOTAL PRICE			**$ 120,215.27**

Prices do not include charges for taxes, duties, tariffs, telecommunication services, or professional services such as Centurion Maintenance or Managed Network Services.

CenturyLink™ Business | IP Delivers a higher standard of Information Productivity

Attn: Scott County, VA 911 (Tim Addington)
12-17-09

Scott County, VA 911 centers computers need to be replaced before Aug. 2010 due age and the expiration of factory support. If the computers are not replaced, CenturyLink can no longer offer a Centurion Maintenance agreement on them. If you have other questions, please feel free to contact me.

Dale Whaley
Public Safety Account Executive
423-989-2262
dennis.whaley@centurylink.com
Centurylink

PSAP Grant Program Grant Ranker

View Application--134--CAD Server Replacement

Grant Period: 2011

Tier: Replacement of technically outdated wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**TECHNICALLY OUTDATED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: PSAP Recruitment Programs (**PSAP**)

Primary PSAP Applicants:	Warrenton - Fauquier Joint Communications Center
Jurisdictions Served:	Fauquier, County of

Project Director:
Micah Meadows
Captain
78 West Lee St., Ste.102
540-349-2276 (phone)
540-347-6886 (fax)
micah.meadows@fauquiercounty.gov

Project Description:

Total Project Cost	$79,000.00
Amount Requested:	$79,000.00

Statement of Need:
The replacement of the CAD server will alleviate the issues of speed and data storage that we currently have. When the current CAD server was specified the data storage needs were underestimated. This lack of storage will often cause the CAD server to freeze up and disconnect current users.

Comprehensive Project Description:
The objective is to replace the current outdated CAD server with a updated one that can handle the information load and speed needed to keep the 911 Center running to its fullest potential. This project will be completed within nine months of receiving grant funding. The server should not need to be replaced for four years.

How will the equipment purchased will support future technologies for PSAP readiness?:
This CAD server will allow the PSAP to maintain current service levels by allowing future entry and access of information while maintaining the current speed of the system.

Budget and Budget Narrative:
CAD Server: $61,698.97 to replace outdated server Annual Maint (1st year): $9,885.06 to pay for maintenance 10%: $7,158.40 Approximately 10% extra to accommodate purchase of newer model if

available and any work that OSSI will have to do to implement the server. The quote attached has been provided by the vendor for budgetary purposes.

Evaluation:
Due to the type of equipment being replaced no evalutation will be needed.

Attachments

CAD Server Quote.pdf

SUNGARD
PUBLIC SECTOR

Date	Quote	[illegible]
8/09	KOBBQ2632	Keirn

Quote Prepared For:

Fauquier County, VA
June Loving
78 West Lee Street
Warrenton, VA 20186
Phone: 540-349-2254
Fax: 540-349-2295

[illegible]	[illegible]	Product Description	[illegible]	[illegible]	[illegible]

PUBLIC SECTOR
OSSI

PUBLIC SECTOR
OSSI

PSAP Grant Program Grant Ranker

View Application--135--City of Hampton CAD Workstation Replacement

Grant Period: 2011

Tier: Replacement of non-vendor supported wireless E-911 equipment or service to enable primary PSAP to maintain current service levels to the general public (**NON-VENDOR SUPPORTED**)
Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP
Priority: Computer-Aided Dispatch (**CAD**)

Primary PSAP Applicants: Hampton Police Communications

Jurisdictions Served: Hampton, City of

Project Director:
Curt Shaffer
Emergency Communications Director
City of Hampton Emergency Communications
757-727-6067 (phone)
757-727-6030 (fax)
cshaffer@hampton.gov

Project Description:

Total Project Cost $70,000.00
Amount Requested: $70,000.00

Statement of Need:
This project is eligible under the Virginia Wireless E-911 Grant Guidelines, Appendix C, Priority 15 CAD. This technology refreshment is required as current computer workstations are no longer vendor supported, under warranty. These were purchased in August 2004 and last upgraded in 2005. Replacement parts and replacement hard drives are no longer available for these machines. This proposal is related to an overall technology upgrade in the City of Hampton that includes a new P25 Radio System and a new 911 telephone system that will position Hampton for Next Gen 911 service. New CAD workstations are needed to provide a solid platform of new equipment for phone, radio, and dispatch supporting 911 mission critical networks and preparing Hampton for NG 9-1-1. Local appropriations are not sufficient to procure this equipment. Without this capability, Hampton will be exposed to risk of significant equipment failure on our CAD platform.

Comprehensive Project Description:
The City of Hampton proposes to acquire 14 high performance CAD workstations with required workstation software to support 12 CAD consoles in 911 and 2 CAD console in the Police Division. Additonally, 6 normal performance computers are required for 911 administrative staff and EOC operations. The final component of this request is for 5 additional CAD software licenses (2 for Police Information, 3 for CAD Training Workstations). This proposal supports our strategic plan and strategic goal to ensure 911 systems are in

continual state of mission readiness. Implementation strategy: Upon approval and acceptance of grant, issue purchase order for equipment, receive equipment, install and configure. Work plan will be to deploy this technology during fouth quarter of FY2011 (April-June 2012) with new E911 phone system. The project duration is expected to be no more than 6 months from award to implementation. 5 year warranty included.

How will the equipment purchased will support future technologies for PSAP readiness?:
A stable technology platform is required to ensure the ever changing software applications are matched with current computer platforms. These workstations are need to ensure network access to present and future network based PSAP technologies connected to any of the mission critical networks supporting 911.

Budget and Budget Narrative:
Pursuant to State Contract pricing, the high performance CAD 911 workstations with associated software is approximately $2,500 per workstation (qty 14) or a total of $35,000. State Contract pricing for the regular performance computers (qty 6) is approximately $1,800 each for a total of $10,800. OSSI CAD licensing is $4,500 per license (qty 5) for a total of $22,500. Computer equipment subtotal is $45,800. CAD software licensing is $22,500. Installation and setup contingency costs are estimated at $1,700. Total budget request is $70,000.

Evaluation:
Evaluation: Hampton will achieve reliable, consistent workstation performance across the 3 mission critical networks.

Attachments