Federal Engineering, Inc.
10560 Arrowhead Drive, Suite 100
Fairfax, VA 22030
703-359-8200

Issued: July 19, 2021

ATTACHMENT TO
CONTRACT FC 62-14 smc
Engineering & Consulting Services
800 MHz Public Safety Radio System Upgrade
Dated: October 10, 2014
Amendment 1: September 22, 2020

AMENDMENT NUMBER 2

1. By way of Amendment 2, the counties of Culpeper, Fauquier, and Rappahannock desire to exercise the first of three extensions to extend Contract FC 62-14 smc with Federal Engineering, Inc. (*FE*) one calendar year.

2. The amended period of performance of the Contract is extended from September 1, 2021 through August 31, 2022.

3. All other terms and conditions remain the same and in full force.

FEDERAL ENGINEERING, INC.	CULPEPER COUNTY, VA
By: John E Murray	By:
(Signature)	*(Signature)*
John E. Murray	Alan H. Culpeper
(Print Name)	*(Print Name)*
Executive Vice President	Director of Procurement
(Title)	*(Title)*
	8/25/2021
(Date)	*(Date)*

FAUQUIER COUNTY, VA

By: Kathy Stanley
(Signature)

Kathy Stanley
(Print Name)

Interim Procurement Manager
(Title)

July 20. 2021
(Date)

RAPPAHANNOCK COUNTY, VA

By: [illegible]
(Signature)

Garrey W. Curry, Jr.
(Print Name)

County Administrator
(Title)

7/20/2021
(Date)

Federal Engineering, Inc.
10560 Arrowhead Drive
Fairfax, VA 22030
703-359-8200

Issued: September 22, 2020

ATTACHMENT TO:
CONTRACT: FC 62-14smc
Engineering & Consulting Services
800 MHz Public Safety Radio System Upgrade
Dated: October 10, 2014

AMENDMENT NUMBER 1

1. In accordance with the contract term provision within Contract FC 62-14smc between Culpeper, Fauquier, and Rappahannock counties, political subdivisions of the Commonwealth of Virginia and Federal Engineering, *the initial contract term shall be for the duration of all phases of the final upgrade project, with the option to continue this contract for one year from the time of initial completion, and thereafter, three (3) additional one-year periods by mutual agreement by both parties.*

2. By way of Amendment 1, the parties agree that the time of initial completion is August 31, 2020 and agree to exercise the first of the additional one-year contract extensions, from September 1, 2020 through August 31, 2021.

3. By way of Amendment 1, the parties agree to attach Exhibit 1, *Statement of Services*, to the Contract to allow the counties to engage Federal Engineering to provide on-call consulting services during the contract term.

4. By way of Amendment 1, the parties agree to attach Schedule A, *Long-Term Consulting Rates*, which govern the labor categories and rates Federal Engineering will provide on-call consulting services to counties during the contract term.

FEDERAL ENGINEERING, INC.

By: _____
(Signature)

John E. Murray
(Print Name)

Executive Vice President
(Title)

September 22, 2020
(Date)

CULPEPER COUNTY, VA

By: _____
(Signature)

Allen H. Culpeper
(Print Name)

Dir. of Procurement/Communications
(Title)

23SEP20
(Date)

FAUQUIER COUNTY, VA

By: Susan R. Monaco
(Signature)

Susan R. Monaco
(Print Name)

Fauquier Procurement Manager
(Title)

9/23/2020
(Date)

RAPPAHANNOCK COUNTY, VA

By: _____
(Signature)

Garrey W. Curry, Jr.
(Print Name)

County Administrator
(Title)

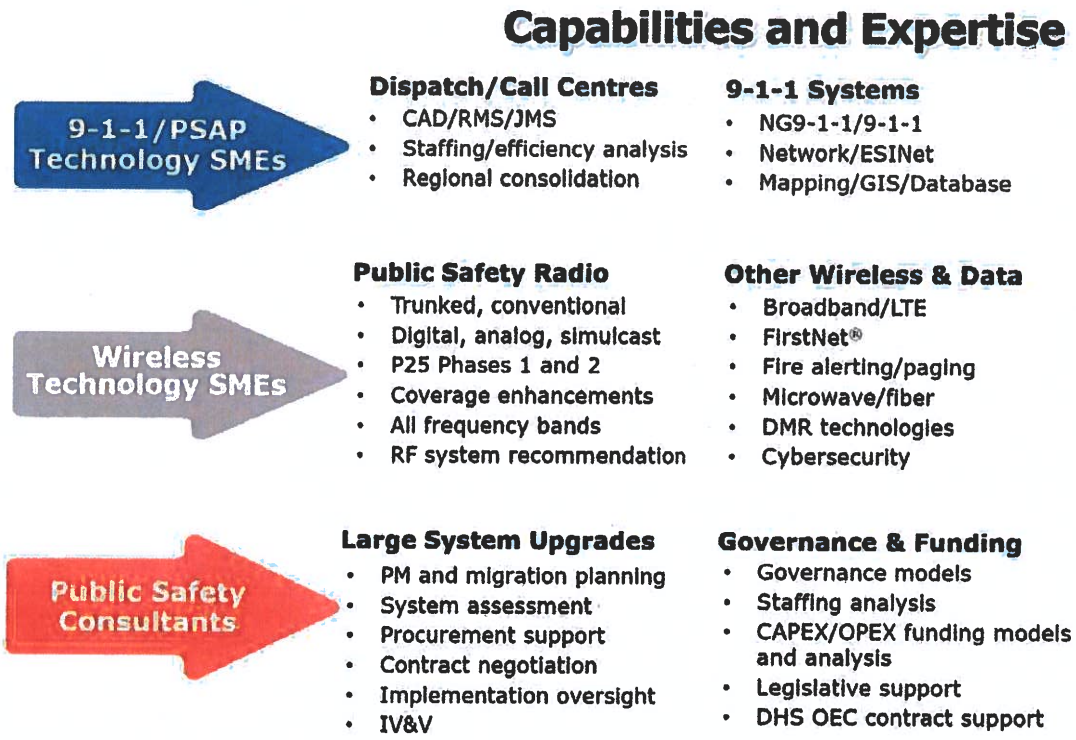
9/23/2020
(Date)

EXHIBIT 1 – STATEMENT OF SERVICES

CULPEPER, FAUQUIER, RAPAHANNOCK COUNTIES

1 SERVICES DESCRIPTION AND BACKGROUND

This statement of services provides a framework for the counties of Culpeper, Fauquier, and Rappahannock (counties) to request ad-hoc, short-term consulting assignments from ***FE*** in any of the service areas provided by ***FE***. This statement of services provides the counties with the mechanism to direct ***FE*** consulting efforts in an orderly fashion while maintaining control and visibility of associated efforts and costs. Upon request of services outlined below, ***FE's*** project manager will work with the requesting agent(s) of the counties to define a specific task order for provision of the services. By way of this statement of services, the counties can continue to rely upon ***FE*** for your consulting needs in P25 land mobile radio (LMR), FirstNet®, Next-Generation 9-1-1 (NG9-1-1), computer aided dispatch (CAD), records management systems (RMS), mobile data, emergency communications centers operations and efficiency studies, governance and funding methodologies, as well as broadband and other emerging long-term evolution (LTE) communications, as highlighted below.



2 CONSULTING SERVICES AVAILABLE FROM FEDERAL ENGINEERING

Within the consulting services outlined herein, ***FE*** may provide support in areas such as strategic planning, needs assessment, operations, design, engineering, administration, procurement, implementation oversight, and staff augmentation for public safety, public works, and local government agencies. The counties may request assignments and development of a subsequent task orders for any of these services.

2.1 P25 Public Safety Radio Systems and LTE/Broadband/FirstNet Applications

FE has extensive experience assisting clients and jurisdictions of all sizes with their voice and data radio communications systems, especially upgrading or replacing legacy LMR equipment and helping clients migrate from conventional systems to digital P25 platforms. Our expertise addresses fixed network equipment, subscriber equipment, radio dispatch console system, paging and fire station alerting systems, in-building coverage enhancement systems, and microwave radio transport networks.

Services include assessment of user needs for radio communications, site surveys and inventory, tower assessments, coverage analysis using our proven ***FEPerformancePro***™ software toolset, analysis of feasible solutions and configurations, conceptual design, development of specifications for procurement, procurement support, contract negotiations, and oversight of system implementation. ***FE's*** experts offer insights on evolving broadband/long-term evolution solutions, including FirstNet® and its evolving capabilities to support mission critical data.

2.2 ECC/PSAP Technology Systems and Facilities

FE has extensive experience assisting emergency communications centers (ECC) and public safety answering points (PSAP) to assess, upgrade and implement their public safety technology systems. Our expertise addresses:

- CAD solutions
- Records management systems (RMS)
- Jail management systems (JMS)
- Automatic vehicle location (AVL)
- 9-1-1 customer premise equipment (CPE)
- NG9-1-1 networks
- Mobile data communications (MDC)/in-vehicle systems
- Geographic information systems (GIS)/mapping systems
- Logging systems

Services also include development of data-sharing and governance agreements, continuity of operations plans, 9-1-1 circuit audits, and consulting services including:

- Assessment of user needs
- Analysis of operations and business processes
- Requirements identification and workshops
- Evaluation of feasible technologies - hosted versus cloud-based solutions
- Development of specifications
- Procurement support
- Contract negotiations
- Oversight of system installation and cutover

With our staff's backgrounds in PSAP and emergency management operations, technology, and facilities, ***FE*** subject matter experts have a unique understanding of the complexities and challenges presented by mission-critical facilities that are relied upon 24/7. Working hand-in-hand with your architectural partner, we offer facility assessments, programming, and transition planning for the design and start-up of a new or renovated emergency communications facility, including hardware, console furniture, equipment layout, and interior layout to enhance ergonomics and functional workflow in a modern ECC physical space.

2.3 ECC/PSAP Efficiency Studies or Consolidation Feasibility Studies

FE provides efficiency studies and business process reviews for public safety organizations. Relying heavily on best practices, our experts assess existing business practices and provide recommendations to help our client achieve more efficient operations. Depending on your specific needs, the goals of an ***FE*** efficiency study may range from human resources practices, staffing, leadership and management structures, policies and procedures, governance and funding models, and change management. Our experts have considerable experience assessing the normal flow of operations and determining how clients can best utilize your automated support resources.

FE also provides studies, planning, and implementation support for ECC/PSAP and dispatch center operational assessments, technology and facility assessments, consolidation/regionalization feasibility studies, and consolidation planning and implementation assistance. We understand the difficulty and sensitivity when assisting clients to examine the potential for consolidating or regionalizing your emergency communications services. This is especially relevant when conducting feasibility studies when various stakeholders must consider the possibility of significant changes that can result when emergency communications activities are consolidated and different governance, funding, staffing, management, administrative, and service delivery approaches are adopted.

With the complex diversification of emergency services, jurisdictional needs, and the rising costs to support technology and facilities, the issues raised by emergency communications consolidation or regionalization are both complex and appealing, particularly to those striving for better service and coordination of effort, operational consistency, increased interoperability, and cost economies in delivering public safety services. ***FE*** understands the range of "alternatives" available to agencies or jurisdictions considering a consolidation of emergency communications. Our experts work with clients to identify the feasible alternatives, discuss the advantages and disadvantages of each, and help you achieve consensus on the best alternative for your situation.

2.4 Next-Generation 9-1-1 Strategic Planning and ESInet Designs

FE provides a variety of services that build the foundation for an Internet protocol (IP)-based NG9-1-1 solution, from developing long-term strategic plans, needs assessments to examine the current environment in affected PSAPs and identify requirements, conceptual designs to define ESInet connectivity, working with PSAPs to identify requirements for equipment upgrades, developing specifications and RFPs for both the ESInet and the CPE, procurement assistance and vendor evaluations, and transition planning for migration to the NG9-1-1 network. During a CPE assessment, our experts examine your CPE and analyze bandwidth

requirements, policies, network resources, and equipment characteristics. This forms the foundation of a CPE strategy, which is supplemented with a report that identifies the existing conditions while noting areas that may be improved to meet long-term network goals.

ECCs/PSAPs are particularly challenged as they strive to meet the constantly evolving 9-1-1 industry standards of service and implement new NG9-1-1 technologies. Plans to implement NG9-1-1 system technologies increase the requirement for government agencies to examine possible efficiencies and economies of scale to maintain and improve the services provided by PSAPs and dispatch organizations.

2.5 Physical and Cybersecurity Solutions, including Real-time Crime Centers

FE offers a unique, single source of integrated services to address both physical security and cybersecurity issues for public safety clients. Public safety and 9-1-1 facilities must be among the securest of our nation's facilities since they are high-risk locations. ***FE's*** security services include conducting a vulnerability assessment at an ECC, assessing and recommending systems to enhance security (security cameras, access control, alarm systems), preparing design, requirements, and specifications for an integrated real-time crime center/video wall, and providing a comprehensive cybersecurity assessment and penetration testing. In addition, ***FE*** has worked with many clients as their consultant to design and specify either wired or wireless backhaul networks to support applications such as video surveillance to accommodate deployment of cameras in broad geographic locations across a city.

During an ***FE*** security assessment, our experts identify and evaluate security issues and risks, identify strengths and weaknesses of our client's security posture, conduct real-world attack scenarios to test the organization's people, processes, and technologies. ***FE*** will identify areas of weakness and develop an improvement plan, then attempt to again gain unauthenticated access to confirm the effectiveness of implemented preventative measures.

2.6 Public Access Broadband Services, Rural Broadband Services and "SmartCity" Solutions (Wireless and Fiber)

For those considering the need and benefits associated with offering public access broadband services or rural broadband for their communities and to support mission critical applications for first responders, ***FE*** provides technical, operational, and regulatory expertise. Our experts perform broadband "SmartCity" design support services, working closely with partners to determine the best applications of a "last mile" wireless solutions versus a fiber build. We work collaboratively with our clients and partners to determine the appropriate technologies and network models and develop specifications to support municipal-wide network deployments.

2.7 Wireless Backhaul Solutions

FE has extensive microwave and wireless backhaul expertise. Practically every one of our public safety communications projects includes microwave backhaul planning, design, procurement, and/or implementation. Public safety radio system backhaul systems are no longer simply "radio systems"; they must be considered as complex IT networks. With this comes technologies typically associated with wireline and/or wireless carrier networks such as multi-protocol label switching (MPLS), SONET, and others.

FE assesses the condition, age, utility, reusability, capacity, and ownership of existing microwave network sites and associated equipment. We assess the reliability of network equipment and develop redundant network connectivity. We review links including their paths and capacities. We utilize our network planning software tool, ***FENetwork***™ for backhaul network analysis and design. Our consultants use ***FENetwork***™ to graph individual path profiles for each link and/or provide a representation of the entire backhaul network. When developing a wireless backhaul conceptual design, we consider transmitter sites and hops in use today, current equipment status/version/age across the network, terrain/paths, system loading, spectrum, knowledge of vendor equipment and available technologies, and other related issues. We include specifications for backhaul solutions in our specifications and RFPs, and support clients during system procurement and installation.

2.8 Wireline Backhaul Solutions (Fiber) Wireline Backhaul Solutions (Fiber)

Optical fiber distribution can deliver high-quality signals many miles for remote, as well as local, viewing and recording operations. Existing optical fiber network infrastructure, in conjunction with local area networks, can be leveraged to offer centralized, regional, and local monitoring. ***FE*** personnel typically incorporate optical fiber links when they are available within our clients' infrastructure to provide cost-effective backhaul solutions. We evaluate fiber backhaul designs to ensure adequate capacity and availability to support public safety applications. Many of our projects have included the conceptual design of a hybrid microwave and fiber network for highly redundant solutions.

2.9 Supervisory Control and Data Acquisition Solutions

FE is a national leader in providing consulting services for mission hardened public services environments. We are recognized for applying technological and operational innovation to keep critical infrastructure survivable and sustainable. We have extensive experience analyzing, designing, and implementing communications networks including fiber and wireless backbones to support supervisory control and data acquisition (SCADA) and telemetry systems. We have supported the conceptual design of licensed and unlicensed multiple address/spread spectrum systems to support SCADA transport in the VHF, UHF, 900 MHz, 2.4 GHz and 5.8 GHz radio bands.

FE works closely with water and wastewater utility clients and/or municipal staff to assist during SCADA projects. We evaluate SCADA-related communication needs for both wide area networking and remote site telemetry. ***FE*** services include assessment of the existing wide area network, site surveys, user needs assessment, requirements definition, frequency research, coverage and interference analysis of new SCADA transmit frequencies, network alternatives, and conceptual design of the optimal network to meet requirements for reliable transport of control data.

3 STAFFING AND ORGANIZATION

FE consulting resources will be determined based upon the skills needed to fulfill a consulting service requested by the counties. For any of the consulting services above, ***FE's*** highly skilled staff can support the following tasks:

- Provide technical assistance, subject matter expertise, or technical research

- Serve as technical advisors to management and technology users
- Provide staff augmentation services
- Conduct special presentations on selected subjects
- Conduct needs assessment interviews with stakeholders
- Observe operations and conduct site visits to assess and inventory equipment
- Analyze system operations, performance, and utilization and develop recommendations for improvement
- Generate procurement specifications/requirements and prepare RFPs
- Assist the counties during technology procurement, vendor demos and presentations, and contract negotiations
- Lead meetings with vendors and assist the counties in vendor evaluations
- Assist in administrative issues such as FCC license modifications or renewals
- Perform program planning and design reviews
- Review vendor's test plans and observe testing procedures to represent the counties' interests
- Manage installation of the new system
- Support the counties' migration to and cutover to the new system

4 COST

Services will be performed on a time and materials basis in accordance with the rates in Schedule A for the respective year, or on a fixed-price basis as mutually agreed upon in a task order between ***FE*** and the counties. This statement of services initially authorizes ***FE*** to provide consulting services up to the ceiling of the remaining contract balance of $217,690.98, with specific projects to be outlined in subsequent task orders.

5 CALL FOR SERVICES

The counties may initiate requests for services via email to ***FE's*** project manager. We will work with the requesting agent(s) of the counties to define specific task orders for provision of the services.

SCHEDULE A

LONG-TERM CONSULTING RATES: Contract No. 62-14smc

Effective September 1, 2020 through August 31, 2021

Principal	$ 355.00 per hour
Vice President	$ 320.00 per hour
Assistant Vice President	$ 285.00 per hour
Director/Chief Consultant	$ 250.00 per hour
Senior Consultant	$ 210.00 per hour
Consultant	$ 180.00 per hour
Senior Analyst	$ 150.00 per hour
Analyst	$ 110.00 per hour
Administrative / Computer Services	$ 76.00 per hour

TERMS AND CONDITIONS

1. Long-term rates do not include state or local taxes.
2. Travel and meals on a per diem basis will be invoiced at actual cost. Mileage will reimbursed at current GSA/Federal mileage rate with no markup on per diem.
3. Hours expended for travel in support of any time and materials task orders are billable hours.
4. Invoices will be rendered monthly. All invoices are due and payable 30 days from issuance. Late balances are subject to a finance charge of 1.5 percent per month (or fraction thereof).

01-01-20