

COOKE COUNTY

RADIO COMMUNICATIONS

DECEMBER 15, 2020

RFI #20-06

Motorola Solutions, Inc.
1717 McKinley Avenue
Dallas, TX 75202
USA

December 15, 2020

Cooke County
Auditor's Office
101 S Dixon St
Gainesville, TX 76240

Subject: Cooke County R.F.I. 20-06

Dear Cooke County Purchasing Department,

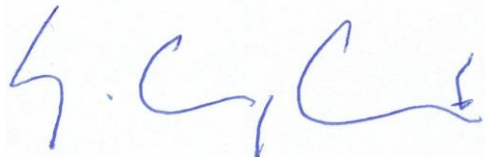
Motorola Solutions, Inc. ("Motorola Solutions") is pleased to have the opportunity to provide Cooke County with quality communications equipment and services. The Motorola Solutions project team has taken great care to propose a solution that will address your needs and provide exceptional value.

Our proposal includes a 4 site system design to upgrade Cooke County's current radio system. Each site contains three channel VHF conventional and three channel 700 MHz trunked infrastructure to be connected to a Regional System, 100 new dual band radios for 700 MHz users has been included, and 5 total years of maintenance.

Motorola Solution's proposal is subject to the terms and conditions of the enclosed H-GAC Communications System and Services Agreement, including the Lifecycle Management Addendum and remains valid until December 31st, 2020. This proposal may be accepted by providing Motorola with a purchase order and a signed copy of the aforementioned agreement. Any questions the County has regarding this proposal can be directed to Collin Wetzel, Account Manager at 312-256-3260, (collin.wetzel1@motorolasolutions.com).

We thank you for the opportunity to furnish Cooke County with "best in class" solutions and we hope to strengthen our relationship by implementing this project. Our goal is to provide you with the best products and services available in the communications industry.

Sincerely,
MOTOROLA SOLUTIONS, INC.



Clay Cassard
MSSSI Territory Vice President

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SECTION 1

COMPANY INFORMATION

A. COMPANY INFORMATION

- Name

[Motorola Solutions, Inc.](#)

- Company Address

[500 W. Monroe St.
Chicago, IL 60661](#)

- Company Point-of-Contact for RFI Response

[Collin Wetzel](#)

- Point-of-Contact Phone Number

[312-256-3260](#)

- Point-of-Contact Email Address

Collin.wetzel@motorolasolutions.com

- Length of Time Company has been in existence

[Motorola Solutions was founded in 1928.](#)

SECTION 2

SYSTEM DESCRIPTION

2.1 SUMMARY OF SOLUTION OFFERINGS

Motorola is pleased to provide Cooke County with a solution comprising of a three channel VHF Conventional and three channel 700 MHz Trunked Infrastructure to be connected to a Regional System. A quantity of 100 new DUAL BAND User Radios for 700 MHz users has been included.

2.1.1 System Coverage

Coverage Considerations

Section 2.3 contains coverage maps comparing for 700 MHz and VHF P25 Conventional frequency bands that are part of this proposal for the four site design. The maps show talk-out coverage (fixed end to user). Portable maps are for a 1/2 wave antenna with the radio in a belt clip at hip level for both transmit and receive (using a speaker microphone to transmit/receive).

Portable coverage will increase if a swivel case is utilized, or the user utilizes the radio at head level for inbound transmissions.

The following sites, tower heights, and antennas were used for the Motorola coverage predictions.

Site Name	Site Type	Latitude	Longitude	VHF					
				Tx antenna information			Rx antenna information		
				MFG	Model	Height (Ft)	MFG	Model	Height (Ft)
Pentex	Existing	33-39-01.0N	097-20-23.0W	RFI	OA20-41-DIN	270	RFI	OA40-41-DIN	300
Rice Ave	Existing	33-36-09.59N	97-07-58.45W	RFI	OA20-41-DIN	270	RFI	OA40-41-DIN	300
Walnut Bend*	Greenfield	33-46-44.34N	97-03-32.5W	RFI	ATC-GD1V2C	270	RFI	ATC-GD1V4C	300
Sivells Bend School	Greenfield	33-51-55.2N	97-13-26.02W	RFI	OA20-41-DIN	170	RFI	OA40-41-DIN	200

Site Name	Site Type	Latitude	Longitude	700 MHz					
				Tx antenna information			Rx antenna information		
				MFG	Model	Height (Ft)	MFG	Model	Height (Ft)
Pentex	Existing	33-39-01.0N	097-20-23.0W	RFI	BPA7496-120-12	300	RFI	BPA7496-120-15	300
Rice Ave	Existing	33-36-09.59N	97-07-58.45W	RFI	BPA7496-120-12	300	RFI	BPA7496-120-15	300
Walnut Bend*	Greenfield	33-45-48.4N	97-03-56.8W	RFI	BPA7496-180-11	200	RFI	BPA7496-180-11	200
Sivells Bend School	Greenfield	33-51-55.2N	97-13-26.02W	RFI	BPA7496-120-12	200	RFI	BPA7496-120-15	200

* Site location is approximate and subject to change based upon County provided instructions

The coverage predictions for DAQ 3.4 are based on the proposed radio configurations.
Inbound: Radio signal from Subscriber Radio to Radio Sites

Outbound: Radio signal from Radio Sites to Subscriber Radio

Mobile: APX 8500 (multi-band) with unity gain antenna on center of roof

Portable at the Hip with Belt Clip: APX 8000 (multi-band) with remote speaker microphone.
Transmit and receive is at the subscriber radio in a belt clip at hip level.

Motorola has included an industry best practice external noise of -12.6dB for the VHF coverage map predictions. The table below summarizes the external noise values recommended by area type.

Recommended External Noise Floor relative to Thermal Noise for LULC Measurements at 162MHz

	Major Metro	Medium Metro	Rural
<i>Residential</i>	15.6	12.6	12.1
<i>Commercial / Industrial</i>	16.1	12.8	
<i>Mixed Urban</i>	16.6		
<i>Forest</i>		12.3	11.6
<i>Agriculture</i>			12.7

Rubinstein, Thomas N., "Clutter losses and environmental noise characteristics associated with various LULC categories", IEEE Trans Broadcasting, 44(3)

2.1.2 System Overview

This design provides Cooke County a method of sharing radio spectrum across multiple users group in a part of the public safety spectrum that allows for growth but using radio trunking capability. This design provides for three VHF channels that allows Cooke County flexibility in utilizing existing subscriber radios in the VHF band but also provides an avenue for migration to the 700 MHz by using three trunked channels (two effective voice channels) for the Sheriff Office and other law enforcement and Emergency Management. One of the advantages of a trunked system is that it enables a greater segmentation of users into multiple talkgroups. For example, the Sheriff Department can have its own talkgroup and the smaller police departments can have a talkgroup to keep their voice traffic segmented if desired. As part of this offer, Motorola has included one-hundred (100) dual band APX 8500 mobile and APX 8000 subscribers that support both VHF and 700 MHz frequencies.

Motorola proposes to connect the Cooke County system to one of the other Regional Cores that we have in North Texas. This provides the benefit of utilizing wide area call control and for increased interoperability with surrounding counties. The solution proposed includes the following components:

- Regional Core Master Site licensing for a Cooke County Trunking Subsystem and Conventional Subsystem
- Two (2) MCC 7500E Console Positions at SO Dispatch
 - 7 VHF Control Stations
 - 1 UHF Control Station (Paging)
 - 2 700 MHz Consolettes
 - Interface to the Cooke County existing logging recorder.
- Three (3) VHF Simulcast Channels across four sites:
 - Pentex (existing site) (Co-located Prime Site)
 - Rice Ave (existing site)
 - Walnut Bend (greenfield site)
 - Sivells Bend School (greenfield site)
- Three (3) 700 MHz trunking channels at four ASR sites:
 - Pentex (existing site)
 - Rice Ave (existing site)
 - Walnut Bend (greenfield site)
 - Sivells Bend School (greenfield site)
- Microwave links that connects
 - Pentex to Sivells Bend
 - Sivells Bend to Walnut Bend
 - Rice Ave. site to the Sheriff Office Dispatch Center
 - It is our understanding that the County will provide fiber between Rice Ave. and Pentex.
- Greenfield site development for the Walnut Bend site including a 300 foot tower and an outdoor communications cabinet.
- Greenfield site development for the Sivells Bend School site including a 200 foot tower and an outdoor communications cabinet.
- Subscriber Radios
 - 60 APX8000 portable radios (7/800 MHz + VHF)
 - ◆ ADP encryption (no AES)
 - ◆ P25 trunking and conventional

- ◆ Single Unit Charger and Speaker Mic
- 40 APX8500 mobile radios (7/800 MHz + VHF)
 - ◆ Remote Mount installation
 - ◆ ADP encryption (no AES)

2.1.3 Microwave Design

To meet the Cooke County radio system, a microwave backhaul as shown in Figure 1 will be needed. The links are as shown in the table below. All connections are in a split-mount configuration. Annual 2 way multipath availability is 99.9999% or greater. The Microwave Path Profiles that includes the details on each link can be provided upon request. The Pentex to Rice Ave. connection is via County provided fiber. A backup microwave link can be proved upon request.

Site Number	Site Name	Lat	Long	Connecting Site	MW Dish Height	Notes
1	Pentex	33-39-01.0N	097-20-23.0W	Sivells Bend School Rice Ave.	180'/150' 120'	1+1 MHSB Space Diversity Link 1+0 Backup Link (optional)
2	Sivells Bend School	33-51-55.2N	97-13-26.02W	Pentex Walnut Bend	150'/120' 170'	1+1 MHSB Space Diversity Link 1+1 MHSB Link
3	Walnut Bend	33-45-48.4N	97-03-56.8W	Sivells Bend School	275'	1+1 MHSB Link Site location subject to change
4	Rice Ave	33-36-09.59N	97-07-58.45W	SO Dispatch Pentex	200' 160'	1+1 MHSB Link 1+0 Backup Link (optional)
5	SO Dispatch	33-38-57.4 N	97-10-06.22 W	Rice Ave.	Building top 32'	

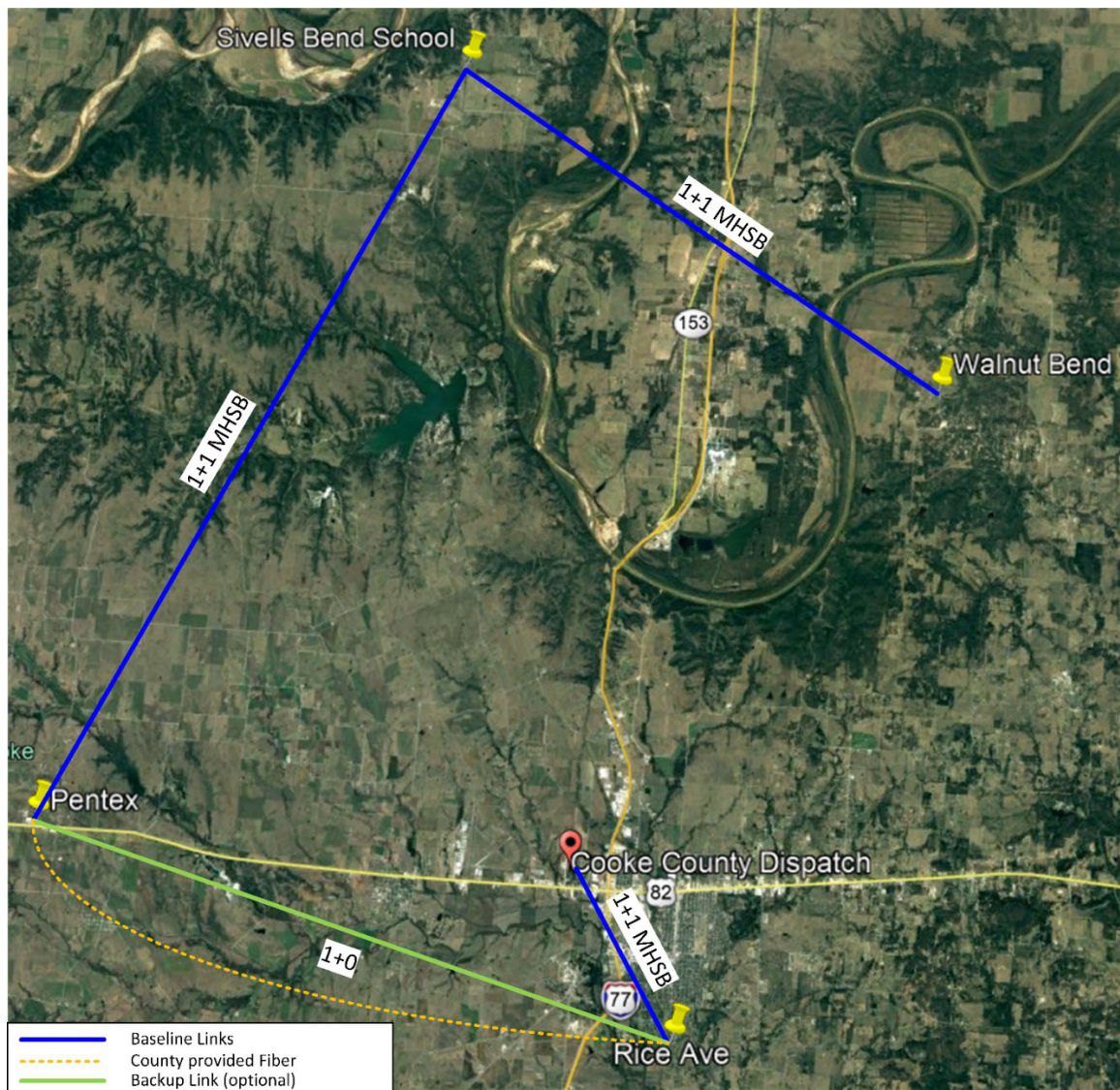
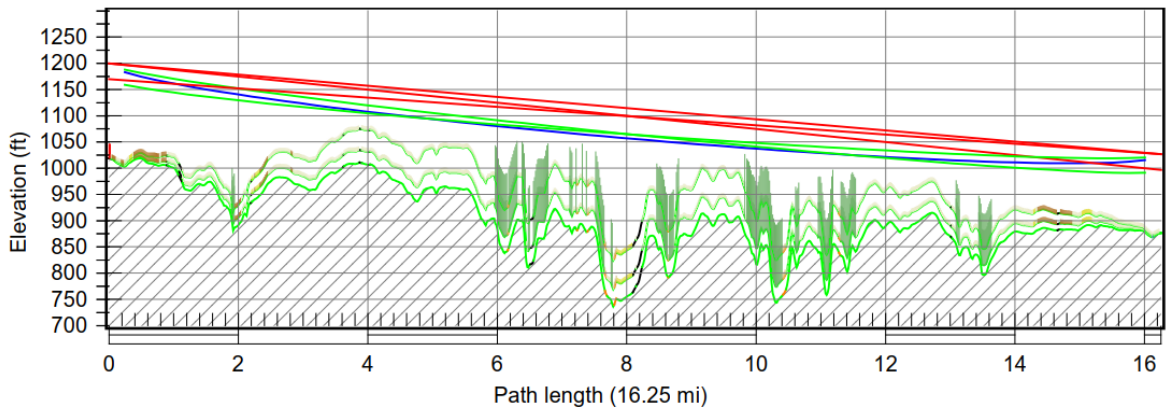


Figure 1: Cooke County Public Safety Radio System Backhaul

Pentex to Sivells Bend School Path Profile

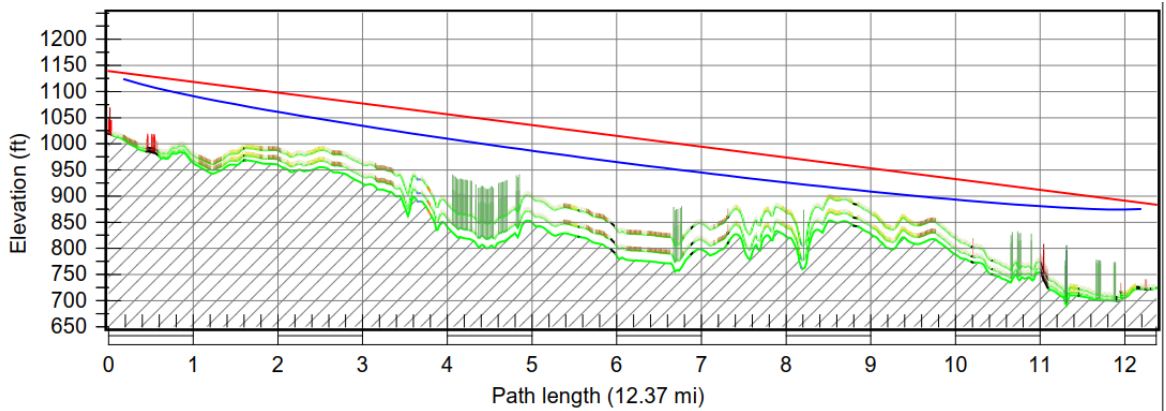


Pentex	
Latitude	33 39 01.00 N
Longitude	097 20 23.00 W
Azimuth	24.19°
Elevation	1019 ft ASL
Antenna CL	180.0, 150.0 ft AGL

Frequency (MHz) = 6400.0
K = 1.33 FH = 10.0 ft
%F1 = 100.00, 60.00

Sivell Bends School	
Latitude	33 51 55.20 N
Longitude	097 13 26.00 W
Azimuth	204.25°
Elevation	877 ft ASL
Antenna CL	150.0, 120.0 ft AGL

Pentex to Rice Ave Path Profile

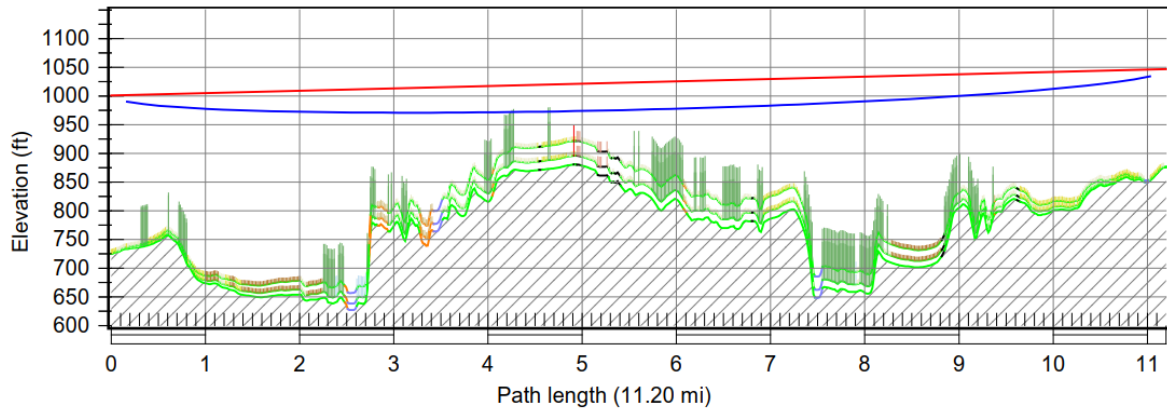


Pentex	
Latitude	33 39 01.00 N
Longitude	097 20 23.00 W
Azimuth	105.33°
Elevation	1019 ft ASL
Antenna CL	120.0 ft AGL

Frequency (MHz) = 6400.0
K = 1.33 FH = 10.0 ft
%F1 = 100.00

Rice Ave	
Latitude	33 36 09.60 N
Longitude	097 07 58.40 W
Azimuth	285.44°
Elevation	724 ft ASL
Antenna CL	160.0 ft AGL

Walnut Bend to Sivells Bend School Path Profile

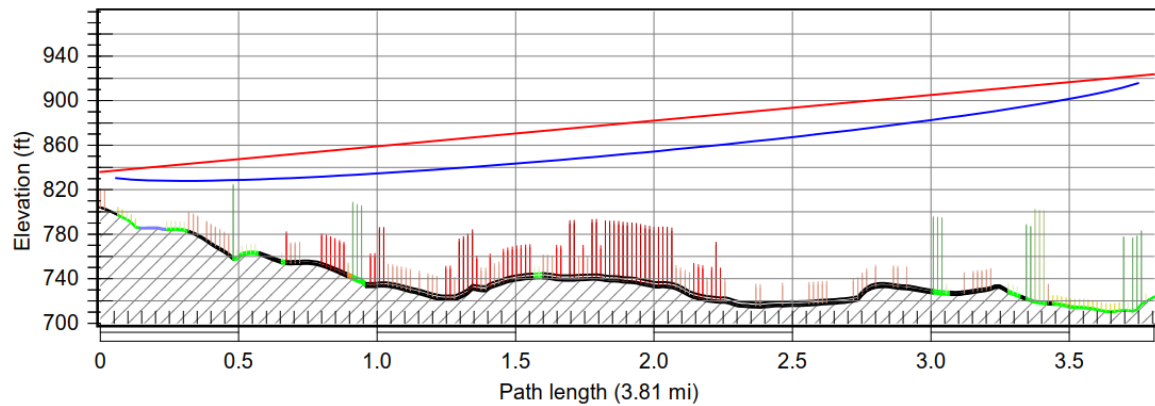


Walnut Bend(GF) Updated	
Latitude	33 46 44.30 N
Longitude	097 03 32.50 W
Azimuth	302.16°
Elevation	726 ft ASL
Antenna CL	275.0 ft AGL

Frequency (MHz) = 6400.0
K = 1.33 FH = 10.0 ft
%F1 = 100.00

Sivell Bends School	
Latitude	33 51 55.20 N
Longitude	097 13 26.00 W
Azimuth	122.07°
Elevation	877 ft ASL
Antenna CL	170.0 ft AGL

SO Dispatch to Rice Ave Path Profile



SO Dispatch	
Latitude	33 38 56.80 N
Longitude	097 10 06.90 W
Azimuth	147.25°
Elevation	804 ft ASL
Antenna CL	32.0 ft AGL

Frequency (MHz) = 6400.0
K = 1.33 FH = 10.0 ft
%F1 = 100.00

Rice Ave	
Latitude	33 36 09.60 N
Longitude	097 07 58.40 W
Azimuth	327.27°
Elevation	724 ft ASL
Antenna CL	200.0 ft AGL

2.2 DESIGN ASSUMPTIONS

The following assumptions were made by Motorola while putting together this proposal. If any of the assumptions are deemed incorrect, a revised proposal will be required. During the implementation stage of the proposal, if any of these assumptions are determined to be invalid, a change order will be processed for the same.

- Motorola assumes that the existing three VHF frequencies are licensable as wide area simulcast channels. If the radio ERP from what is proposed changes then Motorola will have to revise the coverage maps and work with the City and County for any re-approvals.

3 Channel VHF Conventional Simulcast 3 Channel 700 P25 Trunked ASR		
Channel Name	TX (MHz)	RX (MHz)
CC FFA	154.295	150.79
CC Commissioners	155.13	155.97
CC EMS	155.565	153.74

- The Walnut Bend site is a proposed location and may change. Once the site location is finalized then Motorola will revise the coverage maps and work with the City and County for any re-approvals.
- Motorola to provide licensing and frequency coordination services as part of the proposal.
- Motorola is not responsible for interference caused or received by the Motorola provided equipment except for interference that is directly caused by the Motorola-provided transmitter(s) to the Motorola provided receiver(s). Should the Cooke County system experience interference, Motorola can be contracted to investigate the source and recommend solutions to mitigate the issue.
- Motorola is not providing any antennas systems at the SO Dispatch Center. Motorola to sweep the existing antenna lines at the SO Dispatch Center. It will be the responsibility of Cooke County to replace any defective lines prior to installation of new control station radios.
- Motorola will integrate the console system and new control stations to existing antennas at the SO Dispatch. Motorola assumes that the SO is within the coverage range of the resources that need to be communicated with. Motorola will work with the County to determine any issues before the system goes live.
- All the console furniture will be provided by the County.
- All the power, backup electrical power and HVAC at Pentex and Rice Ave. radio sites will be provided by the County. Motorola to provide UPS units for short term (<5 minute) outages.
- Inter-local agreements required between the Cooke County and other agencies will be the responsibility of Cooke County.
- Cooke County is responsible for all grounding and R56 upgrades at the existing sites. Cooke County is also responsible for any wall, ceiling, and floor penetrations necessary for equipment installation, antenna system installation, and cable routing at all of the existing site locations.
- Motorola to provide a fault detection system of the radio system components only. No site environmental alarms are included.

- Structural analysis of existing towers are included as part of this proposal. Any modification or upgrades on existing towers necessary to install the new antenna systems for all the RF sites and the dispatch centers is the responsibility of Cooke County. The County shall provide foundation documents associated with the existing towers.
- Motorola assumes that sufficient space is available on the existing towers and roof at the dispatch centers to accommodate the microwave and antennas.
- The console network connections must be 100 meters or less in length. Fiber optic cables will be required should the actual lengths prove to be over 100 meters. This may result in additional equipment changes and is not included with this proposal.
- It is assumed that there is space and power available at all the RF and consoles sites to add microwave and RF equipment as a part of the project.
- It is assumed that any Outdoor Warning System/ Siren system is an independent system and does not require interface to the new or existing radio system. Hence, no upgrades or interfaces have been proposed with this project. Any changes in this assumption will need to be analyzed and quoted as a separate change order.
- No console to CAD interface has been proposed with this project. Existing dispatch CAD system will NOT be altered during this project. Any dependencies of CAD on the existing radio systems needs to be analyzed and work will be quoted as a change order to the project.
- No new logger has been included in this proposal at the SO dispatch. Motorola will provide an analog audio output for the County's radio logging recorder.
- Cooke County is responsible for site acquisition and leases for new greenfield sites.
- Motorola will decommission the replaced legacy equipment in the existing shelters at Pentex and Rice Ave. Motorola includes the decommissioning of the VHF antennas on the existing site towers as an option. Cooke County is responsible for disposal of any existing radio system equipment replaced by the new system.
- The connection of the Cooke County system to a regional core must still be designed; therefore, this proposal does not include any network connection costs to the regional core

2.3 COVERAGE MAPS

The following coverage maps have been included in this addendum to the proposal:

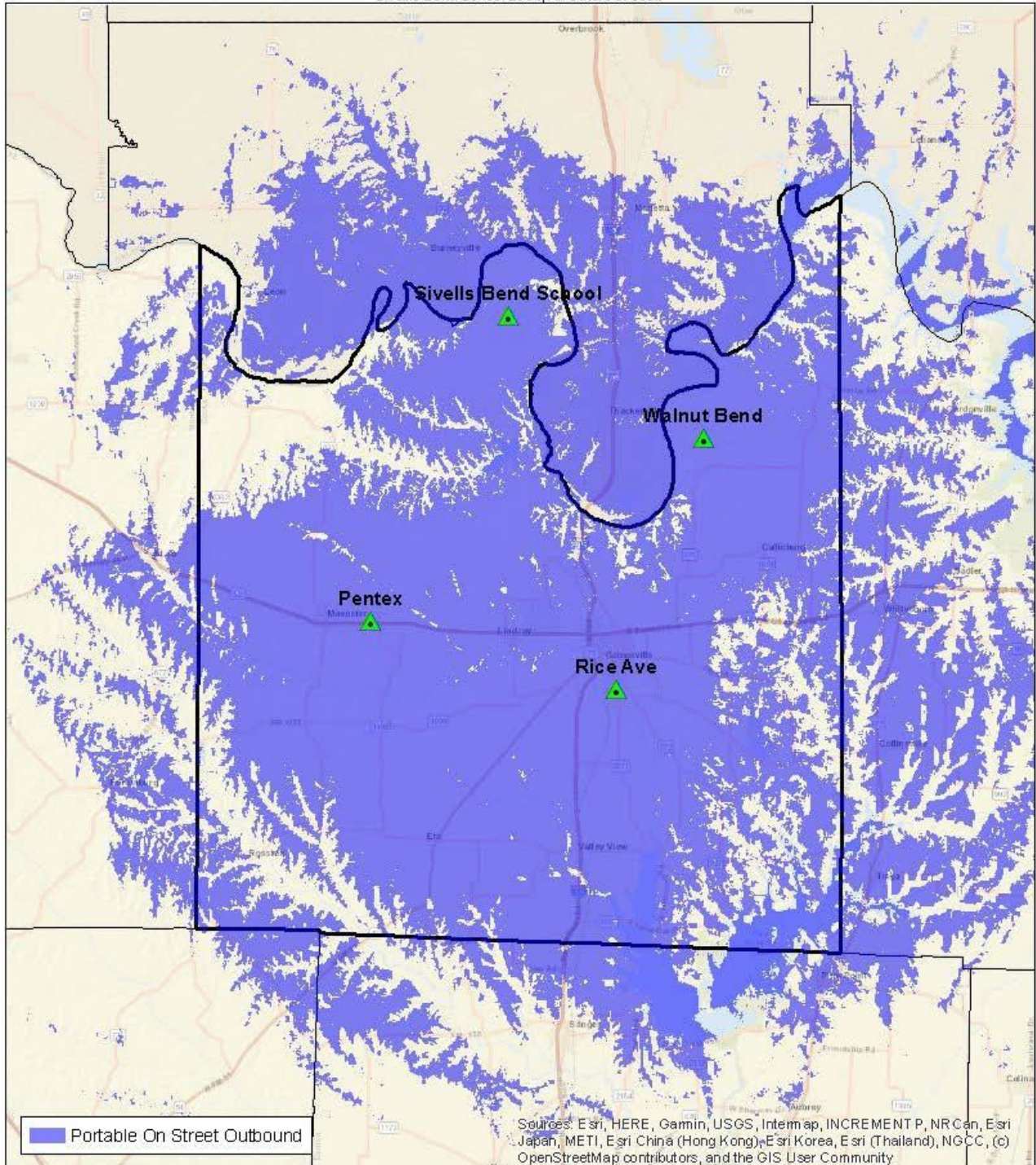
- Mobile Outbound Coverage (700 MHz) using a single band radio
- Portable Outbound Coverage (700 MHz) using a single band radio
- Mobile Outbound Coverage (VHF) using a single band radio
- Portable Outbound Coverage (VHF) using a single band radio



Cooke County, TX

For Information Only

4-Site Astro P25 700 MHz FDMA ASR System
Shaded Area Represents 95% Covered Area Reliability at DAQ 3.4
Sivellis Bend School 200ft, All Others at 300ft



0 2 4 6 Miles
1 in = 6 miles

Portable Configuration
APX 8000, 2.5 W, Single Band Flex Whip Antenna
Tx/Rx at Hip in Belt Clip with Remote Speaker Mic

TX_Cooke_VHF_700
Cooke 700 ASR
Design 25
PKG374, CCD TLAB-802

Nov 17, 2020
Hydra Stratus 2.7.11

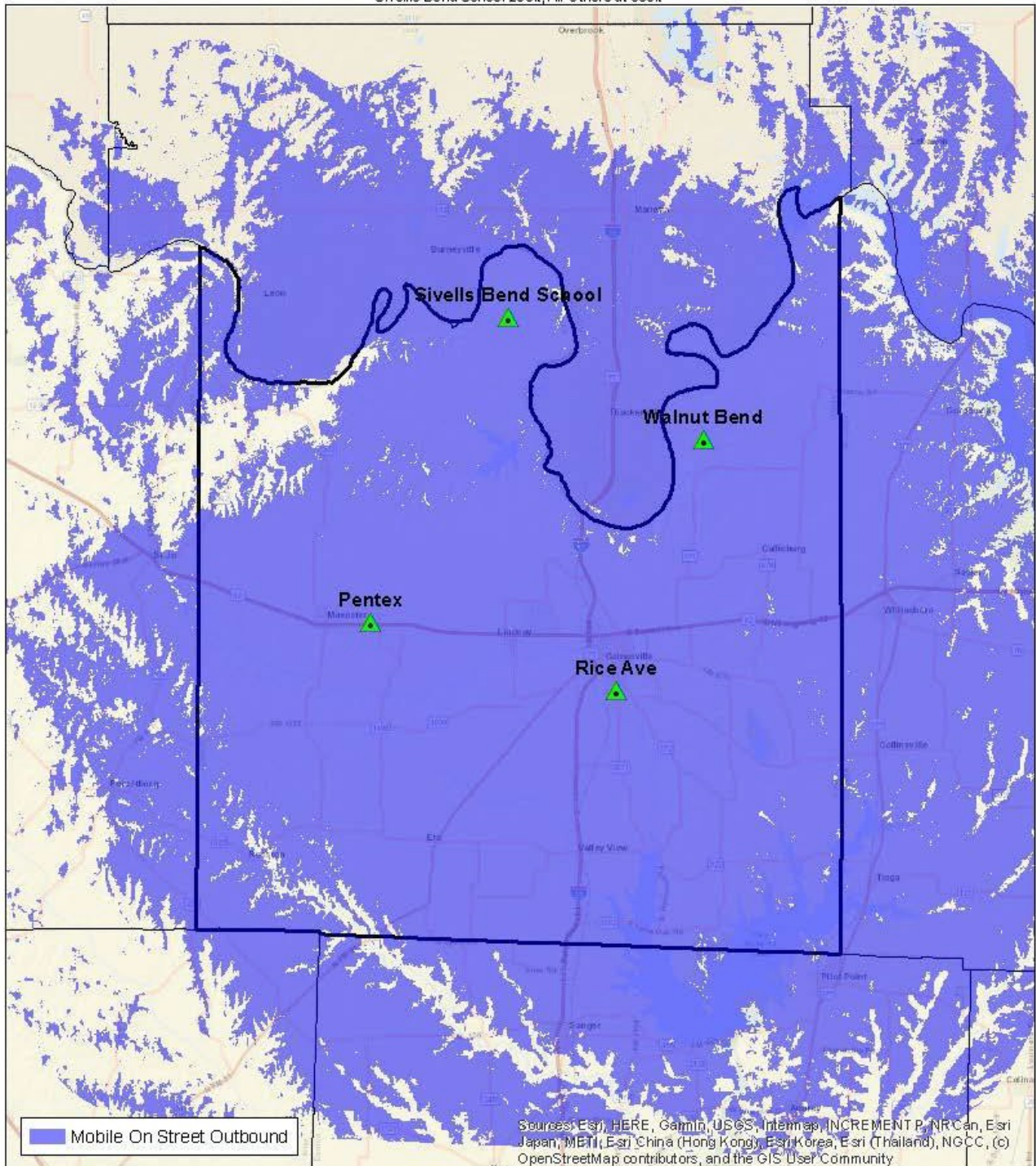
This map is intended solely for the equipment configuration stated above.
Coverage can vary significantly if different configurations are used.



Cooke County, TX

For Information Only

4-Site Astro P25 700 MHz FDMA ASR System
Shaded Area Represents 95% Covered Area Reliability at DAQ 3.4
Sivellis Bend School 200ft, All Others at 300ft



0 2 4 6 Miles
1 in = 6 miles

Mobile Configuration
APX 8500, 30 W, 1/2-wave Dipole
Tx/Rx at Car Roof Center

TX_Cooke_VHF_700
Cooke 700 ASR
Design 25
PKG374, CCD TLAB-802

Nov 17, 2020
Hydra Stratus 2.7.11

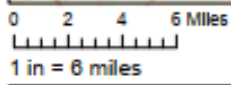
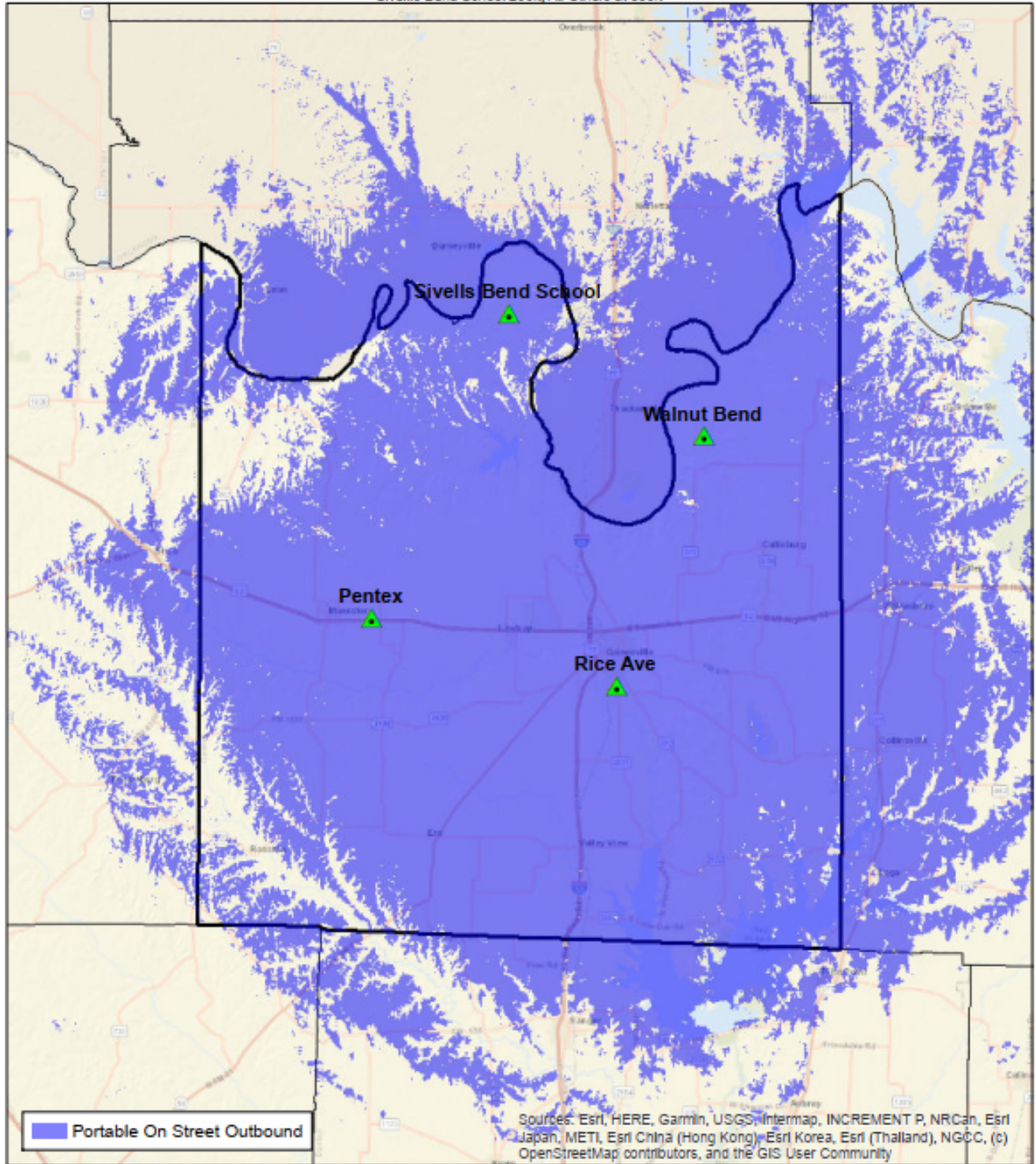
This map is intended solely for the equipment configuration stated above.
Coverage can vary significantly if different configurations are used.



Cooke County, TX

For Information Only

4-Site Astro P25 VHF Single Cell Simulcast System
Shaded Area Represents 95% Covered Area Reliability at DAQ 3.4
Sivells Bend School 200ft, All Others at 300ft



Nov 17, 2020
Hydra Stratus 2.7.11

Portable Configuration
APX 8000, 6 W, Single & Multiband Antenna
Tx/Rx at Hip in Belt Clip with Remote Speaker Mic

This map is intended solely for the equipment configuration stated above.
Coverage can vary significantly if different configurations are used.

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

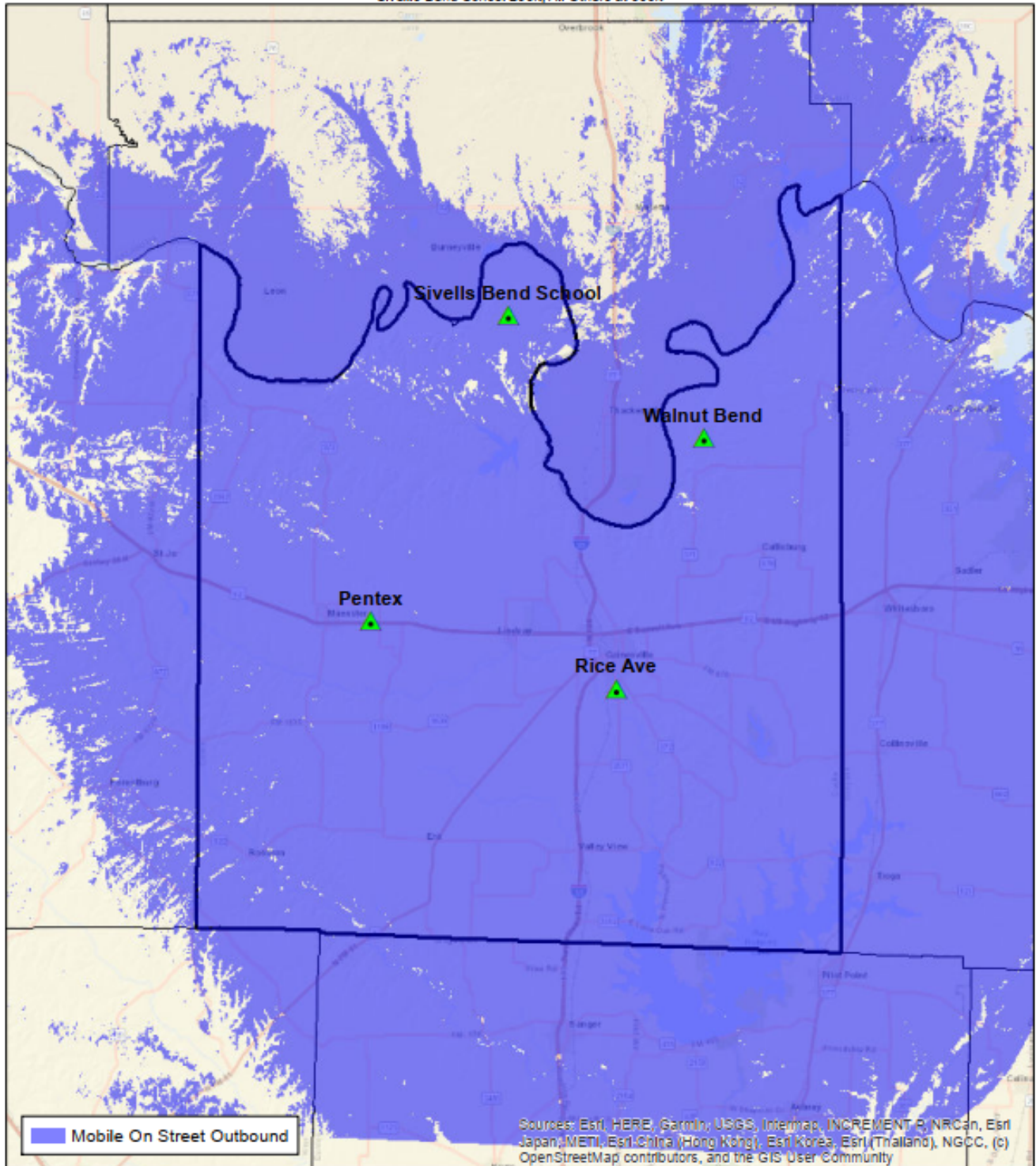
TX_Cooke_VHF_700
Cooke County (VHF P25)
Design 40
PKG374, CCDLAB-802



Cooke County, TX

For Information Only

4-Site Astro P25 VHF Single Cell Simulcast System
Shaded Area Represents 95% Covered Area Reliability at DAQ 3.4
Sivells Bend School 200ft, All Others at 300ft



0 2 4 6 Miles
1 in = 6 miles

Mobile Configuration
APX 8500, 50 W, 1/2-wave Dipole
Tx/Rx at Car Roof Center

TX_Cooke_VHF_700
Cooke County (VHF P25)
Design 40
PKG374, CCDLAB-802

Nov 17, 2020
Hydra Stratus 2.7.11

This map is intended solely for the equipment configuration stated above.
Coverage can vary significantly if different configurations are used.

SECTION 3

STATEMENT OF WORK

3.1 WORK BREAK DOWN STRUCTURE

Motorola Solutions will install and configure the proposed equipment. The following table describes the tasks involved with installation and configuration.

Tasks	Motorola Solutions	Cooke County
PROJECT INITIATION		
Contract Finalization and Team Creation		
Execute contract and distribute contract documents.	X	X
Assign a Project Manager as a single point of contact.	X	X
Assign resources.	X	X
Schedule project kickoff meeting.	X	X
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.		
Project Administration		
Ensure that project team members attend all meetings relevant to their role on the project.	X	X
Set up the project in the Motorola Solutions information system.	X	
Record and distribute project status meeting minutes.	X	
Maintain responsibility for third-party services contracted by Motorola Solutions.	X	
Complete assigned project tasks according to the project schedule.	X	X
Submit project milestone completion documents.	X	
Upon completion of tasks, approve project milestone completion documents.		X
Conduct all project work Monday thru Friday, 7:30 a.m. to 5:00 p.m.).	X	
Deliverable: Completed and approved project milestones throughout the project.		
Project Kickoff		
Introduce team, review roles, and decision authority.	X	X
Present project scope and objectives.	X	
Review SOW responsibilities and project schedule.	X	X

Schedule Design Review.	X	X
Deliverable: Completed project kickoff and scheduled Design Review.		
Tasks	Motorola Solutions	Cooke County
Design Review		
Review Cooke County's operational requirements.	X	X
Present the system design and operational requirements for the solution.	X	
Present installation plan.	X	
Present preliminary cutover plan and methods to document final cutover process.	X	
Present configuration and details of sites required by system design.	X	
Validate that Cooke County sites can accommodate proposed equipment.	X	X
Provide approvals required to add equipment to proposed existing sites.		X
Review safety, security, and site access procedures.	X	
Present equipment layout plans and system design drawings.	X	
Provide backhaul performance specifications and demarcation points.	X	
Provide heat load and power requirements for new equipment.	X	
Provide information on existing system interfaces.		X
Provide frequency and radio information for each site.		X
Assume liability and responsibility for proving all information necessary for complete installation.		X
Assume responsibility for issues outside of Motorola Solutions' control.		X
Provide the frequencies (VHF and 700 MHz) that will be used by the new system. Ensure that frequency availability and licensing meet project requirements, and		X
Assist with the preparation for one set of license applications for Cooke County submission. Motorola has included effort to help with spectrum fingerprinting with respect to the VHF frequencies.	X	
Complete the required forms for frequency coordination and licensing.	X	
Pay licensing and frequency coordination fees.		X
Modifications to frequencies after licenses have been obtained/granted will be responsibility of Cooke County and not included in this scope.		X

Review and update design documents, including System Description, Statement of Work, Project Schedule, and Acceptance Test Plan based on Design Review agreements.	X	
Provide minimum acceptable performance specifications for Cooke County provided hardware, software, LAN, WAN and internet connectivity.	X	
Tasks	Motorola Solutions	Customer
Execute Change Order in accordance with all material changes to the Contract resulting from the Design Review.	X	
Deliverable: Finalized design documentation based upon "frozen" design, along with any relevant Change Order documentation.		
SITE PREPARATION AND DEVELOPMENT		
Site Access		
Provide site owners/managers with written notice to provide entry to sites identified in the project design documentation.		X
Maintain access roads in order to provide clear and stable entry to sites for heavy-duty construction vehicles, cement trucks and cranes. Ensure that sufficient space is available at the site for these vehicles to maneuver under their own power, without assistance from other equipment.		X
Obtain site licensing and permitting, including site lease/ownership, zoning, permits, regulatory approvals, easements, power, and telco connections.		X
Deliverable: Access, permitting, and licensing necessary to install system equipment at each site.		
Site Planning		
Provide necessary buildings, equipment shelters, and towers for installation of system equipment at the Rice Avenue and Pentex Sites.		X
Motorola has included in the scope qty. (2) outdoor equipment cabinets for the Walnut Bend and Sivells Bend sites.	X	
Provide proposed towers for the Walnut Bend and Sivells Bend sites.	X	
Provide the R56 requirements for space, power, grounding, HVAC, and connectivity requirements at each site.	X	
Provide adequate electrical power in proper phase and voltage at sites.		X
Provide as-built structural and foundation drawings of the structures and site locations, along with geotechnical reports, in order to facilitate a structural analysis.		X
Perform structural analysis of the Pentex and Rice towers to confirm that they are capable of supporting proposed and future antenna loads.	X	
Confirm that there is adequate utility service to support the new equipment and ancillary equipment.		X

Modify towers or other structures, or relocate sites in the system, to ensure that they are capable of supporting proposed and future antenna loads. (See civil section) Motorola recommends due to the age of the existing towers at the Pentex and Rice sites, Cooke County set aside additional funding to address any remediation requirements that might arise.		X
Conduct site walks to collect pertinent information (e.g. location of telco, power, structures, etc.)	X	
Tasks	Motorola Solutions	Cooke County
Ensure that each site meets the R56 standards for space, grounding, power, HVAC, and connectivity requirements.		X
Conduct one three-point ground resistance test of each site.	X	
Obtain the permits needed to complete site development, including electrical, building, and construction permits.		X
Pay for application fees, taxes, and recurring payments for lease/ownership of property.		X
Ensure that required rack space is available for installation of the new equipment.		X
Deliverable: Information and permitting requirements completed at each site.		
General Facility Improvements		
Provide adequate HVAC, grounding, lighting, cable routing, and surge protection based upon Motorola Solutions' Standards and Guidelines for Communication Sites (R56)		X
Ensure the resolution of environmental and hazardous material issues at each site including, but not limited to, asbestos, structural integrity (tower, rooftop, water tank, etc.), and other building risks.		X
Ensure that electrical service will accommodate installation of system equipment, including isolation transformers, circuit breakers, surge protectors, and cabling.		X
Provide obstruction-free area for the cable run between the demarcation point and system equipment.		X
Provide structure penetrations (wall or roof) for transmission equipment (e.g. antennas, microwave radios, etc.) at existing sites.		X
Supply interior building cable trays, raceways, conduits, and wire supports.		X
Pay for usage costs of power and generator fueling, both during the construction and installation effort, and on an ongoing basis.		X
Provide one-time mobilization of construction crews.	X	
Transport removed site equipment to a location designated by Cooke County and within Cooke County's jurisdiction.		X
Deliverable: Sites meet physical requirements for equipment installation.		
SYSTEM INSTALLATION		

Equipment Order and Manufacturing		
Create equipment order and reconcile to contract.	X	
Manufacture Motorola Solutions-provided equipment necessary for system based on equipment order.	X	
Procure non-Motorola Solutions equipment necessary for the system.	X	
Deliverable: Equipment procured and ready for shipment.		
Equipment Shipment and Storage		
Tasks	Motorola Solutions	Cooke County
Pack and ship solution equipment to the identified, or site locations.	X	
Equipment will ship to Motorola's subcontractor, Shipman Communications and will provide storage at this location.	X	
Provide storage for APX subscribers shipped		X
Receive solution equipment at Shipman Communications.	X	
Inventory solution equipment.	X	
Deliverable: Solution equipment received and ready for installation		
Field Staging		
Deliver solution equipment to Motorola's subcontractor Shipman Communications in preparation for field staging.	X	
Coordinate receipt of and inventory solution equipment with designated contact.	X	
Provide information on existing system interfaces, room layouts, or other information necessary for the assembly to meet field conditions.		X
Set up and rack the solution equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	X	
Cut and label the cables with to/from information to specify interconnection for field installation and future servicing needs.	X	
Complete the cabling/connecting of the subsystems to each other ("connectorization" of the subsystems).	X	
Assemble required subsystems to assure system functionality.	X	
Power up, load application parameters, program, and test all staged equipment.	X	
Confirm system configuration and software compatibility with the existing system.	X	
Inventory the equipment with serial numbers and installation references.	X	
Perform factory functional tests of system features to ensure equipment properly operating to manufacturer specifications.	X	
Transport equipment to installation sites	X	
Deliverable: Field Staging Complete and ready for Site installation		

ASTRO 25 Core and Remote Site Installation and Configuration		
Install fixed equipment contained in the equipment list and outlined in Section 2 of the System Description.	X	
Motorola will remove and decommission existing radio equipment and will place/stack inside the radio shelter.	X	
Cooke County to pick up decommissioned radio equipment from the Pentex and Rice sites and dispose as required.		X
Provide backhaul connectivity and associated equipment for all sites to meet latency, jitter and capacity requirements. Motorola has provided as an option Microwave backhaul connectivity to the sites. Please see system description for description on proposed connectivity.		X
Provide connectivity to the Regional System.		X
Configure ASTRO 25 system to support the new Master and RF sites per outlined in Section 2 of the System Description.	X	
Verify site link performance, prior to the interconnection of the solution equipment to the link equipment.	X	
, Provide list of subscriber IDs for loading into the Zone Controller.		X
, Load subscriber IDs in the Zone Controller.	X	
Provide required radio ID and alias information to enable alias database setup for interface to consoles.		X
Integrate the RF sites into the system to ensure proper operation.	X	
Deliverable: ASTRO 25 core and remote site equipment installation completed.		
MCC 7500E Console installation & Configuration		
Identify backhaul for connection to console site and a demarcation point located within 25 feet of the console site interface.	X	
Connect console site to backhaul demarcation points.	X	
Tasks	Motorola Solutions	Customer
Install Qty. 2 MCC 7500E Console PC workstations w/ keyboard and mouse, and monitor, including. <ul style="list-style-type: none"> ▪ Astro 25 trunking operations with advanced conventional operation ▪ 160 radio resources license ▪ Enhanced IRR ▪ 19' non touch Z2 G4 mini workstation ▪ USB desktop speaker ▪ USB Audio Interface module ▪ MCC series desktop gooseneck microphone ▪ MCC series headset jack – module base with PTT 15ft cable ▪ Over-the-head monaural noise canceling headset ▪ One dual pedal footswitch ▪ MACFEE for Windows Client 	X	
Install peripheral console equipment in accordance with R56 standards and state/local codes.	X	

Install Control Stations: ▪ Qty. 7 VHF Control Stations ▪ Qty. 1 UHF Control Station (paging) ▪ Qty. 2 700MHz Consolettes	X	
Qty. 1 Site Controller (rack mounted)	X	
Develop templates for console programming.	X	
Perform console programming and configuration.	X	
Control Station Installation and Configuration		
Provide the locations of control stations and desk sets at each site.		X
Survey mounting locations and develop control station installation plan.	X	
Provide adequate space, grounding, and power for the control station installation.		X
Properly connectorize and ground the cabling, which will be run to the outdoor antenna location using the least obtrusive method.	X	
Provide an elevated antenna mounting location, and adequate feed-line routing and support.		X
Install (or provide existing) line (not greater than 100 feet in length) and antenna system (connectors, coax grounding kit, antenna, and surge protection).		X
Motorola to run a 2 wire analog interface from the control station(s) to the punch block as the demarcation point to the existing analog Eventide NexLog Communications Logging Recorder.	X	
Cooke County to run a connection from the punch block to existing analog Eventide NexLog Communications Logging Recorder		X
Perform control station programming.	X	
Tasks	Motorola Solutions	Cooke County
Deliverable: Control station equipment installation completed.		
Logging Equipment Installation and Configuration		
Motorola assumes the reuse of the Cooke County analog Eventide NexLog Communications Logging Recorder Solution.		X
Provide interface to logging equipment.		X
Develop Console and User Radio Fleetmap		
Review fleetmapping requirements with Cooke County, including user ID and talkgroup structures.	X	
Designate user group representatives for the user groups, to make timely decisions on their behalf.		X
Provide advisory input during fleetmap development.	X	

Participate in a meeting to finalize any changes among user groups.	X	X
Review and approve fleetmap templates.		X
Program the approved templates into a radio-programming template tool.	X	
Program sample radios with approved templates and deliver for evaluation by Cooke County.	X	
Program approved templates into console.	X	
Evaluate sample radios and provide feedback.		X
Approve templates.		X
Deliverable: Fleetmap plan completed and approved by Cooke County.		
Mobile Radio Installation and Programming		
Develop and approve fleetmapping/codeplugs for each type of mobile installation.		X
Test features and functionalities of the mobile templates.		X
Program the mobile radios identified in the equipment list in accordance with the programming templates, client software, and fleetmap. A "one-time only" programming is included in the project pricing.	X	
Provide adequate number of vehicles for installations according to the project/installation schedule.		x
Install all the mobiles in the vehicles, as identified in the equipment list, and according to the installation schedule.	X	
Permanently mount the antennas on each vehicle according to the approved prototype, appropriate for the vehicle type. Install the antennas close to the same location as the existing antennas, where practical, in vehicles that already have antennas installed. If applicable, plug the old antenna hole with an appropriate rubber plug.	X	
Tasks	Motorola Solutions	Cooke County
Install the antennas on the roof, where practical, on the new antenna installations. If mobile antenna cannot be installed on the roof, determine an alternative location.	X	
Remove the existing mobiles from the vehicle at the time of installation of the new radios	X	
Prior to subscriber flash upgrade, perform all appropriate preventative maintenance on the subscriber radios, including calibration and tuning to ensure the radios are operating within manufacturer's specifications.		X
Deliverable: Mobile radios installed and accepted		
Portable Radio Programming and Distribution		
Pass all features and functionalities of the portable radio template (as applicable)	X	
Program test portable radios with each template version and activate them on the system.	X	

Cooke County to use test portable subscribers for a period up to 5 days to ensure operability meets Cooke County needs before the entire fleet is programmed.		X
Program the new portable radios identified in the equipment list in accordance with the programming templates, client software, and fleetmap. A "one-time only" programming is included in the project pricing.	X	
Deliver portable radios to authorized Cooke County personnel and inventory upon receipt.	X	
Acknowledge receipt of portable radios and accessories and verify proper operation of a sampling of delivered portable radios.		X
Distribute portable radios to end users.	X	
Deliverable: Portable radios accepted and distributed.		
SYSTEM OPTIMIZATION AND TESTING		
R56 Site Audit		
Perform R56 site-installation quality-audits, verifying proper physical installation and operational configurations.	X	
Deliverable: R56 Standards and Guidelines for Communication Sites audits completed successfully.		
Solution Optimization		
Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.	X	
Verify that all audio and data levels are at factory settings.	X	
Verify communication interfaces between devices for proper operation.	X	
Ensure that functionality meets manufacturers' specifications and complies with the final configuration established during design review or system staging.	X	
Deliverable: Completion of System Optimization.		
Tasks	Motorola Solutions	Cooke County
Functional Acceptance Testing		
Verify the operational functionality and features of the solution supplied by Motorola Solutions, as contracted.	X	
Witness the functional testing.		X
Document all issues that arise during the acceptance tests.	X	
If any major task for the system as contractually described fails during the Cooke County acceptance testing or beneficial use, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X	
Resolve any minor task failures before Final System Acceptance.	X	

Document the results of the acceptance tests and present for review.	X	
Review and approve final acceptance test results.		X
Deliverable: Completion of functional testing and approval by Cooke County.		
Coverage Testing		
Perform coverage testing according to the Coverage Acceptance Test Plan (CATP), Submit test reports within the agreed period. Motorola will provide a detailed CATP upon finalization of the specific coverage design being selected.	X	
For any area that fails, take corrective action.	X	
Retest any areas for which corrective action has been taken.	X	
Document all issues that arise during the coverage testing.	X	
Submit final test reports, according to the agreed period.	X	
Provide the required number of test vehicles, drivers, and resources to witness the coverage testing.		X
Review and approve test results.		X
Deliverable: Completion of coverage testing and approval by Cooke County.		
PROJECT TRANSITION		
Training		
Finalize schedule for training coursework.	X	
Please refer to training section 10 for proposed training.	X	
Provide facility and 1 MCC7500 console position for training purposes		X
Tasks	Motorola Solutions	Cooke County
Ensure that the training participants fulfill course prerequisites.		X
Conduct the training classes outlined in the Training Plan.	X	
Attend proposed training classes.		X
Deliverable: Training coursework completed.		
Cutover		
Finalize Cutover Plan.	X	X
Calibrate and tune existing mobile and portable radios to ensure good working order.		X
Provide Motorola Solutions with user radio information for input into the system database and activation, as required.		X

Provide programming of existing user radios and related services (i.e. template building, re-tuning, testing and installations), as needed, during cutover period.		X
Conduct cutover meeting with relevant personnel to address both how to mitigate technical and communication problem impacts to the users during cutover and during the general operation of the system.	X	
Notify the personnel affected by the cutover of the date and time planned for cutover.		X
Provide ongoing communication with users regarding the project and schedule.	X	X
Cut over users and ensure that user radios are operating on system.		X
Resolve punchlist items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.	X	
Assist Motorola Solutions with resolution of identified punchlist items by providing support, such as access to the sites, equipment and system, and approval of the resolved punchlist items.		X
Deliverable: Migration to new system completed, and punchlist items resolved.		
Transition to Warranty		
Review the items necessary for transitioning the project to warranty support and service.	X	
Motorola Solutions to provide services during year 1 warranty which align with the proposed services.	X	
Provide a Cooke County Support Plan detailing the warranty support associated with the contract equipment.	X	
Participate in the Transition Service/Project Transition Certificate (PTC) process.		X
Deliverable: Service information delivered and approved by Cooke County		
Finalize Documentation and System Acceptance		
Provide manufacturer's installation material, part list and other related material to Cooke County upon project completion.	X	
Tasks	Motorola Solutions	Cooke County

Provide an electronic as-built system manual on CD or other Cooke County preferred electronic media. The documentation will include the following: <ul style="list-style-type: none"> - Site Block Diagrams. - Site Floor Plans. - Site Equipment Rack Configurations. - Antenna Network Drawings for RF Sites - ATP Test Checklists. - Equipment Inventory List. - Console Programming Template - Maintenance Manuals (where applicable). - Technical Service Manuals (where applicable). Drawings will be delivered in Adobe PDF format. 	X	
Receive and approve documentation.		X
Execute Final Project Acceptance.	X	X
Deliverable: All required documents are provided and approved. Final Project Acceptance.		

3.2 CIVIL DEVELOPMENT

3.2.1 Site Development at Walnut Bend Site

Installation of a new 300' Self Supporting tower in a 65' x 65' compound with a new 3-bay cabinet system with a 35kw generator backup with 500 gallon LP fuel tank. The access drive will need to have a section of split pipe fencing removed and replaced with a new gate. The rear of the compound will need to be raised by 1'. Install (2) dipole style antennas

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Included
- Zoning Services – Included
- Clearing type – Light.
- Road length requiring improvement – 75 feet.
- New power run – 100 feet, Electrical service type – Underground, 200-amp - 120/240-volt, single-phase.
- New shelter size – 6-foot x 12-foot.
- New fuel tank size – 500 gallons-, Type – Propane above-ground.
- New generator size – 35 kW, Type – Outdoor.
- New tower to be used for antennas – 300-foot self-supported tower.
- New tower foundation size – 60 cubic yard, Type – Pier and pad.

Motorola Responsibilities:

Site Acquisition

- Prepare initial zoning analysis of municipal and zoning districts within each search ring, along with an overview of the zoning and permitting process accompanying timeframes.
- Provide an expert witness for up to 3 day(s) to attend or testify at public meetings and/or hearings to provide expert testimony to assist in obtaining zoning approvals.

- Provide a property specialist for up to 1 day(s) to assist Cooke County, TX in the site leasing, zoning and permitting. Should additional time or resources be required for zoning and permitting thus requiring additional documentation, submittals, resources or work, Motorola will notify the Customer of such action in writing. Upon execution of a negotiated contract change order, Motorola will move forward as required to complete the zoning and permitting process. Motorola will not be held accountable for schedule slippage associated with such requests nor shall other reasonable payments or project milestones be withheld.
- Assist Cooke County, TX in negotiating an option/lease/license agreement (lease) and acquiring clear land title/site lease/shared use agreement for the candidate site.
- Coordinate zoning and permitting of the new tower site such that it is in full compliance with applicable jurisdictional requirements.

Site Engineering

- Prepare site construction drawings showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Perform a site and topographic survey for the property on which the communication site is located or will be located.
- Prepare a lease exhibit and sketch of the site to communicate to the property owner the proposed lease space and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail.
- Prepare record drawings of the site showing the as-built information.
- Conduct flood plain analysis of the site location.
- Conduct utility investigation and coordinate with local utility company for power hook up.
- Perform construction staking around the site to establish reference points for proposed construction.
- Prepare photo renderings of how a specific site or sites would look after completion.
- Conduct a balloon test to prepare site line graphs showing potential visibility of the proposed communication site.
- Perform NEPA Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 CFR Chapter 1, subsection 1.1307 that may potentially be impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility “may have a significant environmental impact” and thus require additional documentation, submittals, or work. Regional Environmental Review (RER) report submittals if required by FEMA have not been included. Perform Cultural Resource study as needed to identify sensitive historical and archaeological monuments that might be impacted by proposed construction
- Perform a ASTM E 1527-05 certified Phase I Environmental Site Assessment (ESA), to identify obvious and reasonably likely on-site and/or off-site potential sources of contamination that might pose a potential risk of leasing and building on a piece of property, and whether further environmental investigations are warranted. This study does not include Phase II assessments, risk/cost evaluations, and permitting assistance that may be required if risk factors are indicated.
- Conduct up to 80-foot deep soil boring test at each tower leg, backfill holes with spoils and prepare geotechnical report of soil conditions at locations of the tower foundation.

Grouting of boring holes or access by Automatic Traction Vehicle (ATV) - mounted rig is not included.

- Conduct construction inspection of foundation steel prior to pour, materials testing of concrete and field density tests of backfill to ensure quality construction.
- Check tower erection for plumbness, linearity and alignment after installation.
- Perform inspection of the site and the work performed by the Contractor to document that the site is built in accordance with the "Site Plans" and document any deviations or violations.
- Prepare, submit and track application for local permit fees (zoning, electrical, building etc.), prepare FAA filings and procure information necessary for filing.
- Third party utility locates prior to geo boring
- Third party tower inspection
- FAA Filing (Air Space Analysis, FAA 7460-1; FCC ASR Notifications, FAA 7460-2 Part 1; FCC Notification, FAA 7460-2 Part 2; FRN Application; Local Publication)
- Cultural resource report

Site Preparation

- Obtain the permits such as electrical, building, and construction permits, and coordinate any inspections with local authorities that may be needed to complete site development work.
- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.
- Perform light clearing of brush, grubbing and disposal of vegetation and shrub growth in the site compound area and a 20-foot path around it (11025 square feet).
- Perform clear light brush, grub roots and dispose vegetation and shrub growth in a 15-foot wide access road to the site (not to exceed 40 feet in length).
- Grade the site compound and 10-foot path around it to provide a level, solid, undisturbed surface for installation of site components (not to exceed 7225 square feet).
- Supply and install gravel surfacing to a depth of 6 inches, including herbicide treatment and geotextile fabric installation within the fenced in site compound area, and a 3-foot path around it (not to exceed 5041 square feet).
- Provide a 15-foot wide access road (not to exceed 40 feet in length), including surface grading and graveling
- Supply and install 1 farm gate.
- Supply and install 1 two-foot diameter culvert.
- Provide silt fence around the compound to control soil erosion (not to exceed 260 linear feet).
- Construct 10 one and a half feet thick riprap placed in fifteen feet length of the drainage diche(s) that divert the runoff away from the site.
- Supply and install 8-foot high chain-link fencing with a ten-foot wide gate around the shelter compound (not to exceed 310 linear feet).
- Perform site touch up (fertilize, seed and straw) disturbed areas not covered with gravel after completion of construction work. Landscaping, decorative fencing or any other aesthetic improvement that may be required by local jurisdictions has not been included and will be handled through a negotiated contract change notice.

Site Components Installation

- Construct 1 reinforced concrete foundation necessary for a 6' x 12' cabinet
- Construct 1 concrete slab for 500 gallon above-ground Liquid Propane (LP) fuel tank at 3000 psi with reinforcing steel necessary for foundations.

- Construct 1 foundation for the 35 kW generator with reinforcing steel necessary for foundations.
- Supply and install 1 prefabricated cabinet 6' x 12'
- Supply and install 1 500-gallon Liquid Propane (LP) fuel tank(s), fill it with fuel and connect it to the generator.
- Supply and install fuel tank monitors on the tanks to monitor low fuel in tanks and run alarm wiring to the building located within 50 feet of the tank.
- Supply and install 1 standby power generator (35 kW) located within 20 feet of the ATS, including interconnection wiring between the generator, transfer switch, and site electrical service mains.
- Supply and install 1 120/240-volt, 200-amp, single-phase meter pedestal and hookup for electrical service by the local utility.
- Provide all trenching, conduit, and cabling necessary for underground hookup of power to the shelter from nearby utility termination located within 100 cable feet of the shelter.
- Supply and install a perimeter grounding system around the compound and shelter. The ground system is to tie to the fence and all new metal structures within the compound to meet current Motorola's R56 standards.
- Conduct 1 three-point ground resistance test of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of Cooke County, TX.
- Supply and install 1 freestanding 24-inch-wide cable/ice bridge from the tower to the shelter (up to 30 linear feet).

Tower Work

- Construct pier and pad type tower foundations including excavation, rebar and concrete (not to exceed 70 cubic yards).
- Erect new 300-foot self-supported tower with strobe lighting.
- Supply and install grounding for the tower base for self-supported towers

Antenna and Transmission Line Installation

- Install 2 antenna(s) for the RF system.
- Install 2 side arms for antennas.
- Install up to 650 linear feet of 7/8-inch transmission line.
- Perform sweep tests on transmission lines.
- Provide and install attachment hardware for supporting transmission lines on the antenna support structure every three feet.

Existing Facility Improvement Work

- Supply and install 1 200-amp breaker panel with capacity for 30 circuits.
- Supply and install 2 30-amp breakers in the distribution panel and wire to outlets located on an average within 35 cable feet.
- Install 1 Type 2 surge protector on electrical service side of the ATS.
- Install 1 primary Type 1 surge protector on the room electrical feed to protect the equipment from surges.

Miscellaneous

- Private locates
- Tower foundation spoils removal with 25 miles
- Crane to stack towers greater than 280'
- Cut existing split pipe fence and dispose to allow for installation of new gate

- Engineered fill to raise rear of compound by 1' (67 cu yds). Includes compaction and testing
- Engineered back fill for tower foundation - includes compaction and testing (100 cu yds)
- Supply and install 12' utility H-frame from mounting the meter, panel, surge suppressors
- Construction administration

3.2.2 Site Development at Sivells Bend Site

Installation of a new 200' Self Supporting tower in a 60' x 60' compound with a new 3-bay cabinet system with a 35kw generator backup with 500 gallon LP fuel tank. The access drive will need a 20' culvert installed. Install (2) dipole style antennas

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Included
- Zoning Services – Included
- New fenced compound/expansion size – 60-foot x 60-foot.
- Clearing type - Light
- Road length requiring improvement – 40 feet.
- New power run – 100 feet, Electrical service type – Underground, 200-amp - 120/240-volt, single-phase.
- New shelter size – 6-foot x 12-foot.
- New fuel tank size – 500 gallon LP
- New generator size – 35 kW, Type – Outdoor.
- New tower to be used for antennas – 200-foot self-supported tower.
- New tower foundation size – 30 cubic yards, Type – Pier and pad.

Motorola Responsibilities:

Site Acquisition

- Prepare initial zoning analysis of municipal and zoning districts within each search ring, along with an overview of the zoning and permitting process accompanying timeframes.
- Provide an expert witness for up to 3 day(s) to attend or testify at public meetings and/or hearings to provide expert testimony to assist in obtaining zoning approvals.
- Assist Cooke County, TX in negotiating an option/lease/license agreement (lease) and acquiring clear land title/site lease/shared use agreement for the candidate site.
- Coordinate zoning and permitting of the new tower site such that it is in full compliance with applicable jurisdictional requirements.

Site Engineering

- Prepare site construction drawings showing the layout of various new and existing site components.
- Perform a site and topographic survey for the property on which the communication site is located or will be located.
- Prepare a lease exhibit and sketch of the site to communicate to the property owner the proposed lease space and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail.
- Prepare record drawings of the site showing the as-built information.
- Conduct flood plain analysis of the site location.
- Conduct utility investigation and coordinate with local utility company for power hook up.

- Perform construction staking around the site to establish reference points for proposed construction.
- Prepare photo renderings of how a specific site or sites would look after completion.
- Conduct a balloon test to prepare site line graphs showing potential visibility of the proposed communication site.
- Perform NEPA Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 CFR Chapter 1, subsection 1.1307 that may potentially be impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility “may have a significant environmental impact” and thus require additional documentation, submittals, or work. Regional Environmental Review (RER) report submittals if required by FEMA have not been included. Perform Cultural Resource study as needed to identify sensitive historical and archaeological monuments that might be impacted by proposed construction
- Perform a ASTM E 1527-05 certified Phase I Environmental Site Assessment (ESA), to identify obvious and reasonably likely on-site and/or off-site potential sources of contamination that might pose a potential risk of leasing and building on a piece of property, and whether further environmental investigations are warranted. This study does not include Phase II assessments, risk/cost evaluations, and permitting assistance that may be required if risk factors are indicated.
- Conduct up to 40-foot deep soil boring test at tower location and prepare geotechnical report of soil conditions at locations of the tower foundation. Grouting of boring holes or access by Automatic Traction Vehicle (ATV) - mounted rig is not included.
- Conduct construction inspection of foundation steel prior to pour, materials testing of concrete and field density tests of backfill to ensure quality construction.
- Check tower erection for plumbness, linearity and alignment after installation.
- Perform inspection of the site and the work performed by the Contractor to document that the site is built in accordance with the “Site Plans” and document any deviations or violations.
- Prepare, submit and track application for local permit fees (zoning, electrical, building etc.), prepare FAA filings and procure information necessary for filing.
- Third party utility locates prior to geo boring
- Third party tower inspection
- FAA Filing (Air Space Analysis, FAA 7460-1; FCC ASR Notifications, FAA 7460-2 Part 1; FCC Notification, FAA 7460-2 Part 2; FRN Application; Local Publication)
- Cultural resource report

Site Preparation

- Obtain the permits such as electrical, building, and construction permits, and coordinate any inspections with local authorities that may be needed to complete site development work.
- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.
- Perform light clearing of brush, grubbing and disposal of vegetation and shrub growth in the site compound area and a 20-foot path around it (10000 square feet).
- Perform clear light brush, grub roots and dispose vegetation and shrub growth in a 15-foot wide access road to the site (not to exceed 40 feet in length).
- Grade the site compound and 10-foot path around it to provide a level, solid, undisturbed surface for installation of site components (not to exceed 6400 square feet).

- Supply and install gravel surfacing to a depth of 6 inches, including herbicide treatment and geotextile fabric installation within the fenced in site compound area, and a 3-foot path around it (not to exceed 4356 square feet).
- Provide a 15-foot wide access road (not to exceed 40 feet in length), including surface grading and graveling
- Supply and install 3 two-foot diameter culvert.
- Provide silt fence around the compound to control soil erosion (not to exceed 240 linear feet).
- Construct 10 one and a half feet thick riprap placed in fifteen feet length of the drainage ditch(es) that divert the runoff away from the site.
- Supply and install 8-foot high chain-link fencing with a ten-foot wide gate around the shelter compound (not to exceed 290 linear feet).
- Perform site touch up (fertilize, seed and straw) disturbed areas not covered with gravel after completion of construction work. Landscaping, decorative fencing or any other aesthetic improvement that may be required by local jurisdictions has not been included and will be handled through a negotiated contract change notice.

Site Components Installation

- Construct 1 reinforced concrete foundation necessary for a 6' x 12' cabinet
- Construct 1 concrete slab for 500 gallon above-ground Liquid Propane (LP) fuel tank at 3000 psi with reinforcing steel necessary for foundations.
- Construct 1 foundation for the 35 kW generator with reinforcing steel necessary for foundations.
- Supply and install 1 prefabricated cabinet 6' x 12'
- Supply and install 1 500-gallon Liquid Propane (LP) fuel tank(s), fill it with fuel and connect it to the generator.
- Supply and install fuel tank monitors on the tanks to monitor low fuel in tanks and run alarm wiring to the building located within 50 feet of the tank.
- Supply and install 1 standby power generator (35 kW) located within 20 feet of the ATS, including interconnection wiring between the generator, transfer switch, and site electrical service mains.
- Supply and install 1 120/240-volt, 200-amp, single-phase meter pedestal and hookup for electrical service by the local utility.
- Provide all trenching, conduit, and cabling necessary for underground hookup of power to the shelter from nearby utility termination located within 100 cable feet of the shelter.
- Supply and install a perimeter grounding system around the compound and shelter. The ground system is to tie to the fence and all new metal structures within the compound to meet current Motorola's R56 standards.
- Conduct 1 three-point ground resistance test of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of Cooke County, TX.
- Supply and install 1 freestanding 24-inch-wide cable/ice bridge from the tower to the shelter (up to 30 linear feet).

Tower Work

- Construct pier and pad type tower foundations including excavation, rebar and concrete (not to exceed 60 cubic yards).
- Erect new 200-foot self-supported tower with strobe lighting.
- Supply and install grounding for the tower base for self-supported towers

Antenna and Transmission Line Installation

- Install 2 antenna(s) for the RF system.
- Install 2 side arms for antennas.
- Install up to 470 linear feet of 7/8-inch transmission line.
- Perform sweep tests on transmission lines.
- Provide and install attachment hardware for supporting transmission lines on the antenna support structure every three feet.
- Supply and install 1 ground buss bar at the bottom of the antenna support structure for grounding RF cables before they make horizontal transition.

Existing Facility Improvement Work

- Supply and install 1 200-amp breaker panel with capacity for 30 circuits.
- Supply and install 2 30-amp breakers in the distribution panel and wire to outlets located on an average within 35 cable feet.
- Install 1 Type 2 surge protector on electrical service side of the ATS.
- Install 1 primary Type 1 surge protector on the room electrical feed to protect the equipment from surges.
- Install 1 automatic transfer switch and connect it to generator and electric main.

Miscellaneous Work

- Private locates
- Tower foundation spoils removal with 25 miles
- Install 20' culvert for compound access
- Engineered back fill for tower foundation - includes compaction and testing (60 cu yds)
- Supply and install 12' utility H-frame from mounting the meter, panel, surge suppressors

3.2.3 Site Development at Pentex Site

"Existing 400' Guyed tower and 12'x18'-3" shelter within the Pentex Power Co. complex.

Remove (2) antenna @ 400' and (1) 7/8" & (1) 1-1/4" coax. Install (2) new dipole style antennas. Access will need to be through a Security Gate with Pentex permission."

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Included
- Existing tower to be used for antennas – 400 ' Guyed Tower.

Motorola Responsibilities:

Site Acquisition

- Assist Cooke County, TX in negotiating an option/lease/license agreement (lease) and acquiring clear land title/site lease/shared use agreement for the candidate site.

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Prepare a lease exhibit and sketch of the site to communicate to the property owner the proposed lease space and planned development at the particular site location.

- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail.
- Prepare record drawings of the site showing the as-built information.
- Perform National Environmental Policy Act (NEPA) Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 Code of Federal Regulations (CFR) Chapter 1, subsection 1.1307 that may be potentially impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility “may have a significant environmental impact” and thus require additional documentation, submittals, or work.
- Provide a structural engineering analysis for antenna support structure, if necessary, to support the proposed antenna system. If the tower structure fails the analysis, the cost of any site relocation or modifications to the tower required to support the antenna system will be the responsibility of Cooke County, TX. NOTE: This task does not include mapping, structural measurement survey, materials testing, geotechnical investigation, and/or other field investigation to acquire the data. If applicable, these tasks will be noted separately in the SOW.

Site Preparation

- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.

Antenna and Transmission Line Installation

- Install 2 antenna(s) for the RF system.
- Supply and install 2 6-foot side arm(s) for antenna mounts.
- Install up to 750 linear feet of 7/8-inch transmission line.
- Perform sweep tests on transmission lines.
- Provide and install six hole hanger blocks and attachment hardware for supporting transmission lines on the antenna support structure every three feet.
- Supply and install 3 ground buss bar at the bottom of the antenna support structure for grounding RF cables before they make horizontal transition.

Existing Facility Improvement Work

- Install 30A single pole breakers in the panel and wire to UPS and surge protector located on an average within 35 cable feet
- Install 1 new single-phase UPS equipment and wire output to UPS distribution panel.
- Install 1 primary Type 1 surge protector on the room electrical feed to protect the equipment from surges.
- Ground all metallic objects in the interior of the existing room.

Miscellaneous Work

- Decommission (2) existing antennas and (1) 7/8" coax and (1) 1-1/4" coax. Dispose at an approved waste site
- Construction administration

3.2.4 Site Development at Rice Ave Site

Existing 350' Guyed tower and 12'x16' shelter behind Fire Station #2 Building. Remove (3) antenna @ 320' and (3) 1-5/8" coax. Install (2) dipole style antennas. Installation of a new 200A service from the existing fire building to be installed.

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Included
- Zoning Services – Included
- New power run – 100 feet, Electrical service type – Underground, 200-amp - 120/240-volt, single-phase.
- Existing tower to be used for antennas – 350 ' Guyed Tower.

Motorola Responsibilities:

Site Acquisition

- Assist Cooke County, TX in negotiating an option/lease/license agreement (lease) and acquiring clear land title/site lease/shared use agreement for the candidate site.

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Prepare a lease exhibit and sketch of the site to communicate to the property owner the proposed lease space and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail.
- Prepare record drawings of the site showing the as-built information.
- Provide a structural engineering analysis for antenna support structure, if necessary, to support the proposed antenna system. If the tower structure fails the analysis, the cost of any site relocation or modifications to the tower required to support the antenna system will be the responsibility of Cooke County, TX. NOTE: This task does not include mapping, structural measurement survey, materials testing, geotechnical investigation, and/or other field investigation to acquire the data. If applicable, these tasks will be noted separately in the SOW.
- Preparation, submission and tracking of application for local permit fees (zoning, electrical, building etc.) and procurement of information necessary for filing.

Site Preparation

- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.

Site Components Installation

- Supply and install 1 120/240-volt, 200-amp, single-phase meter pedestal and hookup for electrical service by the local utility.
- Provide all trenching, conduit, and cabling necessary for underground hookup of power to the shelter from nearby utility termination located within 100 cable feet of the shelter.

Antenna and Transmission Line Installation

- Install 2 antenna(s) for the RF system.
- Supply and install 2 6-foot side arm(s) for antenna mounts.
- Install up to 750 linear feet of 7/8-inch transmission line.
- Perform sweep tests on transmission lines.
- Provide and install attachment hardware for supporting transmission lines on the antenna support structure every three feet.

- Supply and install 3 ground buss bars at the top, middle and bottom of the antenna support structure for grounding RF cables before they make horizontal transition.

Existing Facility Improvement Work

- Supply and install 1 200-amp breaker panel with capacity for 30 circuits.
- Supply and install 8 30-amp breakers in the distribution panel and wire to outlets located on an average within 35 cable feet.
- Install 1 new single-phase UPS equipment and wire output to UPS distribution panel.
- Install 1 primary Type 1 surge protector on the room electrical feed to protect the equipment from surges.
- Supply and install 24-inch-wide cable runway (up to 30 linear feet) inside the existing room.
- Ground all metallic objects in the interior of the existing room, to meet current Motorola's Standards and Guidelines for Communications Sites (R56) requirements and terminate near equipment locations.
- Supply and install 2 copper ground buss bar(s).

Miscellaneous Work

- Decommission (3) existing antennas and associated 1-5/8" coax from 320'. Dispose at an approved waste site
- Installation of new 200 amp panel and surge devices
- Core existing shelter for new power
- Install LB into fire house building and tap existing panel
- Supply and install Harger master ground bar
- Hand digging in existing compound

Assumptions: All clarifications and exceptions contained in this Section (General Site Development Assumptions) take precedence over any other section of this Contract.

- Pricing does NOT include Prevailing Wages. No prevailing wage, certified payroll, mandatory union workers or mandatory minority workers are required for this work. In the event it is subsequently determined that Prevailing Wages are required, MSI will reimburse Pyramid for all costs required to attain compliance with Prevailing Wage requirements
- All work is assumed to be done during normal business hours as dictated by time zone (Monday thru Friday, 7:30 a.m. to 5:00 p.m.).
- All recurring and non-recurring utility costs [including, but not limited to, generator fuel (except first fill), electrical, Telco] will be borne by the Customer or site owner.
- All utility installations performed by the utility company shall be coordinated and paid for by the site owner and located at jointly agreed to location within or around the new communications shelter or equipment room.
- Site will have adequate electrical service for the new shelter and tower. Utility transformer, transformer upgrades, line, or pole extensions have not been included.
- Hazardous materials are not present at the work location. Testing and removal of hazardous materials, found during site investigations, construction or equipment installation will be the responsibility of the customer.
- A maximum of 30 days will be required for obtaining approved building permits from time of submission, and a maximum of 60 days will be required for zoning approvals from time of submittal.
- No improvements are required for concrete trucks, drill rigs, shelter delivery, and crane access.

- If extremely harsh or difficult weather conditions delay the site work for more than a week, Motorola will seek excusable delays rather than risk job site safety.
- The existing ground system and soil resistivity at the site is sufficient to achieve resistance of 10 ohms or less. Communication site grounding will be designed and installed per Motorola's R56 standards.
- The existing site has adequate room to expand and install the shelter, including lay-down and staging areas, without encroaching on wetlands, easements, setbacks, right-of-ways, or property lines.
- AM detuning or electromagnetic emission studies will not be required.
- Structural and foundation drawings of the antenna support structure will be made available to preclude the need for ultrasonic testing, geotechnical borings or mapping of existing tower structural members.
- Lead paint testing of existing painted towers has not been included.
- On the existing tower, the antenna locations for the proposed antenna system design will be available at the time of installation.
- The new shelter can be located within 20 feet of the existing tower location and the generator/fuel tank can be located within 25 feet of the shelter.
- Restoration of the site surroundings by fertilizing, seeding, and strawing the disturbed areas will be adequate.
- The site has adequate utility service to support the proposed equipment loading. Utility transformer upgrades or step-up or down transformers will not be required.
- Underground utilities are not present in the construction area and as such no relocation will be required.
- The existing cable support facilities from the antenna to the cable entry port can be used for supporting the new antenna cables.
- Structural analyses for towers or other structures that have not been performed by Motorola will relinquish Motorola from any responsibility for the analysis report contents and/or recommendation therein.
- The existing utility service and backup power facilities (UPS, generators) have sufficient extra capacity to support the proposed new equipment load.
- A clear obstruction-free access exists from the antenna location to the equipment room.
- The Customer does not desire upgrade of the existing site to meet Motorola's R56 standards.
- The floor can support the proposed new loading. Physical or structural improvements to the existing room will not be required.
- Tribal consulting fees, applications or administration costs have not been included
- Storm water management requirements, plans or implementation have not been included.
- The existing antenna support structure is structurally capable of supporting the new antenna, cables, and ancillary equipment proposed and will not need to be removed or rebuilt at the existing site. The tower or supporting structure meets all applicable EIA/TIA-222 structural, foundation, ice, wind, and twist and sway requirements. Motorola has not included any cost for structural or foundation upgrades to the antenna support structure.
- In absence of geotechnical reports, foundations and subsurface conditions for tower design are based on Presumptive clay soil parameters, as defined by EIA-222-G. Also, rock coring, piling, extensive dewatering of foundations, permanent casings or hazardous material removal has not been included.
- During site walks conducted 8/25/2020 (if applicable) tower, shelter, generator, etc. future locations have been determined. If the design layout changes from the site walks

PNS reserves the right to change pricing based on the new information or discovered changes.

- All excavations, clearing and grading within the lease area that was determined during site walks performed on 8/25/2020 are considered to be normal soils as defined by TIA/EIA-222-G : soil classification: Clay; as defined in the chart labeled "Presumptive Soil Parameters". Rock, non-cohesive soils, saturated or submerged soils are not considered normal soil.
- Any changes to the site locations or if the site is relocated outside of the parameters of the lease area determined during the site walks performed on 8/25/2020, will result in a new quote for all Site Development services.
- Exclusion:
 - All non-normal soils conditions within the lease area that was determined during site walks performed on 8/25/2020:
 - Rock breaking, rock coring, shoring, casings, design of dewatering systems, dewatering systems, hazardous materials, non-compactable material removal/haul off of spoils and/or supply of compactable engineered fill are not included in this proposal.
- Site construction drawings includes up to 2 revisions - Includes up to (4) sets of 24"x32" CDs
- Pricing valid for 180 days from submission

Completion Criteria

- Site development completed per issued for construction (IFC) construction drawings, project requirements, contractual obligations (including any customer/Motorola approved changes) and approved by Cooke County.
 - This shall be confirmed by contractor and reviewed with Motorola construction manager and project manager before inspections occur.
- All jurisdictional and contractual required testing and inspections to be performed by the contractor. (Contractual testing and inspections defined and agreed to with project team and customer prior to project kick off; vendor solely responsible for conducting, coordinating and paying for all jurisdictional testing and inspections).
- Motorola site development checklist shall be completed and signed off by contractor prior to customer inspection. (Review with project team and customer and amend checklist as required at project kick off or before work begins).
- Site turn-over package completed and turned over to Motorola (As defined and agreed to with project team and customer).
- All punch list and deficiencies shall be completed prior to customer and Motorola inspections.

SECTION 4

COVERAGE ACCEPTANCE TEST PLAN

4.1 OVERVIEW

This Coverage Acceptance Test Plan (CATP) is designed to verify that the voice radio system implemented by Motorola Solutions for Cooke County meets or exceeds the required reliability as shown on Motorola Solutions' maps. The CATP defines the coverage testing method and procedure, the coverage acceptance criterion, the test documentation, and the responsibilities of both Motorola Solutions and Cooke County.

Coverage Acceptance Testing is based upon a coverage prediction that accurately represents the implemented infrastructure and parameters that are consistent with the contract agreements. To characterize system performance accurately, the actual user equipment radio series deployed for Cooke County will be used to conduct the coverage test.

Subsequent sections define the coverage acceptance test configuration and test criteria.

4.2 CATP DEFINITIONS

Several definitions are needed to accurately describe the coverage acceptance test method and criteria. Where cited, these terms or methods are defined in TIA TSB-88.1-E¹ or TSB-88.3-E².

4.2.1 Defined Test Area

The defined test area is the geographical area in which communications will be provided that meet or exceed the specified Channel Performance Criterion (CPC) at the specified reliability for the specified equipment configuration(s). Coverage Acceptance Test Summary, along with names of the corresponding Motorola Solutions map(s) which show the defined test areas. In this case, the defined test area is the painted area shown on the coverage map referenced in Table 4-1.

Defined Test Area: The proposed coverage guarantee of 95% is within all areas shown on the coverage maps as being covered at a reliability of 95% or higher (i.e. colored areas of the map).

¹ *Wireless Communications Systems --- Performance in Noise- and Interference-Limited Situations --- Part 1: Recommended Methods for Technology Independent Performance Modeling* Technical Service Bulletin TSB-88.1-E, Telecommunications Industry Association (TIA), Arlington VA, 2018.

² *Wireless Communications Systems --- Performance in Noise- and Interference-Limited Situations --- Part 3: Recommended Methods for Technology Independent Performance Verification*, Technical Service Bulletin TSB-88.3-E, Telecommunications Industry Association (TIA), Arlington VA, 2018.

For coverage testing, The defined test area will be divided into a grid pattern by Motorola Solutions to produce at least the number of uniformly sized test locations (or tiles) required by the Estimate of Proportions formula. [TSB-88.3-E, §5.2.1, equation 2] The minimum number of test tiles required varies, from a hundred to many thousands, depending on the size of the defined test area, desired confidence in results, type of coverage test, and the predicted versus required reliability.

4.2.2 Channel Performance Criterion (CPC)

The CPC is the specified minimum design performance level in a faded channel. [TSB-88.1-E, §5.2] For this system, the CPC is the Delivered Audio Quality (DAQ) as stated in [Table 4-2](#) and [Table 4-3](#). The DAQ definitions are provided in Table 1-1. [TSB-88.1-E, §5.4.2, Table 3].

Table 4-1: DAQ Definitions

DAQ	Subjective Performance Description
1	Unusable, speech present but unreadable.
2	Understandable with considerable effort. Frequent repetition due to noise/distortion.
3	Speech understandable with slight effort. Occasional repetition required due to noise/distortion.
3.4	Speech understandable with repetition only rarely required. Some noise/distortion.
4	Speech easily understood. Occasional noise/distortion.
4.5	Speech easily understood. Infrequent noise/distortion.
5	Speech easily understood.

The CPC pass/fail criterion is the faded performance threshold, plus any adjustments for antenna performance, external noise, and in-building or in-vehicle losses. [TSB-88.1-E, §5.4.2, Figure 5] The faded performance threshold for the specified CPC is determined using the receiver's static reference sensitivity adjusted by the projected CPC parameters for the applicable Modulation Type and DAQ as listed in the current version of TSB-88.1, Annex A, Table A-1. For coverage testing of digital voice radio systems, the faded performance threshold is the applicable Bit Error Rate (BER) from the projected CPC parameters.

4.2.3 Reliability

The Covered Area reliability is the percentage of locations within the defined test area that are predicted to meet or exceed the specified CPC. The Motorola Solutions guaranteed coverage map indicates the Covered Area within which this system is predicted to provide at least the reliability of meeting or exceeding the CPC as stated in [Table 4-2](#) and [Table 4-3](#).

For the defined test area guaranteed for Covered Area reliability, only the painted covered area on Motorola Solutions' guaranteed coverage map will be tested for coverage acceptance. No acceptance testing will be performed in locations predicted on Motorola Solutions' maps to be below the required Covered Area reliability.

After all accessible tiles in the defined test area have been tested, the Covered Area reliability will be determined by dividing the number of tiles tested that meet or exceed the CPC pass/fail criterion by the total number of tiles tested. [TSB-88.3-E, §5.1, equation 1]

4.2.4 Direction(s) of Test

The direction(s) of test in [Table 4-2](#) and [Table 4-3](#) defines the direction(s) which will be tested for coverage acceptance. In this case, outbound only will be used as the only pass/fail criteria.

4.2.5 Equipment Configurations

This section defines the equipment configurations and infrastructure design parameters upon which the coverage guarantee and the coverage acceptance test are based. The equipment configurations are defined in [Table 4-2](#) and [Table 4-3](#), and include user equipment, outdoor/in-building definition, defined test area, number of test tiles, reliability, CPC, CPC pass/fail, and direction(s) of test. If the implemented system equipment configuration and/or infrastructure design parameters vary from the proposed system configurations and/or parameters, a revised coverage map will be used to define the test configuration and potential areas from which test tiles will be included in the revised coverage acceptance test.

Coverage testing will be conducted with equipment installed per the configurations in [Table 1-2](#) and [Table 4-3](#). The mobile test antennas will be in unobstructed locations that are not adjacent to other large objects or metallic items which would distort the antenna patterns.

Table 4-2: Cooke County Coverage Acceptance Test Summary – VHF P25

User Equipment	Outdoor / In-Building	Defined Test Area & Map Name	Number of Test Tiles	Reliability	CPC	CPC Pass/Fail	Direction(s) of Test
APX 8500 Mobile in SUV vehicle with other antenna mounted on the roof at least 4.92 ft high and 15 ft or less of coax	Outdoor	VHF P25 - 4 Site Portable On Street Outbound CATP Grid	7166 (0.25 mile tiles) OB	95%	DAQ-3.4	2.0% BER Outbound	Outbound Only

Table 4-3: Cooke County Coverage Acceptance Test Summary – 700 MHz P25

User Equipment	Outdoor / In-Building	Defined Test Area & Map Name	Number of Test Tiles	Reliability	CPC	CPC Pass/Fail	Direction(s) of Test
APX 8500 Mobile in SUV vehicle with other antenna mounted on the roof at least 4.92 ft high and 15 ft or less of coax	Outdoor	700 MHz – 4 Site Portable On Street Outbound CATP Grid	6205 (0.25 mile tiles) OB	95%	DAQ-3.4	2.0% BER Outbound	Outbound Only

4.2.5.1 Outdoor Only Coverage

Motorola Solutions' portable coverage prediction is for outdoor locations only. Portable coverage inside buildings and vehicles is not a design requirement of this system and is, therefore, not guaranteed.

4.2.6 CPC Pass/Fail Criteria for a Test Tile

For each equipment configuration, the CPC pass/fail criteria for a test tile is stated in [Table 4-2](#) and [Table 4-3](#). Each equipment configuration will have only one CPC pass or fail criterion for a test tile.

To measure BER, the coverage test will be performed with the appropriate attenuator value installed in the test radio antenna line, to establish an equivalent signal level performance for each equipment configuration.

Since this is a portable on-street test, additional attenuation is required. The attenuator values are provided in [Table 4-6](#).

This provides a method of verifying that the radio system provides the required BER or DAQ for the specified CPC for each of the defined equipment configurations.

Below are the attenuator values required to evaluate each equipment configuration. The methodology to determine the attenuator value is demonstrated in TSB-88.1-E §5.4.2, Figure 5. The attenuator value includes the proper values for the equipment configuration requirement plus adjustments for the test equipment setup. Should the test equipment setup losses (e.g. cable length) vary, an adjustment to the attenuator value may be required to represent the required equipment configuration accurately.

Table 4-6: Attenuator Values to Evaluate Each Equipment Configuration

User Equipment Configuration and Outdoor / In-Building	Attenuator Value
Portable outdoors (VHF)	To be determined upon final design
Portable outdoors (700 MHz)	To be determined upon final design

4.2.7 Required Number of Test Tiles in the Defined Test Area

The method used to test coverage is a statistical sampling of the defined test area to verify that the CPC is met or exceeded at the required reliability for each of the defined equipment configurations. It is impossible to verify every point within a defined test area, because there are infinite points; therefore, coverage reliability will be verified by sampling a statistically significant number of randomly selected locations, quasi-uniformly distributed throughout the defined test area. There is one test sample per test tile, where a sample consists of multiple sub-samples.

Coverage acceptance testing will be performed in the defined test area as indicated on Motorola Solutions-provided maps. To verify that the reliability requirement is met, the defined test area indicated on Motorola Solutions' maps will be divided into uniformly sized test tiles and will be at least the minimum required by the Estimate of Proportions formula.

Per TSB-88.3-E, the stated minimum outdoor tile size is 100 by 100 wavelengths; however, the minimum *practical* test tile size is typically about 400 by 400 meters (about 0.25 by 0.25 miles). The minimum practical tile size for any system is determined by the distance traveled at the speed of the test vehicle while sampling, GPS error margin, and availability of road access within very small test tiles. A related consideration is the time, resources, and cost involved in testing very large numbers of very small tiles. For a given defined test area, all test tiles must be of equal size. The maximum test tile size is 2 by 2 km (1.24 by 1.24 miles)

[TSB-88.3-E, §5.5.1]. In some wide-area systems, this constraint on maximum tile size may dictate a greater number of test tiles than the minimum number required by the Estimate of Proportions formula.

No acceptance testing will be performed in locations outside the defined test area as indicated on the Motorola Solutions-provided maps. Motorola Solutions and Cooke County may agree to perform “information only” tests in locations outside the defined test area; however, these “information only” test results will not be used for coverage acceptance. Any “information only” test locations must be defined before starting the test. If the added locations require significant additional time and resources to test, a change order will be required and Motorola Solutions may charge Cooke County on a time-and-materials basis.

4.2.8 Accessibility to Test Tiles

Prior to testing, Motorola Solutions and Cooke County will plan the route for the test vehicle(s) through the defined test area, to ensure that at least the minimum required number of tiles is tested. While planning the route (if possible) or during the test, Motorola Solutions and Cooke County will identify any test tiles that are inaccessible for the coverage test (due to lack of roads, restricted land, etc.). Inaccessible tiles will be eliminated from the acceptance test calculation. [TSB-88.3-E, §5.5.4]

If elimination of inaccessible test tiles results in less than a statistically significant number of test tiles or substantially alters the defined test area, Motorola Solutions reserves the right to adjust the predicted reliability based on the reduced number of accessible test tiles within the altered test area and the Estimate of Proportions formula. [TSB-88.3-E, §5.2.1, equation 2].

4.2.9 Random Selection of a Test Location in Each Tile

This CATP provides an objective method of randomly selecting and tracking test locations using Motorola Solutions’ Voyager coverage testing tool. The method follows TIA TSB-88.3-E §5.0, “Performance Confirmation”, and has direct correlation with Motorola Solutions’ coverage prediction methodology.

Using Voyager, the actual test location within each test tile will be randomly selected by the test vehicle crossing into the tile at an arbitrary point, with an arbitrary speed and direction. If the selected test location is in a shielded area such as a tunnel or underground parking garage, the data from that test location must be eliminated and a replacement test location must be used.

4.2.10 CPC Measurements in Each Tile

For Outbound BER in each test tile, a series of sequential measurements (subsamples) will be made while the test vehicle is moving at a typical speed for the surrounding environment. This test tile measurement, containing a number of subsamples, constitutes the test sample for this location. The test sample will establish the mean BER within the test tile. The BER subsamples will typically be measured for at least 1 second. A mean of multiple BER subsamples is used rather than a single measurement to ensure that the measurement is not biased by taking a single sample that might be at a peak or null point on the radio wave.

4.3 RESPONSIBILITIES AND PREPARATION

This section identifies the responsibilities of Cooke County and Motorola Solutions regarding requirements for equipment, personnel, and time during the coverage test.

Cooke County will provide the following for the duration of the coverage test:

- At least one test vehicle(s) that is representative of the vehicles to be installed with radios, and will provide the driver(s).
- Exclusive use of the test channels required by Motorola Solutions during the test.
- Radios for the testing.
- For mobile coverage testing, the antenna must be mounted per the equipment configuration.

Motorola Solutions will provide the following for the duration of the coverage test:

- At least one Motorola Solutions Voyager coverage testing tool. As required, Motorola Solutions will provide a receiver signal strength calibration file for the test radio(s) used with the Voyager coverage testing tool.

Before starting the test, Cooke County and Motorola Solutions will agree upon the time frame for Motorola Solutions' submission of a report containing the coverage test results.

4.4 CATP PROCEDURES

A coverage acceptance test will be performed using Motorola Solutions' Voyager tool to randomly select test locations, and to manage BER data collection.

Voyager consists of the following:

- A voice test radio connected to an antenna installed in a representative location on the test vehicle. The test radio will monitor transmissions from the fixed network radio site(s).
- A Global Positioning System (GPS) receiver, which will provide the computer with the location and speed of the test vehicle.
- A laptop computer with Voyager software and a mapping database, which includes highways and local streets.

The procedure for the objective BER coverage test will be as follows:

- The Voyager tool will be installed in a test vehicle, which will be driven over a route planned to cover the accessible tiles within the defined test area.
- During the coverage test, the laptop computer screen will display the vehicle's location on a map of the defined test area overlaid with the grid of test tiles. Voyager will automatically initiate measurements when the GPS receiver indicates that a test tile has been entered. The computer will provide a visual indication that a measurement has been completed in a tile. Voyager will manage the coverage test data collection, and will store the outbound measurements for each tested tile for later analysis.
- Any tile that fails the objective BER test described above will be re-tested using a subjective DAQ test. Any tile that fails the objective BER test, but passes the subjective DAQ re-test will be declared passed.

The procedure for the subjective DAQ re-test of failed BER tiles (if needed) will be as follows:

- A subjective listening re-test will be performed on tiles that fail the objective BER test, to verify undefined DAQ performance of those tiles.
- Talk-out and talk-in will be evaluated independently
- To perform a statistically valid subjective DAQ test, a large group of people is required to ensure high confidence in the results. However, obtaining a large group of people for a subjective listening test is usually impractical; therefore, several (three to seven) people in a car or van must be used for the test. Since a group this small cannot provide statistically significant results, it is very important that the personnel participating in the subjective test be familiar with the sound of radio conversations. Before subjectively testing, all personnel who will evaluate audio quality must be “calibrated” by listening to examples of audio that pass and fail the subjective DAQ test.
- A fixed dispatch location will be established. Prior to testing, Cooke County and Motorola Solutions will agree upon a procedure to allow each audio transmission to be evaluated for approximately five seconds.
- The test participants will be divided into teams, each consisting of personnel from both Cooke County and Motorola Solutions. Each team will have members that operate a mobile and portable radio in the field, and members that are stationed at the fixed dispatch location.
- As the field test team(s) drive through the coverage area, test locations within each re-test tile will be selected randomly by Voyager’s GPS location indication. Voyager will be used to log the talk-in and talk-out pass/fail result as well as any pertinent notes for the location.
- At each re-test tile location, each field test team member will listen to a talk-out audio transmission, and will record his or her subjective pass/fail evaluation of the DAQ for the tile. Team members stationed at the dispatch location will evaluate talk-in audio quality of transmissions from the test radio(s) in that tile. Each team member will maintain a test log to record date, time, and subjective pass/fail evaluation for each re-test tile location. Subjective pass/fail evaluation will be based on the outbound DAQ descriptions in [Table 4-1](#). The determination of whether each re-test tile passes or fails the required DAQ value will be the majority vote of all team members’ pass/fail subjective evaluations for that tile. An odd number of team members are required to avoid ties for the pass/fail majority vote.

4.5 CATP DOCUMENTATION AND COVERAGE ACCEPTANCE

During the coverage acceptance test, Voyager generates computer files that include the raw test data. A copy of this data will be provided to Cooke County at the conclusion of the coverage test. Motorola Solutions will process this data to produce a map detailing the coverage test results, and to determine whether the coverage test was passed for each user equipment configuration.

The coverage acceptance criterion for a user equipment configuration will be that the voice radio system implemented by Motorola Solutions for Cooke County meets or exceeds the reliability stated in [Table 4-2](#) and [Table 4-3](#) for that user equipment configuration. The system coverage acceptance criterion will be the successful passing of each of the user equipment configurations defined in [Table 4-2](#) and [Table 4-3](#).

Motorola Solutions reserves the right to review any test tiles that fail. Any tile that fails the objective BER test may be re-tested using a subjective DAQ test. Any tile that fails the objective BER test, but passes a subjective DAQ re-test will be declared passed. If a

coverage test, or a portion thereof, is suspected by Motorola Solutions to have failed due to external interference, those tiles suspected of being affected by an interferer may be re-tested. If the test tiles re-tested are confirmed to have failed due to interference or external noise, those test tiles will be excluded from all acceptance calculations and Motorola Solutions will work with Cooke County to identify potential solutions to the interference issues.

Motorola Solutions will conduct this Coverage Acceptance Test only once. If any portion of the test is determined to be affected by proven equipment malfunctions or failures, Motorola Solutions will repeat the portion of the test affected by the equipment malfunction or failure. Cooke County will have the option to accept the coverage at any time prior to completion of the coverage test or documentation process.

Motorola Solutions will submit to Cooke County a report detailing the coverage test results. This report will include a document, which is to be signed by both Cooke County and Motorola Solutions, indicating the test was performed in accordance with this CATP and the results of the test indicate the acceptance or non-acceptance of the coverage portion of the system.

SECTION 5

WARRANTY AND MAINTENANCE PLAN

Motorola places great emphasis on ensuring that communications systems, such as the one proposed for Cooke County, meet Motorola's high standards for design, manufacture, and performance. Motorola offers its standard commercial warranty and optional post-warranty services as outlined in this section.

5.1 ESSENTIAL SERVICES OVERVIEW

In order to ensure that the Cooke County has access to technical support teams and resources for troubleshooting and maintenance, Motorola Solutions proposes our Essential Services offering to the Cooke County. Appropriate for customers who need immediate access to Motorola's technical personnel, Essential Services provide remote assistance to address unforeseen network events, make necessary repairs to network components, and deliver patches to keep Cooke County's system secure. The proposed offering consists of the following specific services:

- Service Desk.
- Technical Support.
- Network Hardware Repair.
- Self-Installed Security Patches.

These services will be delivered to Cooke County through a centralized team within Motorola's Solutions Support Center (SSC), which operates on a 24 x 7 x 365 basis; and through Motorola's Repair Depot, which will ensure that equipment is repaired to the highest quality standards.

5.2 ESSENTIAL SERVICES DESCRIPTIONS

5.2.1 Centralized Service Delivery

Centralized support will be provided by Motorola's support staff, located at our Service Desk and Solutions Support Center (SSC). These experienced personnel will provide direct service and technical support through a combination of Service Desk telephone support, technical consultation and troubleshooting through the SSC, and ongoing network monitoring of Cooke County's system.

Motorola will provide **Service Desk** response as a single point of contact for all support issues, including communications between Cooke County, third-party subcontractors and manufacturers, and Motorola. When Cooke County's personnel call for support, the Service Desk will record, track, and update all Service Requests, Change Requests, Dispatch Requests, and Service Incidents using Motorola's Customer Relationship Management (CRM) system. The Service Desk is responsible for documenting Cooke County's inquiries,

requests, concerns, and related tickets; tracking and resolving issues; and ensuring timely communications with all stakeholders based on the nature of the incident.

As tickets are opened by the Service Desk, issues that require specific technical expertise and support will be routed to our Solutions Support Center (SSC) system technologists for **Technical Support**, who will provide telephone consultation and troubleshooting capabilities to diagnose and resolve infrastructure performance and operational issues.

Motorola's recording, escalating, and reporting process applies ISO 90001 and TL 9000-certified standards to the Technical Support calls from our contracted customers, reflecting our focus on maintaining mission-critical communications for the users of our systems.

5.2.2 Network Hardware Repair

Motorola's authorized Repair Depot will repair the equipment provided by Motorola, as well as select third-party infrastructure equipment supplied as part of the proposed solution. The Repair Depot will manage the logistics of equipment repair (including shipment and return of repaired equipment), repair Motorola equipment, and coordinate the repair of third-party solution components.

5.2.3 Security Management Operations

The proposed **Self-Installed Security Patches Service** will provide Cooke County with security updates that are pre-tested by Motorola and installed by Cooke County's personnel. Motorola's dedicated vetting lab will pre-test security updates for the proposed ASTRO 25 system release. When appropriate, Motorola will make these updates available to outside vendors in order to enable them to test each patch, and will incorporate the results of those third-party tests into the updates provided to Cooke County. Once an update is fully tested and ready for deployment in Cooke County's system, Motorola will post it to a secured extranet website and send an email notification to Cooke County. If there are any recommended configuration changes, warnings, or workarounds, Motorola will provide detailed documentation for Cooke County along with the updates on the website.

5.3 MOTOROLA'S SERVICE CAPABILITIES

Our focus on the needs of our public safety partners has led us to recognize that an integrated implementation and service delivery team that takes a new system from system installation, to acceptance, to warranty, and all the way through extended maintenance, is the best way to ensure that public safety communications systems meet the needs of first responders. Motorola's team of experts, have developed refined processes and sophisticated tools through our experience in delivering mission-critical communications.

5.3.1 On-Call Support through the Solutions Support Center (SSC)

The cornerstone of our customer care process, Motorola's Solution Support Center (SSC) is staffed 24x7x365 by experienced system technologists. This TL 9000/ISO 9001-certified center responds to over 5000 public safety, utility, and enterprise customers. With over 100,000 phone and email interactions with Motorola customers per month, the SSC provides our customers with a centralized contact point for service requests.

5.3.2 Centralized Repair Management through Motorola's Repair Depot

Our repair management depot coordinates component repair through a central location, eliminating the need to send system equipment to multiple vendor locations for repair. Once equipment is at the depot, technicians will replicate Cooke County's network configuration in our comprehensive test labs in order to reproduce and analyze the issue. Technicians will then restore the equipment to working order. After repairs are completed, equipment will be tested to its original performance specifications and, if appropriate, configured for return to use in Cooke County's system. All components being repaired are tracked throughout the process, from shipment by Cooke County to return through a case management system where users can view the repair status of the equipment via a web portal.

5.3.3 Direct Access to System Information through MyView Portal

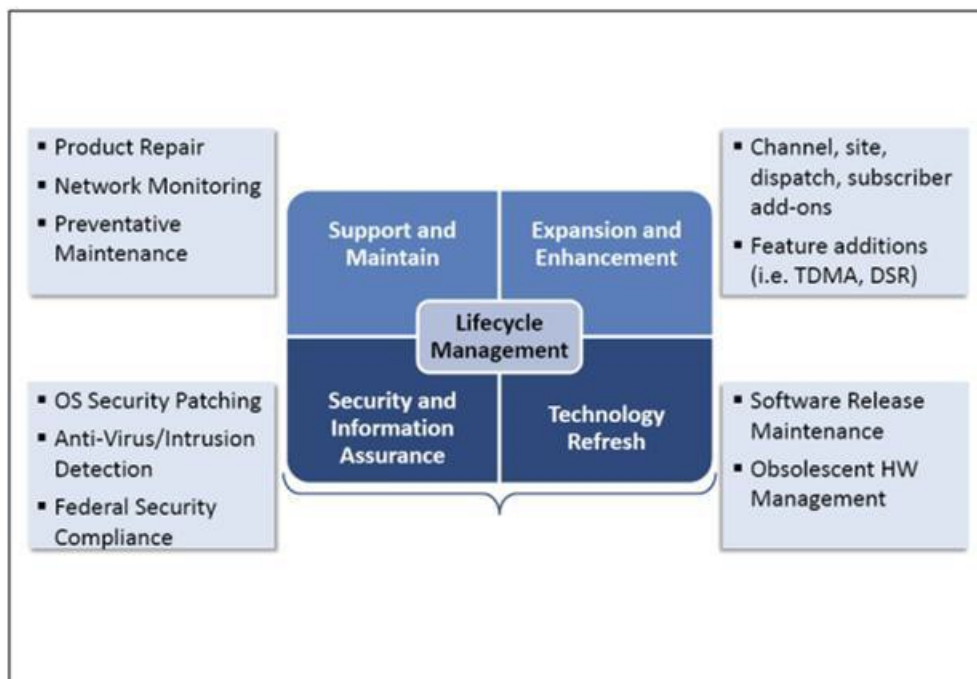
Supplementing Motorola's proposed services plan for Cooke County, is access to Motorola's online system information tool, MyView Portal. MyView Portal provides our customers with real-time visibility to critical system and services information, all through an easy-to-use, graphical interface. With just a few clicks, Cooke County's administrators will gain instant access to system and support compliance, case reporting, ability to update and create cases, have visibility to when the system will be updated, and receive pro-active notifications regarding system updates. Available 24x7x365 from any web-enabled device, the information provided by MyView will be based on your needs and user access permissions, ensuring that the information displayed is secure and pertinent to your operations.



Figure 5-1: MyView Portal offers real-time, role-based access to critical system and services information.

5.4 LIFECYCLE MANAGEMENT

Lifecycle management of Cooke County’s Land Mobile Radio network (LMR network), also referred to as ASTRO 25 system, is critical to keeping it secure, operational, expandable, and up-to-date. Throughout the lifecycle of Cooke County’s LMR network, maintenance and sustainment activities will be required. (Refer to the diagram below.)



Some activities will occur daily (for example, network health monitoring), as needed (for example, lightning strike damages equipment), while others will occur in accordance with the cadence of your lifecycle plan (for example, periodic updates of computers and software). Through a lifecycle sustainment plan and with custom-tailored lifecycle products and services Cooke County’s LMR network will be able to support your communications requirements well into the future.

The ASTRO 25 LMR network is an integrated end-to-end solution that delivers mission-critical LMR services to Cooke County’s. The foundation of the ASTRO 25 network is an information technology (IT) based call processing core that incorporates both Motorola Solutions and third-party Original Equipment Manufacturer (OEM) software and hardware components. These components follow typical IT industry lifecycles and eventually require replacement due to obsolescence. As with IT computing platforms and other enterprise business systems, the pace of technology obsolescence is primarily driven by commercial OEM products that frequently change and transition into declining levels of support and availability. Consequently, systems without a plan for regular updates can become increasingly difficult and expensive to repair and may also become more vulnerable to security attacks. Additionally, un-updated systems may not be able to take advantage of advancements in technology that provide enhanced features and performance and may be limited in their ability to expand. Development of a lifecycle sustainment plan provides a roadmap for anticipating and implementing actions to address obsolescence and support limitations. A well developed lifecycle sustainment plan provides these benefits:

1. **Operations sustainment:** Ability to maintain highest level of performance and functionality of system operations.
2. **Network security and information assurance:** Protection against system vulnerabilities that may compromise network security and confidential information. Compliance to these security requirements (NIST 800-53, NENA NG911, DHS 4300, DOD 8500.2, etc).
3. **Support for growth and expansion:** Ability to add users, channels and features; expand system coverage and capabilities and/or add-on new agencies.
4. **Fiscal stability:** Planned fiscal approach for system maintenance mitigating risk of unplanned expenses. Inability to fund required maintenance services can result in degradation of operation.
5. **CapEx Return on Investment (ROI):** Protection against premature deterioration and obsolescence and extension of the system lifespan, thereby reducing the total cost of ownership.

5.5 SYSTEM UPGRADE AGREEMENT II

In order to keep Cooke County’s LMR system current, Motorola offers the System Upgrade Agreement II (SUA II). This is a complete package of hardware, software, and professional services required to update Cooke County’s ASTRO 25 system up to once in a two-year period to a level consistent with the latest system release shipping from the factory.

Updates to software (and occasionally) hardware components ensure ongoing availability of repair services support, system expansion (e.g. addition of RF sites, dispatch positions, data sub-systems, or network management positions), and the latest cyber security protection.

The SUA II provides a consistent, budgeted solution that delivers complete update coverage while transferring risk associated with integrating future (unknown today) technology to Motorola.

Features Descriptions	SUA II
Incremental Software Enhancements (Bug Fixes)	✓
Software Release Updates	✓
Hardware Refresh	✓
Factory-certified integration, testing, and supply chain management of new software (SW) and hardware (HW) components	✓
Professional implementation services to upgrade your live system	✓

As system releases become available, Motorola will provide you with the software, hardware and implementation services required to execute up to one system infrastructure upgrade in a two-year period for your ASTRO 25 system.

Hardware updates include version updates and/or replacements for Motorola's field replaceable units (FRU) and third-party networking and computing hardware when required by the software release. Platform migration like replacement of Gold Elite consoles and QUANTAR base radios are not included in this update.

- System releases include commercial OS and application software updates as well as Motorola certified software to improve the system functionality and operation from previous releases as well as significant new feature enhancements that are available for purchase.
- Implementation services include factory integration and testing of new HW and SW components, upgrade planning, and Motorola's personnel at Cooke County's site to execute upgrade.

SECTION 6

TRAINING PLAN

6.1 TRAINING OVERVIEW

Partnering with Motorola Solutions will enable Cooke County to build personnel competency and maximize return on investment.

Effective training ensures successful implementation and use of your communications system by all personnel for the life of the system. The training plan furnished to Cooke County is comprised of targeted coursework developed and delivered by our expert instructors. This plan, included below, will effectively provide Cooke County's personnel with a comprehensive understanding of the proposed system and user equipment.

We will collaborate with Cooke County to tailor a final training plan to enable Cooke County's organization to operate, configure, and manage the proposed solution effectively and efficiently.



6.2 MOTOROLA SOLUTIONS TRAINING

Motorola Solutions provides an expanding portfolio of training delivery methods, tools, and courses to support the training needs of our customers. The figure below shows the elements of our training methodology that qualify us as the leader in the communications training industry.

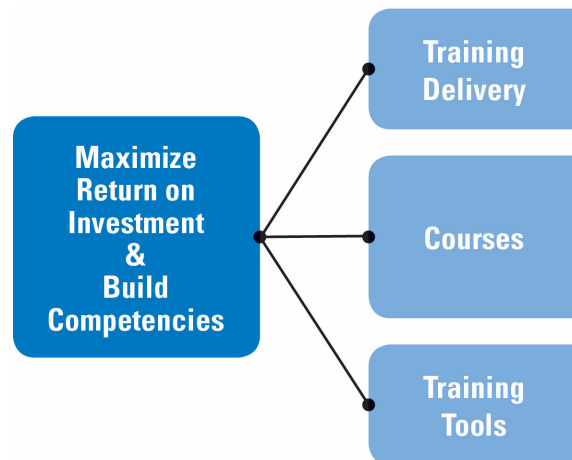


Figure 6-1: Build the competencies of Cooke County personnel and maximize your return on investment with Motorola Solutions' expanding portfolio of training delivery methods, tools, and courses.

6.2.1 Training Delivery

Training Methods

Motorola Solutions' training experience and expertise enables our customers to gain the training they need to use during critical times in a variety of methods. As shown in the figure below, we offer four interactive methods of training: Online Self-Paced, Virtual Instructor-Led, Instructor-Led, and our *new* Integrated Training Environment.

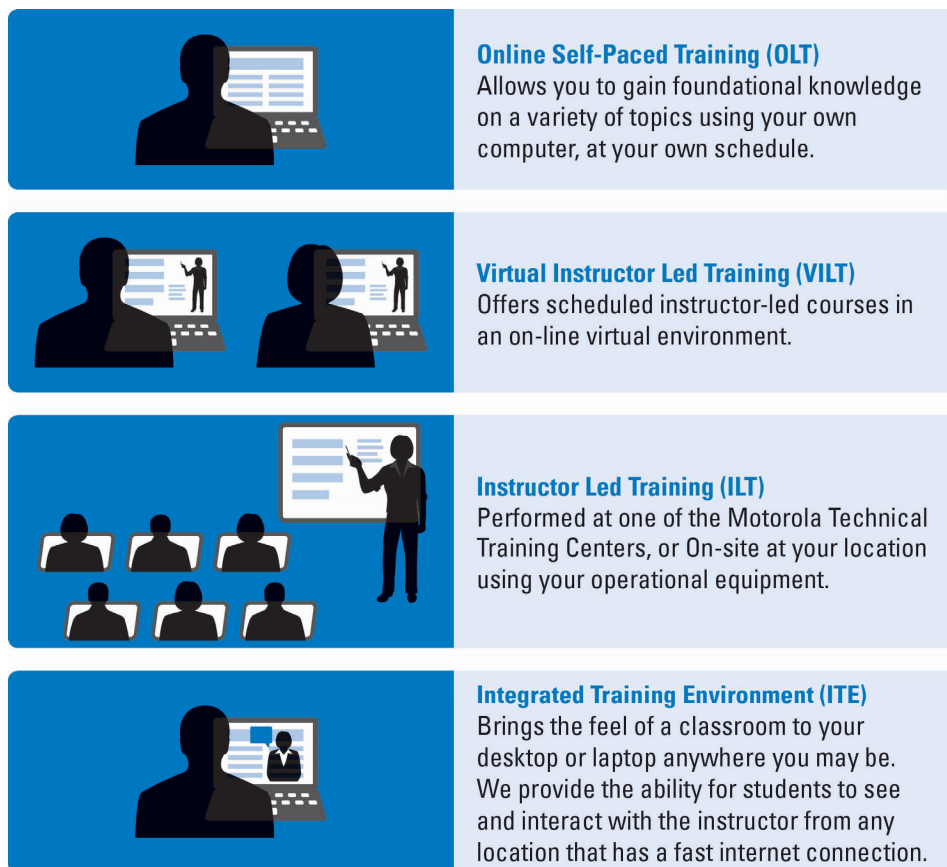


Figure 6-2: Motorola Solutions offers a variety of interactive training methods that cater to different learning techniques, allowing more effective ways to give personnel the skills they need.

These training approaches ensure our customers receive the understanding they need for the practical aspects of their jobs.

Motorola Solutions Instructors

We have approximately 40 instructor resources distributed across North America. These instructors are available to train customers in our Technical Training Center located in Schaumburg, Illinois, while specific training courses are available at our facility in Plantation, Florida. Training can also be delivered directly on-site at customer locations. All instructors undergo an Instructional Skills and Technical Knowledge Program, which is a globally-recognized training and instructor assessment program.

Consultative Services

Motorola Solutions provides consultative services for our customers, which includes personalized training plans and other training-related services. Our dedicated training consultant team works with our customers and Motorola Solutions account teams to identify and meet the training needs of technical, administrative end users, and other audiences.

6.2.2 Training Courses

Motorola Solutions offers a wide range of training courses to help our customers improve their proficiency with our expanding portfolio and get the most from their training system.

Our specialized courses/curriculums are designed for our customers' role. Whether they are an administrator, technician or user, Motorola Solutions makes sure our customers are equipped with foundational and advanced skills.

General overviews of some of the product and/or solution training Motorola has to offer is listed below:

Foundational Radio and Networking Training

Foundational Radio and Networking training provides new hires or staff from different skilled backgrounds fundamental knowledge. Some of these courses are online/self-paced while others are instructor led. Some topics include: Radio System Basics, Basic Networking, Communication System Concepts, Networking Essentials and Applied Networking. This allows Motorola Solutions to offer training before installation, during installation and after your solution is operational.

ASTRO 25 Infrastructure Training Courses

ASTRO 25 Infrastructure Training provides participants with a full curriculum that will enable them to maintain/service the new solution, and will give them the skills required to manage and operate the solution to obtain its fullest potential and capabilities.

ASTRO 25 Patch Management Training Course

ASTRO 25 Patch Management Training provides ASTRO 25 Land Mobile Radio (LMR) system administrators the information needed to access and patch their radio network infrastructure, update antivirus definitions, and review log files.

MCC Console Training Courses

MCC Console Training provides participants with a curriculum that will enable them to obtain a high-level understanding of the system configuration, general console operation, how to perform basic tasks, operating procedures for specific features, and the knowledge and skills necessary to manage and maintain the system.

APX Mobile and Portable Radio Training Courses

APX Mobile and Portable Radio Training provides participants with an introduction to the radio, the knowledge and skills necessary to perform basic radio operation, common operational tasks, operating procedures for specific features of the radio, and technical programming and maintenance of radios.

6.3 PROPOSED TRAINING FOR COOKE COUNTY

Motorola has included the following training courses for Cooke County. If Cooke County would like any additional training courses other than what has been proposed, a Motorola representative can review class offerings and design a learning plan that will fit Cooke County's requirements.

It is necessary that participants bring their laptop computers for all system administrator and technician classes. Materials will be delivered electronically via USB drives.

6.3.1 MCC7500 Console Operator and Supervisor Training Plan (valid with the proposed Trunked solution)

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
MCC7500 Console Operator and Admin Utilizing the Interactive End User Tool Kit 2 training consoles (Instructor-led)	Dispatch Supervisors	1 (8-hour session)	1 day	US	Prior to cutover	2
MCC7500 Console Operator 2 training consoles (Instructor-led)	Dispatch Operators	2 (4-hour sessions)	1 day	US	Prior to cutover	8 (4 per session)

6.3.1.1 MCC7500 Console Supervisor

Course Synopsis and Objectives:	This course provides participants with the knowledge and skills to manage and utilize the MCC7500 console administrator functions. Through facilitation and hands-on activities, the participant learns how to customize the console screens. After completing this training course, you will be able to: <ul style="list-style-type: none"> ▪ Understand the menu items and tool bar icons. ▪ Edit folders, multi-select/patch groups, auxiliary input output groups, windows and toolbars. ▪ Add/delete folders.
Delivery Method:	ILT - Instructor-led training
Duration:	4 hours Operator, plus 4 hours Admin
Participants:	Dispatch Supervisors and System Administrators
Class Size:	Based on number of Training Consoles available (2 students per Console)
Prerequisite:	None

Curriculum:	<ul style="list-style-type: none"> ▪ Introduction. ▪ Configurations. ▪ Folders and Resource Setup. ▪ Customizing Folders. ▪ Auto Starting the MCC 7500 Dispatch Console. ▪ Editing Preferences. ▪ Configuring the Toolbar. ▪ Setting Up Aux IOs. ▪ Resource Groups.
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6.3.1.2 MCC7500 Console Operator

Course Synopsis and Objectives:	<p>This course provides participants with an introduction to the dispatch console, its basic operation and tailored job aids which will be available for assistance in operation. Through facilitation and hands-on activities, the user learns how to perform common tasks associated with the console operation.</p> <p>After completing this training course, you will be able to:</p> <ul style="list-style-type: none"> ▪ Perform basic operational tasks of the dispatch console. ▪ Utilize the provided job aids to perform specific tasks associated with the console. ▪ Understand a high level view of the system configuration. ▪ Understand a high-level overview of the customer system configuration. ▪ Understand general console operation. ▪ Understand proper operating procedures for specific customer features.
Delivery Method:	ILT - Instructor-led training
Duration:	4 hours
Participants:	Dispatch Console Operators, Supervisors, System Administrators, and Support Personnel
Class Size:	Based on number of Training Consoles available (2 students per Console)
Prerequisite:	None
Curriculum:	<ul style="list-style-type: none"> ▪ Overview. ▪ Communicating with Radios. ▪ Advanced Signaling Features. ▪ Resource Groups. ▪ Working with Configurations. ▪ Working with Aux IOs. ▪ Troubleshooting.

6.3.2 APX Device Training Plan (valid with the proposed 700MHz options)

6.3.2.1 Foundation

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
APX Quick Start Course#: AEE0401 (Online; Self-paced)	Radio Technicians	1	2 hours	Online; Self-paced	Prior to remaining classes	12

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
APX Radio Management Overview Course#: AST2003 (Online; Self-paced)	Radio Technicians	1	1 hour	Online; Self-paced	Prior to remaining classes	12

6.3.2.1.1 APX Quick Start

Course Synopsis and Objectives:	<p>This training is designed to give you an in-depth introduction to the APX mobiles and portables. You will learn basic information on where APX fits into the Motorola line of mission critical radios, the radio's features, capabilities and available accessories. This course also provides an overview of the APX programming software (CPS) and the new programming keys (Advanced System Keys).</p> <p>After completing this course, the student will be able to:</p> <ul style="list-style-type: none"> • Describe the features and capabilities of portable and mobile APX radios • Describe the APX Customer Programming Software (CPS) at high level • Describe the Advanced System Keys (ASK) at a high level • Find various resources to learn more about, get support on, and order APX radios.
Delivery Method:	OLT – Online Training
Duration:	2 hours
Participants:	Radio Technicians
Class Size:	Class Size may vary by region
Prerequisite:	None
Curriculum:	N/A

6.3.2.1.2 APX Radio Management Overview

Course Synopsis and Objectives:	<p>This course provides an overview of the features and functions of the APX series Radio Management software. Participants will learn what the Radio Management software is designed to do, and will also learn how to use it to program large and small groups of subscribers.</p> <p>By the end of the course, you will be able to:</p> <ul style="list-style-type: none"> ▪ Identify the solution that Radio Management provides ▪ Differentiate between All-in-One PC needs and Distributed Use needs regarding Radio Management ▪ Locate the APX Radio Management ▪ Navigate the APX Radio Management screens ▪ Populate the database ▪ Schedule a Read job ▪ Manage multiple APX radios simultaneously ▪ Create, modify, and select programming templates ▪ Schedule a Write job ▪ Conduct a search ▪ Search, sort, and group radios ▪ Sort and manage information in the Table view ▪ Identify the function of the Job view
Delivery Method:	OLT – Online Training
Duration:	1 hour

Participants:	Motorola Solutions technical employees, Motorola Solutions service shops, Channel Partner technicians, self-maintained customers
Class Size:	Class Size may vary by region
Prerequisite:	None
Curriculum:	N/A

6.3.2.2 Administration

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
APX CPS Programming and Template Building Course#: APX7001V (Instructor-led)	Radio Technicians	1	2 days	Continental U.S.	Prior to programming radios	Up to 12
APX Radio Management Workshop Course#: RDS2017 (Instructor-led)	Radio Technicians	1	2.5 days	Continental U.S.	Prior to maintaining radios	Up to 12

6.3.2.2.1 APX CPS Programming & Template Building

Course Synopsis and Objectives:	<p>The APX CPS Programming and Template Building course provides communications management personnel and technicians with the knowledge and training necessary to build templates and program APX portable/mobile subscriber radio's in the most efficient way possible. The content, parameters and exercises demonstrated in this class apply to the APX portable and APX mobile.</p> <p>After completing this course, the student will be able to:</p> <ul style="list-style-type: none"> - Build APX portable/mobile templates using the APX Customer Programming Software (CPS) Program the specific parameters related to various radio system configurations: Conventional, Single Site Trunking, Simulcast, SmartZone, ASTRO 25 and ASTRO 25 X2 - Demonstrate detailed knowledge of APX CPS navigation, tools, options and features that make efficient programming of the radio possible - Demonstrate a complete understanding of APX CPS efficiency tools, such as Cloning, Drag and Drop, Codeplug Comparison, Radio Flashing, Advance System Key Administration and others.
Delivery Method:	<p>ILT – Instructor-led Training</p> <p>Can also be taught as VILT – Virtual Instructor-led Training</p>
Duration:	<p>2 days in the field</p> <p>4 days total when combined with Radio Management (RDS2017)</p> <p>VILT – 2.5 hours per day for 5 days</p>
Participants:	Radio Technicians, System Managers and anyone responsible for programming APX subscriber radios
Class Size:	Up to 12
Prerequisite:	Knowledge of the basic features and options of two-way radios, and the basic concepts of conventional and trunking systems

Curriculum:	<ul style="list-style-type: none"> ▪ Introduction to APX portable Radio ▪ Introduction to APX CPS ▪ APX CPS Install, Setup and Configuration ▪ Navigating APX CPS ▪ APX CPS Data Transfer including POP25/OTAP ▪ Understanding and Interpreting Radio Information ▪ Detailed Review of Codeplug Contents ▪ APX Conventional Codeplug Build ▪ APX Type II Trunking Codeplug Build ▪ APX ASTRO 25 Trunking Codeplug Build ▪ Building Scan List ▪ Additional/Advanced CPS Functionality
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6.3.2.2.2 APX Radio Management Workshop

Course Synopsis and Objectives:	<p>Participants will learn the capabilities, features, and functions of the APX Radio Management Suite. This course will cover an APX CPS overview, APX Radio Management Overview, Basic Networking Primer, ASTRO25/CEN Networking and UNS Overview, and APX Radio Management Installation, Configuration, and Operations. In addition, the course will contain labs that will focus on installation, configuration, and operation using both wired and POP25 updates to APX Subscriber radios in both a LAN and WAN environment.</p> <p>After completing this course, the student will be able to:</p> <ul style="list-style-type: none"> ▪ Describe the APX Radio Management Suite operations and required software and hardware components ▪ Describe all deployment options for APX Radio Management Suite ▪ Configure a basic APX Radio Management system using a single PC, multiple PCs on a LAN, and multiple PCs on a WAN. ▪ Troubleshoot common APX Radio Management installation, configuration, and operation issues ▪ Use Best Practices to implement and optimize Radio Management Performance
Delivery Method:	ILT = Instructor Led Training
Duration:	2.5 days
Participants:	Radio Technicians, System Managers, Radio Programmers
Class Size:	Up to 12
Prerequisite:	Completion of the following courses or equivalent experience in radio communications: APX CPS Programming and Template Building Overview (APX7001-V)
Curriculum:	N/A

6.3.2.3 Maintenance

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
APX Technical Subscriber Academy Course#: APX010 (Instructor-led)	Radio Technicians	1	5 days	Continental U.S.	Prior to maintaining radios	Up to 12

6.3.2.3.1 APX Technical Subscriber Academy

Course Synopsis and Objectives:	<p>This course focuses on the knowledge required for a 2-way Radio Technician working in a communication environment or using the family of APX radios in the field. The course is specifically designed to provide significant amounts of hands-on, scenario based labs around configuration and troubleshooting. Key Loading and Management, Encryption, Over-The Air Programming and Mobile Radio Installation are some of the topics that will be covered in detail for both mobile and portable radios.</p> <p>After completing this course, the student will be able to:</p> <ul style="list-style-type: none"> - Distinguish between the features and specifications of APX portable and APX mobile radios. - Verify the correct operations of the APX portable and the APX mobile radio. - Maintain and troubleshoot an APX portable and APX mobile radio. - Disassemble and reassemble the radio using the documented procedures. - Verify the housing integrity of an APX portable radio. - Flash upgrade an APX portable and APX mobile radio.
Delivery Method:	ILT–Instructor-led Training (Classroom)
Duration:	5 days
Participants:	Radio technicians
Class Size:	Up to 12
Prerequisite:	<p>Completion of the following courses or equivalent experience in Radio Communications:</p> <ul style="list-style-type: none"> - Communication Systems Concepts (NST021) - APX CPS Programming and Template Building Overview (APX7001V)
Curriculum:	<ul style="list-style-type: none"> - APX Radio Introduction - APX Radio Performance Checks - APX Radio Alignment - APX Radio Theory of Operation - Radio Disassembly/Reassembly - Vacuum Testing For Submergibility - Mobile Radio Installation and Configuration - Advanced Customer Programming Software - Radio Troubleshooting

6.3.2.4 Device Best Practices

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
<p>APX Portable (1 Model) and APX Mobile (1 Model) Train-the-Trainer</p> <p>Utilizing the Interactive End User Tool Kit (Instructor-led)</p>	Radio Trainers	1 (8 hr) Session	1 day	Continental U.S.	Prior to training	15

6.3.2.4.1 APX Portable (1 Model) & APX Mobile (1 Model)

Course Synopsis and Objectives:	<p>This course provides APX radio trainers with an introduction to their radio, its basic operation and tailored job aids available for assistance in operation. The learning experience is a mix of facilitation and hands-on activities to help users perform common tasks associated with their radio operation. Segmentation between user groups (i.e. Police, Fire/EMS, and Public Service) is encouraged to help focus instruction on the specific operational issues of the individual user group. This course is geared for customers who have an experienced dedicated training staff in their organization. It provides the customer's identified training personnel with the knowledge and practice applying training techniques that will enable them to successfully train their students. Trainers will use audio visual (Interactive End User Toolkits–iEUTK), facilitation and “hands-on” activities to facilitate learning events supported by tailored or customized training materials and job aids. They will become proficient in discussing common tasks associated with the operation of the customer's radios.</p> <p>After completing the course the participant will be able to:</p> <ul style="list-style-type: none"> - Understand a high-level overview of the customer system configuration. - Understand the general radio operation. - Understand proper operating procedures for specific customer features. - Perform basic operational tasks of the radio. - Utilize the provided job aids to perform specific tasks associated with the radio.
Delivery Method:	ILT - Instructor-led training
Duration:	8 hours
Participants:	APX Trainers, Supervisors and Support Personnel
Class Size:	Up to 15
Prerequisite:	Previous two-way radio and training experience
Curriculum:	<ul style="list-style-type: none"> - Basics: <ul style="list-style-type: none"> - Controls. - Top and Side Buttons. - Switches. - 3 Position toggle. - 2 Position Concentric. - Home key. - Data Key. - Display. - Front Display. - Top Display. - Display light. - Intelligent Lighting. - Push to Talk or Accessory PTT found on the microphone. - Hub, hang up box (Mobile). - Menu: <ul style="list-style-type: none"> - Menu Screen Anatomy. - Navigating Menu Screen. - Recent Call List (Model 3.5). - Unified Call List - Contacts (Model 3.5). - Dual Sided Radio (Model 3.5). - Dual Mics. - Dual Speakers. - Accessory Connector. - Specific Features:

- Changing Talkgroups/Channels.
- Changing Zones.
- Mute tones of keypad.
- Talkgroup Call.
- Private Call.
- Accessing Private Call Feature.
- Initiating Private Call.
- Call List Programming.
- Announcement/All Call (Calls involving Multiple Talkgroups).
- Initiating Announcement/All Call.
- Direct/Talkaround.
- Failsoft.
- Radio Profiles.
- Accessing and changing Radio Profile.
- Optional Features:
 - Scan.
 - Scan program.
 - Priority Scan.
 - Dynamic Priority.
 - Telephone Interconnect.
 - Accessing Telephone Interconnect Feature.
 - Initiating a Phone Call.
 - Phone List Programming.
- Data Services:
 - Text Messaging.
 - Accessing the Text Messaging Feature.
 - Creating a Free Form Text Message.
 - Sending a "Canned " Text Message
 - GPS.
 - OTAP.
 - Encryption.
 - Emergency.

SECTION 1

PRICING SUMMARY

1.1 RECOMMENDED SOLUTION

700MHz P25 Trunked + VHF Conventional	
Description	Price (\$)
Equipment	\$2,898,573
System Integration	\$1,869,992
Towers <ul style="list-style-type: none"> • Walnut Bend – 300 ft • Sivells Bend – 200 ft 	\$643,736
Sub Total	\$5,412,301
<i>System Incentive: Purchase of system as proposed, Contract by 12/18/2020</i>	<i>\$ (1,371,650)</i>
Design 1 Total	\$4,040,651

Maintenance & SUA Yearly Breakout	
Year 1	N/A *Included in Base Total
Year 2	\$131,556
Year 3	\$133,782
Year 4	\$136,117
Year 5	\$138,566

Maintenance & SUA Incentive Options	
Description	Price (\$)
Base Total	\$4,040,651
Years 2-5 Maintenance & SUA Total	\$540,022
<i>System Incentive to include outyears upfront with Base Total (Contract by 12/31/2020)</i>	<i>-\$100,000</i>
Total (Outyears Included)	\$4,480,673

SECTION 8

CONTRACTUAL DOCUMENTATION

Contractual Documentation is included on the pages that that follow.

Communications System and Services Agreement

Motorola Solutions, Inc. ("Motorola") and Cooke County("Customer") enter into this "Agreement," pursuant to which Customer will purchase and Motorola will sell the System and Services, as described below. Motorola and Customer may be referred to individually as a "Party" and collectively as the "Parties."

WHEREAS, the Customer desires to purchase a Communications System; and

WHEREAS, Motorola desires to sell a Communications System to Customer; and

WHEREAS, Houston-Galveston Area Council ("H-GAC"), acting as the agent for various local governmental entities who are "End Users" under interlocal agreements (including the Customer) has solicited proposals for radio communications equipment and conducted discussions with Motorola concerning its proposal and, where applicable, in accordance with the competitive procurement procedures of Texas law; and

WHEREAS, H-GAC and Motorola entered into that certain Contract dated as of May 1, 2018 (the "Contract"), which provided that End Users may purchase radio communications equipment from Motorola pursuant to certain terms contained therein; and

WHEREAS, pursuant to Article 6 of the Contract, Motorola and Customer now wish to enter into this Agreement to delineate the specific terms of the purchase of radio communications equipment from Motorola by the Customer. For good and valuable consideration, the Parties agree as follows:

Section 1 ATTACHMENTS

1.1. EXHIBITS. The Exhibits listed below are exhibits related to the System sale and implementation. These Exhibits are incorporated into and made a part of this Agreement.

Exhibit A "Motorola Software License Agreement"

Exhibit B "Payment"

Exhibit C Technical and Implementation Documents

C-1 "System Description"

C-2 "Pricing Summary & Equipment List"

C-3 "Implementation Statement of Work"

C-4 "Acceptance Test Plan" or "ATP"

C-5 "Performance Schedule"

Exhibit D "System Acceptance Certificate"

Exhibit E H-GAC Contract dated May 1, 2018

1.2. ADDENDUM (ADDENDA). Customer may elect to purchase professional or subscription services in addition to the System and related services. Any such services will be governed by the terms in the main body of the Agreement and an applicable Addendum containing terms specific to such service. Such Addenda will be labeled with the name of the service being purchased.

1.3 ORDER OF PRECEDENCE. In interpreting this Agreement and resolving any ambiguities: 1) the main body of this Agreement takes precedence over the exhibits (unless otherwise specified in an exhibit), and any inconsistency between Exhibits A through E will be resolved in their listed order, except that Exhibit E shall prevail over this entire Agreement in the event of a conflict and 2) The applicable service Addendum will take precedence over the main body of the Agreement and the Exhibits.

Section 2 DEFINITIONS

Capitalized terms used in this Agreement have the following meanings:

“Acceptance Tests” means those tests described in the Acceptance Test Plan.

“Addendum (Addenda)” is the title of the document(s) containing a specific set of terms and conditions applicable to a particular service or other offering beyond the Communication System and System implementation services. The terms in the Addendum are applicable only to the specific service or offering described therein.

“Administrative User Credentials” means an account that has total access over the operating system, files, end user accounts and passwords at either the System level or box level. Customer’s personnel with access to the Administrative User Credentials may be referred to as the Administrative User.

“Beneficial Use” means when Customer first uses the System or a Subsystem for operational purposes (excluding training or testing).

“Confidential Information” means all information consistent with the fulfillment of this Agreement that is (i) disclosed under this Agreement in oral, written, graphic, machine recognizable, and/or sample form, being clearly designated, labeled or marked as confidential or its equivalent or (ii) obtained by examination, testing or analysis of any hardware, software or any component part thereof provided by discloser to recipient. The nature and existence of this Agreement are considered Confidential Information. Confidential Information that is disclosed orally must be identified as confidential at the time of disclosure and confirmed by the discloser by submitting a written document to the recipient within thirty (30) days after such disclosure. The written document must contain a summary of the Confidential Information disclosed with enough specificity for identification purpose and must be labeled or marked as confidential or its equivalent.

“Contract Price” means the price for the System and implementation Services, including the H-GAC administrative fee but excluding applicable sales or similar taxes and freight charges. Further, unless otherwise stated in Exhibit B, “Payment” or the pricing pages of the proposal, recurring fees for maintenance, SUA, or subscription services are not included in the Contract Price.

“Deliverables” means all written information (such as reports, specifications, designs, plans, drawings, analytics, Solution Data, or other technical or business information) that Motorola prepares for Customer in the performance of the Services and is obligated to provide to Customer under this Agreement. The Deliverables, if any, are more fully described in the Statement of Work.

“Derivative Proprietary Materials” means derivatives of the Proprietary Materials that Motorola may from time to time, including during the course of providing the Services, develop and/or use and/or to which Motorola provides Customer access.

“Effective Date” means that date upon which the last Party executes this Agreement.

“Equipment” means the hardware components of the Solution that Customer purchases from Motorola under this Agreement. Equipment that is part of the System is described in the Equipment List.

“Feedback” means comments or information, in oral or written form, given to Motorola by Customer in connection with or relating to Equipment or Services, during the term of this Agreement.

“Force Majeure” means an event, circumstance, or act that is beyond a Party’s reasonable control, such as an act of God, an act of the public enemy, an act of a government entity, strikes, other labor disturbances, supplier performance, hurricanes, earthquakes, fires, floods, epidemics, embargoes, war, riots, or any other similar cause.

“Motorola Software” means software that Motorola or its affiliated companies owns.

“Non-Motorola Software” means software that a party other than Motorola or its affiliated companies owns.

“Open Source Software” (also called “freeware” or “shareware”) means software with either freely obtainable source code, license for modification, or permission for free distribution.

“Proprietary Materials” means certain software tools and/or other technical materials, including, but not limited to, data, modules, components, designs, utilities, subsets, objects, program listings, models, methodologies, programs, systems, analysis frameworks, leading practices and specifications which Motorola has developed prior to, or independently from, the provision of the Services and/or which Motorola licenses from third parties.

“Proprietary Rights” means the patents, patent applications, inventions, copyrights, trade secrets, trademarks, trade names, mask works, know-how, and other intellectual property rights in and to the Equipment and Software, including those created or produced by Motorola under this Agreement and any corrections, bug fixes, enhancements, updates or modifications to or derivative works from the Software whether made by Motorola or another party.

“Services” means system implementation, maintenance, support, subscription, or other professional services provided under this Agreement, which may be further described in the applicable Addendum and/or SOW.

“Software” (i) means proprietary software in object code format, and adaptations, translations, de-compilations, disassemblies, emulations, or derivative works of such software; (ii) means any modifications, enhancements, new versions and new releases of the software provided by Motorola; and (iii) may contain one or more items of software owned by a third-party supplier. The term "Software" does not include any third-party software provided under separate license or third party software not licensable under the terms of this Agreement.

“Software License Agreement” means the Motorola Software License Agreement (Exhibit A).

“Software Support Policy” (“SwSP”) means the policy set forth at https://www.motorolasolutions.com/content/dam/msi/secure/services/software_policy.pdf describing the specific technical support that will be provided to Customers under the Warranty Period and during any paid maintenance support period for Motorola Software. This policy may be modified from time to time at Motorola’s discretion.

“Solution” means the combination of the System(s) and Services provided by Motorola under this Agreement.

“Solution Data” means Customer data that is transformed, altered, processed, aggregated, correlated or operated on by Motorola, its vendors or other data sources and data that has been manipulated or retrieved using Motorola know-how to produce value-added content to data consumers, including customers or citizens which is made available to Customer with the Solution and Services.

“Specifications” means the functionality and performance requirements that are described in the Technical and Implementation Documents.

“SUA” or “SUA II” means Motorola’s Software Upgrade Agreement program.

“Subsystem” means a major part of the System that performs specific functions or operations. Subsystems are described in the Technical and Implementation Documents.

“System” means the Equipment, including incidental hardware and materials, Software, and design, installation and implementation services that are combined together into an integrated system; the

System(s) is (are) described in the Technical and Implementation Documents.

“**System Acceptance**” means the Acceptance Tests have been successfully completed.

“**System Data**” means data created by, in connection with or in relation to Equipment or the performance of Services under this Agreement.

“**Warranty Period**” for System Hardware, Software, or services related to system implementation means one (1) year from the date of System Acceptance or Beneficial Use, whichever occurs first. Unless otherwise stated in the applicable Addendum, Warranty Period for other Services means ninety (90) days from performance of the Service.

Section 3 SCOPE OF AGREEMENT AND TERM

3.1. **SCOPE OF WORK.** Motorola will provide, install and test the System(s), and perform its other contractual responsibilities to provide the Solution, all in accordance with this Agreement. Customer will perform its contractual responsibilities in accordance with this Agreement.

3.2. **CHANGE ORDERS.** Either Party may request changes within the general scope of this Agreement. If a requested change causes an increase or decrease in the cost or time required to perform this Agreement, the Parties will agree to an equitable adjustment of the Contract Price or applicable subscription fees, Performance Schedule, or both, and will reflect the adjustment in a change order or Addendum. Neither Party is obligated to perform requested changes unless both Parties execute a written change order.

3.3. **TERM.** Unless terminated in accordance with other provisions of this Agreement or extended by mutual agreement of the Parties, the term of this Agreement begins on the Effective Date and continues until the date of Final Project Acceptance or expiration of the Warranty Period, or completion of the Services, whichever occurs last. The term and the effective date of recurring Services will be set forth in the applicable Addendum.

3.4. **ADDITIONAL EQUIPMENT OR SOFTWARE.** For three (3) years after the expiration date of the Agreement, Customer may order additional Equipment or Software, if it is then available. Each purchase order must refer to this Agreement, the expiration date of the Agreement, and must specify the pricing and delivery terms. The Parties agree that, notwithstanding expiration of the Agreement, the applicable provisions of this Agreement (except for pricing, delivery, passage of title and risk of loss to Equipment, warranty commencement, and payment terms) will govern the purchase and sale of the additional Equipment or Software. Additional or contrary terms in the purchase order will be inapplicable, unless signed by both parties. Title and risk of loss to additional Equipment will pass at shipment, warranty will commence upon delivery, and payment is due within thirty (30) days after the invoice date. Motorola will send Customer an invoice as the additional Equipment is shipped or Software is licensed. Alternatively, Customer may register with and place orders through Motorola Online (“MOL”), and this Agreement will be the “Underlying Agreement” for those MOL transactions rather than the MOL On-Line Terms and Conditions of Sale. MOL registration and other information may be found at <https://businessonline.motorolasolutions.com> and the MOL telephone number is (800) 814-0601.

3.5. **MOTOROLA SOFTWARE.** Any Motorola Software, including subsequent releases, is licensed to Customer solely in accordance with the Software License Agreement. Customer hereby accepts and agrees to abide by all of the terms and restrictions of the Software License Agreement.

3.6. **NON-MOTOROLA SOFTWARE.** Any Non-Motorola Software is licensed to Customer in accordance with the standard license, terms, and restrictions of the copyright owner on the Effective Date unless the copyright owner has granted to Motorola the right to sublicense the Non-Motorola Software pursuant to the Software License Agreement, in which case it applies and the copyright owner will have all of Licensor’s rights and protections under the Software License Agreement. Motorola makes no representations or warranties of any kind regarding Non-Motorola Software. Non-Motorola Software may

include Open Source Software.

3.7. **SUBSTITUTIONS.** At no additional cost to Customer, Motorola may substitute any Equipment, Software, or services to be provided by Motorola, if the substitute meets or exceeds the Specifications and is of equivalent or better quality to the Customer. Any substitution will be reflected in a change order.

3.8. **OPTIONAL EQUIPMENT OR SOFTWARE.** This paragraph applies only if a “Priced Options” exhibit is shown in Section 1, or if the parties amend this Agreement to add a Priced Options exhibit. During the term of the option as stated in the Priced Options exhibit (or if no term is stated, then for one (1) year after the Effective Date), Customer has the right and option to purchase the equipment, software, and related services that are described in the Priced Options exhibit. Customer may exercise this option by giving written notice to Seller which must designate what equipment, software, and related services Customer is selecting (including quantities, if applicable). To the extent they apply, the terms and conditions of this Agreement will govern the transaction; however, the parties acknowledge that certain provisions must be agreed upon, and they agree to negotiate those in good faith promptly after Customer delivers the option exercise notice. Examples of provisions that may need to be negotiated are: specific lists of deliverables, statements of work, acceptance test plans, delivery and implementation schedules, payment terms, maintenance and support provisions, additions to or modifications of the Software License Agreement, hosting terms, and modifications to the acceptance and warranty provisions.

Section 4 SERVICES

4.1. If Customer desires and Motorola agrees to continue Services beyond the Term, Customer’s issuance and Motorola’s acceptance of a purchase order for Services will serve as an automatic extension of the Agreement for purposes of the continuing Services. Only the terms and conditions applicable to the performance of Services will apply to the extended Agreement.

4.2. During the Warranty Period, in addition to warranty services, Motorola will provide maintenance Services for the Equipment and support for the Motorola Software pursuant to the applicable maintenance and support Statements of Work. Support for the Motorola Software will be in accordance with Motorola’s established Software Support Policy. Copies of the SwSP can be found at https://www.motorolasolutions.com/content/dam/msi/secure/services/software_policy.pdf and will be sent by mail, email or fax to Customer upon written request. Maintenance Services and support during the Warranty Period are included in the Contract Price. Unless already included in the Contract Price, if Customer wishes to purchase 1) additional maintenance or software support services during the Warranty Period; or 2) continue or expand maintenance, software support, installation, and/or SUA services after the Warranty Period, Motorola will provide the description of and pricing for such services in a separate proposal document. Unless otherwise agreed by the parties in writing, the terms and conditions in this Agreement applicable to maintenance, support, installation, and/or SUA Services, will be included in the Maintenance and Support Addendum, SUA Addendum, the applicable Statements of Work, and the proposal, (if applicable). These collective terms will govern the provision of such Services.

To obtain any such additional Services, Customer will issue a purchase order referring to this Agreement and the separate proposal document. Omission of reference to this Agreement in Customer’s purchase order will not affect the applicability of this Agreement. Motorola’s proposal may include a cover page entitled “Service Agreement” or “Installation Agreement”, as applicable, and other attachments. These cover pages and other attachments are incorporated into this Agreement by this reference

4.3. **PROFESSIONAL AND SUBSCRIPTION SERVICES.** If Customer purchases professional or subscription Services as part of the Solution, additional or different terms specific to such Service will be included in the applicable Addendum and will apply to those Services. Customer may purchase additional professional or subscription services by issuing a purchase order referencing this Agreement and Motorola’s proposal for such additional services.

4.4. Any information in the form of specifications, drawings, reprints, technical information or otherwise furnished to Customer in providing Services under this Agreement or Motorola data viewed, accessed, will remain Motorola's property, will be deemed proprietary, Confidential Information. This Confidential Information will be promptly returned at Motorola's request.

4.5. TOOLS. All tools, equipment, dies, gauges, models, drawings or other materials paid for or furnished by Motorola for the purpose of providing Services under this Agreement will be and remain the sole property of Motorola. Customer will safeguard all such property while it is in Customer's custody or control, be liable for any loss or damage to this property, and return it to Motorola upon request. This property will be held by Customer for Motorola's use without charge and may be removed from Customer's premises by Motorola at any time without restriction. Upon termination of the contract for any reason, Customer shall return to Motorola all equipment delivered to Customer.

4.6. COVENANT NOT TO EMPLOY. During the term of this Agreement and continuing for a period of two (2) years thereafter, Customer will not hire, engage on contract, solicit the employment of, or recommend employment to any third party of any employee of Motorola or its subcontractors without the prior written authorization of Motorola. This provision applies only to those employees of Motorola or its subcontractors who are responsible for rendering Services under this Agreement. If this provision is found to be overly broad under applicable law, it will be modified as necessary to conform to applicable law.

4.7. CUSTOMER OBLIGATIONS. If the applicable Statement of Work or Addendum contains assumptions that affect the Services or Deliverables, Customer will verify that they are accurate and complete. Any information that Customer provides to Motorola concerning the Services or Deliverables will be accurate and complete in all material respects. Customer will make timely decisions and obtain any required management approvals that are reasonably necessary for Motorola to perform the Services and its other duties under this Agreement. Unless the Statement of Work states the contrary, Motorola may rely upon and is not required to evaluate, confirm, reject, modify, or provide advice concerning any assumptions and Customer-provided information, decisions and approvals described in this paragraph.

4.8. ASSUMPTIONS. If any assumptions or conditions contained in this Agreement, applicable Addenda or Statements of Work prove to be incorrect or if Customer's obligations are not performed, Motorola's ability to perform under this Agreement may be impacted and changes to the Contract Price, subscription fees, project schedule, Deliverables, or other changes may be necessary.

4.9. NON-PRECLUSION. If, as a result of the Services performed under this Agreement, Motorola recommends that Customer purchase products or other services, nothing in this Agreement precludes Motorola from participating in a future competitive bidding process or otherwise offering or selling the recommended products or other services to Customer. Customer represents that this paragraph does not violate its procurement or other laws, regulations, or policies.

4.10. PROPRIETARY MATERIALS. Customer acknowledges that Motorola may use and/or provide Customer with access to Proprietary Materials and Derivative Proprietary Materials. The Proprietary Materials and the Derivative Proprietary Materials are the sole and exclusive property of Motorola and Motorola retains all right, title and interest in and to the Proprietary Materials and Derivative Proprietary Materials.

4.11. ADDITIONAL SERVICES. Any services performed by Motorola outside the scope of this Agreement at the direction of Customer will be considered to be additional Services which are subject to additional charges. Any agreement to perform additional Services will be reflected in a written and executed change order, Addendum or amendment to this Agreement.

Section 5 PERFORMANCE SCHEDULE

The Parties will perform their respective responsibilities in accordance with the Performance Schedule. By executing this Agreement, Customer authorizes Motorola to proceed with contract performance.

Section 6 CONTRACT PRICE, PAYMENT AND INVOICING

6.1. Customer affirms that a purchase order or notice to proceed is not required for contract performance or for subsequent years of service, if any, and that sufficient funds have been appropriated in accordance with applicable law. The Customer will pay all invoices as received from Motorola and any changes in scope will be subject to the change order process as described in this Agreement. At the time of execution of this Agreement, the Customer will provide all necessary reference information to include on invoices for payment in accordance with this Agreement.

6.2. CONTRACT PRICE. The Contract Price in U.S. dollars is \$4,040,651, which includes the H-GAC administrative fee. Motorola will pay H-GAC's administrative fee in accordance with the payment terms of the Motorola/H-GAC Contract dated May 1, 2018. If applicable, a pricing summary is included with the Payment schedule in Exhibit B. Motorola has priced the Services, Software, and Equipment as an integrated System. A change in Software or Equipment quantities, or Services, may affect the overall Contract Price, including discounts if applicable. Fees for professional, SUA, and/or subscription services which are not included in the Contract Price may be listed in Exhibit B, the pricing pages of the proposal, or the applicable Addendum.

6.3. INVOICING AND PAYMENT. Motorola will submit invoices to Customer according to the Payment schedule in Exhibit B. Invoices will be mailed or emailed to Customer pursuant to Section 6.5, Invoicing and Shipping Addresses. Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a wire transfer, check, or cashier's check from a U.S. financial institution. Overdue invoices will bear simple interest at the maximum allowable rate. For reference, the Federal Tax Identification Number for Motorola is 36-1115800.

6.4. FREIGHT, TITLE, AND RISK OF LOSS. Motorola will pre-pay and add all freight charges to the invoices. Title and risk of loss to the Equipment will pass to Customer upon shipment. Title to Software will not pass to Customer at any time. Motorola will pack and ship all Equipment in accordance with good commercial practices.

6.5. INVOICING AND SHIPPING ADDRESSES. Invoices will be sent to the Customer at the following address:
Name: _____
Address: _____
Phone: _____

E-INVOICE. To receive invoices via email:
Customer Account Number: _____
Customer Accounts Payable Email: _____
Customer CC(optional) Email: _____

The address which is the ultimate destination where the Equipment will be delivered to Customer is:
Name: _____
Address: _____

The Equipment will be shipped to the Customer at the following address (insert if this information is known):
Name: _____
Address: _____
Phone: _____

Customer may change this information by giving written notice to Motorola.

Section 7 SITES AND SITE CONDITIONS

7.1. ACCESS TO SITES. In addition to its responsibilities described elsewhere in this Agreement, Customer will provide a designated project manager; all necessary construction and building permits, zoning variances, licenses, and any other approvals that are necessary to develop or use the sites and mounting locations; and access to the worksites or vehicles identified in the Technical and Implementation Documents as reasonably requested by Motorola so that it may perform its duties in accordance with the Performance Schedule and Statement of Work. If the Statement of Work so indicates, Motorola may assist Customer in the local building permit process.

7.2. SITE CONDITIONS. Customer will ensure that all work sites it provides will be safe, secure, and in compliance with all applicable industry and OSHA standards. To the extent applicable and unless the Statement of Work states to the contrary, Customer will ensure that these work sites have adequate: physical space; air conditioning and other environmental conditions; adequate and appropriate electrical power outlets, distribution, equipment and connections; and adequate telephone or other communication lines (including modem access and adequate interfacing networking capabilities), all for the installation, use and maintenance of the System. Before installing the Equipment or Software at a work site, Motorola may inspect the work site and advise Customer of any apparent deficiencies or non-conformities with the requirements of this Section. This Agreement is predicated upon normal soil conditions as defined by the version of E.I.A. standard RS-222 in effect on the Effective Date.

7.3. SITE ISSUES. If a Party determines that the sites identified in the Technical and Implementation Documents are no longer available or desired, or if subsurface, structural, adverse environmental or latent conditions at any site differ from those indicated in the Technical and Implementation Documents, the Parties will promptly investigate the conditions and will select replacement sites or adjust the installation plans and specifications as necessary. If change in sites or adjustment to the installation plans and specifications causes a change in the cost or time to perform, the Parties will equitably amend the Contract Price, Performance Schedule, or both, by a change order.

Section 8 TRAINING

Any training to be provided by Motorola to Customer will be described in the applicable Statement of Work. Customer will notify Motorola immediately if a date change for a scheduled training program is required. If Motorola incurs additional costs because Customer reschedules a training program less than thirty (30) days before its scheduled start date, Motorola may recover these additional costs.

Section 9 SYSTEM ACCEPTANCE

9.1. COMMENCEMENT OF ACCEPTANCE TESTING. Motorola will provide to Customer at least ten (10) days notice before the Acceptance Tests commence. System testing will occur only in accordance with the Acceptance Test Plan.

9.2. SYSTEM ACCEPTANCE. System Acceptance will occur upon successful completion of the Acceptance Tests. Upon System Acceptance, the Parties will memorialize this event by promptly executing a System Acceptance Certificate. If the Acceptance Test Plan includes separate tests for individual Subsystems or phases of the System, acceptance of the individual Subsystem or phase will occur upon the successful completion of the Acceptance Tests for the Subsystem or phase, and the Parties will promptly execute an acceptance certificate for the Subsystem or phase. If Customer believes the System has failed the completed Acceptance Tests, Customer will provide to Motorola a written notice that includes the specific details of the failure. If Customer does not provide to Motorola a failure notice within thirty (30) days after completion of the Acceptance Tests, System Acceptance will be deemed to have occurred as of the completion of the Acceptance Tests. Minor omissions or variances in the System that do not materially impair the operation of the System as a whole will not postpone System Acceptance

or Subsystem acceptance, but will be corrected according to a mutually agreed schedule.

9.3. **BENEFICIAL USE.** Customer acknowledges that Motorola's ability to perform its implementation and testing responsibilities may be impeded if Customer begins using the System before System Acceptance. Therefore, Customer will not commence Beneficial Use before System Acceptance without Motorola's prior written authorization, which will not be unreasonably withheld. Motorola is not responsible for System performance deficiencies that occur during unauthorized Beneficial Use. Upon commencement of Beneficial Use, Customer assumes responsibility for the use and operation of the System.

9.4. **FINAL PROJECT ACCEPTANCE.** Final Project Acceptance will occur after System Acceptance when all deliverables and other work have been completed. When Final Project Acceptance occurs, the parties will promptly memorialize this final event by so indicating on the System Acceptance Certificate.

Section 10 REPRESENTATIONS AND WARRANTIES

10.1. **SYSTEM FUNCTIONALITY.** Motorola represents that the System will perform in accordance with the Specifications in all material respects. Upon System Acceptance or Beneficial Use, whichever occurs first, this System functionality representation is fulfilled. Motorola is not responsible for System performance deficiencies that are caused by ancillary equipment not furnished by Motorola which is attached to or used in connection with the System or for reasons or parties beyond Motorola's control, such as natural causes; the construction of a building that adversely affects the microwave path reliability or radio frequency (RF) coverage; the addition of frequencies at System sites that cause RF interference or intermodulation; or Customer changes to load usage or configuration outside the Specifications.

10.2. **EQUIPMENT WARRANTY.** During the Warranty Period, Motorola warrants that the Equipment under normal use and service will be free from material defects in materials and workmanship. If System Acceptance is delayed beyond six (6) months after shipment of the Equipment by events or causes beyond Motorola's control, this warranty expires eighteen (18) months after the shipment of the Equipment.

10.3. **SOFTWARE WARRANTY.** Except as described in the SwSP and unless otherwise stated in the Software License Agreement, during the Warranty Period, Motorola warrants the Software in accordance with the warranty terms set forth in the Software License Agreement and the provisions of this Section that are applicable to the Software. If System Acceptance is delayed beyond six (6) months after shipment of the Motorola Software by events or causes beyond Motorola's control, this warranty expires eighteen (18) months after the shipment of the Motorola Software. **Nothing in this Warranty provision is intended to conflict or modify the Software Support Policy. In the event of an ambiguity or conflict between the Software Warranty and Software Support Policy, the Software Support Policy governs.**

10.4. **EXCLUSIONS TO EQUIPMENT AND SOFTWARE WARRANTIES.** These warranties do not apply to: (i) defects or damage resulting from: use of the Equipment or Software in other than its normal, customary, and authorized manner; accident, liquids, neglect, or acts of God; testing, maintenance, disassembly, repair, installation, alteration, modification, or adjustment not provided or authorized in writing by Motorola; Customer's failure to comply with all applicable industry and OSHA standards; (ii) breakage of or damage to antennas unless caused directly by defects in material or workmanship; (iii) Equipment that has had the serial number removed or made illegible; (iv) batteries (because they carry their own separate limited warranty) or consumables; (v) freight costs to ship Equipment to the repair depot; (vi) scratches or other cosmetic damage to Equipment surfaces that does not affect the operation of the Equipment; and (vii) normal or customary wear and tear.

10.5. **SERVICE WARRANTY.** During the Warranty Period, Motorola warrants that the Services will be provided in a good and workmanlike manner and will conform in all material respects to the applicable Statement of Work. Services will be free of defects in materials and workmanship for a period of ninety

(90) days from the date the performance of the Services are completed. Customer acknowledges that the Deliverables may contain recommendations, suggestions or advice from Motorola to Customer (collectively, "recommendations"). Motorola makes no warranties concerning those recommendations, and Customer alone accepts responsibility for choosing whether and how to implement the recommendations and the results to be realized from implementing them.

10.6. **WARRANTY CLAIMS.** To assert a warranty claim, Customer must notify Motorola in writing of the claim before the expiration of the Warranty Period. Upon receipt of this notice, Motorola will investigate the warranty claim. If this investigation confirms a valid Equipment or Software warranty claim, Motorola will (at its option and at no additional charge to Customer) repair the defective Equipment or Motorola Software, replace it with the same or equivalent product, or refund the price of the defective Equipment or Motorola Software. These actions will be the full extent of Motorola's liability for the warranty claim. In the event of a valid Services warranty claim, Customer's sole remedy is to require Motorola to re-perform the non-conforming Service or to refund, on a pro-rata basis, the fees paid for the non-conforming Service. If this investigation indicates the warranty claim is not valid, then Motorola may invoice Customer for responding to the claim on a time and materials basis using Motorola's then current labor rates. Repaired or replaced product is warranted for the balance of the original applicable warranty period. All replaced products or parts will become the property of Motorola.

10.7. **ORIGINAL END USER IS COVERED.** These express limited warranties are extended by Motorola to the original user purchasing the System or Services for commercial, industrial, or governmental use only, and are not assignable or transferable.

10.8. **DISCLAIMER OF OTHER WARRANTIES.** THESE WARRANTIES ARE THE COMPLETE WARRANTIES FOR THE EQUIPMENT AND MOTOROLA SOFTWARE PROVIDED UNDER THIS AGREEMENT AND ARE GIVEN IN LIEU OF ALL OTHER WARRANTIES. MOTOROLA DISCLAIMS ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

Section 11 DELAYS

11.1. **FORCE MAJEURE.** Neither Party will be liable for its non-performance or delayed performance if caused by a Force Majeure. A Party that becomes aware of a Force Majeure that will significantly delay performance will notify the other Party promptly (but in no event later than fifteen days) after it discovers the Force Majeure. If a Force Majeure occurs, the Parties will execute a change order to extend the Performance Schedule or applicable Addenda for a time period that is reasonable under the circumstances.

11.2. **PERFORMANCE SCHEDULE DELAYS CAUSED BY CUSTOMER.** If Customer (including its other contractors) delays the Performance Schedule, it will make the promised payments according to the Payment schedule as if no delay occurred; and the Parties will execute a change order to extend the Performance Schedule and, if requested, compensate Motorola for all reasonable charges incurred because of the delay. Delay charges may include costs incurred by Motorola or its subcontractors for additional freight, warehousing and handling of Equipment; extension of the warranties; travel; suspending and re-mobilizing the work; additional engineering, project management, and standby time calculated at then current rates; and preparing and implementing an alternative implementation plan.

Section 12 DISPUTES

The Parties will use the following procedure to address any dispute arising under this Agreement (a "Dispute").

12.1. **GOVERNING LAW.** This Agreement will be governed by and construed in accordance with the laws of the State in which the System is installed.

12.2. NEGOTIATION. Either Party may initiate the Dispute resolution procedures by sending a notice of Dispute ("Notice of Dispute"). The Parties will attempt to resolve the Dispute promptly through good faith negotiations including 1) timely escalation of the Dispute to executives who have authority to settle the Dispute and who are at a higher level of management than the persons with direct responsibility for the matter and 2) direct communication between the executives. If the Dispute has not been resolved within ten (10) days from the Notice of Dispute, the Parties will proceed to mediation.

12.3. MEDIATION. The Parties will choose an independent mediator within thirty (30) days of a notice to mediate from either Party ("Notice of Mediation"). Neither Party may unreasonably withhold consent to the selection of a mediator. If the Parties are unable to agree upon a mediator, either Party may request that American Arbitration Association nominate a mediator. Each Party will bear its own costs of mediation, but the Parties will share the cost of the mediator equally. Each Party will participate in the mediation in good faith and will be represented at the mediation by a business executive with authority to settle the Dispute.

12.4. LITIGATION, VENUE and JURISDICTION. If a Dispute remains unresolved for sixty (60) days after receipt of the Notice of Mediation, either Party may then submit the Dispute to a court of competent jurisdiction in the state in which the System is installed. Each Party irrevocably agrees to submit to the exclusive jurisdiction of the courts in such state over any claim or matter arising under or in connection with this Agreement.

12.5. CONFIDENTIALITY. All communications pursuant to subsections 12.2 and 12.3 will be treated as compromise and settlement negotiations for purposes of applicable rules of evidence and any additional confidentiality protections provided by applicable law. The use of these Dispute resolution procedures will not be construed under the doctrines of laches, waiver or estoppel to affect adversely the rights of either Party.

Section 13 DEFAULT AND TERMINATION

13.1. DEFAULT BY A PARTY. If either Party fails to perform a material obligation under this Agreement, the other Party may consider the non-performing Party to be in default (unless a Force Majeure causes the failure) and may assert a default claim by giving the non-performing Party a written and detailed notice of default. Except for a default by Customer for failing to pay any amount when due under this Agreement which must be cured immediately, the defaulting Party will have thirty (30) days after receipt of the notice of default to either cure the default or, if the default is not curable within thirty (30) days, provide a written cure plan. The defaulting Party will begin implementing the cure plan immediately after receipt of notice by the other Party that it approves the plan. If Customer is the defaulting Party, Motorola may stop work on the project until it approves the Customer's cure plan.

13.2. FAILURE TO CURE. If a defaulting Party fails to cure the default as provided above in Section 13.1, unless otherwise agreed in writing, the non-defaulting Party may terminate any unfulfilled portion of this Agreement. In the event of termination for default, the defaulting Party will promptly return to the non-defaulting Party any of its Confidential Information. If Customer is the non-defaulting Party, terminates this Agreement as permitted by this Section, and completes the System through a third Party, Customer may as its exclusive remedy recover from Motorola reasonable costs incurred to complete the System to a capability not exceeding that specified in this Agreement less the unpaid portion of the Contract Price. Customer will mitigate damages and provide Motorola with detailed invoices substantiating the charges. In the event Customer elects to terminate this Agreement for any reason other than default, Customer shall pay Motorola for the conforming Equipment and/or Software delivered and all services performed.

Section 14 INDEMNIFICATION

14.1. GENERAL INDEMNITY BY Motorola. Motorola will indemnify and hold Customer harmless from any and all liability, expense, judgment, suit, cause of action, or demand for personal injury, death, or direct damage to tangible property which may accrue against Customer to the extent it is caused by the negligence of Motorola, its subcontractors, or their employees or agents, while performing their duties under this Agreement, if Customer gives Motorola prompt, written notice of any claim or suit. Customer will cooperate with Motorola in its defense or settlement of the claim or suit. This Section sets forth the full extent of Motorola's general indemnification of Customer from liabilities that are in any way related to Motorola's performance under this Agreement.

14.2. GENERAL INDEMNITY BY CUSTOMER. If and to the extent permitted under Texas law, and subject to the last sentence of this Section 14.2, Customer will indemnify and hold Motorola harmless from any and all liability, expense, judgment, suit, cause of action, or demand for personal injury, death, or direct damage to tangible property which may accrue against Motorola to the extent it is caused by the negligence of Customer, its other contractors, or their employees or agents, while performing their duties under this Agreement, if Motorola gives Customer prompt, written notice of any the claim or suit. Motorola will cooperate with Customer in its defense or settlement of the claim or suit. This Section sets forth the full extent of Customer's general indemnification of Motorola from liabilities that are in any way related to Customer's performance under this Agreement. Nothing in this Section 14.2 or any other provision of this Agreement shall require, or be deemed or construed as having required, the Customer to assess or collect revenue or to create a sinking fund to satisfy any indemnification obligation under this Agreement.

14.3. PATENT AND COPYRIGHT INFRINGEMENT.

14.3.1. Motorola will defend at its expense any suit brought against Customer to the extent it is based on a third-party claim alleging that the Equipment manufactured by Motorola or the Motorola Software ("Motorola Product") directly infringes a United States patent or copyright ("Infringement Claim"). Motorola's duties to defend and indemnify are conditioned upon: Customer promptly notifying Motorola in writing of the Infringement Claim; Motorola having sole control of the defense of the suit and all negotiations for its settlement or compromise; and Customer providing to Motorola cooperation and, if requested by Motorola, reasonable assistance in the defense of the Infringement Claim. In addition to Motorola's obligation to defend, and subject to the same conditions, Motorola will pay all damages finally awarded against Customer by a court of competent jurisdiction for an Infringement Claim or agreed to, in writing, by Motorola in settlement of an Infringement Claim.

14.3.2 If an Infringement Claim occurs, or in Motorola's opinion is likely to occur, Motorola may at its option and expense: (a) procure for Customer the right to continue using the Motorola Product; (b) replace or modify the Motorola Product so that it becomes non-infringing while providing functionally equivalent performance; or (c) accept the return of the Motorola Product and grant Customer a credit for the Motorola Product, less a reasonable charge for depreciation. The depreciation amount will be calculated based upon generally accepted accounting standards.

14.3.3 Motorola will have no duty to defend or indemnify for any Infringement Claim that is based upon: (a) the combination of the Motorola Product with any software, apparatus or device not furnished by Motorola; (b) the use of ancillary equipment or software not furnished by Motorola and that is attached to or used in connection with the Motorola Product; (c) Motorola Product designed or manufactured in accordance with Customer's designs, specifications, guidelines or instructions, if the alleged infringement would not have occurred without such designs, specifications, guidelines or instructions; (d) a modification of the Motorola Product by a party other than Motorola; (e) use of the Motorola Product in a manner for which the Motorola Product was not designed or that is inconsistent with the terms of this Agreement; or (f) the failure by Customer to install an enhancement release to the Motorola Software that

is intended to correct the claimed infringement. In no event will Motorola's liability resulting from its indemnity obligation to Customer extend in any way to royalties payable on a per use basis or the Customer's revenues, or any royalty basis other than a reasonable royalty based upon revenue derived by Motorola from Customer from sales or license of the infringing Motorola Product.

14.3.4. This Section 14 provides Customer's sole and exclusive remedies and Motorola's entire liability in the event of an Infringement Claim. Customer has no right to recover and Motorola has no obligation to provide any other or further remedies, whether under another provision of this Agreement or any other legal theory or principle, in connection with an Infringement Claim. In addition, the rights and remedies provided in this Section 14 are subject to and limited by the restrictions set forth in Section 15.

Section 15 LIMITATION OF LIABILITY

Except for personal injury or death, Motorola's total liability, whether for breach of contract, warranty, negligence, strict liability in tort, indemnification, or otherwise, will be limited to the direct damages recoverable under law, but not to exceed the price of the Equipment, Software, or implementation and other one-time Services with respect to which losses or damages are claimed. With respect to all subscription or other ongoing Services and unless as otherwise provided under the applicable Addenda, Motorola's total liability will be limited to the direct damages recoverable under law, but not to exceed the price of twelve (12) months of Services preceding the incident giving rise to the claim. ALTHOUGH THE PARTIES ACKNOWLEDGE THE POSSIBILITY OF SUCH LOSSES OR DAMAGES, THEY AGREE THAT MOTOROLA WILL NOT BE LIABLE FOR ANY COMMERCIAL LOSS, INCONVENIENCE, LOSS OF USE, LOSS TIME, DATA, GOODWILL, REVENUES, PROFITS OR SAVINGS; OR OTHER SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO OR ARISING FROM THIS AGREEMENT, THE SALE OR USE OF THE EQUIPMENT OR SOFTWARE, OR THE PERFORMANCE OF SERVICES BY MOTOROLA PURSUANT TO THIS AGREEMENT. This limitation of liability provision survives the expiration or termination of the Agreement and applies notwithstanding any contrary provision. No action for contract breach or otherwise relating to the transactions contemplated by this Agreement may be brought more than one (1) year after the accrual of the cause of action, except for money due upon an open account.

Section 16 CONFIDENTIALITY AND PROPRIETARY RIGHTS

16.1. CONFIDENTIAL INFORMATION.

16.1.1. Each party is a disclosing party ("Discloser") and a receiving party ("Recipient") under this Agreement. All Deliverables will be deemed to be Motorola's Confidential Information. During the term of this Agreement and for a period of three (3) years from the expiration or termination of this Agreement, Recipient will (i) not disclose Confidential Information to any third party; (ii) restrict disclosure of Confidential Information to only those employees (including, but not limited to, employees of any wholly owned subsidiary, a parent company, any other wholly owned subsidiaries of the same parent company), agents or consultants who must be directly involved with the Confidential Information for the purpose and who are bound by confidentiality terms substantially similar to those in this Agreement; (iii) not copy, reproduce, reverse engineer, decompile, or disassemble any Confidential Information; (iv) use the same degree of care as for its own information of like importance, but at least use reasonable care, in safeguarding against disclosure of Confidential Information; (v) promptly notify Discloser upon discovery of any unauthorized use or disclosure of the Confidential Information and take reasonable steps to regain possession of the Confidential Information and prevent further unauthorized actions or other breach of this Agreement; and (vi) only use the Confidential Information as needed to fulfill this Agreement.

16.1.2. Recipient is not obligated to maintain as confidential, Confidential Information that Recipient can demonstrate by documentation (i) is now available or becomes available to the public without breach of this agreement; (ii) is explicitly approved for release by written authorization of Discloser; (iii) is lawfully obtained from a third party or parties without a duty of confidentiality; (iv) is known to the Recipient prior to

such disclosure; or (v) is independently developed by Recipient without the use of any of Discloser's Confidential Information or any breach of this Agreement.

16.1.3. All Confidential Information remains the property of the Discloser and will not be copied or reproduced without the express written permission of the Discloser, except for copies that are absolutely necessary in order to fulfill this Agreement. Within ten (10) days of receipt of Discloser's written request, Recipient will return all Confidential Information to Discloser along with all copies and portions thereof, or certify in writing that all such Confidential Information has been destroyed. However, Recipient may retain one (1) archival copy of the Confidential Information that it may use only in case of a dispute concerning this Agreement. No license, express or implied, in the Confidential Information is granted other than to use the Confidential Information in the manner and to the extent authorized by this Agreement. The Discloser warrants that it is authorized to disclose any Confidential Information it discloses pursuant to this Agreement.

16.2. PRESERVATION OF MOTOROLA'S PROPRIETARY RIGHTS. Motorola, the third party manufacturer of any Equipment, and the copyright owner of any Non-Motorola Software own and retain all of their respective Proprietary Rights in the Equipment and Software, and nothing in this Agreement is intended to restrict their Proprietary Rights. All intellectual property developed, originated, or prepared by Motorola in connection with providing to Customer the Equipment, Software, or related services remain vested exclusively in Motorola, and this Agreement does not grant to Customer any shared development rights of intellectual property. Except as explicitly provided in the Software License Agreement, Motorola does not grant to Customer, either directly or by implication, estoppel, or otherwise, any right, title or interest in Motorola's Proprietary Rights. Customer will not modify, disassemble, peel components, decompile, otherwise reverse engineer or attempt to reverse engineer, derive source code or create derivative works from, adapt, translate, merge with other software, reproduce, distribute, sublicense, sell or export the Software, or permit or encourage any third party to do so. The preceding sentence does not apply to Open Source Software which is governed by the standard license of the copyright owner.

16.3 VOLUNTARY DISCLOSURE. Except as required to fulfill its obligations under this Agreement, Motorola will have no obligation to provide Customer with access to its Confidential Information and/or proprietary information. Under no circumstances will Motorola be required to provide any data related to cost and pricing.

16.4 DATA AND FEEDBACK.

16.4.1 To the extent permitted by law, Customer owns all right, title and interest in System Data created solely by it or its agents (hereafter, "Customer Data"), and grants to Motorola the right to use, host, cache, store, reproduce, copy, modify, combine, analyze, create derivatives from, communicate, transmit, publish, display, and distribute such Customer Data.

16.4.2 Motorola owns all right, title and interest in data resulting from System Data that is or has been transformed, altered, processed, aggregated, correlated or operated on (hereafter, "Derivative Data").

16.4.3 Any Feedback given by Customer is and will be entirely voluntary and, even if designated as confidential, will not create any confidentiality obligation for Motorola. Motorola will be free to use, reproduce, license or otherwise distribute and exploit the Feedback without any obligation to Customer. Customer acknowledges that Motorola's receipt of the Feedback does not imply or create recognition by Motorola of either the novelty or originality of any idea. The parties further agree that all fixes, modifications and improvements made to Motorola products or services conceived of or made by Motorola that are based, either in whole or in part, on the Feedback are the exclusive property of Motorola and all right, title and interest in and to such fixes, modifications or improvements to the Motorola product or service will vest solely in Motorola.

Section 17 GENERAL

17.1. TAXES. The Contract Price does not include any excise, sales, lease, use, property, or other taxes, assessments or duties, all of which will be paid by Customer except as exempt by law. If Motorola is required to pay any of these taxes, Motorola will send an invoice to Customer and Customer will pay to Motorola the amount of the taxes (including any interest and penalties) within thirty (30) days after the date of the invoice. Customer will be solely responsible for reporting the Equipment for personal property tax purposes, and Motorola will be solely responsible for reporting taxes on its income or net worth.

17.2. ASSIGNABILITY AND SUBCONTRACTING. Except as provided herein, neither Party may assign this Agreement or any of its rights or obligations hereunder without the prior written consent of the other Party, which consent will not be unreasonably withheld. Any attempted assignment, delegation, or transfer without the necessary consent will be void. Notwithstanding the foregoing, Motorola may assign this Agreement to any of its affiliates or its right to receive payment without the prior consent of Customer. In addition, in the event Motorola separates one or more of its businesses (each a "Separated Business"), whether by way of a sale, establishment of a joint venture, spin-off or otherwise (each a "Separation Event"), Motorola may, without the prior written consent of the other Party and at no additional cost to Motorola, assign this Agreement such that it will continue to benefit the Separated Business and its affiliates (and Motorola and its affiliates, to the extent applicable) following the Separation Event. Motorola may subcontract any of the work, but subcontracting will not relieve Motorola of its duties under this Agreement.

17.3. WAIVER. Failure or delay by either Party to exercise a right or power under this Agreement will not be a waiver of the right or power. For a waiver of a right or power to be effective, it must be in a writing signed by the waiving Party. An effective waiver of a right or power will not be construed as either a future or continuing waiver of that same right or power, or the waiver of any other right or power.

17.4. SEVERABILITY. If a court of competent jurisdiction renders any part of this Agreement invalid or unenforceable, that part will be severed and the remainder of this Agreement will continue in full force and effect.

17.5. INDEPENDENT CONTRACTORS. Each Party will perform its duties under this Agreement as an independent contractor. The Parties and their personnel will not be considered to be employees or agents of the other Party. Nothing in this Agreement will be interpreted as granting either Party the right or authority to make commitments of any kind for the other. This Agreement will not constitute, create, or be interpreted as a joint venture, partnership or formal business organization of any kind.

17.6. HEADINGS AND SECTION REFERENCES. The section headings in this Agreement are inserted only for convenience and are not to be construed as part of this Agreement or as a limitation of the scope of the particular section to which the heading refers. This Agreement will be fairly interpreted in accordance with its terms and conditions and not for or against either Party.

17.7. NOTICES. Notices required under this Agreement to be given by one Party to the other must be in writing and either personally delivered or sent to the address provided by the other Party by certified mail, return receipt requested and postage prepaid (or by a recognized courier service, such as Federal Express, UPS, or DHL), or by facsimile with correct answerback received, and will be effective upon receipt.

17.8. COMPLIANCE WITH APPLICABLE LAWS. Each Party will comply with all applicable federal,

state, and local laws, regulations and rules concerning the performance of this Agreement or use of the System. Customer will obtain and comply with all Federal Communications Commission ("FCC") licenses and authorizations required for the installation, operation and use of the System before the scheduled installation of the Equipment. Although Motorola might assist Customer in the preparation of its FCC license applications, neither Motorola nor any of its employees is an agent or representative of Customer in FCC or other matters.

17.9. FUTURE REGULATORY REQUIREMENTS. The Parties acknowledge and agree that this is an evolving technological area and therefore, laws and regulations regarding Services and use of Solution may change. Changes to existing Services or the Solution required to achieve regulatory compliance may be available for an additional fee. Any required changes may also impact the price for Services.

17.10. AUTHORITY TO EXECUTE AGREEMENT. Each Party represents that it has obtained all necessary approvals, consents and authorizations to enter into this Agreement and to perform its duties under this Agreement; the person executing this Agreement on its behalf has the authority to do so; upon execution and delivery of this Agreement by the Parties, it is a valid and binding contract, enforceable in accordance with its terms; and the execution, delivery, and performance of this Agreement does not violate any bylaw, charter, regulation, law or any other governing authority of the Party.

17.11. ADMINISTRATOR LEVEL ACCOUNT ACCESS. If applicable to the type of System purchased by Customer, Motorola will provide Customer with Administrative User Credentials. Customer agrees to only grant access to the Administrative User Credentials to those personnel with the training and experience to correctly use them. Customer is responsible for protecting Administrative User Credentials from disclosure and maintaining Credential validity by, among other things, updating passwords when required. Customer may be asked to provide valid Administrative User Credentials when in contact with Motorola System support personnel. Customer understands that changes made as the Administrative User can significantly impact the performance of the System. Customer agrees that it will be solely responsible for any negative impact on the System or its users by any such changes. System issues occurring as a result of changes made using the Administrative User Credentials may impact Motorola's ability to perform Services or other obligations under the Agreement. In such cases, a revision to the appropriate provisions of the Agreement, including the Statement of Work, may be necessary. To the extent Motorola provides assistance to correct any issues caused by or arising out of the use of or failure to maintain Administrative User Credentials, Motorola will be entitled to bill Customer and Customer will pay Motorola on a time and materials basis for resolving the issue.

17.12. SURVIVAL OF TERMS. The following provisions will survive the expiration or termination of this Agreement for any reason: Section 3.5 (Motorola Software); Section 3.6 (Non-Motorola Software); if any payment obligations exist, Sections 6.2 and 6.3 (Contract Price and Invoicing and Payment); Subsection 10.8 (Disclaimer of Implied Warranties); Section 12 (Disputes); Section 15 (Limitation of Liability); and Section 16 (Confidentiality and Proprietary Rights); and all of the General provisions in Section 17.

17.13. ENTIRE AGREEMENT. This Agreement, including all Exhibits, constitutes the entire agreement of the Parties regarding the subject matter of the Agreement and supersedes all previous agreements, proposals, and understandings, whether written or oral, relating to this subject matter. This Agreement may be executed in multiple counterparts, and shall have the same legal force and effect as if the Parties had executed it as a single document. The Parties may sign in writing, or by electronic signature, including by email. An electronic signature, or a facsimile copy or computer image, such as a PDF or tiff image, of a signature, shall be treated as and shall have the same effect as an original signature. In

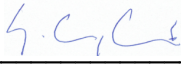
addition, an electronic signature, a true and correct facsimile copy or computer image of this Agreement shall be treated as and shall have the same effect as an original signed copy of this document. This Agreement may be amended or modified only by a written instrument signed by authorized representatives of both Parties. The preprinted terms and conditions found on any Customer purchase or purchase order, acknowledgment or other form will not be considered an amendment or modification of this Agreement, even if a representative of each Party signs that document.

17.14. COMPLIANCE WITH TEXAS LOCAL GOV'T CODE CH. 2270. As required by, and in compliance with, Chapter 2270 of the Texas Local Government Code, by Motorola certifies that: (1) Motorola does not boycott Israel currently; and (2) will not boycott Israel during the term of this Agreement.

The Parties hereby enter into this Agreement as of the Effective Date.

Motorola Solutions, Inc.

Customer

By: 

By: _____

Name: Clay Cassard

Name: _____

Title: MSSSI Vice President

Title: _____

Date: 12/16/20

Date: _____

Exhibit A

MOTOROLA SOFTWARE LICENSE AGREEMENT

This Exhibit A Motorola Software License Agreement ("Agreement") is between Motorola Solutions, Inc., ("Motorola"), and Cooke County ("Licensee").

For good and valuable consideration, the parties agree as follows:

Section 1 DEFINITIONS

1.1 "Designated Products" means products provided by Motorola to Licensee with which or for which the Software and Documentation is licensed for use.

1.2 "Documentation" means product and software documentation that specifies technical and performance features and capabilities, and the user, operation and training manuals for the Software (including all physical or electronic media upon which such information is provided).

1.3 "Open Source Software" means software with either freely obtainable source code, license for modification, or permission for free distribution.

1.4 "Open Source Software License" means the terms or conditions under which the Open Source Software is licensed.

1.5 "Primary Agreement" means the agreement to which this exhibit is attached.

1.6 "Security Vulnerability" means a flaw or weakness in system security procedures, design, implementation, or internal controls that could be exercised (accidentally triggered or intentionally exploited) and result in a security breach such that data is compromised, manipulated or stolen or the system damaged.

1.7 "Software" (i) means proprietary software in object code format, and adaptations, translations, de-compilations, disassemblies, emulations, or derivative works of such software; (ii) means any modifications, enhancements, new versions and new releases of the software provided by Motorola; and (iii) may contain one or more items of software owned by a third party supplier. The term "Software" does not include any third party software provided under separate license or third party software not licensable under the terms of this Agreement.

Section 2 SCOPE

Motorola and Licensee enter into this Agreement in connection with Motorola's delivery of certain proprietary software or products containing embedded or pre-loaded proprietary software, or both. This Agreement contains the terms and conditions of the license Motorola is providing to Licensee, and Licensee's use of the proprietary software and affiliated documentation.

Section 3 GRANT OF LICENSE

3.1. Subject to the provisions of this Agreement and the payment of applicable license fees, Motorola grants to Licensee a personal, limited, non-transferable (except as permitted in Section 7) and non-exclusive license under Motorola's copyrights and Confidential Information (as defined in the Primary Agreement) embodied in the Software to use the Software, in object code form, and the Documentation solely in connection with Licensee's use of the Designated Products. This Agreement does not grant any rights to source code.

3.2. If the Software licensed under this Agreement contains or is derived from Open Source Software, the terms and conditions governing the use of such Open Source Software are in the Open Source Software Licenses of the copyright owner and not this Agreement. If there is a conflict between the terms and conditions of this Agreement and the terms and conditions of the Open Source Software Licenses governing Licensee's use of the Open Source Software, the terms and conditions of the license grant of the applicable Open Source Software Licenses will take precedence over the license grants in this Agreement. If requested by Licensee, Motorola will use commercially reasonable efforts to: (i) determine whether any Open Source Software is provided under this Agreement; and (ii) identify the Open Source Software (or specify where that license may be found).

3.3 TO THE EXTENT, IF ANY, THAT THERE IS A SEPARATE LICENSE AGREEMENT PACKAGED WITH, OR PROVIDED ELECTRONICALLY WITH, A PARTICULAR PRODUCT THAT BECOMES EFFECTIVE ON AN ACT OF ACCEPTANCE BY THE END USER, THEN THAT AGREEMENT SUPERSEDES THE SOFTWARE LICENSE AGREEMENT AS TO THE END USER OF EACH SUCH PRODUCT.

Section 4 LIMITATIONS ON USE

4.1. Licensee may use the Software only for Licensee's internal business purposes and only in accordance with the Documentation. Any other use of the Software is strictly prohibited. Without limiting the general nature of these restrictions, Licensee will not make the Software available for use by third parties on a "time sharing," "application service provider," or "service bureau" basis or for any other similar commercial rental or sharing arrangement.

4.2. Licensee will not, and will not allow or enable any third party to: (i) reverse engineer, disassemble, peel components, decompile, reprogram or otherwise reduce the Software or any portion to a human perceptible form or otherwise attempt to recreate the source code; (ii) modify, adapt, create derivative works of, or merge the Software; (iii) copy, reproduce, distribute, lend, or lease the Software or Documentation to any third party, grant any sublicense or other rights in the Software or Documentation to any third party, or take any action that would cause the Software or Documentation to be placed in the public domain; (iv) remove, or in any way alter or obscure, any copyright notice or other notice of Motorola's proprietary rights; (v) provide, copy, transmit, disclose, divulge or make the Software or Documentation available to, or permit the use of the Software by any third party or on any machine except as expressly authorized by this Agreement; or (vi) use, or permit the use of, the Software in a manner that would result in the production of a copy of the Software solely by activating a machine containing the Software. Licensee may make one copy of Software to be used solely for archival, back-up, or disaster recovery purposes; *provided* that Licensee may not operate that copy of the Software at the same time as the original Software is being operated. Licensee may make as many copies of the Documentation as it may reasonably require for the internal use of the Software.

4.3. Unless otherwise authorized by Motorola in writing, Licensee will not, and will not enable or allow any third party to: (i) install a licensed copy of the Software on more than one unit of a Designated Product; or (ii) copy onto or transfer Software installed in one unit of a Designated Product onto one other device. Licensee may temporarily transfer Software installed on a Designated Product to another device if the Designated Product is inoperable or malfunctioning, if Licensee provides written notice to Motorola of the temporary transfer and identifies the device on which the Software is transferred. Temporary transfer of the Software to another device must be discontinued when the original Designated Product is returned to operation and the Software must be removed from the other device. Licensee must provide prompt written notice to Motorola at the time temporary transfer is discontinued.

4.4 Licensee will maintain, during the term of this Agreement and for a period of two years thereafter, accurate records relating to this license grant to verify compliance with this Agreement. Motorola or an independent third party ("Auditor") may inspect Licensee's premises, books and records, upon reasonable prior notice to Licensee, during Licensee's normal business hours and subject to Licensee's facility and

security regulations. Motorola is responsible for the payment of all expenses and costs of the Auditor. Any information obtained by Motorola and the Auditor will be kept in strict confidence by Motorola and the Auditor and used solely for the purpose of verifying Licensee's compliance with the terms of this Agreement.

Section 5 OWNERSHIP AND TITLE

Motorola, its licensors, and its suppliers retain all of their proprietary rights in any form in and to the Software and Documentation, including, but not limited to, all rights in patents, patent applications, inventions, copyrights, trademarks, trade secrets, trade names, and other proprietary rights in or relating to the Software and Documentation (including any corrections, bug fixes, enhancements, updates, modifications, adaptations, translations, de-compilations, disassemblies, emulations to or derivative works from the Software or Documentation, whether made by Motorola or another party, or any improvements that result from Motorola's processes or, provision of information services). No rights are granted to Licensee under this Agreement by implication, estoppel or otherwise, except for those rights which are expressly granted to Licensee in this Agreement. All intellectual property developed, originated, or prepared by Motorola in connection with providing the Software, Designated Products, Documentation or related services, remains vested exclusively in Motorola, and Licensee will not have any shared development or other intellectual property rights.

Section 6 LIMITED WARRANTY; DISCLAIMER OF WARRANTY

6.1. Unless otherwise stated in the Primary Agreement, the commencement date and the term of the Software warranty will be a period of ninety (90) days from Motorola's shipment of the Software (the "Warranty Period"). If Licensee is not in breach of any of its obligations under this Agreement, Motorola warrants that the unmodified Software, when used properly and in accordance with the Documentation and this Agreement, will be free from a reproducible defect that eliminates the functionality or successful operation of a feature critical to the primary functionality or successful operation of the Software. Whether a defect occurs will be determined by Motorola solely with reference to the Documentation. Motorola does not warrant that Licensee's use of the Software or the Designated Products will be uninterrupted, error-free, completely free of Security Vulnerabilities, or that the Software or the Designated Products will meet Licensee's particular requirements. Motorola makes no representations or warranties with respect to any third party software included in the Software. Notwithstanding, any warranty provided by a copyright owner in its standard license terms will flow through to Licensee for third party software provided by Motorola.

6.2 Motorola's sole obligation to Licensee and Licensee's exclusive remedy under this warranty is to use reasonable efforts to remedy any material Software defect covered by this warranty. These efforts will involve either replacing the media or attempting to correct significant, demonstrable program or documentation errors or Security Vulnerabilities. If Motorola cannot correct the defect within a reasonable time, then at Motorola's option, Motorola will replace the defective Software with functionally-equivalent Software, license to Licensee substitute Software which will accomplish the same objective, or terminate the license and refund the Licensee's paid license fee.

6.3. Warranty claims are described in the Primary Agreement.

6.4. The express warranties set forth in this Section 6 are in lieu of, and Motorola disclaims, any and all other warranties (express or implied, oral or written) with respect to the Software or Documentation, including, without limitation, any and all implied warranties of condition, title, non-infringement, merchantability, or fitness for a particular purpose or use by Licensee (whether or not Motorola knows, has reason to know, has been advised, or is otherwise aware of any such purpose or use), whether arising by law, by reason of custom or usage of trade, or by course of dealing. In addition, Motorola disclaims any warranty to any person other than Licensee with respect to the Software or Documentation.

Section 7 TRANSFERS

Licensee will not transfer the Software or Documentation to any third party without Motorola's prior written consent. Motorola's consent may be withheld at its discretion and may be conditioned upon transferee paying all applicable license fees and agreeing to be bound by this Agreement. If the Designated Products are Motorola's radio products and Licensee transfers ownership of the Motorola radio products to a third party, Licensee may assign its right to use the Software (other than CPS and Motorola's FLASHport® software) which is embedded in or furnished for use with the radio products and the related Documentation; *provided* that Licensee transfers all copies of the Software and Documentation to the transferee, and Licensee and the transferee sign a transfer form to be provided by Motorola upon request, obligating the transferee to be bound by this Agreement.

Section 8 TERM AND TERMINATION

8.1 Licensee's right to use the Software and Documentation will begin when the Primary Agreement is signed by both parties and will continue for the life of the Designated Products with which or for which the Software and Documentation have been provided by Motorola, unless Licensee breaches this Agreement, in which case this Agreement and Licensee's right to use the Software and Documentation may be terminated immediately upon notice by Motorola.

8.2 Within thirty (30) days after termination of this Agreement, Licensee must certify in writing to Motorola that all copies of the Software have been removed or deleted from the Designated Products and that all copies of the Software and Documentation have been returned to Motorola or destroyed by Licensee and are no longer in use by Licensee.

8.3 Licensee acknowledges that Motorola made a considerable investment of resources in the development, marketing, and distribution of the Software and Documentation and that Licensee's breach of this Agreement will result in irreparable harm to Motorola for which monetary damages would be inadequate. If Licensee breaches this Agreement, Motorola may terminate this Agreement and be entitled to all available remedies at law or in equity (including immediate injunctive relief and repossession of all non-embedded Software and associated Documentation unless Licensee is a Federal agency of the United States Government).

Section 9 Commercial Computer Software

9.1 *This Section 9 only applies to U.S. Government end users.* The Software, Documentation and updates are commercial items as that term is defined at 48 C.F.R. Part 2.101, consisting of "commercial computer software" and "computer software documentation" as such terms are defined in 48 C.F.R. Part 252.227-7014(a)(1) and 48 C.F.R. Part 252.227-7014(a)(5), and used in 48 C.F.R. Part 12.212 and 48 C.F.R. Part 227.7202, as applicable. Consistent with 48 C.F.R. Part 12.212, 48 C.F.R. Part 252.227-7015, 48 C.F.R. Part 227.7202-1 through 227.7202-4, 48 C.F.R. Part 52.227-19, and other relevant sections of the Code of Federal Regulations, as applicable, the Software, Documentation and Updates are distributed and licensed to U.S. Government end users: (i) only as commercial items, and (ii) with only those rights as are granted to all other end users pursuant to the terms and conditions contained herein.

9.2 If Licensee is licensing Software for end use by the United States Government or a United States Government agency, Licensee may transfer such Software license, but only if: (i) Licensee transfers all copies of such Software and Documentation to such United States Government entity or interim transferee, and (ii) Licensee has first obtained from the transferee (if applicable) and ultimate end user an enforceable end user license agreement containing restrictions substantially identical to the ones contained in this Agreement. Except as stated in the foregoing, Licensee and any transferee(s) authorized by this subsection 9.2 may not otherwise use or transfer or make available any Motorola software to any third party nor permit any party to do so.

Section 10 CONFIDENTIALITY

Licensee acknowledges that the Software and Documentation contain Motorola's valuable proprietary and Confidential Information and are Motorola's trade secrets, and that the provisions in the Primary Agreement concerning Confidential Information apply.

Section 11 LIMITATION OF LIABILITY

The Limitation of Liability provision is described in the Primary Agreement.

Section 12 NOTICES

Notices are described in the Primary Agreement.

Section 13 GENERAL

13.1. COPYRIGHT NOTICES. The existence of a copyright notice on the Software will not be construed as an admission or presumption of publication of the Software or public disclosure of any trade secrets associated with the Software.

13.2. COMPLIANCE WITH LAWS. Licensee acknowledges that the Software is subject to the laws and regulations of the United States and Licensee will comply with all applicable laws and regulations, including export laws and regulations of the United States. Licensee will not, without the prior authorization of Motorola and the appropriate governmental authority of the United States, in any form export or re-export, sell or resell, ship or reship, or divert, through direct or indirect means, any item or technical data or direct or indirect products sold or otherwise furnished to any person within any territory for which the United States Government or any of its agencies at the time of the action, requires an export license or other governmental approval. Violation of this provision is a material breach of this Agreement.

13.3 FUTURE REGULATORY REQUIREMENTS. The Parties acknowledge and agree that this is an evolving technological area and therefore, laws and regulations regarding Services and use of Solution may change. Changes to existing Services or the Solution required to achieve regulatory compliance may be available for an additional fee. Any required changes may also impact the price for Services.

13.4. ASSIGNMENTS AND SUBCONTRACTING. Motorola may assign its rights or subcontract its obligations under this Agreement, or encumber or sell its rights in any Software, without prior notice to or consent of Licensee.

13.5. GOVERNING LAW. This Agreement is governed by the laws of the United States to the extent that they apply and otherwise by the internal substantive laws of the State to which the Software is shipped if Licensee is a sovereign government entity, or the internal substantive laws of the State of Illinois if Licensee is not a sovereign government entity. The terms of the U.N. Convention on Contracts for the International Sale of Goods do not apply. In the event that the Uniform Computer Information Transaction Act, any version of this Act, or a substantially similar law (collectively "UCITA") becomes applicable to a party's performance under this Agreement, UCITA does not govern any aspect of this Agreement or any license granted under this Agreement, or any of the parties' rights or obligations under this Agreement. The governing law will be that in effect prior to the applicability of UCITA.

13.6. THIRD PARTY BENEFICIARIES. This Agreement is entered into solely for the benefit of Motorola and Licensee. No third party has the right to make any claim or assert any right under this Agreement, and no third party is deemed a beneficiary of this Agreement. Notwithstanding the foregoing,

any licensor or supplier of third party software included in the Software will be a direct and intended third party beneficiary of this Agreement.

13.7. SURVIVAL. Sections 4, 5, 6.4, 7, 8, 9, 10, 11 and 13 survive the termination of this Agreement.

13.8. ORDER OF PRECEDENCE. In the event of inconsistencies between this Exhibit and the Primary Agreement, the parties agree that this Exhibit prevails, only with respect to the specific subject matter of this Exhibit, and not the Primary Agreement or any other exhibit as it applies to any other subject matter.

13.9. SECURITY. Motorola uses reasonable means in the design and writing of its own Software and the acquisition of third party Software to limit Security Vulnerabilities. While no software can be guaranteed to be free from Security Vulnerabilities, if a Security Vulnerability is discovered, Motorola will take the steps set forth in Section 6 of this Agreement.

Exhibit B
PAYMENT

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution. If Customer has purchased additional Professional or Subscription services, payment will be in accordance with the applicable addenda. Payment for the System purchase will be in accordance with the following milestones.

System Purchase (excluding Subscribers, if applicable)

- 1. 25% of the Contract Price due upon contract execution (due upon effective date);**
- 2. 60% of the Contract Price due upon shipment of equipment from Staging;**
- 3. 10% of the Contract Price due upon installation of equipment; and**
- 4. 5% of the Contract Price due upon Final Acceptance.**

If Subscribers are purchased, 100% of the Subscriber Contract Price will be invoiced upon shipment (as shipped).

Motorola shall make partial shipments of equipment and will request payment upon shipment of such equipment. In addition, Motorola shall invoice for installations completed on a site-by-site basis or when professional services are completed, when applicable. The value of the equipment shipped/services performed will be determined by the value shipped/services performed as a percentage of the total milestone value. Unless otherwise specified, contract discounts are based upon all items proposed and overall system package. For invoicing purposes only, discounts will be applied proportionately to the FNE and Subscriber equipment values to total contract price. Overdue invoices will bear simple interest at the maximum allowable rate by state law.

EXHIBIT D

System Acceptance Certificate

Customer Name: _____

Project Name: _____


This System Acceptance Certificate memorializes the occurrence of System Acceptance. Motorola and Customer acknowledge that:

1. The Acceptance Tests set forth in the Acceptance Test Plan have been successfully completed.
2. The System is accepted.

Customer Representative:

Motorola Representative:

Signature: _____
Print Name: _____
Title: _____
Date: _____

Signature:  _____
Print Name: Clay Cassard
Title: MSSSI Vice President
Date: 12/16/20

FINAL PROJECT ACCEPTANCE:

Motorola has provided and Customer has received all deliverables, and Motorola has performed all other work required for Final Project Acceptance.

Customer Representative:

Motorola Representative:

Signature: _____
Print Name: _____
Title: _____
Date: _____

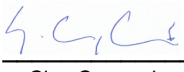
Signature:  _____
Print Name: Clay Cassard
Title: MSSSI Vice President
Date: 12/16/20

Exhibit E

H-GAC/Motorola Contract dated May 1, 2018

H-GAC

Houston-Galveston Area Council

P.O. Box 22777 · 3555 Timmons · Houston, Texas 77227-2777

Cooperative Agreement - Motorola Solutions, Inc. - Public Services - 18-00196

GENERAL PROVISIONS

This Agreement is made and entered into, by and between the Houston-Galveston Area Council hereinafter referred to as H-GAC having its principal place of business at 3555 Timmons Lane, Suite 120, Houston, Texas 77027 and Motorola Solutions, Inc., hereinafter referred to as the Contractor, having its principal place of business at 500 West Monroe Street, 44th Floor, Chicago, IL 60661.

WITNESSETH:

WHEREAS, H-GAC hereby engages the Contractor to perform certain services in accordance with the specifications of the Agreement; and

WHEREAS, the Contractor has agreed to perform such services in accordance with the specifications of the Agreement;

NOW, THEREFORE, H-GAC and the Contractor do hereby agree as follows:

ARTICLE 1: LEGAL AUTHORITY

Both parties warrant and assure that each possesses adequate legal authority to enter into this Agreement. The governing body, where applicable, has authorized the signatory official(s) to enter into this Agreement and bind the respective parties to the terms of this Agreement and any subsequent amendments hereto.

ARTICLE 2: APPLICABLE LAWS

The Contractor agrees to conduct all activities under this Agreement in accordance with all applicable rules, regulations, directives, standards, ordinances, and laws, in effect or promulgated during the term of this Agreement, including without limitation, workers' compensation laws, minimum and maximum salary and wage statutes and regulations, and licensing laws and regulations. When required, the Contractor shall furnish H-GAC with satisfactory proof of its compliance therewith.

ARTICLE 3: INDEPENDENT CONTRACTOR

The execution of this Agreement and the rendering of services prescribed by this Agreement do not change the independent status of H-GAC or the Contractor. No provision of this Agreement or act of H-GAC in performance of the Agreement shall be construed as making the Contractor the agent, servant or employee of H-GAC, the State of Texas or the United States Government. Employees of the Contractor are subject to the exclusive control and supervision of the Contractor. The Contractor is solely responsible for employee related disputes and discrepancies, including employee payrolls and any claims arising therefrom.

ARTICLE 4: WHOLE AGREEMENT

The General Provisions, Special Provisions, and Attachments, as provided herein, constitute the complete Agreement ("Agreement") between the parties hereto, and supersede any and all oral and written agreements between the parties relating to matters herein. Except as otherwise provided herein, this Agreement cannot be modified without written consent of the parties.

ARTICLE 5: SCOPE OF SERVICES

The services to be performed by the Contractor are outlined in an Attachment to this Agreement.

ARTICLE 6: PERFORMANCE PERIOD

This Agreement shall be performed during the period which begins May 01 2018 and ends Apr 30 2021. All services under this Agreement must be rendered within this performance period, unless directly specified under a written change or extension provisioned under Article 15, which shall be fully executed by both parties to this Agreement.

ARTICLE 7: PAYMENT OR FUNDING

Payment provisions under this Agreement are outlined in the Special Provisions.

ARTICLE 8: REPORTING REQUIREMENTS

If the Contractor fails to submit to H-GAC in a timely and satisfactory manner any report required by this Agreement, or otherwise fails to satisfactorily render performances hereunder, H-GAC may terminate this agreement with notice as identified in Article 16 of these General Provisions. H-GAC has final determination of the adequacy of performance and reporting by Contractor. Termination of this agreement for failure to perform may affect Contractor's ability to participate in future opportunities with H-GAC. The Contractor's failure to timely submit any report may also be considered cause for termination of this Agreement.

Any additional reporting requirements shall be set forth in the Special Provisions of this Agreement.

ARTICLE 9: INSURANCE

Contractor shall maintain insurance coverage for work performed or services rendered under this Agreement as outlined and defined in the attached Special Provisions.

ARTICLE 10: SUBCONTRACTS and ASSIGNMENTS

Except as may be set forth in the Special Provisions, the Contractor agrees not to subcontract, assign, transfer, convey, sublet or otherwise dispose of this Agreement or any right, title, obligation or interest it may have therein to any third party without prior written approval of H-GAC, which will not be unreasonably withheld. The Contractor acknowledges that H-GAC is not liable to any subcontractor or assignee of the Contractor. The Contractor shall ensure that the performance rendered under all subcontracts shall result in compliance with all the terms and provisions of this Agreement as if the performance rendered was rendered by the Contractor. Contractor shall give all required notices, and comply with all laws and regulations applicable to furnishing and performance of the work. Except where otherwise expressly required by applicable law or regulation, H-GAC shall not be responsible for monitoring Contractor's compliance, or that of Contractor's subcontractors, with any laws or regulations.

ARTICLE 11: AUDIT

Notwithstanding any other audit requirement, H-GAC reserves the right to conduct or cause to be conducted an independent audit of any transaction under this Agreement, such audit may be performed by the H-GAC local government audit staff, a certified public accountant firm, or other auditors designated by H-GAC and will be conducted in accordance with applicable professional standards and practices. The Contractor understands and agrees that the Contractor shall be liable to the H-GAC for any findings that result in monetary obligations to H-GAC. In no circumstances will Contractor be required to create or maintain documents not kept in the ordinary course of its business operations, nor will Contractor be required to disclose any information, including but not limited to product cost data, which it considers confidential or proprietary.

ARTICLE 12: EXAMINATION OF RECORDS

The Contractor shall maintain during the course of the work complete and accurate records of all of the Contractor's invoices and pertinent documentation of items which are chargeable to H-GAC under this Agreement. H-GAC, through its staff or designated public accounting firm, the State of Texas, and United States Government, shall have the right at any reasonable time to inspect, copy and audit

those pertinent records on or off the premises by authorized representatives of its own or any public accounting firm selected by H- GAC. The right of access to records is not limited to the required retention period, but shall last as long as the records are retained. Failure to provide access to records may be cause for termination of the Agreement.

The Contractor further agrees that the examination of records outlined in this article shall be included in all subcontractor or third-party agreements.

ARTICLE 13: RETENTION OF RECORDS

The Contractor and its subcontractors shall maintain all records pertinent to this Agreement for a period of seven (7) years from the later of the date of acceptance of the final payment or until all audit findings have been resolved. If any litigation, claim, negotiation, audit or other action involving the records has been started before the expiration of the retention period, the records shall be retained until completion of the action and resolution of all issues which arise from it, or until the end of the seven (7) years, whichever is later, and until any outstanding litigation, audit, or claim has been fully resolved.

ARTICLE 14: CHANGES AND AMENDMENTS

- A. Any alterations, additions, or deletions to the terms of this Agreement, which are required by changes in federal or state law or by regulations, are automatically incorporated without written amendment hereto, and shall become effective on the date designated by such law or by regulation.
- B. To ensure the legal and effective performance of this Agreement, both parties agree that any amendment that affects the performance under this Agreement must be mutually agreed upon and that all such amendments must be in writing. After a period of no less than 30 days subsequent to written notice, unless sooner implementation is required by law, such amendments shall have the effect of qualifying the terms of this Agreement and shall be binding upon the parties as if written herein.

ARTICLE 15: TERMINATION PROCEDURES

The Contractor acknowledges that this Agreement may be terminated for Convenience or Default.

A. Convenience

H-GAC may terminate this Agreement at any time, in whole or in part, with or without cause, whenever H-GAC determines that for any reason such termination is in the best interest of H-GAC, by providing thirty (30) days written notice by certified mail to the Contractor. Upon receipt of notice of termination, all services hereunder of the Contractor and its employees and subcontractors shall cease to the extent specified in the notice of termination.

The Contractor may cancel or terminate this Agreement upon submission of thirty (30) days written notice, presented to H-GAC via certified mail. The Contractor may not give notice of cancellation after it has received notice of default from H-GAC.

B. Default

H-GAC may, by written notice of default to the Contractor, terminate the whole or any part of the Agreement, in any one of the following circumstances:

- (1) If the Contractor fails to perform the services herein specified within the time specified herein or any extension thereof; or
- (2) If the Contractor fails to perform any of the other provisions of this Agreement for any reason whatsoever, or so fails to make progress or otherwise violates the Agreements that completion of services herein specified within the Agreement term is significantly endangered, and in either of these two instances does not cure such failure within a period of fifteen (15) days (or such longer period of time as may be authorized by H-GAC in writing) after receiving written notice by certified mail of default from H-GAC.

ARTICLE 16: SEVERABILITY

H-GAC and Contractor agree that should any provision of this Agreement be determined to be invalid

or unenforceable, such determination shall not affect any other term of this Agreement, which shall continue in full force and effect.

ARTICLE 17: FORCE MAJEURE

To the extent that either party to this Agreement shall be wholly or partially prevented from the performance of any obligation or duty placed on such party by reason of or through strikes, stoppage of labor, riot, fire, flood, acts of war, insurrection, accident, order of any court, act of God, or specific cause reasonably beyond the party's control and not attributable to its neglect or nonfeasance, in such event, the time for the performance of such obligation or duty shall be suspended until such disability to perform is removed. The party affected by the Force Majeure will notify the other within fifteen (15) days. Determination of force majeure shall rest solely with H-GAC.

ARTICLE 18: CONFLICT OF INTEREST

No officer, member or employee of the Contractor or subcontractor, no member of the governing body of the Contractor, and no other public officials of the Contractor who exercise any functions or responsibilities in the review or Contractor approval of this Agreement, shall participate in any decision relating to this Agreement which affects his or her personal interest, or shall have any personal or pecuniary interest, direct or indirect, in this Agreement.

ARTICLE 19: FEDERAL COMPLIANCE

Contractor agrees to comply with all applicable federal statutes relating to nondiscrimination, labor standards, and environmental compliance. Additionally, for work to be performed under the Agreement or subcontract thereof, including procurement of materials or leases of equipment, Contractor shall notify each potential subcontractor or supplier of the Contractor's federal compliance obligations. These may include, but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) the Fair Labor Standards Act of 1938 (29 USC 676 et. seq.), (d) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps and the Americans with Disabilities Act of 1990; (e) the Age Discrimination in Employment Act of 1967 (29 USC 621 et. seq.) and the Age Discrimination Act of 1974, as amended (42 U.S.C. §§ 6101-6107), which prohibits discrimination on the basis of age; (f) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (g) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to the nondiscrimination on the basis of alcohol abuse or alcoholism; (h) §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (i) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. § 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (j) any other nondiscrimination provisions in any specific statute(s) applicable to any Federal funding for this Agreement; (k) the requirements of any other nondiscrimination statute(s) which may apply to this Agreement; (l) applicable provisions of the Clean Air Act (42 U.S.C. §7401 et seq.), the Federal Water Pollution Control Act, as amended (33 U.S.C. §1251 et seq.), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and the Environmental Protection Agency regulations at 40 CFR Part 15; (m) applicable provisions of the Davis • Bacon Act (40 U.S.C. 276a - 276a-7), the Copeland Act (40 U.S.C. 276c), and the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-332), as set forth in Department of Labor Regulations at 20 CFR 5.5a; (n) the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.L. 94-163).

ARTICLE 20: CRIMINAL PROVISIONS AND SANCTIONS

The Contractor agrees to perform the Agreement in conformance with safeguards against fraud and abuse as set forth by the H-GAC, the State of Texas, and the acts and regulations of any related state or federal agency. The Contractor agrees to promptly notify H-GAC of any actual or suspected fraud, abuse, or other criminal activity through the filing of a written report within twenty-four (24) hours of

knowledge thereof. Contractor shall notify H-GAC of any serious accident or incident requiring medical attention arising from its activities under this Agreement within twenty-four (24) hours of such occurrence. Theft or willful damage to property on loan to the Contractor from H-GAC, if any, shall be reported to local law enforcement agencies and H-GAC within two (2) hours of discovery of any such act.

The Contractor further agrees to cooperate fully with H-GAC, local law enforcement agencies, the State of Texas, the Federal Bureau of Investigation and any other duly authorized investigative unit, in carrying out a full investigation of all such incidents.

The Contractor shall notify H-GAC of the threat of lawsuit or of any actual suit filed against the Contractor pertaining to this Agreement or which would adversely affect the Contractor's ability to perform services under this Agreement.

ARTICLE 21: INDEMNIFICATION AND RECOVERY

H-GAC's liability under this Agreement, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, is limited to its order processing charge. In no event will H-GAC be liable for any loss of use, loss of time, inconvenience, commercial loss, lost profits or savings or other incidental, special or consequential damages to the full extent such use may be disclaimed by law. Contractor agrees, to the extent permitted by law, to defend and hold harmless H-GAC, its board members, officers, agents, officials, employees and indemnities from any and all claims, costs, expenses (including reasonable attorney fees), actions, causes of action, judgements, and liens arising as a result of Contractor's negligent act or omission under this Agreement. Contractor shall notify H-GAC of the threat of lawsuit or of any actual suit filed against Contractor relating to this Agreement.

ARTICLE 22: LIMITATION OF CONTRACTOR'S LIABILITY

Except as specified in any separate writing between the Contractor and an END USER, Contractor's total liability under this Agreement, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, but excluding its obligation to indemnify H-GAC, is limited to the price of the particular products/services sold hereunder, and Contractor agrees either to refund the purchase price or to repair or replace product(s) that are not as warranted. In no event will Contractor be liable for any loss of use, loss of time, inconvenience, commercial loss, loss of profits or savings or other incidental, special or consequential damages to the full extent such use may be disclaimed by law. Contractor understands and agrees that it shall be liable to repay and shall repay upon demand to END USER any amounts determined by H-GAC, its independent auditors, or any agency of State or Federal government to have been paid in violation of the terms of this Agreement.

ARTICLE 23: TITLES NOT RESTRICTIVE

The titles assigned to the various Articles of this Agreement are for convenience only. Titles shall not be considered restrictive of the subject matter of any Article, or part of this Agreement.

ARTICLE 24: JOINT WORK PRODUCT

This Agreement is the joint work product of H-GAC and the Contractor. This Agreement has been negotiated by H-GAC and the Contractor and their respective counsel and shall be fairly interpreted in accordance with its terms and, in the event of any ambiguities, no inferences shall be drawn against any party.

ARTICLE 25: DISPUTES

All disputes concerning questions of fact or of law arising under this Agreement, which are not addressed within the Whole Agreement as defined pursuant to Article 4 hereof, shall be decided by the Executive Director of H-GAC or his designee, who shall reduce his decision to writing and provide notice thereof to the Contractor. The decision of the Executive Director or his designee shall be final and conclusive unless, within thirty (30) days from the date of receipt of such notice, the Contractor requests a rehearing from the Executive Director of H-GAC. In connection with any rehearing under this Article, the Contractor shall be afforded an opportunity to be heard and offer evidence in support of

its position. The decision of the Executive Director after any such rehearing shall be final and conclusive. The Contractor may, if it elects to do so, appeal the final and conclusive decision of the Executive Director to a court of competent jurisdiction. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Agreement and in accordance with H • GAC's final decision.

ARTICLE 26: CHOICE OF LAW: VENUE

This Agreement shall be governed by the laws of the State of Texas. Venue and jurisdiction of any suit or cause of action arising under or in connection with the Agreement shall lie exclusively in Harris County, Texas. Disputes between END USER and Contractor are to be resolved in accordance with the law and venue rules of the state of purchase. Contractor shall immediately notify H-GAC of such disputes.

ARTICLE 27: ORDER OF PRIORITY

In the case of any conflict between or within this Agreement, the following order of priority shall be utilized: 1) General Provisions, 2) Special Provisions, 3) Scope of Work, and, 4) Other Attachments.

SIGNATURES:

H-GAC and the Contractor have read, agreed, and executed the whole Agreement as of the date first written above, as accepted by:

Motorola Solutions, Inc.

DocuSigned by:
Signature
Travis Boettcher
970050FB3ADC4F5...

Name Travis Boettcher

Title vice president

Date 7/25/2018

H-GAC

DocuSigned by:
Signature
Chuck Wemple
82EC270D5D61423...

Name Chuck Wemple

Title Executive Director

Date
7/24/2018

H-GAC

Houston-Galveston Area Council
P.O. Box 22777 · 3555 Timmons · Houston, Texas 77227-2777

Cooperative Agreement - Motorola Solutions, Inc. - Public Services - 18-00196

18-00196

SPECIAL PROVISIONS

Incorporated by attachment, as part of the whole agreement, H-GAC and the Contractor do, hereby agree to the Special Provisions as follows:

ARTICLE 1: BIDS/PROPOSALS INCORPORATED

In addition to the whole Agreement, the following documents listed in order of priority are incorporated into the Agreement by reference: Bid/Proposal Specifications and Contractor's Response to the Bid/Proposal.

ARTICLE 2: END USER AGREEMENTS ("EUA")

H-GAC acknowledges that the **END USER** may choose to enter into an End User Agreement ("EUA") with the **Contractor** through this Agreement, and that the term of the EUA may exceed the term of the current **H-GAC** Agreement. **H-GAC's** acknowledgement is not an endorsement or approval of the End User Agreement's terms and conditions. **Contractor** agrees not to offer, agree to or accept from the **END USER**, any terms or conditions that conflict with those in **Contractor's** Agreement with **H-GAC**. Contractor affirms that termination of its Agreement with H-GAC for any reason shall not result in the termination of any underlying EUA, which shall in each instance, continue pursuant to the EUA's stated terms and duration. Pursuant to the terms of this Agreement, termination of this Agreement will disallow the **Contractor** from entering into any new EUA with **END USERS**. Applicable **H-GAC** order processing charges will be due and payable to **H-GAC** on any EUAs, surviving termination of this Agreement between **H-GAC** and **Contractor**.

ARTICLE 3: MOST FAVORED CUSTOMER CLAUSE

If at any time during this Agreement, Contractor develops a regularly followed standard procedure of entering into agreements with other governmental customers within the State of Texas, and offers the same or substantially the same products/services offered to **H-GAC** on a basis that provides prices, warranties, benefits, and or terms more favorable than those provided to **H-GAC**, **Contractor** shall notify **H-GAC** within ten (10) business days thereafter, and this Agreement shall be deemed to be automatically retroactively amended, to the effective date of Contractor's most favorable past agreement with another entity. **Contractor** shall provide the same prices, warranties, benefits, or terms to **H-GAC** and its **END USER** as provided in its most favorable past agreement. H-GAC shall have the right and option at any time to decline to accept any such change, in which case the amendment shall be deemed null and void. If **Contractor** claims that a more favorable price, warranty, benefit, or term that was charged or offered to another entity during the term of this Agreement, does not constitute more favorable treatment, than **Contractor** shall, within ten (10) business days, notify **H-GAC** in writing, setting forth the detailed reasons **Contractor** believes the aforesaid offer is not in fact most favored treatment. **H-GAC**, after due consideration of Contractor's written explanation, may decline to accept such explanation and thereupon this Agreement between **H-GAC** and **Contractor** shall be automatically amended, effective retroactively, to the effective date of the most favored agreement, to provide the same prices, warranties, benefits, or terms to H-GAC and the **END USER**.

***EXCEPTION:** This clause shall not be applicable to the sale of large communications systems (one*

million dollars (,000,000.00) and above). The term "Communication Systems" shall refer to a project that includes the sale of infrastructure hardware and/or software, user devices, and Contractor engineering and installation service. The contract for a "Communication System" will always have a Statement of Work and an Acceptance Test Plan. This clause shall also not be applicable to pre-existing contracts Contractor has in the State of Texas. The term "pre-existing" shall refer to contracts in existence as of the effective date of this Agreement.

ARTICLE 4: PARTY LIABILITY

Contractor's total liability under this Agreement, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, is limited to the price of the particular products/services sold hereunder. Contractor agrees either to refund the purchase price or to repair or replace product(s) that are not as warranted. Contractor accepts liability to repay, and shall repay upon demand to END USER, any amounts determined by H-GAC, its independent auditors, or any state or federal agency, to have been paid in violation of the terms of this Agreement.

ARTICLE 5: GOVERNING LAW & VENUE

Contractor and H-GAC agree that Contractor will make every reasonable effort to resolve disputes the **END USER** in accord with the law and venue rules of the state of purchase. **Contractor** shall immediately notify **H-GAC** of such disputes.

ARTICLE 6: SALES AND ORDER PROCESSING CHARGE

Contractor shall sell its products to **END USERS** based on the pricing and terms of this Agreement. **H-GAC** will invoice **Contractor** for the applicable order processing charge when H-GAC receives notification of an **END USER** order. **Contractor shall remit to H-GAC** the full amount of the applicable order processing charge, after delivery of any product or service and subsequent **END USER** acceptance. Payment of the Order Processing Charge shall be remitted from Contractor to H-GAC, within thirty (30) calendar days or ten (10) business days after receipt of an **END USER**'s payment, whichever comes first, notwithstanding Contractor's receipt of invoice. For sales made by **Contractor** based on this Agreement, including sales to entities without Interlocal Agreements, **Contractor** shall pay the applicable order processing charges to **H-GAC**. Further, **Contractor** agrees to encourage entities who are not members of H-GAC's Cooperative Purchasing Program to execute an **H-GAC** Interlocal Agreement. **H-GAC** reserves the right to take appropriate actions including, but not limited to, Agreement termination if **Contractor** fails to promptly remit the appropriate order processing charge to H-GAC. In no event shall **H-GAC** have any liability to **Contractor** for any goods or services an **END USER** procures from **Contractor**. At all times, **Contractor** shall remain liable to pay to **H-GAC** any order processing charges on any portion of the Agreement actually performed, and for which compensation was received by **Contractor**.

ARTICLE 7: LIQUIDATED DAMAGES

Any liquidated damage terms will be determined between Contractor and End User at the time End User's purchase order is placed.

ARTICLE 8: INSURANCE

Unless otherwise stipulated in Section B of the Bid/Proposal Specifications, **Contractor** must have the following insurance and coverage:

- a. **General liability** insurance with a Single Occurrence limit of at least ,000,000.00, and a GeneralAggregate limit of ,000,000.
Product liability insurance with a Single Occurrence limit of at least ,000,000.00, and a

General Aggregate limit of at least two times the Single Occurrence limit for all Products except Automotive Fire Apparatus. For Automotive Fire Apparatus, see Section B of the Bid/Proposal Specifications.

Property Damage or Destruction insurance is required for coverage of **End User** owned equipment while in **Contractor's** possession, custody or control. The minimum Single Occurrence limit is ,000.00 and the General Aggregate limit must be at least two times the Single Occurrence limit. This insurance may be carried in several ways, e.g. under an Inland Marine policy, as part of Automobile coverage, or under a Garage Keepers policy. In any event, this coverage must be specifically and clearly listed on insurance certificate(s) submitted to **H-GAC**.

- b. Insurance coverage shall be in effect for the length of any contract made pursuant to the Bid/Proposal, and for any extensions thereof, plus the number of days/months required to *deliver* any outstanding order after the close of the contract period.
- c. PDF Insurance Certificates must be furnished to **H-GAC** after contract execution and at policy renewal during term of contract, showing **Contractor** as the insured and showing coverage and limits for the insurances listed above.
- d. If any Product(s) or Service(s) will be provided by parties other than **Contractor**, all such parties are required to carry the insurance coverages specified herein, and if requested by **H-GAC**, a separate insurance certificate must be submitted for each such party.

ARTICLE 9: PERFORMANCE AND PAYMENT BONDS FOR INDIVIDUAL ORDERS

H-GAC's contractual requirements DO NOT include a Performance & Payment Bond (PPB); therefore, Contractor shall offer pricing that reflects this cost savings. **Contractor** shall remain prepared to offer a PPB to cover any order if so requested by the **END USER**. **Contractor** shall quote a price to **END USER** for provision of any requested PPB, and agrees to furnish the PPB within ten business (10) days of receipt of **END USER's** purchase order.

ARTICLE 10: CHANGE OF STATUS

Contractor shall immediately notify **H-GAC**, in writing, of **ANY** change in ownership, control, dealership/franchisee status, Motor Vehicle license status, or name. Contractor shall offer written guidance to advise H-GAC if this Agreement shall be affected in any way by such change. **H-GAC** shall have the right to determine whether or not such change is acceptable, and to determine what action shall be warranted, up to and including cancellation of Agreement.

Attachment A
Motorola Solutions, Inc.
Radio Communication/Emergency Response & Mobile Interoperability Equipment
Contract No.: RA05-18

H-GAC Product Code	Item Description (Offeror may not change any description or add items)	Offered Price
NA	<i>Per the RFP Motorola Solutions has included an Electronics Catalogue for our equipment on a USB drive in lieu of listing each individual product and its options. In addition, a discount APC sheet is attached in the pricing section and used to calculate all individual prices within the USB drive and also available via Motorola Solutions Online.</i>	
	<i>Motorola Solutions offers this extensive on-line program called Motorola Solutions On-Line that allows each H-GAC end the user to check specific contract pricing, place orders, and check shipping estimates in addition to invoice history. The on-line tool is the most advanced of its kind in the Communications Industry.</i>	
NB	<i>Per the RFP Motorola Solutions has included an Electronics Catalogue on a USB drive in lieu of listing each individual product and its options. In addition, a discount APC sheet is attached in the pricing section and used to calculate all individual prices within the USB drive and also available via Motorola Solutions Online.</i>	
NC	Mobile Command Interoperable Communication Equipment & Services	
ND	Motorola Solutions Integration Services LMR	
	Motorola Solutions offers wide range of services including Integration, Installation and Training. The cost of these services is regional in nature. Samples below are listed for reference only.	
ND	Project Management Daily Rate*	\$ 1,818.00
ND	System Engineering Daily Rate*	\$ 1,818.00
ND	System Technologist Daily Rate*	\$ 2,173.00
ND	Standard Shop Installation: Hourly Rate*	\$ 150.00
ND	Standard Shop Installation: Daily Rate*	\$ 1,200.00
ND	Mobile Radio Installation*	\$180-\$500
ND	Radio Programming*	\$55-\$125
ND	Data Installation*	\$180-\$428
	*Prices may vary by Region and Stated Scope. Travel Not Included	
ND	Motorola Solutions Integration Services Advanced Services	
	Motorola Solutions offers wide range of services including Integration, Installation and Training. The cost of these services is regional in nature. Samples below are listed for reference only.	
ND	NG9-1-1 Consulting Services-Daily Rate*	\$1,694
ND	Security Project/Program Management-Daily Rate*	\$1,694
ND	Wireless Security Technician-Daily Rate*	\$1,580
ND	Security Penetration Tester (Wired Network)-Daily Rate*	\$1,580

ND	Secutriy Trainer-Daily Rate*	\$1,328
ND	Application Security Code Reviewer-Daily Rate*	\$2,033
ND	IT Incident Response and E-Discovery Assitance-Daily Rate*	\$1,694
ND	IT Disaster Recovery Planner-Daily Rate*	\$1,580
ND	IT Disaster Recovery Plan Tester-Daily Rate*	\$1,580
ND	Buisness Continuity/Continuity of Government Planner-Daily Rate*	\$1,580
ND	Buisness Continuity/Continuity of Government Plan Tester-Daily Rate*	\$1,580
ND	Mobile Application Services Project Management-Daily Rate*	\$565
ND	Mobile Application Services System Engineer-Daily Rate*	\$565
ND	Mobile Application Services Solution Architech-Daily Rate*	\$2,033
ND	Mobile Application Services Application and Solution Design-Daily Rate*	\$2,033
ND	Mobile Application Services Application and Solution Implementation-Daily Rate*	\$2,033
ND	Application Integration and Customization Services Project Management-Daily Rate*	\$1,694
ND	Application Integration and Customization Services System Engineer-Daily Rate*	\$1,694
ND	Application Integration and Customization Services Solution Architech-Daily Rate*	\$2,033
ND	Application Integration and Customization Services Application and Solution Design-Daily Rate*	\$2,033
ND	Application Integration and Customization Services Application and Solution Implementation-Daily Rate*	\$1,694
ND	Unified Communications Services Project Management-Daily Rate*	\$1,694
ND	Unified Communications Services System Engineer-Daily Rate*	\$1,694
ND	Unified Communications Services Solution Architech-Daily Rate*	\$2,033
ND	Unified Communications Services Application and Solution Design-Daily Rate*	\$2,033
ND	Unified Communications Services Application and Solution Implementation-Daily Rate*	\$1,694
ND	Consulting Services Project Management-Daily Rate*	\$1,694
ND	Consulting Services System Engineer-Daily Rate*	\$1,694
ND	Consulting Services Solution Architech-Daily Rate*	\$2,033
ND	Consulting Services Internet Protocol Network Accessment-Daily Rate*	\$2,033
ND	Consulting Services IP Network Design and Integration-Daily Rate*	\$2,033
ND	Consulting Services IP Wide Area Network Backhaul Design and Integration-Daily Rate*	\$2,033
ND	Consulting Services Custoemr Network Interface Design and Integration-Daily Rate*	\$2,033

APC DISCOUNTS PER ECAT/MOL PRICEBOOK

020	CAD Equipment	List
039	CAD Equipment	10%
068	CAD Equipment	10%
232	CAD Equipment	10%
297	CAD Equipment	5%
330	CAD Equipment	5%
333	CAD Equipment	10%
472	CAD Equipment	10%
473	CAD Equipment	List
548	CAD Equipment	10%
702	CAD Equipment	10%

789	CAD Equipment	10%
797	CAD Equipment	List
850	CAD Equipment	List
879	CAD Equipment	List
981	CAD Equipment	List
040	Data Applications	15%
041	Data Applications	10%
041	Data Applications	10%
138	Data Applications	10%
153	Data Applications	15%
343	Data Applications	10%
670	Data Applications	List
766	Data Applications	List
170	Data Subscriber Devices	15%
177	Data Subscriber Devices	15%
185	Data Subscriber Devices	List
736	Data Subscriber Devices	22%
855	Data Subscriber Devices	10%
006	Dispatch Service	5%
768	Dispatch Service	List
118	Dispatch Solutions	10%
124	Dispatch Solutions	15%
129	Dispatch Solutions	20%
139	Dispatch Solutions	List
147	Dispatch Solutions	10%
185	Dispatch Solutions	List
202	Dispatch Solutions	15%
207	Dispatch Solutions	10%
226	Dispatch Solutions	15%
228	Dispatch Solutions	30%
229	Dispatch Solutions	14%
261	Dispatch Solutions	5%
322	Dispatch Solutions	15%
404	Dispatch Solutions	20%
415	Dispatch Solutions	10%
443	Dispatch Solutions	20%
454	Dispatch Solutions	15%
520	Dispatch Solutions	10%
524	Dispatch Solutions	10%
551	Dispatch Solutions	10%
660	Dispatch Solutions	10%
706	Dispatch Solutions	20%
708	Dispatch Solutions	17%
729	Dispatch Solutions	17%
740	Dispatch Solutions	15%
892	Dispatch Solutions	10%
214	Fixed Data Products	10%
275	Fixed Data Products	10%
342	Fixed Data Products	10%
382	Fixed Data Products	10%
403	Fixed Data Products	15%
455	Fixed Data Products	15%
469	Fixed Data Products	10%
499	Fixed Data Products	10%

708	Fixed Data Products	17%
222	Fixed Network Equipment	15%
329	Fixed Network Equipment	10%
381	Fixed Network Equipment	15%
207	Fixed Station Accessories	10%
273	Fixed Station Accessories	10%
277	Fixed Station Accessories	20%
457	Fixed Station Accessories	20%
515	Fixed Station Accessories	20%
524	Fixed Station Accessories	15%
525	Fixed Station Accessories	15%
856	Fixed Station Accessories	10%
207	Fixed Station Antenna Systems	10%
005	Fixed Stations	20%
112	Fixed Stations	18%
225	Fixed Stations	10%
272	Fixed Stations	20%
281	Fixed Stations	18.50%
301	Fixed Stations	20%
360	Fixed Stations	21.50%
377	Fixed Stations	17%
417	Fixed Stations	10%
424	Fixed Stations	15%
425	Fixed Stations	15%
448	Fixed Stations	20%
474	Fixed Stations	23%
509	Fixed Stations	21.50%
512	Fixed Stations	23%
537	Fixed Stations	21.50%
590	Fixed Stations	21.50%
595	Fixed Stations	18%
643	Fixed Stations	15%
675	Fixed Stations	20%
680	Fixed Stations	21.50%
744	Fixed Stations	20%
811	Fixed Stations	5%
881	Fixed Stations	15%
015	Fixed Wireless Broadband	20%
075	Fixed Wireless Broadband	List
224	Fixed Wireless Broadband	15%
800	Fixed Wireless Broadband	List
832	Fixed Wireless Broadband	10%
882	Fixed Wireless Broadband	15%
904	Fixed Wireless Broadband	15%
906	Fixed Wireless Broadband	15%
910	Fixed Wireless Broadband	15%
947	Fixed Wireless Broadband	15%
298	Infrastructure Repair	15%
901	Lifecycle Services	List
902	Lifecycle Services	List
903	Lifecycle Services	List
904	Lifecycle Services	List
905	Lifecycle Services	List

051	LTE	10%
051	LTE	10%
053	LTE	10%
054	LTE	10%
055	LTE	10%
056	LTE	10%
057	LTE	10%
058	LTE	5%
059	LTE	10%
061	LTE	10%
063	LTE	10%
065	LTE	10%
066	LTE	10%
171	LTE	10%
375	LTE	List
708	LTE	10%
941	LTE	15%
984	LTE	List
985	LTE	List
989	LTE	List
823	Maintenance	List
983	Maintenance	List
133	Misc. Equipment	15%
299	Misc. Equipment	15%
629	Misc. Equipment	10%
682	Misc. Equipment	20%
887	Misc. Equipment	18.50%
554	Mobile Accessories	15%
644	Mobile Accessories	15%
879	Mobile Applications Software	10%
038	Mobile Stations	10%
103	Mobile Stations	10%
109	Mobile Stations	26.50%
159	Mobile Stations	20%
189	Mobile Stations	15%
276	Mobile Stations	25%
287	Mobile Stations	10%
374	Mobile Stations	15%
426	Mobile Stations	25%
466	Mobile Stations	25%
471	Mobile Stations	25%
484	Mobile Stations	20%
500	Mobile Stations	25%
511	Mobile Stations	10%
514	Mobile Stations	25%
518	Mobile Stations	25%
527	Mobile Stations	25%
571	Mobile Stations	15%
585	Mobile Stations	25%
652	Mobile Stations	25%
655	Mobile Stations	25%
656	Mobile Stations	25%
681	Mobile Stations	25%

761	Mobile Stations	25%
775	Mobile Stations	16.50%
776	Mobile Stations	20%
792	Mobile Stations	20%
869	Mobile Stations	20%
922	Mobile Stations	20%
216	MOTOTRBO	20%
422	MOTOTRBO	20%
475	MOTOTRBO	20%
516	MOTOTRBO	20%
557	MOTOTRBO	10%
563	MOTOTRBO	20%
777	MOTOTRBO	20%
131	Network Products	10%
147	Network Products	10%
207	Network Products	10%
232	Network Products	10%
708	Network Products	17%
136	Pagers/Receiver	15%
169	Pagers/Receiver	20%
452	Pagers/Receiver	15%
361	Paging/Recievers	15%
839	Paging/Recievers	15%
940	Paging/Recievers	15%
001	Portable Radiophone (Portables)	20%
004	Portable Radiophone (Portables)	20%
008	Portable Radiophone (Portables)	20%
018	Portable Radiophone (Portables)	List
019	Portable Radiophone (Portables)	List
027	Portable Radiophone (Portables)	List
032	Portable Radiophone (Portables)	20%
037	Portable Radiophone (Portables)	20%
087	Portable Radiophone (Portables)	10%
128	Portable Radiophone (Portables)	20%
158	Portable Radiophone (Portables)	20%
185	Portable Radiophone (Portables)	List
187	Portable Radiophone (Portables)	15%
205	Portable Radiophone (Portables)	25%
206	Portable Radiophone (Portables)	20%
209	Portable Radiophone (Portables)	20%
271	Portable Radiophone (Portables)	25%
291	Portable Radiophone (Portables)	25%
320	Portable Radiophone (Portables)	25%
332	Portable Radiophone (Portables)	20%
362	Portable Radiophone (Portables)	20%
372	Portable Radiophone (Portables)	20%
402	Portable Radiophone (Portables)	20%
407	Portable Radiophone (Portables)	25%
414	Portable Radiophone (Portables)	20%
426	Portable Radiophone (Portables)	25%
430	Portable Radiophone (Portables)	20%
442	Portable Radiophone (Portables)	20%
446	Portable Radiophone (Portables)	20%
453	Portable Radiophone (Portables)	25%
456	Portable Radiophone (Portables)	20%

458	Portable Radiophone (Portables)	25%
470	Portable Radiophone (Portables)	25%
476	Portable Radiophone (Portables)	20%
477	Portable Radiophone (Portables)	20%
481	Portable Radiophone (Portables)	25%
483	Portable Radiophone (Portables)	25%
505	Portable Radiophone (Portables)	25%
527	Portable Radiophone (Portables)	25%
536	Portable Radiophone (Portables)	25%
562	Portable Radiophone (Portables)	25%
570	Portable Radiophone (Portables)	10%
577	Portable Radiophone (Portables)	20%
579	Portable Radiophone (Portables)	25%
619	Portable Radiophone (Portables)	15%
626	Portable Radiophone (Portables)	20%
654	Portable Radiophone (Portables)	List
655	Portable Radiophone (Portables)	25%
656	Portable Radiophone (Portables)	25%
672	Portable Radiophone (Portables)	25%
687	Portable Radiophone (Portables)	18%
721	Portable Radiophone (Portables)	25%
726	Portable Radiophone (Portables)	25%
742	Portable Radiophone (Portables)	25%
749	Portable Radiophone (Portables)	33.50%
755	Portable Radiophone (Portables)	25%
756	Portable Radiophone (Portables)	25%
778	Portable Radiophone (Portables)	20%
785	Portable Radiophone (Portables)	25%
795	Portable Radiophone (Portables)	25%
798	Portable Radiophone (Portables)	25%
837	Portable Radiophone (Portables)	25%
841	Portable Radiophone (Portables)	33.50%
883	Portable Radiophone (Portables)	15%
977	Portable Radiophone (Portables)	10%
986	Portable Radiophone (Portables)	List
		List
390	Professional Services	List
659	Professional Services	List
659	Professional Services	List
670	Professional Services	List
842	Professional Services	List
509	Receivers	21.50%
512	Receivers	23%
743	Receivers	15%
608	Records Management Software	10%
137	Secure Solutions	5%
201	Secure Solutions	10%
229	Secure Solutions	14%
462	Secure Solutions	10%
524	Secure Solutions	15%
525	Secure Solutions	15%
519	Security	List
519	Security	List
561	Service/Maintenance	List

769	Service/Maintenance	List
769	Service/Maintenance	List
772	Service/Maintenance	List
929	Service/Maintenance	List
206	Service/Maintenance	List
293	Service/Maintenance	List
195	Software Upgrades/Flashport	List
371	Software Upgrades/Flashport	List
430	Software Upgrades/Flashport	20%
262	Test Equipment	20%
854	Test Equipment	List
293	Training-Professional Services	List
039	Trunking Products and Systems	5%
085	Trunking Products and Systems	15%
112	Trunking Products and Systems	18%
115	Trunking Products and Systems	10%
152	Trunking Products and Systems	5%
277	Trunking Products and Systems	20%
280	Trunking Products and Systems	18.50%
281	Trunking Products and Systems	18.50%
377	Trunking Products and Systems	17%
495	Trunking Products and Systems	15%
593	Trunking Products and Systems	23%
708	Trunking Products and Systems	17%
877	Trunking Products and Systems	18.50%
002	Video Solutions	10%
085	Video Solutions	10%
488	Video Solutions	10%
964	Warranty	List
218	Wireless Mobility	15%
606	Wireless Mobility	15%
683	Wireless Mobility	15%
832	Wireless Mobility	10%
907	Wireless Mobility	15%
908	Wireless Mobility	15%
	Package Discounts - Packages for System 01A7	List
	Package Discounts - Packages for System 03BA	List
	Package Discounts - Packages for System 1027	List

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LIFECYCLE MANAGEMENT ADDENDUM

This Addendum to the Communications System and Services Agreement or other previously executed Agreement currently in force, as applicable ("Primary Agreement") provides additional or different terms and conditions to govern the sale of Lifecycle Management services. The terms in this Addendum are integral to and incorporated into the Primary Agreement signed by the Parties.

1. DEFINITIONS

All capitalized terms not otherwise defined herein shall have the same meaning as defined in the Agreement.

"Lifecycle Management Services" means the upgrade services as defined in the applicable Statement(s) of Work.

"MUA" means Microwave Upgrade Agreement (MUA).

"NUA" means Network Upgrade Agreement (NUA).

"SUA" or "SUA II" means Motorola's Software Upgrade Agreement program (which may include MUA or NUA).

2. SCOPE

Motorola will provide Services as further described in the applicable Statement of Work, or attachment to Motorola's proposal for additional services.

3. TERMS AND CONDITIONS

The terms of the Primary Agreement combined with the terms of this Addendum will govern the products and services offered pursuant to this Addendum. To the extent there is a conflict between the terms and conditions of the Primary Agreement and the terms and conditions of this Addendum, this Addendum takes precedence.

3.2 LIFECYCLE MANAGEMENT SERVICES

3.2.1 PURCHASE ORDER ACCEPTANCE. Purchase orders for SUA, NUA or MUA services and software support, during the Warranty Period or after the Warranty Period, become binding only when accepted in writing by Motorola.

3.2.2 The Software License Agreement included as Exhibit A to the Agreement applies to any Motorola Software provided as part of the Lifecycle Management transactions.

3.2.3 The term of this Addendum is 4 years, commencing upon completion of first year of warranty. The SUA Price for the 4 years of services is \$540,022, excluding applicable sales or use taxes but including discounts as more fully set forth in the pricing pages. Because the

Lifecycle Management services are subscription services as more fully described in the applicable Statement of Work, payment from Customer is due in advance and will not be in accordance with any Payment Milestone Schedule.

3.2.4 The System upgrade will be scheduled during the subscription period and will be performed when Motorola's system upgrade operation resources are available. Because there might be a significant time frame between when this Amendment is executed and when a System upgrade transaction is performed, Motorola may substitute any of the promised Equipment or Software so long as the substitute is equivalent or superior to the initially promised Equipment or Software.

3.2.5 Acceptance of a Lifecycle Management transaction occurs when the Equipment (if any) and Software are delivered and the Lifecycle Management services are fully performed; there is no Acceptance Testing with a Lifecycle Management transaction.

3.2.6 The Warranty Period for any Equipment or Motorola Software provided under a Lifecycle Management transaction will commence upon shipment and not on System Acceptance or Beneficial Use, and is for a period of ninety (90) days rather than one (1) year. The ninety (90) day warranty for Lifecycle Management services is set forth in the applicable Statement of Work.

3.2.7 In addition to the description of the services and exclusions provided in the Statement of Work, the following apply:

- a) Upon reasonable request by Motorola, Customer will provide a complete serial and model number list of the Equipment.
- b) services exclude the repair or replacement of Equipment that has become defective or damaged from use in other than the normal, customary, intended, and authorized manner; use not in compliance with applicable industry standards; excessive wear and tear; or accident, liquids, power surges, neglect, acts of God or other force majeure events.
- c) Unless specifically included in this Addendum or the Statement of Work, services exclude items that are consumed in the normal operation of the Equipment; accessories; and repair or maintenance of any transmission line, antenna, microwave equipment, tower or tower lighting, duplexer, combiner, or multicoupler. Motorola has no obligations for any transmission medium, such as telephone lines, computer networks, the internet or the worldwide web, or for Equipment malfunction caused by the transmission medium.
- d) Customer will provide Motorola with designated points of contact (list of names and phone numbers) that will be available during the performance of the services.

3.2.8 The annualized price is based on the fulfillment of the two year cycle. If Customer terminates this service during a two year cycle, except for Motorola's default, then Customer will be required to pay for the balance of payments owed for the two year cycle if a major system release has been implemented before the point of termination.

3.2.9 If Customer terminates this service and contractual commitment before the end of the 4 year term, for any reason other than Motorola's default, then the Customer will pay to Motorola a termination fee equal to the discount applied to the last three years of service payments related to the 4 year commitment.

3.2.10 INFLATION ADJUSTMENT. For multi-year agreements, at the end of the first year of the Agreement and each year thereafter, a CPI percentage change calculation shall be performed using the U.S. Department of Labor, Consumer Price Index, all Items, Unadjusted Urban Areas (CPI-U). Should the annual inflation rate increase greater than 3% during the previous year, Motorola shall have the right to increase all future maintenance prices by the CPI increase amount exceeding 3%. All items, not seasonally adjusted shall be used as the measure of CPI for this price adjustment. Measurement will take place once the annual average for the new year has been posted by the Bureau of Labor Statistics. For purposes of illustration, if in year 5 the CPI reported an increase of 8%, Motorola may increase the Year 6 price by 5% (8%-3% base).

4. ENTIRE AGREEMENT. This Addendum, any related attachments, and the Agreement, constitutes the entire agreement of the Parties regarding the subject matter of this Addendum and supersedes all previous agreements, proposals, and understandings, whether written or oral, relating to this subject matter. This Addendum may be amended or modified only by a written instrument signed by authorized representatives of both Parties. The preprinted terms and conditions found on any Customer purchase or purchase order, acknowledgment or other form will not be considered an amendment or modification of this Addendum, even if a representative of each Party signs that document.

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