- Sealed bids will be received by the Auditor of Appanoose County at her office in Centerville, Iowa until 8:30 A.M. on May 16, 2022 for the various items of construction work listed below.
- Sealed bids will be opened and considered at 9:15 a.m. on May 16, 2022 in the Appanoose County Board of Supervisors room located at the Appanoose County Courthouse, Centerville, Iowa.
- A certified check, made payable to the County, or a Cashier's check, made payable to either the County or to the contractor drawn upon a solvent bank or a bid bond, shall be filed with each proposal in an amount as set forth in the proposal form. Cashier's check, made payable to the contractor, shall contain an unqualified endorsement to the County signed by the contractor or his/her authorized agent. Failure to execute a contract and file an acceptable bond and certificate, as herein provided, will be just and sufficient cause for the denial of the award and the forfeiture of the proposal guarantee.
- Plans, specifications and proposal forms for the work may be obtained from the Appanoose County Sheriff, Gary D. Anderson, at the Appanoose County Sheriff's Office at 1125 W. Van Buren St., Centerville, IA or by email at sheriff@appanoosecountysheriff.org
- All proposals must be filed on the forms furnished by the County, sealed and plainly marked. Proposals containing any reservations not provided for in the forms furnished may be rejected, and the County Board reserves the right to waive technicalities and to reject any or all bids.
- Attention of bidders is directed to the Special Provisions covering the qualifications of bidders and subletting or assigning of the contract.
- The contracting authority will issue and exemption certificate for the purchase of materials, supplies, and equipment that will be used in the performance of the construction contract, per Iowa Code 422.42(16) and (17) and 422.47(5)
- Start of construction will be coordinated in advance with the County and completion dates is set as September 28, 2022.

Description of Proposed Work: Communications Tower. The Appanoose County Board of Supervisors invites proposals for a turnkey communications tower, compound, communications shelter, antenna system, transmission line, installations, move existing RF and Dispatch Equipment, testing with current and new communications equipment.

Appanoose County Communications Tower

Bidding Proposal

Type of Work:_____ Project No. E911 Tower

Letting Date: May 16, 2022 Length (Miles) N/A County: Appanoose

Description of Work: Communications Tower. The Appanoose County Board of Supervisors invites proposals for a turnkey communications tower, compound, antenna system, transmission line, installations, move existing RF and Dispatch Equipment, testing with current and new communications equipment.

Completion Date: September 28, 2022

The bidder hereby certifies that no other principal is involved in or has an interest in this proposal; that the bidder has thoroughly examined the plans and specifications and this contract form and is aware of the special provisions contained herein; that the bidder has examined the site of the work and understands that the quantities of work actually required must be performed and that payment therefore shall be at the unit prices stipulated herein; that the bidder proposes to timely furnish the specified materials in the quantities required and to furnish the machinery, equipment, labor and expertise necessary to competently complete this project by the time specified; that no state or county official or employee has a direct or indirect interest in the contract which would cause violation of Iowa Code Section 314.2; that the bidder has made no agreement with any supplier of motor fuel or special fuel which will result in violation of Iowa Code Section 452A.17(8).

If this bid is accepted, Bidder agrees: to perform all "extra work" required to complete the project at unit prices or lump sums to be agreed upon in writing prior to commencement of such "extra work" or, if prior agreement cannot be reached, to perform the work on a "force-account basis" as provided in the specification; to execute the formal contract within thirty days of the date of approval for award and to begin work in accordance with the contract documents and to complete the work within the contract period; and to furnish a performance bond in an amount equal to the contract award as security for the full and complete performance of the contract in accordance with the plans and specifications.

The signing of this Bid Document shall serve as an unsworn declaration that, I (the owner, partner, President, or other corporate officer, or an authorized representative) hereby certify under penalty of perjury under the law of the United States and the State of Iowa that I have read, understood, and accept the Bidding Certifications and other provisions in the Proposal Notice and the DBE Contract Provisions (if a DBE goal has been set).

Proposal of _____

Name of Bidder

_____

Street Address

_____

City State Zip

Federal Tax I.D. NO: _____

Signatures are to be by authorized agent. If joint venture, each shall sign

_____ _____

Signature Date

_____ _____

Signature Date

SCHEDULE OF PRICES

County: Appanoose

UNIT BIDS MUST BY TYPE OR SHOWN IN INK OR THEY BILL MAY BE REJECTED.

Line No. Item No.	Item on which bid is based (bidder shall show unite price and extension for each item and total)	Item Quantity	Item Units	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
A	Communications Tower						
PAGE SUBTOAL							
BID TOTAL							

The REQUEST OF PRICING for Appanoose County, IA Communications Project. This will be a turn-key new site compound to be located at 22158 Dewey RD, Centerville, IA, 52544. Tower will be constructed north from the newly constructed Law Enforcement Building. FAA approval for construction of a new tower has been applied for. The soils study of the site have been completed. Appanoose County has deemed an Archeological study is not required per all pertaining guidelines.

Tower to be designed to support additional 25% increase of loading for future growth.

All antennas and feed lines identified in this document are to be included in the pricing of this project. Feed line connectors, ground kits, RF Jumpers, hoisting grips, cable clamps, and installation of, are all needed and should be included. An Antenna System specific to Appanoose County frequencies and coverage should be used for this project. Successful bidders must follow and be able to adhere to the Antenna Systems Testing Procedures document. This requires on site supervision while antennas, lines, connectors and pertaining to and comprising of the antenna systems are being installed and tested.

This is a single option request for a 300' self-support tower with Dual LED Lighting System designed in accordance with the FAA and FCC specifications.

HIGH Level Tasks

- The following is a bulleted list of high level tasks to be accomplished as part of this project.
    - The contractor will provide any required permits and fees.
    - Excavation of site.
    - A galvanized Self Supporting steel communications tower as detailed below.
    - Engineered and stamped tower foundation plan.
    - Concrete for foundation.
    - Refurbished shelter, 10' x 20' minimum size, replacement roofing, flooring, dual HVAC, 200 Amp Service, comms telco panel, temp, smoke, humidity sensors, crane upload, shipping, offloading on to shelter pad, stoop, tie down plates.
    - Shelter Pad, and installation
    - Stoop pad, and installation
    - Harris Site grounding.
    - Installation of Ice Bridge with tiered trapeze kits to accommodate all of the non-carrier antenna lines/cables.
    - Installation, Testing of antenna systems
    - Low PIM Antenna / Filter system
    - Antenna Systems installation supervision
    - Shelter UPS System for applicable equipment loading
    - Site/Compound security fence
    - Site clean-up when work is completed
    - Work area must be returned to "as before" condition with disturbed areas leveled.
    - Electrical for shelter, including Generator and UPS connectivity.

Successful contractor shall provide for all concrete foundations for tower, and site drawings. All fencing, site grounding, offloading of all materials, fabric, and 4" of crushed rock covering of compound, parking, and turn around area shall be included in project.

TOWER

The tower shall be a galvanized Self-supporting tower equipped with Dual LED Lighting System designed in accordance with the FAA and FCC specifications. Tower shall be designed with a minimum fall radius. Tower shall be erected in accordance with manufacturers' instructions. Structure must include full height anti-fall Safety Climb System less any harnesses.

COMPOUND

Compound is expected by be 75' x 75'. It shall include two (2) 8' hinged gates, one (1) 4' walk-through gate, 8' chain-link fencing with minimum 2 strands of barbed wire tilted outward around the top. The fence shall have a minimum 3' safety clearance from all objects located inside fencing. Appropriate signage shall be placed on fence left of gates and in clear visibility. Signs shall include ASR information pertaining to tower, OSHA RF equipment warning, and others as deemed by local authorities.

Site shall have full perimeter grounding to each post, gate post, tower, and ice-bridge.

SITE PREPARATION & DEVELOPMENT

Rough Grading:

The site shall be graded so that the building and tower yard are elevated above the surrounding grade to water runoff purposes. Finished grade shall be slightly sloped for organized water runoff.

Excess Soil:

Soil not needed for fill shall be removed from the site by the contractor otherwise approval.

Clean Up:

The contractor is responsible for the removal from the site of all ready-mix truck washouts, surplus and discarded construction materials to include sand and gravel, trash, workers signs, packaging and shipping materials, etc. Large boulders may, with approval, be positioned for site crash protection.

Final Site Preparation:

Once the area has been cleared and prepared, the contractor shall se the final grades in accordance with below items;

Foundations:

Foundations for the tower shall be constructed to be elevated not less than 4 inches above the final grade of rock covering.

Leveling Original Grade:

Once the foundations are formed and in place, the contractor shall rough level the facility with class 4 or equal sand and gravel to generally level the site tapering into the surrounding grade beyond the fence line.

Landscape Mesh:

Where final rock will be installed, the contractor shall cover the sub grade with landscape mesh for weed control. The covering shall be secured with large galvanized or had plastic 6 inch nails. The covering shall extend beyond the fence line by at least 3 feet.

Prohibited Material:

Plastic sheeting, tarps, or polyethylene shall not be used.

Rock Covering:

The final ground cover shall be 4 inches minimum of river or washed crushed quartzite stone or equal. The covering shall extend 3 feet beyond the fence.

Prohibited Material:

Limestone, Dolomite, Class 5 or any powdering or disintegrating stone is not permitted. If local conditions or glacial make-up of the area create a condition where limestone is the only available material, the contractor may apply for a waiver. This must be done prior to commenting the work.

Rock Specification:

Stones shall be graded so the 90% pass the 2" screen but are held on the ¾" or ½" screens. No more than 2% of a sample shall fall through the 1/8" screen.

Weed Control

The contractor shall carefully apply the manufacturer specified quantity of PREEN pre-emergence herbicide granules or equal in the facility yard and at guy anchors. If a limestone waiver has been granted, PREEN shall be placed at the rate of 125% recommended level. The contractor shall provide evidence of application of approved material. Leave empty PREEN container in radio building as evidence of application.

Prohibited Material:

No liquid herbicide shall be applied on the facility yard.

Grounding:

Grounding Standard: The installation shall conform to all applicable local and national codes for the installation of power cabling. "Additionally the installation shall conform to a nationally recognized standard for the grounding and bonding of communications sites. The contractor shall be prepared to demonstrate proficiency to the purchased of the standard.

Buried utilities: Prior to performing work, the contractor shall notify all potential owners of underground utility services.

Exterior Grounding: The contractor shall furnish and install ground rods at each location as detailed. Ground rods shall be prepared for CADWELD connection of both the inter rod loop and the required spurs. All above ground leads shall be CADWELD or non-reversible crimp connection. Each lead shall be covered with PVC flexible tube from connection downward to 18" below grade. Each exposed CADWELD shall be cold zinc galvanize treated.

Ground Test Port: The contractor shall furnish and install a test port. The port cover shall be marked TEST PORT and be at or not more than 1" above grade.

Prohibited Practice: Ground rods shall not be cut or shortened

Included Items For Grounding: All metallic items to include fence posts, Ice Bridge, tower structure, and single point ground from radio equipment room shall be grounded to the ground ring.

Inspection For Cadwelding:

Visibility: Grounding conductor trenches and rod heads shall remain exposed until inspection and approval.

Single Point Ground: The ground system shall form a multi-rod, single point ground system. All electrical and metallic devices are connected to a common ground potential. A single point ground system will have multiple ground rods to lower the ground resistance.

Spurs: Spurs from fence posts, fuel tanks, generators, etc., shall be connected to the master ground ring. NO ground road at end of spurs.

Fence: Fence posts shall be grounded at each post, each gate post, and mid-point of each side of compound not having a gate.

Tower Specifications:

300' Tower complete:

Title: Appanoose County 300' galvanized Self Supporting Tower. Minimum Fall Radius required.

Quantity: 1

Description: Included is a 300' galvanized Self Supporting tower, site civil services to develop a site compound. Civil work should consider the requirements for development of the site. In as much as possible, the major components of this project shall be provided with a 5 year extended warranty if offered by the manufacturer.

Tower shall be designed in accordance with ANSI/TIA-222-H. All tower materials will be hot dip galvanized as outlined in ASTM A-123.

Tower Load Study: Certified tower load study to TIA/EIA 222 Rev. H The proposed study will be completed using all current and anticipated antenna loading as provided below:

Tower Construction: The contractor will provide all necessary parts, materials and labor to erect a 300' freestanding communications tower.

Tower Materials

Materials to be provided include:

1. Complete tower steel and hardware including required antenna mounting side-arms as identified in table. Side-arms shall have tiebacks included.
2. Step Bolts on 3 Legs to 200'
3. Climbing ladder incorporated into one (1) face.
4. Waveguide support ladder incorporated to support 12 initial lines.
5. Required lighting mounts.
6. Safety cable kit without harness extending entire reach of structure.
7. One (1) lightning rod copper clad that will extend above the highest object mounted on the tower.
8. Lighting – Dual LED Lighting System designed in accordance with the FAA and FCC specifications.
9. Wave Guide Bridge, 2-Leg, 2' x 10' w/ (3) 2 level trapeze kits

Tower shall be erected in accordance with manufacturer's instructions using professional best practices. Climbers should be safety certified and have participated in rescue training. Safety is number 1.

Antenna Mounting: The contractor shall supply all mounts and install in the tower as noted in schedule.

Tower Loading: See Table 1

System Testing Procedure: The vendor shall be required to make personnel available on a per site basis to verify the functionality of all equipment and systems installed a part of this project.

All functional aspects of the system shall be tested.

Schedule Requirements: The vendor shall provide firm, fixed price proposal to design, furnish, install and test of the system(s).

Warranty on vendor supplied equipment will commence upon the successful installation, optimization and testing of each specific site.

Systems Engineering Requirements: The vendor systems engineering is responsible for providing drawings and documentation of the system.

Partial documentation needs to be made available as the system is installed and final documentation and drawings need to be turned over within 60 days of the acceptance test.

The vendor will be required to continuously update these documents during the system implementation phase and through any subsequent software or firmware changes made during the warranty period and beyond.

The vendor needs to offer 24/7 help desk phone support all RF and Electronic equipment, including dispatch. The vendors help desk support must be answered by vendor employees 24 hours a day, 7 days a week. No third party answering services/contracted services or answering machines will be permitted. The 24/7 help desk must have direct contact with local technical support staff 24/7. The 24/7 support will last a minimum of one calendar year from the time of the system acceptance. Appanoose County needs to have the right to renew the 24/7 support at the end of the period. Resolving technical issues can include any problems with RF equipment installed under this spec. The vendor is not responsible for AC power issues at this site. It can be assumed that adequate AC power will be available at the site.

The vendor needs to include system technical support for county wide integration of the system.

Vendor Specific Requirements:

1. The vendor shall have Zetron MAX Dispatch training and certification by time of response and demonstrate and have a working knowledge of the PSAP's equipment.
2. The vendor shall demonstrate expertise of PSAP infrastructure, and provide system details for installation and implementation of the system(s) down to exact radio level installation.
3. The vendor shall demonstrate and provide system design.
4. The vendor shall provide and lead conference calls with County members to demonstrate system knowledge.
5. The vendor shall provide system budget design assistance.
6. The vendor shall provide a detailed schedule of system installation.

Logistics Requirements

Frequencies: Frequencies in use, or to be used in the repeaters / radios for all systems, will be researched by the vendor, and approved by the County. It will be the responsibility of the County and participating agencies to work directly with the vendor for the programming information necessary for all systems installed. It will by the responsibility of the vendor to work with the County and participating agencies to ensure that any FCC license requirement for the radio transceivers are current.

Spares: Spare equipment may be requested.

Emergency ordering of parts shall be possible by telephone order processing.

Installation / Optimization: Installation and optimization of the system, including any radio transceivers / repeaters and their associated antenna systems will be the responsibility of the vendor. The vendor shall be required to provide technical support via telephone and be available during the initial system installation and optimization.

Software Updates/Technology Requirement: Many systems are software based and readily accept software enhancements for technology updates. Software and Firmware updates shall be reviewed and available for County approval during the installation period. This may include performance enhancements, new features, and optional features. The vendor shall demonstrate the ability to provide and support these potential enhancements. This offering must cover all communications infrastructure components installed, and being relocated.

Training: System management and user training shall be provided during the implementation process as needed.

Warranty Maintenance: The vendor shall provide the following warranty and maintenance services:

1. The vendor shall provide a minimum of 1 year manufacturer's standard commercial warranty included in the price of the proposal. Optional additional standard warranty period is requested.
2. The vendor shall provide technical support via telephone seven (7) days a week, twenty-four (24) hours a day, and 365 days a year with a call back response within 15 minutes.
3. On-Site Repair: The vendor shall be available to assist County personnel to replace or repair fixed equipment at each installation during the warranty/maintenance period. Service Calls fees are applicable. On site response must be less than 2 hours.
4. Preventative Maintenance Inspection and Optimization: After expiration of the selected warranty period, the vendor shall provide pricing for an annual operational test and alignment on each installation's system to ensure the equipment meets original manufacturer's specifications.
5. Vendor/Manufacturer Support: The vendor's technical support staff shall have direct access to the manufacturer system engineering staff to supplement its problem solving capabilities in instances of unusual or complex problems.
6. Personnel Qualifications: Personnel hired by the vendor must be fully qualified to service, maintain and install equipment (if necessary) in a professional manner according to the standards established by the equipment.
7. Regular Business Hours: The vendor shall provide onsite technical service during regular business hours, Monday – Friday, 8:00 a.m. – 5:00 p.m. CST. The vendor shall also provide telephone customer service during regular business hours, Monday – Friday, 8:00 a.m. – 5:00 p.m. CST, for technical questions and customer satisfaction issues.

Appanoose County IA Communications Tower

22158 Dewey RD, Centerville, IA, 52544, LAT N40°-42'-41.97", LON W92°-51'-55.71".

Tower Loading: Table 1
AC = Appanoose County

	Antenna Model Number (QTY)	RADOME YES	RADOME NO	ELEVATION	TX. LINE SIZE & TYPE	FREQUENCY	AZIMUTH TO NORTH	ANTENNA MOUNT	Mount in place	Owner / current use
1	DS1F06P36U-D		X	280 At Base	(1) 7/8"	150 - 160	Leg 1-R	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	AC VHF System RX
2	DS1F06P36U-D		X	280' At Base	(1) 7/8"	150 - 160	Leg 2-	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	Backup Radio
3	DS1F06P36U-D		X	280' At Base	(1) 7/8"	150 - 160	Leg 3	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	Spare Antenna
4	DS1F03P36U-D		X	255 At Base	(1) 7/8"	150 - 160	Leg 1	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	AC VHF TX/RX
5			X	255 At Base	(1) 7/8"	150 - 160	Leg 2	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	Open
6	DS1F06P36U-D		X	255' At Base	(1) 7/8"	150 – 160	Leg 3	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	AC Res. ENG
7	DS1F06P36U-D		X	230' at base	(1) 7/8"	150 – 160	Leg 1	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	AC VHF TX
8	DS1F06P36U-D		X	230' at base	(1) 7/8"	150 – 160	Leg 2	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	AC SPARE
9			X	230' at base	(1) 7/8"	150 – 160	Leg 3	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	AC OPEN RESERVED
10			X	205'At Base	(1) 7/8"	450 – 470	Leg 1	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	OPEN
11			X	205'At Base	(1) 7/8"	150 – 160	Leg 2	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	OPEN
12			X	205'At Base	(1) 7/8"	150 – 160	Leg 3	One (1) 6' Sidearm 2 tie back on sidearm Top brace on antenna	Y	OPEN
13	(1) RDWHP4-6EX Dish (Future)	X		190	TBD	TBD	Leg 1	4.5" X 5' Mast 18" off Face	N	MC Res. Future Microwave
14	(1) RDWHP4-6EX Dish (Future)	X		190	TBD	TBD	Leg 2	4.5" X 5' Mast 18" off Face	N	MC Res. Future Microwave
15	(1) RDWHP4-6EX Dish (Future)	X		190	TBD	TBD	Leg 3	4.5" X 5' Mast 18" off Face	N	MC Res. Future Microwave
16	(6) Cell Carrier Panels (Future)	X		165' at base	(6) 1 5/8"	Carrier	Leg 1		N	Future Cellular
17	(6) Cell Carrier Panels (Future)	X		165' at Base	(6) 1 5/8""	Carrier	Leg 2		N	Future Cellular
18	(6) Cell Carrier	X		165' at base	(6) 1 5/8"	Carrier	Leg 3		N	Future

	Panels (Future)									Cellular
19	1' Dish (Future)	X		100'	Cat6 or LMR 400	18 – 23 GHz	Leg 3	2 3/8" x 5' Mast	Y	Future PTP to Courthouse
20	Laird Y1503		X	90'	(1) ½"	150 - 160	Leg 1	1.25" x 10' Mast	Y	Future CS
21	Laird Y1503		X	90'	(1) ½"	150 - 160	Leg 2	1.25" x 10" Mast	Y	Future CS
22	Laird Y1503		X	90'	(1) ½"	150 - 160	Leg 3	1.25" x 10' Mast	Y	Future CS

The Appanoose County E9-1-1 Board invites proposals for a turnkey communications tower and compound, antenna, line, installation and testing with current and new communications equipment.

Qualified Firms should inquire to Gary D. Anderson, Sheriff, sheriff@appanoosecountysheriff.org

Submission deadline: May 16, 2022 @ 8:30 a.m.