

Contract Documents and Specifications for AWOS Installation Project

**For
19AWMDLND
Midland Airpark
Midland, Texas**

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Midland Airpark

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NOTICE TO BIDDERS
Automated Weather Observation System

Sealed bids for the installation of Automated Weather Observation System III with optional Present Weather Sensor and Thunder Strike Alert (AWOS III PT) to replace/relocate an existing Automated Weather Observation System need to be addressed and delivered to City Secretaries Office, 300 N Loraine, Midland, TX 79701. Bids will be accepted until January 31, 2019 at 2:30PM then publicly opened and read. Any bid received after closing time will be returned unopened.

In general, the Aviation Construction work consists of: Siting and licensing (if relocating) and installation and of an Automated Weather Observation System III with optional Present Weather Sensor, Thunder Strike Alert (AWOS III PT) to replace an existing Automated Weather Observation System. The system shall be installed in accordance with this specification and as approved in Federal Aviation Administration Advisory Circular 150/5220-16, latest version and FAA Order 6560-20B, or latest version.

Bidding documents may be examined at: www.flymaf.com.

Technical questions concerning the specifications should be directed to Aaron Easton, Deputy Director of Airports at aeaston@midlandtexas.gov.

Minimum wage rates have been predetermined as required by law and are set forth in the specifications.

Cashier's check, money order, or teller's check drawn by or on a state or national bank, a savings and loan association, or a state or federally chartered credit union (collectively referred to as "bank") in the amount of two percent (2%) of the total bid price stated in the bid, made payable without recourse to the Owner or a bid bond in the same amount from a reliable corporate surety authorized to do business in the State of Texas and acceptable to the Owner, must accompany each bid as a guarantee that the bidder, if successful, will enter into a contract, and make bond in accordance with the requirements of the specifications. The Owner reserves the right to retain any check, bank money order or bank draft as liquidated damages in the event the bidder withdraws its bid after the bids are opened and before official rejection of the bid by the Owner, or, if successful in securing the award of the contract, the successful bidder fails to enter into the contract and fails to furnish satisfactory performance and payment bonds.

The successful bidder will be required to furnish a Performance Bond and Payment Bond, each in the full amount of the contract price, executed by a surety company or surety companies authorized to execute surety bonds under and in accordance with the laws of the State of Texas.

The proposed contract is subject to the Vernon Texas Civil Statutes, Article 601.b concerning the participation of Historically Underutilized Business. HUB goal is set at 0%.

The Owner reserves the right to reject any irregular bid and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to State and local laws and ordinances pertaining to the letting of construction contracts.

The Owner hereby notifies all bidders that it will affirmatively assure that minority enterprises are afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on grounds of race, color, or national origin in consideration for an award.

BIDDER QUALIFICATIONS

I. QUALIFICATIONS

- A. Each Bidder shall furnish the Owner satisfactory evidence of the Bidder's competency to perform the proposed work. Such evidence of competency shall consist of statements covering the Bidder's past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available.
- B. In addition, each Bidder shall furnish the Owner satisfactory evidence of the Bidder's financial responsibility. Such evidence shall consist of a confidential statement or report of the Bidder's financial resources and liabilities as of the last calendar year or the Bidder's last fiscal year. Such as statements or reports shall be prepared by a public accountant. At the time of submitting such financial statements or reports, the Bidder shall further certify whether the Bidder's financial responsibility is approximately the same as stated or reported by the public accountant. If the Bidder's financial responsibility has changed, the Bidder shall qualify the public accountant's statement or report to reflect the Bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.
- C. The Bidder shall provide a listing of both automobile and personal liability insurance coverage currently in force, along with a copy of a Certificate of Insurance as verification of that coverage.

II. SUBMISSION OF QUALIFICATIONS

- A. Each bidder shall submit the Bidder's "evidence of competency", "evidence of financial responsibility", and "evidence of insurance coverage" for "worker's compensation, commercial general liability and Texas business automobile" to the Owner at the date, time and location specified for opening bids. These items shall be submitted in the envelope with your bid marked with project number, location of airport, and name and business address of the bidder.
- B. Bids that do not include the qualification requirements listed above will be considered non-responsive and therefore disqualified.
- C. BIDS SUBMITTED WITHOUT SUBMISSION OF ALL QUALIFICATIONS WILL NOT BE READ.

INSTRUCTIONS TO BIDDERS

IB-1. The Owner requires that Bidder shall reference the Aviation Division General Construction Contract Provisions, volume dated February 2013, for all general contract provisions. General Construction Contract Provisions may be obtained at TxDOT, Aviation Division, 150 E. Riverside Drive, South Tower, Fifth Floor, Austin, Texas 78704; Use latest version of referenced Advisory Circulars.

IB-2. The Bidder shall refer to: BIDDER QUALIFICATIONS section of the bid document.

IB-3. The Bidder shall submit the completed bid either on the form furnished by The Owner or by submitting an electronically printed version. All blank spaces in the bid form must be correctly filled in where indicated for each and every item for which a quantity is given. The Bidder shall state the price (written in ink) **BOTH** in words and numerals for each pay item furnished in the bid. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The Bidder may also submit an electronically printed bid. The bid must have pay items in the same order and with the exact information as found on the Owner's bid form. The Bidder is responsible for incorrect information and will be considered non-responsive if pay items are changed in wording or order on the electronically printed form. Electronically printed bids are not required to have the unit prices written in words. Electronically printed bid may not be submitted electronically.

The Bidder shall sign the bid in ink. If the bid is made by an individual, the individual's name and address must be shown. If made by a partnership, the name and address of each member of the partnership must be shown. If made by a corporation, the person signing the bid shall give the name of the state under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer.

IB-4. The Bidder shall submit completed copies of all items identified under "Bidder Qualifications". **Bids received without Bidder Qualifications will not be read.**

IB-5. Receipt of all addenda issued shall be acknowledged by the Bidder in the space provided on the bid form.

IB-6. Bids may be rejected if they show any alteration of words or figures, additions not called for, conditional or uncalled for alternate bids, incomplete bids, any alteration of words or figures or erasures not initialed by the person or persons signing the bid, or irregularities of any kind.

IB-7. The bid shall be accompanied by a Bid Guarantee of the character and in the amount as indicated in the bid.

IB-8. Any questions arising during the advertising period as to meaning or intent of the specifications will be answered by an addendum prepared by the Owner. Contractor will be responsible for obtaining addenda at our website: www.flymaf.com. All addenda issued shall become a part of the contract documents.

Bidders are responsible for checking this website regularly for any changes to the bid documents, such as Addendums.

IB-9. Each bid submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the Bidder on the outside. When sent by mail, preferably registered, the sealed bid, marked as indicated above, should be enclosed in an additional envelope. Bids, which are transmitted by telephone, by telegraph or by electronic means, will not be accepted.

IB-10. No bid will be considered unless received at the place specified in the advertisement before the time specified for opening all bids. Bids received after the bid opening time shall be returned to the Bidder unopened.

IB-11. Bids will be opened and read publicly at the time and place indicated in the Notice to Bidders.

IB-12. Generally, materials incorporated into a project, such as concrete, rebar, asphalt, etc., are tax exempt. Other items not incorporated into the project such as barricades and equipment rental may be subject to sales tax. A copy of the Texas Sales and Use Tax Exemption form is available through the State Comptroller website at <http://www.window.state.tx.us/taxinfo/taxforms/01-339.pdf>. This form is a self-certification process. The contractor must complete the form and retain the document in their files. A copy of the form should be sent to the seller/supplier. Bidders should contact their tax consultant or the Texas Office of the Comptroller with any questions related to the payment of sales tax.

BID

Project Description: Siting, licensing and installation of Automated Weather Observation Systems III with Optional Present Weather Sensor and Thunderstrike Alert.

Bid by: Name of Bidder _____
Address _____
Telephone _____ Fax _____
E-mail Address _____

Pursuant to the foregoing Instruction to Bidders, the undersigned bidder having examined the plans and specifications with related documents and the site of the proposed work, and being familiar with all the conditions surrounding the construction of the project hereby proposes to furnish all necessary superintendence, labor, machinery, equipment, tools, materials and supplies to complete all the work upon which is bid in accordance with the contract documents, within the time set forth and at the prices stated below:

Base Bid: Replace in Existing Location

Item	Qty	Unit	Description Written & Numeric <u>Unit Price</u>	Unit Price	Total Price
1	1	LS	Replace in current location, AWOS III, with a self supporting tower, installed complete in place according to specification _____ dollars _____ cents	\$ _____	\$ _____
2	1	LS	NADIN/WMSCR Interface Equipment with one year of NADIN connection service. _____ dollars _____ cents	\$ _____	\$ _____
3	1	LS	One year of AWOS maintenance that meets the requirements of FAA AC No. 150/5220-16 (latest revision) _____ dollars _____ cents	\$ _____	\$ _____

Total Base Bid \$ _____

Alternate Base Bid: Replace and Relocate

Item	Qty	Unit	Description Written & Numeric <u>Unit Price</u>	Unit Price	Total Price
1	1	LS	Relocate and replace AWOS III, with self supporting tower, installed complete in place including site selection, site approval by TxDOT and FAA, and acquisition of FCC licensing, according to specification _____ dollars _____ cents	\$ _____	\$ _____
2	1	LS	NADIN/WMSCR Interface Equipment _____ dollars _____ cents	\$ _____	\$ _____
3	1	LS	One year of AWOS maintenance that meets the requirements of FAA AC No. 150/5220-16 (latest revision) _____ dollars _____ cents	\$ _____	\$ _____

Total Alternate Base Bid \$ _____

Additive Alternate Bid 1-3					
Items below should be bid with the option to award depending on the availability of funds					
Item	Qty	Unit	Description Written & Numeric <u>Unit Price</u>	Unit Price	Total Price
A1	1	EA	Present Weather Sensor _____ dollars _____ cents	\$ _____	\$ _____
A2	1	EA	Thunder Strike Alert _____ dollars _____ cents	\$ _____	\$ _____
A3	1	EA	Upgrade to Ultra Sonic Wind Sensor _____ dollars _____ cents	\$ _____	\$ _____

Total Bid \$ _____

It is understood the quantities of work to be done at unit prices are approximate and are intended for bidding purposes only. Amounts are to be shown in both words and numbers. In case of discrepancy the unit price amount shown in words shall govern. Bidders shall bid on the Base Bid, Alternate Base Bid, and Additive Alternates 1 and 2. Bidders may bid on Alternate Number 3.

The Owner reserves the right to award to the lowest responsible bidder for any combination of the base bid and alternates in order to obtain the best value for the owner per Government Code Section 2156.007 (d). Funding availability will be considered in selecting the bid award.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" for installation of the equipment. Following issuance of the written "Notice to Proceed" for installation, installation shall be completed within 90 calendar days thereafter. Bidder further agrees to pay as liquidated damages the sum of \$200.00 for each consecutive calendar day to complete the work beyond the allotted time or as extended by an approved change Order.

Bidder understands the Owner reserves the right to reject any irregular bid and the right to waive

technicalities if such waiver is in the best interest of the Owner and conforms to State and local laws and ordinances pertaining to the letting of construction contracts. The bidder agrees this bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving bids.

Upon receipt of the written "Notice of Award", the bidder will execute the formal contract agreement within 14 days and deliver a surety bond or bonds as required under the contract documents. The bid security attached in the sum of 2% of the total bid price _____ is to become the property of the Owner in the event the contract is not executed as set forth in the contract documents as liquidated damages for the delay and additional expense caused thereby.

Signature Title

Printed Name Phone

Mailing Address City, State, Zip Code

Addendum:

The undersigned Bidder certifies that he has acknowledged the addendum(s) to the contract as indicated below.

Addendum No. _____ dated _____

Addendum No. _____ dated _____

Addendum No. _____ dated _____

Qualification Acknowledgment:

The undersigned Bidder has enclosed the bidder's qualifications per General Provision 20-02, Prequalification of Bidders.

_____ I have enclosed qualification statements.

Qualification Acknowledgment Signature:

Signature

Title

Mailing Address

City, State, Zip Code

AWOS Technical Specifications

1. Project Description:

- 1.1. The project shall consist of replacing an existing Automated Weather Observing System with an Automated Weather Observing System III with optional Present Weather Sensor and Thunder Strike Alert components (AWOS III P/T) at the Midland Airpark. The system shall be installed in accordance with Federal Aviation Administration Advisory Circular 150/5220-16, (latest revision), “Automated Weather Observing Systems (AWOS) for Non-federal Applications” and as indicated in this specification.

The system as installed will include all labor, equipment, materials, peripherals, training, services, one year warranty, one year of AWOS System Maintenance, and incidentals as necessary to place the system in operation to the satisfaction of the Owner/State and be ready for commissioning by the Federal Aviation Administration (FAA). Vendor shall have FAA certification for the AWOS III P/T at time of bid submittal and will provide copies of such approval with their bid submittal.

- 1.2 The Vendor shall ascertain that all AWOS and VHF system components installed in the system are compatible in all respects with each other and the remainder of any existing system. Any non-compatible components shall be replaced with compatible components at no additional cost to the owner.
- 1.3 The Vendor shall utilize an established and proven equipment configuration.
- 1.4 Not applicable
- 1.5 Vendor will prepare the Memorandum of Agreement (MOA) and Operations and Maintenance Manual (OMM) as required by FAA Order 6700.20 for owner signature before scheduling FAA commissioning ground inspection and any other checks required before the AWOS can be authorized to operate.
- 1.6 The following documents shall be considered a part of these provisions:
- AC 150/5220-16, (latest revision) “Automated Weather Observing Systems for Non-Federal Applications”
 - FAA Order 6560.20, (latest revision) “Siting for Automated Weather Observing Systems”
 - AC 70/7460-1, (latest revision) “Obstruction Marking and Lighting”
 - TxDOT Aviation Division General Construction Contract Provisions, Volume dated February 2013.

2. Site Location, if AWOS is relocated:

- 2.1. The Vendor shall comply with FAA Order 6560.20, (latest revision) "Siting for Automated Weather Observation."
- 2.2. Vendor shall consider location of available electrical power to reduce sponsor's cost for installation of power at the site when selecting the AWOS site.
- 2.3. The Vendor must submit locations to Owner/State for approval on furnished copy of Airport Layout Plans marked with latitude/longitude and elevation before submitting FAA Form 7460-1. Owner/State shall approve final site selection.
- 2.4. Site approval and documents/applications for the AWOS installation and VHF equipment will be submitted to the FAA and the FCC by the Vendor. If a UHF data link is used in place of the data/control cable connection to the AWOS processor, licensing of the UHF frequency is the responsibility of the Vendor.
- 2.5. The Vendor must notify Owner/State of telephone and electrical connection requirements for the selected AWOS site. Vendor shall coordinate location and requirements with owner so that necessary utility connections can be installed in sufficient time for the installation of the equipment.
- 2.6. Site selection shall be made and proper forms executed and filed with FAA within 90 days from notice to proceed for site selection. Owner/State review and approval will be in addition to the 90-day time frame.
- 2.7. Vendor shall notify Owner/State of any issues occurring with forms filed with FAA for the selected site, and any re-submission of site selection forms.
- 2.8. Vendor shall anticipate the possibility of multiple siting visits per airport, if necessary.

3. FCC License(s)

- 3.1. Vendor must submit necessary forms and acquire Federal Communications Commission License for an AWOS VHF broadcast license. If required, Vendor shall also submit all necessary forms and acquire FCC license for UHF license.
- 3.2. Vendor shall coordinate and monitor the receipt of the licenses with Owner/State and FCC to insure all necessary licenses are received. Vendor shall submit report to Owner/State with all FCC license call signs and expiration dates.

4. Site Preparation

- 4.1 The Vendor shall provide all necessary site preparation work for installation of the AWOS, which includes, but is not limited to removal of existing AWOS, foundations and grounding systems if necessary, grading, leveling, grubbing, and making the site acceptable for installation of necessary foundations and equipment.
- 4.2 Electrical power supply and telephone line for the operation of the system shall be provided by the airport sponsor. The electrical power supply shall terminate with an electrical disconnect 25 feet from the designated installation location. The telephone line shall also terminate at this location in an appropriate box.
- 4.3 Vendor shall provide and install control and data cables in conduit from the AWOS CPU to remote sensors. RF transmitter and receiver shall be provided to the site by the Vendor, if required.
- 4.4 If needed, Vendor shall construct concrete foundations for tower base and other equipment. AWOS Manufacturer shall submit foundation drawings specific to selected site and equipment with specified concrete compressive strength and reinforcing requirements.
- 4.5 Following installation, site shall be cleaned, debris removed and surface leveled to that of surrounding areas to allow for mowing and maintenance of the area disturbed.

5. Installation:

- 5.1. Vendor shall not proceed with installation until approved schedule is developed and only following a notice to proceed by the Owner.
- 5.2 The work shall be performed by the AWOS manufacturer or approved contractor regularly engaged in work of this type, and shall include furnishing and installing the equipment, calibration, start-up, and commissioning of equipment.
- 5.3 Sensors shall be installed at the locations and elevations as approved by Owner/State and the Federal Aviation Administration. All connections of the cables to the sensors, AWOS tower, processing unit and data terminal will be in accordance with the manufacturer's specifications. VHF antenna shall be mounted at the AWOS site, unless other location is approved by Owner/State.
- 5.4 Vendor shall provide and install control and data cables in conduit from the AWOS CPU to remote sensors. RF transmitter and receiver shall be provided to the site by the Vendor, if required.
- 5.5 Vendor shall anticipate multiple installation visits as conditions dictate.

6. Equipment:

6.1. AWOS III Instrumentation: The systems to be installed shall be FAA certified as AWOS III or AWOS III P/T as finally configured at time of contract award. All equipment provided shall be new and meet the specifications in FAA AC 150/5220-16 (latest revision).

6.1.1. Tower: Existing tower can be refurbished and used if it meets current standards and Vendor equipment. If new tower is needed, Vendor shall install either a self supporting or a tilt-over tower as specified by manufacturer for the system and as indicated on the project specific bid form. The tilt-over tower shall have a steel supporting rest in a concrete foundation that is required to hold tower in its tilt-down position without touching ground. Either tower type shall not exceed the height specified for the equipment to be installed on the tower.

The tower shall be painted with a six-band marking with alternating bands of aviation surface orange (the top band) and white. The bandwidths shall be 1/6 of the height of the tower and perpendicular to the vertical axis of the tower with the bands at each end colored orange. Paint and aviation colors shall conform to Federal Standards. The tower shall be primed in accordance with the tower manufacturer's specifications prior to painting.

A Dual L-810 obstruction light shall be placed within 5 feet of the top of the tower in accordance with FAA requirements. The two lamps on the L810 shall be wired in parallel on a dedicated circuit.

6.1.2 Voice Subsystem: A. The voice subsystem shall provide high quality, computer-generated speech for output of the AWOS observation. The voice subsystem should also provide the speech for the local ground-air radio broadcast and for telephone dial-up users. The system shall have the capability of hooking up to a minimum of two (2) phone lines, and for the addition of a manually input voice message at the end of the computer generated voice message. The system shall have the capability of remotely programming a voice message via telephone. A security access code shall prevent unauthorized use, and the system will automatically play back the recorded message and allow the user to reprogram, delete, or accept the message.

6.1.3 Uninterruptible Power Supply: The Vendor shall provide a UPS to regulate power and provide a back-up power supply source for power outages. The UPS shall be capable of powering the AWOS for a minimum of one (1) hour.

6.1.4 NADIN/WMSCR Interface: The AWOS shall include equipment for interfacing with a Vendor that is approved to download information through the National Airspace Data Interchange Network (NADIN) and into the Weather Message Switching Center Replacement (WMSCR). Vendor shall provide one (1) year of NADIN connection service to be concurrent with AWOS maintenance contract.

- 6.1.5 Transient and Lightning Protection: AWOS equipment should be protected against damage or operational upset due to lightning surges, power line transients and surges, and from other electromagnetic fields and charges on all sensor input lines, sensor supply lines, and incoming power and data communications lines. Lightning protection systems shall be designed and installed in accordance with the Lightning Protection Code, NFPA 780, and the manufacturer recommendations for all equipment.
- 6.1.6 Test Equipment: The Contractor shall supply the Owner with the necessary test equipment to maintain the AWOS weather sensors according to the manufacturer's FAA approved maintenance plan.
- 6.1.7 Spare Components: The Contractor shall provide the Owner with the manufacturer's minimum recommended spare components necessary to restore the AWOS to service following a malfunction.
- 6.1.8 Maintenance Agreement: The Vendor shall provide a one (1) year AWOS maintenance agreement that meets the requirements of FAA AC No. 150/5220-16 (latest revision) and begins on the date of FAA commissioning. The maintenance agreement shall include all required inspections and maintenance as defined by AC No. 150/5220-16 (latest revision), but will not include any repairs made under the one year warranty for the installed system.

7. Additional Services

- 7.1. The Vendor will perform the following:
 - a. Conduct all required systems performance tests. System must be in total working condition before scheduling FAA site commissioning. If multiple FAA commissioning visits are necessary, Vendor shall reimburse other contractors, the FAA, and the owner for associated additional travel costs if requested.
 - b. Prepare the AWOS for the FAA ground check. Place and keep the AWOS in an operational test mode until it is certified by the FAA. If the FAA disapproves either the ground check or flight check, the Vendor shall correct the discrepancies and re-schedule the FAA ground or flight check.
 - c. Provide a qualified technician on site for any required FAA ground check, flight check, and site commissioning of the AWOS.
 - d. Post any certificates and notices required in AC 150/5220-16, (latest version).
 - e. Vendor to schedule a session after commissioning at the airport to provide complete system operation, maintenance, and repair training. Vendor will ensure

that all airport representatives and operators as designated by the owner are notified of the training session, and will personally conduct the training on site.

- f. Provide one complete set of AWOS system manuals to the owner.

8. Basis of Payment

8.1 Siting, Licensing and Installation:

- a. Each system shall be installed in accordance with the Plans and General and Special Provisions. The unit price shall be full compensation for all labor, equipment, materials, peripherals, training, services, one year warranty, one year of AWOS System Maintenance, and incidentals as necessary to place the system in operation to the satisfaction of the Owner/State and be ready for commissioning by the Federal Aviation Administration.
- b. The contractor is eligible to receive payment up to 95% of the contract amount pending final inspection and acceptance by Owner/State. Release of final payment does not release Vendor of obligation to have equipment certified and commissioned by FAA. Vendor shall correct, repair and/or replace any equipment necessary to have equipment commissioned by FAA. Vendor is not released from this contract until final commissioning of the system.
- c. Vendor shall make all necessary repairs, corrections, changes, and modifications to the AWOS system before acceptance by Owner/State. The airport owner should not be relied upon at any time to assist or make the necessary repairs, corrections, changes, or modifications.

WAGE RATES FOR EACH COUNTY AVAILABLE AT
<http://www.wdol.gov/dba.aspx#0>

Insert most recent ALP and property map (TxDOT AVN will provide)