

# Request for Bid ARFF Class 5 Vehicle

Project Number: 10113300

Bid Opening Date: Thursday, August 15, 2013

Bid Opening Time: 1:30 p.m.

Tucson Airport Authority
7005 S. Plumer Ave.
Tucson, AZ 85756
www.flytucson.com

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#### INVITATION FOR BIDS

Tucson Airport Authority "Authority"
Tucson International Airport
10113300 ARFF Class 5 Vehicle
AIP pending / ADOT pending

Notice is hereby given that sealed bids will be received and then publicly opened and read at the Tucson Airport Authority Administrative Offices at 7005 S. Plumer Ave., Tucson, AZ, where bids are to be opened on August 15, 2013 for the purchase of the following equipment:

Item	Date of Bid Opening	Time of Bid Opening
Purchase a New ARFF Class 5 Vehicle	August 15, 2013	1:30 p.m.

All bids must be mailed or hand delivered to the following address:

Tucson Airport Authority 7005 S. Plumer Avenue Tucson, Arizona 85756

All bids must be marked as follows:

#### Sealed Bid

Bidder:

Project: 10113300 ARFF Class 5 Vehicle

To be opened at: 1:30 p.m. on August 15, 2013

Attn: Joanne Machold

Director of Purchasing

Bids received after the specified time and date of the bid opening will be returned unopened. The Authority shall not be held responsible or accountable for delays in the delivery of any proposal by the U.S. Postal Service or other courier service.

Copies of the bid documents including instructions to bidders, technical specification, standard terms and conditions and bid forms may be obtained from:

Tucson Airport Authority 7005 S. Plumer Avenue Tucson, AZ 85756 Deborah Walker dwalker@flytucson.com

A pre-bid conference will be held for purposes of clarifying requirements of this procurement and for resolving any possible ambiguities. This conference will be held at 10:00 a.m., August 8, 2013 at the Authority Administrative Offices.

Each bid must be accompanied by a bid guaranty in the amount of no less than ten percent (10%) of the aggregate of the base bid and the total of all alternates. The bid guaranty may be in the form of: 1) a certified check or cashiers check made payable to the order of Tucson Airport Authority, or 2) a bid bond

issued by a surety company acceptable to the Authority and duly licensed for such undertaking in the State of Arizona.

A printed copy of the bid tabulation will be available upon written request to the Purchasing Department, Attn: <a href="mailto:dwalker@flytucson.com">dwalker@flytucson.com</a>; verbal requests will not be accepted. Requests must contain the project title and number.

Bids may be held by the Authority for a period not to exceed 90 days from the date of the bid opening for the purpose of evaluating bids prior to award of contract. During this evaluation period, the Bidder agrees to honor the stated price(s) without any adjustment.

It is the intent of the Authority to make award of contract to the responsive and responsible bidder that submits the most advantageous bid. The Authority reserves the right for any reason to reject or accept any or all submittals, to accept alternates in any order or combination, and to determine the low bidder on the basis of the sum of the base bid and alternates accepted, to withhold the award, to waive any informality in submittals received or accept or reject any items or any submittal.

This procurement action is governed by all applicable local, State and Federal regulations. This project will be paid in part with monies to be received from the Federal Aviation Administration and the Arizona Department of Transportation. For grant-funded projects, additional legal requirements may be required as set forth in the Bid Documents and proposed contract documents.

Advertise Dates: July 15 and July 22, 2013

# **INSTRUCTIONS TO BIDDERS**

#### **Bid Documents**

The Bid Documents are hereby defined as the following:

Invitation for Bids
Instructions to Bidders
General Terms and Conditions
Supplementary Provisions
Technical Specifications
Bid Form with attachments
DBE Forms
Form of Contract Agreement
All required forms
All authorized addenda issued by the Authority
Any document incorporated in whole or in part by reference herein.

The term "Project Documents" as used herein shall be construed as being equivalent to the above defined Bid Documents.

All documents comprising the Project Documents are complementary to one another and together establish the complete terms, conditions and obligations of the successful bidder.

# **Bidder Representations**

By submittal of a bid, the Bidder represents the following:

- The Bidder has read and thoroughly examined all Project Documents.
- The Bidder has a complete understanding of the terms and conditions required for the satisfactory performance of the project.
- The Bidder has found no errors, conflicts, ambiguities or omissions in the Project Documents, except as previously submitted in writing to the Authority that would affect cost, progress or performance of the work.
- The Bidder is familiar with all applicable Federal, State and local laws, rules and regulations pertaining to execution of the contract and the project work.
- The Bidder has complied with all requirements of these instructions and the associated Project Documents.

## **Corrections or Modifications to Project Documents**

Modifications to the Project Documents may only be made by written addendum issued prior to the execution of the contract by the Authority or the Authority's representative. Verbal explanations, interpretations or comments made by the Authority or the Authority's representative shall not be construed as binding. Addenda will be transmitted to all known official bid holders. Each Bidder shall certify at the time of Bid submittal that they acknowledge receipt of all issued addenda.

# **Errors and Discrepancies in Project Documents**

Should Bidder find an error, discrepancy, ambiguity or omission in the Project Documents prior to submittal of a Bid, the Bidder is obligated to contact the Authority or the Authority's representative with written notice of the error, discrepancy, ambiguity or omission. The written notice shall identify the nature and location of the error, discrepancy, ambiguity or omission. Corrections or modifications to the Project Documents will only be made by written addendum as prescribed herein.

#### **Clarifications and Interpretations**

A Bidder requiring a clarification or interpretation of the Project Documents shall make a written request to the Authority or the Authority's representative. The Authority shall respond to any written request a minimum of five (5) calendar days prior to the date of the Bid opening.

# **Issuance of Bid Documents**

The Authority reserves the right to refuse to issue Bid documents to a prospective Bidder should the Bidder be in default for any of the following reasons:

- a. Failure to comply with any pre-qualification regulations of the Authority, if such regulations are cited or otherwise included, in the Bid Documents as a requirement for bidding.
- Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Authority) at the time the Authority issues the Bid Documents to a prospective bidder.
- c. Default under previous contracts with the Authority.

# Form of Bid

All bids shall be made on the forms provided in the Project Documents. No Bidder may submit more than one bid. All bids are to be written in ink or typed and shall be clearly legible. All blank spaces in the Bid forms shall be legibly completed for each and every bid item. The Bidder shall not qualify any bid item. The Bidder shall initial in ink any erasures and alterations made on the bid form by the Bidder.

The Bidder shall state the price of their bid in U.S. dollars and cents in both written and numerical format. In the event of a discrepancy, the written value will take precedence.

The time for delivery must be stated in definite terms and may be a factor in making an award, price notwithstanding.

#### Shipping/Freight on Board (FOB) Point

All prices are to be quoted FOB destination, delivered and installed as required, Tucson Airport Authority, 2747 E. Airport Dr., Bldg. #2., Tucson, AZ 85756, unless otherwise specified in the Project Documents. Bidder agrees to bear all risks of loss, injury or destruction of goods and materials ordered as a result of this bid, which occur prior to delivery to the Authority. Such loss or destruction shall not release Bidder from any obligation hereunder.

# Signature of Bid

The Bid shall be signed and dated by an authorized representative of the Bidder. All signatures shall be made with an ink pen. The Bidder's representative shall have the legal authority to obligate and bind the Bidder to the terms and conditions of the contract. The Bidder shall legibly state the name of the Bidder's representative, the legal name of the Bidder, the address of the Bidder including City, State and Zip Code, and the telephone number of the Bidder.

- For bids by corporations, an officer of the corporation shall sign the bid, the State of incorporation shall be identified and the corporate seal affixed.
- For bids submitted by an agent, evidence of the power of attorney shall be attached to the bid.
- For bids submitted by a partnership or joint venture, the proposal shall identify the name of all firms and the authorized parties of all firms. A copy of the partnership/joint-venture agreement shall be provided to the Authority as an attachment to the bid.

# Modification or Withdrawal of Bid

A Bidder may modify or withdraw their Bid at any point up to the specified time and date identified for receipt of bids. Any request for Bid withdrawal or modification by the Bidder that is received after the specified time and date for receipt of bids will be returned to the sender.

Any modification to a Bidder's bid, subject to the time constraint noted above, must be made on the bid forms contained in the Project Documents. The Bidder's authorized representative must sign the modification. Withdrawal of a Bid may be made, subject to the time constraint noted above, only with written confirmation under signature of the Bidder.

#### **Bid Guaranty**

Each Bid must be accompanied by a Bid Guaranty in the form of: a) a certified check or cashier's check made payable to the order of the Tucson Airport Authority, or b) a Bid Bond issued by a surety company acceptable to Authority and duly licensed for such undertaking in the State of Arizona. The check or bond shall be in the amount of no less than ten percent (10%) of the aggregate of the Base Bid and the total of all alternates. The check or bond submitted shall be submitted with and shall accompany the bid envelope in a separate sealed envelope labeled "Bid Guaranty". The Bid Guaranty shall not be a limit of damages in the event of the failure or refusal of the successful Bidder to enter into a contract. Failure to submit the Bid Guaranty as required herein may, in the sole discretion of the Authority, be grounds for disqualification of the Bidder.

If the guaranty is submitted in the form of a bond, it shall be issued and executed solely by a surety company or companies acceptable to the Authority and that hold a Certificate of Authority to Transact Surety Business in the State of Arizona issued by the Director of the Department of Insurance. An individual surety or sureties will not be accepted. A copy of the surety's current Certificate of Authority to Transact Surety Business in the State of Arizona shall accompany the Bid Bond. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of his power. The Bid Bond shall name the Tucson Airport Authority as obligee.

# **Bidder Qualifications**

Bidder shall submit with their bid evidence of their ability, skill and experience to provide the equipment specified in the Project Documents. Bidder shall include a completed Bidder's Qualification Statement with the bid.

# **Exceptions/Deviations**

Bids that have, as their basis, an item or items that do not meet or exceed one or more of the requirements of the technical specifications as set forth in the Project Documents, shall be accompanied by a written explanation listing the specification page number, paragraph number and requirement, identifying the non-conforming feature or item and detailing why the feature or item should be considered as meeting or exceeding the Authority's reasonable quality and performance requirements. The Authority shall be the sole judge of whether or not an apparently non-conforming item is acceptable and should be deemed conforming to the bid specifications.

#### **Disadvantage Business Enterprise (DBE)**

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the Authority to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. Although Authority has not set a DBE goal for this contract, Authority encourages the use of DBE firms and will make available to bidders a DBE interest list upon request.

#### **Submission of Bids**

Bids shall be mailed or hand delivered to arrive prior to the specified time and date for receipt of bids. Bids received by way of telecopy (facsimile) machines or e-mail will not be considered. Bids received after the specified time will not receive consideration and will be returned unopened. Bids shall be enclosed in a sealed opaque envelope. Each Bid shall be addressed to the office location as identified below. The envelope shall be marked as follows:

## Sealed Bid

Bid of (Name of Bidder)

Project: 10113300 ARFF Class 5 Vehicle

To be opened at: 1:30 p.m., Thursday, August 19, 2013

Attn: Joanne Machold Director of Purchasing Tucson Airport Authority 7005 S. Plumer Ave. Tucson, AZ 85756

#### **Bid Protest Procedure**

Prior to a Bid opening any Bidder or potential Bidder wishing to file a protest concerning alleged improprieties in this solicitation must submit the protest in written format to the Authority within five (5) calendar days of the specified time of the Bid opening. The formal written protest must identify the name of contractor contesting the solicitation, the project name and number, and the specific grounds for the protest. All determinations made by the Authority are final.

After Bid opening any Bidder wishing to file a protest concerning this solicitation must submit the protest in written format to the Authority within five (5) calendar days of the notice of intent to award. Any protest lodged after such time will not be considered. The formal written protest must identify the name of contractor contesting the solicitation, the project name and number, and the specific grounds for the protest. All determinations made by the Authority are final.

#### **Bid Opening**

All bids submitted prior to the stated time and date for receipt of bids will be publicly opened and read aloud by the Authority or the Authority's representative. Bidders, their authorized agents, and other interested parties are invited to attend. Bids submitted after the stated time and date for receipt of bids will be automatically rejected without consideration and will be returned unopened.

## **Evaluation of Bids**

Bids may be held by the Authority for purposes of review and evaluation by the Authority for a period not to exceed 90 calendar days from the stated date for receipt of bids. During this evaluation period, the Bidder agrees to honor the stated price(s) without any adjustment. The Authority will tabulate all bids and verify proper extension of unit costs. The Bidder shall honor their Bid for the duration of this period of review and evaluation. The Bid Guaranty will be held by the Authority until this period of review has expired or a contract has been formally executed.

#### **Bid Informalities and Irregularities**

The Authority reserves the right to waive any informality or irregularity discovered in any bid, which in the Authority's judgment best serves the Authority's interest. In the situation where an extension of a unit price is found to be incorrect, the stated unit price and correct extension will govern. In the event of a discrepancy between the written and numerical values, the written value shall take precedence.

#### **Cancellation of Award**

At any time prior to execution of a Contract Agreement, the Authority reserves the right to cancel the award for any reason without liability to the Bidder, and with the return of the Bid Guaranty.

#### **Notice of Award of Contract**

It is the intent of the Authority, after a period of review and evaluation, to award a contract to the responsible Bidder that submits the most responsive and advantageous Bid.

The successful Bidder will be informed their Bid has been accepted through the Authority's issuance of a Notice-of-Award. The Notice-of-Award shall not be construed as a binding agreement. The proper execution of a contract shall serve as the binding agreement.

The successful Bidder must furnish a Performance Bond in the amount of 100% of their total contract award within 14 calendar days after notification of the contract award. The bond will be in the form of: 1) a certified check or cashiers check made payable to the order of Tucson Airport Authority, or 2) a performance bond issued by a surety company acceptable to the Authority and duly licensed for such undertaking in the State of Arizona. The Performance Bond shall be conditioned on the faithful performance of the Contract Agreement in accordance with the Contract Documents. The Performance Bond shall be solely for the protection of Authority.

The successful Bidder must furnish a Payment Bond in the amount of 100% of their total contract award within 14 calendar days after notification of the contract award. The bond will be in the form of: 1) a

certified check or cashiers check made payable to the order of Tucson Airport Authority, or 2) a Payment Bond issued by a surety company acceptable to the Authority and duly licensed for such undertaking in the State of Arizona. The Payment Bond shall be solely for the protection of claimants supplying labor or materials to the Contractor or the Contractor's Subcontractors in the prosecution of the project and not for the protection of persons providing any design services, preconstruction services, finance services, maintenance services, operations services or other related services provided for in the Contract Agreement.

The successful Bidder must furnish such evidences of insurance as required in the General Terms and Conditions within 14 calendar days after notification of the contract award.

# **Funding Assistance**

Federal and State funding assistance was provided for this project. Award of a contract is conditioned upon the FAA and ADOT concurring in the award.

# **Return of Bid Guaranty**

The Bid Guaranty shall be returned to the Bidders whose bids are not accepted and to the successful Bidder promptly after the execution of the Contract Agreement and the submission of satisfactory bonds, certificates and policies of insurance, and the performance of all other conditions precedent to commencement of work under the Contract Agreement.

# **Contract Agreement**

Within 14 days of the receipt of the formal Contract Agreement, the successful Bidder shall execute the Contract Agreement. Failure to execute the Contract Agreement within the specified time frame may result in the Bid being awarded to the next responsive and responsible Bidder and forfeiture of the first Bidder's Bid Guaranty.

# **GENERAL TERMS AND CONDITIONS**

#### **DEFINITION OF TERMS**

**Advertisement:** A public announcement, as required by local law, inviting Bids for Work to be performed and materials to be furnished.

**Addenda:** Written or graphic instruments issued prior to the execution of the Contract Agreement, which modify or interpret the Bid Documents by additions, deletions, clarifications or corrections.

**ADOT:** The Arizona Department of Transportation. When used to designate a person, ADOT shall mean the Administrator or his/her duly authorized representative.

**Advisory Circular:** Documents published by the Federal Aviation Administration that convey policy, standards and guidance.

**AIP:** The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.

ARFF: Aircraft Rescue and Fire Fighting

**ASTM:** The American Society for Testing and Materials.

**Authority:** The Tucson Airport Authority, the contracting agency signatory to the Contract Agreement.

Award: The acceptance, by the Authority, of the successful Bidder's Bid.

**Bid:** The written and signed offer of the Bidder (when submitted on the approved bid form) to perform the contemplated Work and furnish the necessary materials in accordance with the provisions of the technical specifications.

**Bidder:** Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a Bid for the Work contemplated.

**Bid Documents:** A collective term for all project documents that a prospective Bidder shall base it's Bid upon. Unless otherwise defined in the Instructions to Bidders, the Bid documents are comprised of the following:

Invitation for Bids
Instructions to Bidders
General Terms and Conditions
Supplementary Provisions
Technical Specifications
Bid Form with attachments
DBE Forms
Form of Contract Agreement
All required forms

All authorized addenda issued by the Authority

Any document incorporated in whole or in part by reference therein

**Bid Guaranty:** The security furnished with a Bid to guaranty that the Bidder will enter into a Contract Agreement if the Authority accepts his/her Bid.

**Change Order:** A written instrument to the Contractor covering changes in the plans, specifications, or bid quantities. At a minimum, the change order must include the following: (a) a description of the change in the Work with appropriate supporting documentation; (b) the amount, if any, of the adjustment in the Contract Sum; (c) the extent, if any, of the adjustment in the Contract Time; (d) methods of shipment or packing; (e) place of delivery; and (f) time of delivery.

**Contract Agreement:** The written agreement covering the Work to be performed and any associated Contract Documents.

**Contract Documents:** Contract Documents include all project solicitation documents, Drawings, Specifications, Submittals, Addenda, Job Order(s) (if applicable), and all amendments, supplements, attachments, special provisions, or exhibits attached thereto. Contract Documents also include the Project Schedule, certificates, bonds, and documents authorizing changes to the Work, payment documents, and insurance documents.

**Contract Time:** The number of calendar days stated in the Contract Agreement, allowed for completion of the Work, including authorized time extensions. The Contract Agreement may have a specific Date of Completion in lieu of a number of calendar days. The Work shall be completed by that date.

**Contract Sum:** The total amount of money, which the Authority has agreed to pay, for the Work as specified in the Contract Agreement.

**Contractor:** The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the Work contracted and for the payment of all legal debts pertaining to the Work who acts directly or through lawful agents or employees to complete the contract Work.

Calendar Day: A day shown on a calendar. Calendar Days means consecutive calendar days.

Date Of Completion: The date of formal acceptance in writing from the Authority.

DBE: Disadvantaged Business Enterprise. Refer to Federal Regulation 49 CFR Part 26.

**Design Professional:** The architect(s), engineer(s), or other Authority consultant(s) for the Project, including his or her representatives, or any other individual or firm subsequently identified in writing by the Authority as the Design Professional.

**Equipment:** All machinery, together with the necessary components, materials and apparatus necessary for the proper construction and acceptable completion of the Work.

**FAA:** The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.

**Federal Specifications:** The Federal Specifications and Standards, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.

**Inspector:** An authorized representative assigned to make all necessary inspections and/or tests of the Work performed or being performed, or of the materials furnished or being furnished by the Contractor.

Notice-Of-Award: A written notice of the acceptance of the Bid from the Authority successful Bidder.

**Notice-To-Proceed:** A written notice issued which states the date on which it is expected for the Contractor to begin the Work.

**Payment Bond:** The approved form of security furnished by the Contractor and his/her surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the Work.

**Performance Bond**: The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will complete the Work in accordance with the terms of the Contract Agreement.

**Project:** The total services of which the Work performed under the Contract Agreement may be the whole or part of.

**Project Documents:** A collective term for documents identified within the definition for Bid Documents, which together as a whole form the complete and full contract obligation of the Contractor.

SAE: Society of Automotive Engineers.

**Schedule:** Means the approved schedule of performance for completion of the Work and meeting all other requirements of the Contract Documents.

**Specifications:** That portion of the Project Documents consisting of the written requirements for the Work, including materials, equipment, supplies, construction systems, standards and workmanship for the Work, and performance of related services.

**Surety:** The individual, entity, or corporation identified as "Surety" in the Statutory Bid Bond, Statutory Payment Bond, or Statutory Performance Bond for the Project.

**Unacceptable Work:** Work which is unacceptable under the Contract Documents, including work which is of poor workmanship, incomplete, untimely, which uses improper or defective materials, supplies, or equipment, is damaged, or which does not otherwise conform to the requirements of the Contract Documents.

**Work:** All necessary and inferable design, engineering, construction and related services required by the Project Documents, and includes all administration, labor, design, engineering, training, materials, equipment and documentation to be provided by the Contractor to fulfill the contract obligations under the Contract Agreement.

#### **GENERAL CONDITIONS**

#### PATENTED MATERIAL, EQUIPMENT AND PROCESSES

If the successful Bidder utilizes any design, device, equipment, material or process that is covered by a patent, trademark or copyright, the Bidder shall indemnify and hold harmless the Authority and Authority's representative from any and all claims for infringement by reason of the use of any patented design, device, equipment, material or process or the use of any trademark or copyright.

#### **MATERIAL**

All components used in the manufacture and assembly of the specified equipment/vehicle shall be new and of highest quality and grade. Re-manufactured parts shall not be utilized.

# **DECALS**

The Contractor shall not affix advertising decals, stickers or other signs to the specified equipment. Vehicle mud flaps, when specified, shall be installed with the blank side facing outward. However, any operational or informational decals relating or pertaining to the operation shall be affixed by the manufacturer in the appropriate places and position.

#### **BRAND NAMES**

Whenever in the specification proprietary names, manufacturers, trade names or catalog numbers are specified, such reference is made for the purpose of defining the minimum performance, quality and other salient characteristics of the desired item. Where "brand names" are specified, the term "or equal" shall is deemed to follow. Such reference is not intended to be restrictive in nature. The Contractor may offer any material, item or process deemed equal with respect to the required minimum characteristics of the specified "brand name". The Authority reserves the right to make the final determination of equivalency.

# **COMPUTER SOFTWARE**

All system software and hardware provided for within the specified equipment shall be based on the four-digit year format and shall be capable of recognizing February 29 of a leap year.

#### WARRANTY

Unless otherwise specified, all items shall be guaranteed against defects in material and workmanship for a minimum period of one year from date of Authority's formal acceptance of equipment. During that period, if a defect should occur, that item shall be repaired or replaced by the Contractor at no additional cost to the Authority. The Contractor expressly warrants all items to be new, free from defects in design, materials and workmanship, and to be fit and sufficient for their intended purpose. Any sample or model submitted should create an express warranty that the whole of the goods shall conform to the sample or model. All warranties shall survive acceptance and payment by the Authority.

By separate attachment to the Bid, Contractor shall fully describe the standard warranty on labor, and materials including length of coverage.

Contractor shall present, for the Authority's consideration, any options for extended warranties that are available and shall list such extended warranties by specific component. The additional costs, if any, the length of coverage and the location for service shall also be described. Any additional costs of such extended warranties are not to be included in the bid price offered.

Contractor shall also extend to Authority all manufacturers' warranties that apply to the item. Such manufacturer's warranties shall be set forth in a separate attachment to the Bid. By submitting a Bid, each Contractor represents and warrants that he is the legal authority of all equipment, materials or supplies to be sold to Authority upon acceptance of the Bid, that the same are free from all liens, claims, security interests and encumbrances, that he has the right to sell the same and that he will warrant and defend the title thereof against the claims and demands of all persons.

#### **MATERIAL SAFETY DATA SHEETS**

The Contractor shall submit applicable Material Safety Data Sheets (MSDS) for all chemical products supplied with the acquired equipment.

# **PRE-DELIVERY INSPECTION**

The Authority reserves the right to perform a pre-delivery inspection of the equipment at the Contractor's facility. The purpose of the inspection is to verify compliance with critical requirements of the technical specifications. This inspection shall not serve as the final acceptance inspection.

#### DELIVERY

Delivery of the equipment shall be made within the Contract Time, as stated in the Contract Agreement. Delivery shall be Freight on Board destination to the address noted herein below. Cash On Delivery deliveries will not be accepted. All equipment shall be off loaded at the designated location at Contractor's expense.

Tucson Airport Authority 2747 E. Airport Drive, Building 2 Tucson, AZ 85756

ATTN: Joanne Machold

Director of Purchasing

# **ACCEPTANCE**

Acceptance of the furnished equipment will be based on combination of submitted manufacturer certifications and acceptance tests conducted at the time of delivery. The Contractor shall provide manufacturer certification for components and systems identified within the technical specification. The Contractor shall prepare and furnish the Authority a signed written certification that the components constituting the whole of the equipment being provided comply with the applicable performance, design and construction requirements of the technical specifications.

# **ON-SITE ACCEPTANCE TESTING**

At no additional expense to the Authority, the Contractor shall, upon delivery of the equipment, have an authorized representative conduct an operational test of the furnished equipment in the presence of the Authority. The Contractor shall demonstrate that all features and components are in proper working order and operate as intended by the Specifications. This demonstration is in addition to any other stated acceptance tests within the technical specifications and as required by the Authority.

#### **PAYMENT TERMS**

All prices quoted shall be firm and fixed. The Authority shall not be invoiced at prices higher than those stated in any contract resulting from this Bid. Contractor certifies that prices offered are no higher than the lowest price charged other buyers for similar quantities under similar conditions.

Certain articles otherwise subject to Federal Excise Tax may be sold to the Authority free of such tax since the Authority is a political subdivision of the State of Arizona.

Unless otherwise specified, progress payments will not be authorized in this procurement. The Authority will make payment in full within 30 calendar days after date of acceptance of the equipment/vehicle. Invoice for payment must include the following:

- Items listed individually by the written description and part number.
- Unit price (extended and totaled)
- Quantity ordered and shipped
- Applicable tax
- Invoice number and date
- Ship-to address
- Payment terms

The Authority will not honor any invoices or claims, which are tendered more than one year after the last item of the account is accrued.

#### **ASSIGNMENT**

The rights of each party under this agreement shall not be assigned or transferred to any other person, entity, firm or corporation without prior written consent of both parties.

#### **INSURANCE**

Prior to the performance of any Work and during the progress of all Work, Contractor shall continuously maintain the insurance coverages as specified in this solicitation and for the limits set forth therein. Such insurance shall be maintained for the entire period and until all Work under this solicitation is finally completed and accepted by the Authority. Contractor shall purchase all insurance from a company with a Best's Key Rating of A-VII or higher and one that is licensed to do business in the State of Arizona. Contractor shall purchase and maintain liability insurance which will protect itself and the Additional Insureds from any and all claims set forth below which may arise out of, result from, or relate to operations of Contractor or any Subcontractor under this solicitation, whether such operations be by Contractor or by any Subcontractor, or by anyone directly employed by any of them, or by anyone for whose acts any of them may be liable.

Contractor shall provide and maintain insurance at least as broad as the Insurance Service Office Commercial General Liability insurance form CG 00 01 and Automobile Liability Insurance with combined single limits of an amount not less than that which is specified in this solicitation which could be provided in a combination of primary and umbrella policies. Contractor's insurance policy shall have a per project aggregate endorsement in the amount of \$1,000,000.00. The liability coverage referred to in this Section shall contain no exclusions or limitations with regard to explosion, collapse, or underground hazard (XCU) coverage. Coverage shall be an "occurrence" basis, not a "claims made" basis. Any supplementary payments, including defense costs, shall be in excess of the policy limits.

Contractor shall provide and maintain Automobile Liability Insurance covering owned, non-owned, leased and hired vehicles for an amount not less than \$1,000,000.00.

Contractor shall provide and maintain Worker's Compensation insurance in the statutory amounts as required by the State of Arizona, and Employer's Liability insurance in the amount of \$1,000,000.00.

Except for the Workers' Compensation insurance requirements specified herein, the insurance policies required herein shall be endorsed to name and protect all Additional Insureds on such policies. Such additional insured endorsements shall include completed operations coverage. The policies shall state that the inclusion of more than one insured shall not operate to impair the right of one insured against another insured and the coverages afforded shall apply as though separate policies had been issued to each insured except with respect to the limits of liability, which shall not be increased regardless of the number of insureds. Contractor shall maintain insurance for completed operations coverage for at least five (5) years after completion of the Work in the amount of not less than that, which is specified in this solicitation. The insurance policies shall provide that such insurance is primary with any other applicable insurance carried by the Authority and shall be so endorsed. Any other insurance carried by the Authority shall be excess and noncontributing with respect to the insurance required hereunder.

Promptly after notification of the award of this solicitation, and prior to the commencement of any Work, Contractor shall deliver to the Authority certificates of insurance, evidencing all coverages required hereby. In addition, the certificates shall clearly state that: (a) the Tucson Airport Authority and the Additional Insureds are named as additional insureds; (b) the insurance is primary as set forth above; and (c) the Authority shall receive at least 30 calendar days notice of cancellation as set forth above. The acceptance of such certificates will not relieve Contractor of the responsibility of compliance with the provisions of this Section and the Authority will not be deemed to imply, warrant, or waive compliance by acceptance of said certificates. If required in writing, Contractor agrees to furnish to the Authority certified copies of all insurance policies and endorsements, certified by the insurer before risk of loss may occur, but in no event more than 10 Calendar Days after execution of Contract Agreement.

If by the terms of this insurance any mandatory deductibles are required, or if Contractor should elect, with concurrence of The Authority, to increase the mandatory deductible amounts or purchase this insurance with voluntary deductible amounts, Contractor shall be responsible for payment of the amount of the deductible in the event of a paid claim.

# **INDEMNIFICATION**

Contractor shall indemnify, defend and hold the Authority and its members, officers, agents and employees harmless from and against all liabilities, losses, costs, suits, claims, judgments, expenses, fines or demands of any kind (including, but not limited to, costs of investigation, court costs and expert fees) arising out of or alleged to arise out of or resulting from, either directly or indirectly, caused in whole or in part by, any of the following: (a) any act or omission of Contractor, its agents. employees or subcontractors; (b) any defect in the goods purchased hereunder; (c) Contractor's failure to comply with any applicable laws, including environmental laws; or (d) infringement of any intellectual property right, including Contractor's use of any patented design, device, material or process, or any trademark or copyright. The Authority shall give to Contractor prompt and reasonable notice of any such claims or actions against it covered by this indemnity and Contractor shall have the right to investigate, compromise and defend the same. Any counsel retained by Contractor to investigate, compromise or defend any claims, fines, damages, penalties or actions shall be acceptable to the Authority in its sole and absolute discretion, and the Authority expressly retains the right to join in any investigation, compromise and defense should it deem such action necessary or appropriate. The rights under this solicitation will not be limited by reason of any insurance coverage required under this solicitation. This indemnity shall be in addition to the warranty obligations of Contractor.

# **USE OF AUTHORITY'S NAME**

All Contractors are specifically denied the right to use, in any form or medium, the name of the Tucson Airport Authority for advertising unless the Authority in writing grants express permission.			e name of the ress permission.	

#### **SUPPLEMENTARY PROVISIONS**

These Supplementary Provisions supplement the General Terms and Conditions of the Contract and other provisions of the Contract Documents as indicated herein. All contract provisions that are not so supplemented remain in full force and effect.

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# 1. FUNDING REQUIREMENTS.

- 1.1 AIP. The Project is being undertaken and accomplished by TAA in accordance with the terms and conditions of the Airports Improvements Program ("AIP") administered by the Federal Aviation Administration ("FAA"). For AIP projects, the United States Government has agreed to reimburse TAA for some portion of the Contract Sum. Such reimbursement is made from time to time upon TAA's request to the FAA. Contractor shall provide to TAA all information, reports, documents, and/or certifications requested by TAA for the satisfaction of any grant requirements for the Project. Contractor shall comply with all applicable laws, regulations, executive orders, policies, guidelines, and requirements for AIP funded projects. Nothing herein shall be construed as making the FAA a party to the Contract Agreement.
- 1.2 <u>ADOT</u>. The Project is being undertaken and accomplished by the TAA in accordance with a grant from the Arizona Department of Transportation ("ADOT"). For this

Project, the ADOT has agreed to reimburse TAA for some portion of the Contract Sum. Such reimbursement is made from time to time upon TAA's request to the ADOT. Contractor shall provide to TAA all information, reports, documents, and/or certifications requested by TAA for the satisfaction of any grant requirements for the Project. Contractor shall comply with all applicable laws, regulations, executive orders, policies, guidelines, and requirements for ADOT funded projects. Nothing herein shall be construed as making the ADOT a party to the Contract Agreement.

- 1.3 <u>ACCESS TO RECORDS AND DOCUMENTS</u>. Contractor agrees to provide the ADOT, the FAA, and/or the Comptroller General of the United States, or any of their duly authorized representatives access to any books, documents, papers, and records of Contractor which are related to the Work or the Contract Agreement for the purpose of conducting or making an audit, examination, excerpts, and/or transcriptions.
- 1.4 <u>CHANGES TO THE WORK</u>. All changes to the Work which are funded by monies provided by the ADOT or the FAA may be subject to approval by the ADOT or the FAA, as applicable.

# 2. LABOR REQUIREMENTS.

- 2.1 <u>VETERAN'S PREFERENCE</u>. Veteran's Preference shall be included in all contracts for work on any project funded under this grant agreement which involves labor. Such provisions are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Vietnam era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Title 49 United States Code, Section 47112. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.
- 2.2 <u>AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, SECTION 520, GENERAL CIVIL RIGHTS</u>. Contractor assures that it will comply with pertinent statutes, executive orders and such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance. This provision binds Contractors from the bid solicitation period through the completion of the Work. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.
- 2.3. <u>CIVIL RIGHTS ACT OF 1964, TITLE VI REQUIREMENTS</u>. During the performance of the Contract Agreement, Contractor agrees as follows:
- 2.3.1 <u>Compliance with DOT Regulations</u>. Contractor shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the "DOT Regulations"), which are herein incorporated by reference and made a part of the Contract Agreement.
- 2.3.2 <u>Nondiscrimination</u>. With regard to the Work performed by it during the Contract Agreement, Contractor shall not discriminate on the grounds of race, color, or national origin in the selection and retention of Subcontractors, including procurements of materials and leases of equipment. Contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the DOT Regulations, including employment

practices when the Contract Agreement covers a program set forth in Appendix B of the DOT Regulations.

- 2.3.3 <u>Solicitations for Subcontracts, Including Procurements of Materials and Equipment</u>. In all solicitations either by competitive bidding or negotiation made by Contractor for Work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by Contractor of Contractor's obligations under this Contract Agreement and the DOT Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
- 2.3.4 <u>Information and Reports.</u> Contractor shall provide all information and reports required by the DOT Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by TAA or FAA to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of Contractor is in the exclusive possession of another who fails or refuses to furnish this information, Contractor shall so certify to TAA or the FAA, as appropriate, and shall set forth what efforts it has made to obtain the information.
- 2.3.5 <u>Sanctions for Noncompliance</u>. In the event of Contractor's noncompliance with the nondiscrimination provisions of the Contract Agreement, TAA shall impose such contract sanctions as it or the FAA may determine to be appropriate, including: (a) withholding of payments to Contractor under the Contract Agreement until Contractor complies; and/or (b) cancellation, termination, or suspension of the Contract Agreement, in whole or in part.
- 2.3.6 <u>Incorporation of Provisions</u>. Contractor shall include the provisions of this Section 2.6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the DOT Regulations or directives issued pursuant thereto. Contractor shall take such action with respect to any subcontract or procurement as TAA or the FAA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, Contractor may request TAA to enter into such litigation to protect the interests of TAA and, in addition, Contractor may request the United States to enter into such litigation to protect the interests of the United States.

#### 2.4 DISADVANTAGED BUSINESS ENTERPRISES.

- 2.4.1 Contractor or Subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of the Agreement. Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by Contractor to carry out these requirements is a material breach of the Agreement, which may result in the termination of the Agreement or such other remedy, as TAA deems appropriate.
- 2.4.2 It is the policy of the Department of Transportation ("DOT") and TAA that Disadvantaged Business Enterprise firms ("DBEs") as defined in 49 CFR Part 26 (the "DBE Regulations"), shall have a fair and equal opportunity to participate in the performance of contracts financed in whole or in part with federal funds. TAA, in compliance with 49 CFR § 26, has adopted a program regarding the participation of DBEs on federally-funded projects. Specifically, it is the goal of TAA to ensure that, to the extent reasonably possible and consistent with other legal requirements that: (a) DBEs are not discriminated against in the award and

administration of TAA's contracts; (b) a level playing field is created on which DBEs can compete fairly for TAA's contracts; and (c) any barriers to the participation of DBEs in TAA's contracts are removed. A copy of this program is available upon request.

- 2.4.3 TAA has not adopted a specific DBE participation goal with respect to this contract, but it will monitor DBE participation, and all firms are strongly encouraged to use DBE's. As a matter of responsibility, firms must complete and submit a DBE Utilization Form in the form provided, with its bid. Firms and firms' subcontractors who are submitting bids as DBEs must be certified DBEs in Arizona in good standing prior to the date proposals are due. TAA recognizes current DBE certifications by the ADOT, City of Phoenix, and City of Tucson. For information regarding DBE firms recognized by TAA, or if you have any questions about TAA's DBE Program, please contact Tina Moore, TAA DBE Liaison Officer, at 520-573-8100.
- 2.4.4 As a condition of the agreement between the parties, the Contractor awarded the contract will be required to report DBE participation efforts. Contractor will list (1) all certified DBE subcontractors who will be working on the Project, including work performed by Contractor's own forces if Contractor is a DBE and (2) the estimated amount of dollars that will be paid to any DBE subcontractor providing services. This information will be reported on a form to be provided by TAA. In addition, Contractor must provide written confirmation from each DBE of its participation in the Contractor's bid. With each request for payment under the Agreement, Contractor will designate how much is paid to DBEs working on the Project and submit this information to TAA, together with any supporting documentation required by TAA. At the completion of the Project, Contractor will be required to complete and submit a final certification of payments to DBE firms on a form to be provided by TAA.
- 2.5 <u>ARIZONA EQUAL OPPORTUNITY REQUIREMENTS</u>. Contractor shall comply with Arizona Executive Order 75-5 as amended by Arizona Executive Order 99-4, relating to equal opportunity.

# 3. MISCELLANEOUS FEDERAL REQUIREMENTS

- 3.1 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES. No federal appropriated funds shall be paid, by or on behalf of Contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a member of the United States Congress, an officer or employee of the United States Congress, or an employee of a member of the United States Congress in connection with the making of any federal grant and the amendment or modification of any federal grant. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of the United States Congress, an officer or employee of the United States Congress, or an employee of a member of the United States Congress in connection with any federal grant, Contractor shall complete and submit a Standard Form-LLL, "Disclosure of Lobby Activities," in accordance with its instructions. Contractor shall include the provisions of this section in every subcontract.
- 3.2 <u>ENERGY CONSERVATION REQUIREMENTS</u>. Contractor shall comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

- 3.3 <u>RIGHTS TO INVENTIONS</u>. All rights to inventions and materials generated under the Contract Agreement are subject to regulations issued by the FAA of the federal grant under which this Contract Agreement is executed.
- 3.4 CLEAN AIR AND WATER POLLUTION CONTROL. Contractor agrees and shall require of any Subcontractor with a subcontract which exceeds \$100,000: (a) that any facility to be used in the performance of the Contract Agreement or any subcontract or to benefit from the Contract Agreement is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities: (b) to comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. § 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251, et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued thereunder; and (c) that, as a condition for the award of the Contract Agreement, Contractor or Subcontractor will notify TAA of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities.
- 3.5 <u>CERTIFICATION REGARDING DEBARMENT AND SUSPENSION (NON-PROCUREMENT) TITLE 2 CFR PART 180, TITLE 2 CFR PART 1200, AND TITLE 2 CFR PART 180, SUBPART C.</u>
- 3.5.1 Contractor certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction. Contractor further agrees to comply with Title 2 CFR Part 1200 and Title 2 CFR Part 180, Subpart C by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction".
- 3.5.2 Contractor, by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder shall accomplish this by:
  - i. Checking the System for Award Management at website: http://www.sam.gov
  - ii. Collecting a certification statement similar to paragraph a.
- iii. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that an individual failed to tell a higher tier that they were excluded or disqualified at the time they entered the covered transaction with that person, the FAA may pursue any available remedy, including suspension and debarment.

# 3.6 TRADE RESTRICTION CLAUSE.

3.6.1 Contractor or Subcontractor, by submission of an offer and/or execution of the Contract Agreement and certifies that it: (a) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR); (b) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen

or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list; and (c) has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list. Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a Contractor or subcontractor who is unable to certify to the above.

- 3.6.2 Contractor agrees that it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. Contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous. Contractor shall provide immediate written notice to TAA if Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor shall agree to provide written notice to Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.
- 3.6.3 The certifications contained in this Section 3.6 are material representations of fact upon which reliance was placed when making the award. This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.
- 3.6.4 If Contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the FAA may direct through TAA cancellation or termination of the contract for cause. If it is later determined that Contractor or Subcontractor knowingly rendered an erroneous certification, the FAA may direct through TAA cancellation or termination of the contract or subcontract for cause.
- 3.6.5 Nothing contained in this Section 3.6 shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of Contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

# 3.7 BUY AMERICAN PREFERENCES.

- 3.7.1 The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:
- (a) Steel and manufactured products. As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent (60%) of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs b. (1) or (2) shall be treated as domestic.
- (b) Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.

- (c) Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.
- 3.7.2 Contractor is required to assure that only domestic steel and manufactured products will be used by the Contractor, Subcontractors, materialmen and suppliers in the performance of the Work, except those:
- (a) that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;
- (b) that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or
- (c) that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent (25%).
- 3.7.3 Contractor is required to complete and submit the Buy America Certification form. If Contractor has requested a waiver to the Buy America provisions, Contractor is required to take one of the following actions: 1) prepare and submit to TAA a Buy America Waiver Request that includes a component cost calculations table or 2) provide TAA with a listing of products proposed for project use that are already identified on the national waiver list. Should a waiver be required on this project, the Contractor shall submit the required information to TAA within five (5) calendar days of submittal of the final GMP. Waiver requests and the appropriate backup paperwork will then be reviewed by TAA and a recommendation will be forwarded to the FAA. The FAA will then review the Contractor's waiver request and TAA recommendation. If the FAA deems the documentation sufficient and consistent with the AIP Buy America statute, the FAA will generate a project specific contract obligation and submittal documentation and monitoring actual installation will be required.
- 3.8 <u>CONFLICT OF INTEREST REQUIREMENTS</u>. Contractor shall certify that it will comply with, in all respects, the rules of professional conduct set forth in A.C.R.R. R4-30-301. If a conflict or interest should occur after execution of the Contract Agreement, such conflict of interest shall be cause for terminating the Contract Agreement.
- 3.9 <u>CONTRACTOR FAMILIARITY AND COMPLIANCE WITH ADVISORY CIRCULARS</u>. Contractor understands and agrees that it will familiarize itself with all applicable requirements, standards, and specifications contained in advisory circulars, now in effect or hereafter amended or changed by the FAA which may apply to the Project. Contractor hereby certifies that it shall perform all Work in accordance with all applicable FAA advisory circulars for AIP funded projects. Any proposed changes or deviations from applicable FAA advisory circulars shall be requested in advance in writing by Contractor, shall be submitted in a timely manner so as not to interfere with the timing or scheduling of the Project (at least ninety (90) Calendar Days in advance of the need for the change or deviation so that TAA may seek appropriate approval from the FAA), and shall be subject to the approval of both TAA and FAA.
- 3.10 <u>IMMIGRATION LAW COMPLIANCE</u>. Contractor warrants compliance with the Federal Immigration and Nationality Act (FINA) and all other Federal and State immigration laws and regulations related to the immigration status of its employees. Contractor shall obtain statements from its subcontractors of every tier certifying compliance and shall furnish the

statements to TAA upon request. These warranties shall remain in effect through the term of the Agreement, and the Contractor and its subcontractors of every tier shall also maintain Employment Eligibility Verification forms (I-9) as required by the U.S. Department of Labor's Immigration and Control Act for all employees performing work pursuant to this Agreement. I-9 forms are available for download at USCIS.GOV.

TAA may request, and the Contractor agrees to furnish, verification of compliance from the Contractor or its subcontractors of any tier performing work pursuant to this Agreement. Should TAA reasonably believe or discover that the Contractor or its subcontractors of any tier are not in compliance, TAA may pursue any and all remedies allowed by law, including, but not limited to: suspension of work, termination of the Agreement for default, and suspension and/or debarment of the Contractor or its subcontractors. All costs necessary to verify compliance are the responsibility of the Contractor.

- 3.11 <u>COMPLIANCE WITH A.R.S. §§ 35-391.06 AND 35-393.06</u>. Pursuant to A.R.S. §§ 35-391.06 and 35-393.06, the Contractor shall certify that it does not have a scrutinized business operation in either Sudan or Iran.
- 3.12 <u>BREACH OF CONTRACT TERMS</u>. Any violation or breach of terms of this contract on the part of the contractor or their subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

# 3.13 TERMINATION OF CONTRACT.

- 3.13.1 TAA may, by written notice, terminate this contract in whole or in part at any time, either for TAA's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to TAA.
- 3.13.2 If the termination is for the convenience of TAA, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.
- 3.13.3 If the termination is due to failure to fulfill the contractor's obligations, TAA may take over the work and prosecute the same to completion by contract or otherwise. In such case, the Contractor shall be liable to TAA for any additional cost occasioned to TAA thereby.
- 3.13.4 If, after notice of termination for failure to fulfill contract obligations, it is determined that the Contractor had not so failed, the termination shall be deemed to have been effected for the convenience of TAA. In such event, adjustment in the contract price shall be made as provided in paragraph 2 of this clause.
- 3.13.4 The rights and remedies of TAA provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

and its subc	CONTRACTOR CERTIFICATION CERTIFI	lerstood these Supplen	nentary Provisions, and that
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# AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) CLASS 5 VEHICLE PROCUREMENT SPECIFICATION

1. <u>SCOPE.</u> This Procurement Specification (PS) covers a commercially produced diesel engine driven Class 5 ARFF vehicle for an Index D airport. It includes a 3000 gallon water/Aqueous Film Forming Foam (AFFF) fire suppression system, 450 lb. potassium-based dry chemical, and 460 lb. halogenated agent complementary systems.

The ARFF vehicle is intended to carry rescue and firefighting equipment for the purpose of rescuing aircraft passengers, preventing aircraft fire loss, and combating fires in aircraft.

2. <u>CLASSIFICATION</u>. The ARFF vehicle covered by this PS are classified in accordance with Part 139, Certification and Operations: Land Airports Serving Certain Air Carries, Section 315, Aircraft Rescue and Firefighting: Index Determination; Section 317, Aircraft Rescue and Firefighting: Equipment and Agents; and Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles, as follows:

Airport Index Vehicle Class		Minimum Rated Capacities (gallons/liters)	
Index D	5	3000 gallon/11,356 liter water/AFFF solution	
Index D	5	3500 gallon/13,249 liter water/AFFF solution	
Index D 5		4000 gallon/15,142 liter water/AFFF solution	
Index D 5		4500 gallon/17,034 liter water/AFFF solution	

- 3. <u>VEHICLE CONFORMANCE/PERFORMANCE CHARACTERISTICS.</u> The ARFF vehicle will be in accordance with the applicable requirements of Nation Fire Protection Association (NFPA) 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2012 Edition), and AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.
  - 3.1 General Administration Requirements.
  - 3.1.1 <u>Manuals.</u> Technical manuals will consist of operator, service, and parts manuals. All manuals are required to be provided in hardcopy and in PDF format on CDs when requested.
  - 3.1.1.1 <u>Technical manuals.</u> The overall format for the manuals will be commercial. Each technical manual will have a title page. Line art will be used to the maximum extent possible for illustrations and parts lists. One complete set of engine and transmission parts, service and operator's manuals will be packed with each vehicle.
    - a. The Manufacturer will provide manuals in PDF format in addition to printed paper copies.
    - The Manufacturer will provide two complete sets of hardcopy manuals and PDF manuals on DVD or CD media.
  - 3.1.1.1.1. Operator's manual. The operator's manual will include all information required for the safe and efficient operation of the vehicle, including fire extinguishing systems, equipment, and any special attachments or auxiliary support equipment. As a minimum, the operator's manual will include the following:
    - The location and function of all controls and instruments will be illustrated and functionally described.
    - b. Safety information that is consistent with the safety standards established by the Occupational Safety and Health Administration (OSHA) and NFPA.
    - c. All operational and inspection checks and adjustments in preparation for placing the vehicle into service upon receipt from the Manufacturer.
    - d. Tie down procedures for transport on low-boy trailer.

- e. Warranty information and the period of the warranty coverage for the complete vehicle and for any component warranty that exceeds the warranty of the complete vehicle. Addresses and telephone numbers will be provided for all warranty providers.
- f. General description and necessary step-by-step instructions for the operation of the vehicle and its fire extinguishing system(s) and auxiliary equipment.
- g. A description of the post-operational procedures (draining, flushing, re-servicing, et cetera).
- h. Daily maintenance inspection checklists that the operator is expected to perform, including basic troubleshooting procedures.
- i. Disabled vehicle towing procedures.
- j. Procedures and equipment required for changing a tire.
- k. Schedules (hours, miles, time periods) for required preventative maintenance and required periodic maintenance.
- Line art drawing of the vehicle, including panoramic views (front, rear, left, and right sides) showing basic dimensions and weights (total vehicle and individual axle weight for the unloaded and fully loaded vehicle). For the purposes of this AC, "unloaded" is defined as a lack of agent, occupants and compartment load, and "loaded" is defined as including agent, occupants and compartment load.
- 3.1.1.1.2 <u>Service manual.</u> The service manual will identify all special tools and test equipment required to perform servicing, inspection, and testing. The manual will cover troubleshooting and maintenance as well as minor and major repair procedures. The text will contain performance specifications, tolerances, and fluid capacities; current, voltage, and resistance data; test procedures; and illustrations and exploded views as maybe required to permit proper maintenance by qualified vehicle mechanics. The manual will contain an alphabetical subject index as well as a table of contents. The service manual will contain at least the following, where applicable:
  - a. Firefighting system schematic(s).
  - b. Hydraulic schematic.
  - c. Pneumatic schematic.
  - d. Electrical schematic.
  - e. Winterization schematic.
  - f. Fuel schematic.
  - g. Schedules for required preventative maintenance and required periodic maintenance.
  - h. Lubrication locations, procedures, and intervals for parts of the vehicle and equipment that require lubrication.

3.1.1.1.3 Parts identification manual. The parts manual will include illustrations or exploded views (as needed) to identify properly all parts, assemblies, subassemblies, and special equipment. All components of assemblies shown in illustrations or exploded views will be identified by reference numbers that correspond to the reference numbers in the parts lists. All purchased parts will be cross-referenced with the original equipment Manufacturer's (OEM) name and part number. The parts identification manual will provide the description and quantity of each item used for each vehicle. The size, thread dimensions, torque specifications, and special characteristics will be provided for all nonstandard nuts, bolts, screws, washers, grease fittings, and similar items. The manual will contain a numerical index. The parts manual will contain a list of all of the component vendor names, addresses, and telephone numbers referenced in the parts list.

#### 3.1.2. Painting, plating, and corrosion control.

- 3.1.2.1. <u>Finish.</u> Exterior surfaces will be prepared, primed, and painted in accordance with all of the paint Manufacturer's instructions and recommendations. Vehicles will be painted and marked in accordance with AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport. The interior finish of all compartments will be based on the Manufacturer's standard production practice. This may include painting, texturing, coating or machine swirling as determined by the Manufacturer. All bright metal and anodized parts, such as mirrors, horns, light bezels, tread plates, and roll-up compartment doors, will not be painted. All other surfaces capable of being painted must be in the appropriate yellow-green color.
- 3.1.2.2 <u>Dissimilar metals.</u> Dissimilar metals, as defined in MIL-STD-889, dissimilar Metals, will not be in contact with each other. Metal plating or metal spraying of dissimilar base metals to provide electromotively compatible abutting surfaces is acceptable. The use of dissimilar metal separated by suitable insulating material is permitted, except in systems where bridging of insulation materials by an electrically conductive fluid can occur.
- 3.1.2.3 <u>Protection against deterioration.</u> Materials that deteriorate when exposed to sunlight, weather, or operational conditions normally encountered during service will not be used or will have a means of protection against such deterioration that does not prevent compliance with performance requirements. Protective coatings that chip, crack, or scale with age or extremes of climatic conditions or when exposed to heat will not be used.
- 3.1.2.4 <u>Reflective stripes.</u> A minimum of eight (8) inch horizontal band of high gloss white paint or white reflective tape (Retroreflective, ASTM-D 4956-09, *Standard Specification for Retroreflective Sheeting for Traffic Control*, TYPE III & above) must be applied around the vehicle's surface.
- 3.1.2.5 <u>Lettering</u>. The Manufacturer will apply "Tucson International Airport" in a contrasting color or by decal on both sides of the vehicle in long radius elliptical arches above and below the lettering center line. The size of the lettering will be a minimum of  $2\frac{1}{2}$  inches to a maximum of 6-inches. Reflective lettering is allowed if the material is the same as that which is used for the reflective stripe (as specified in AC 150/5210-5).
- 3.1.3 <u>Vehicle identification plate</u>. A permanently marked identification plate will be securely mounted at the driver's compartment. The identification plate will contain the following information:
  - a. NOMENCLATURE
  - b. MANUFACTURES'S MAKE AND MODEL
  - c. MANUFACTURER'S SERIAL NUMBER
  - d. VEHICLE CURB WEIGHT: kg (pounds)
  - e. PAYLOAD, MAXIMUM: kg (pounds)
  - f. GROSS VEHICLE WEIGHT (GVW): kg (pounds)
  - g. FUEL CAPACITY AND TYPE: gals (gallons)
  - h. DATE OF DELIVERY (month and year)
  - i. WARRANTY (months and km (miles))

# j. CONTRACT NUMBER

#### k. PAINT COLOR AND NUMBER

A second permanently marked information data plate will be securely mounted on the interior of the driver's compartment. The plate will contain the information required by NFPA 414, *Standard for Aircraft Rescue and Fire Fighting Vehicles* (2012 Edition), Section 1.3.5 *Vehicle Information Data Plate*. A single plate that combines or contains the information required for both plates is acceptable.

# 3.1.4 Environmental conditions.

- 3.1.4. <u>Temperature range.</u> The vehicle will be capable of satisfactory storage and operation in temperatures ranging from 15° to 120°F at a maximum 95% relative humidity. The vehicle will be equipped with a cab, chassis, and agent winterization system, permitting operation at 15°F. The winterization system will not detract from the performance of the vehicle or the firefighting system in ambient temperatures up to 120°F.
- 3.1.5 <u>Reduction of potential foreign object damage.</u> All loose metal parts, such as pins, will be securely attached to the vehicle with wire ropes or chains. Removable exterior access panes, if provided, will be attached with captive fasteners.

# 3.1.6 <u>Vehicle Mobility.</u>

- 3.1.6.1 Operating terrain. The vehicle will be capable of operating safely on paved roads, graded gravel roads, cross country terrain, and sandy soil environments. Cross country terrain consists of open fields, broken ground, and uneven terrain. An off-road, high-mobility suspension system resulting in no more than 0.5 Grms acceleration at the driver's seat of the vehicle when traversing an 8-inch (20 cm) diameter half round at 35 mph (56 kph) must be provided. The suspension design by which the Manufacturer meets the suspension performance requirements is at the Manufacturer's discretion.
- 3.1.6.2 <u>Gradeability.</u> The fully loaded vehicle will be able to ascend any pave slope up to and including 50-percent.
- 3.1.6.3 <u>Side slope stability.</u> The fully loaded vehicle will be stable in accordance with NFPA 414 when tested in accordance with NFPA 414.
- 3.1.6.4 <u>Cornering stability</u>. The fully loaded vehicle will be stable in accordance with NFPA 414 when tested in accordance with NFPA 414.
- 3.1.7 <u>Diagnostic Scanner.</u> The vehicle shall be equipped with an diagnostic computer scanner preloaded with appropriate firmware or software to perform diagnostic scans on all computer controlled or monitored engine and chassis systems. All required adaptor cables and diagnostic manuals shall also be provided with the scanner.

#### 3.2 Weights and dimensions.

3.2.1 Overall dimension. The maximum dimensions listed below are desirable to ensure vehicles can be accommodated in existing fire stations. Likewise, the overall dimensions should be held to a minimum that is consistent with the best operational performance of the vehicle and the design concepts needed to achieve this performance and to provide maximum maneuverability in accordance with NFPA 414.

Vehicle Capacity/Dimensions	3000 Gallon	
Length (inches/cm)	480/1219	
Width (inches/cm, excluding mirrors)	124/315	
Height (inches/cm)	154/391	

- 3.2.2 <u>Angles of approach and departure.</u> The fully loaded vehicle will have angles of approach and departure of not less than 30°.
- 3.2.3 Field of vision. The vehicle will have a field of vision in accordance with NFPA 414.

3.2.3.1 Mirrors. Combination flat and convex outside rearview mirrors will be installed on each side of the cab. The flat mirrors will be of the motorized remote control type, providing not less than 60° horizontal rotational viewing range. The flat mirrors will also have electrically heated heads. Mirror remote and heating controls will be located on the instrument panel within reach of the seated driver. To provide the driver a clear view of the area ahead of the vehicle and to eliminate potential blind spots, a rectangular mirror will be installed on the lower corner of each side of the windshield, having a minimum area of 35 square inches. The vehicle will have a back-up (rear-view) camera with a display monitor mounted above the driver in the cab. Cameras and monitors that are designed to replace the function of the side-view mirrors are not an approved option in this specification.

#### 3.3 Chassis and vehicle components.

3.3.1 <u>Engine</u>. The vehicle will have a turbocharged diesel engine that is certified to comply with the Environmental Protection Agency (EPA) and State of Arizona laws for off-highway emission requirements at the time of manufacture. The engine shall use selective catalyst reduction with urea treatment diesel emissions fluid to treat the exhaust. The engine shall not require an exhaust extraction or Ward No Smoke system. All performance standards shall be met using this clean air emissions engine. Vehicle engine shall be capable of meeting the specified performance standards while operating on commercial grade (#2) diesel fuel.

In computing vehicle engine power requirements for TIA, the engine shall be de-rated for both altitude and design temperature at TIA based on applicable SAE standards including:

- a. Not less than three percent (3%) de-rate for every 1000 feet above SAE conditions of 300 feet AMSL.
- b. Not less than one percent (1%) de-rate for every 10°F above SAE conditions of 77°F.

The engine and transmission must operate efficiently and without detrimental effect to any drive train components when lubricated with standard, commercially available lubricants according to the recommendations of the engine and transmission manufacturers.

- 3.3.1.1 <u>Acceleration.</u> The fully loaded vehicle will accelerate from 0 to 50 miles per hour (mph) on a level, paved road within 35 seconds.
- 3.3.1.2 <u>Maximum speed.</u> The fully loaded vehicle will attain a minimum top speed of 70 mph on a level, paved road.
- 3.3.1.3 <u>Pump and roll on a 40-percent grade</u>. The fully loaded vehicle will be capable of pump and roil operations on a paved, dry, and 40-percent grade in accordance with NFPA 414.
- 3.3.1.4 <u>Altitude.</u> The vehicle, including the pumping system, will be designed for operation at 2,641 feet above mean sea level.
- 3.3.2 <u>Engine cooling system.</u> The engine cooling system will be in accordance with NFPA 414. A label will be installed near the engine coolant reservoir reading "Engine Coolant Fill."
- 3.3.3 <u>Fuel system.</u> The fuel system will be in accordance with NFPA 414.
- 3.3.3.1 <u>Fuel priming pump.</u> The vehicle will be equipped with an electric or pneumatic fuel pump in addition to the mechanical fuel pump. The electric/pneumatic pump will be used as a priming pump capable of re-priming the engines fuel system.
- 3.3.3.2 <u>Fuel tank.</u> The vehicle will have one or two fuel tanks with a minimum usable capacity in accordance with NFPA 414, as amended by NFPA 414. Each tank will have a fill opening of 3 inches minimum, readily accessible to personnel standing on the ground and designed to prevent fuel splash while refueling. Each tank will be located and mounted so as to provide maximum protection from damage, exhaust heat, and ground fires. If more than one tank is furnished, means will be provided to assure equalized fuel level in both tanks. An overturn fuel valve will be provided for each tank to prevent spillage in the event of a rollover. Each fuel tank must be prominently labeled "Diesel Fuel Only".
- 3.3.4 <u>Exhaust system.</u> The exhaust system will be in accordance with NFPA 414. The exhaust system will be constructed of high grade rust resistant materials and protected from damage resulting from travel

over rough terrain. The muffler(s) will be constructed of aluminized steel or stainless steel. Exhaust system outlet(s) will be directed to the rear on the top, left side of the vehicle, away from personnel accessing equipment compartments and the engine air intake, and will not be directed toward the ground.

- 3.3.5 <u>Transmission.</u> A fully automatic transmission will be provided. The transmission will be in accordance with NFPA 414.
- 3.3.6 <u>Driveline</u>. The vehicle driveline will be in accordance with NFPA 414. If the driveline is equipped with a differential locking control, a warning/caution label will be placed in view of the driver indicating the proper differential locking/un-locking procedures. The operator's manual will also include a similar warning/caution. All moving parts requiring routine lubrication must have a means of providing for such lubrication. There must be no pressure lubrication fittings where their normal use would damage grease seals or other parts.
- 3.3.7 <u>Axle capacity.</u> Each axle will have a rated capacity, as established by the axle Manufacturer, in accordance with NFPA 414.
- 3.3.8 <u>Suspension.</u> The suspension system will be in accordance with NFPA 414 and AC 150/5220-10, *Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.* Manufacturer shall provide a continuous duty cycle lubrication system for suspension lubrication points and other mechanical equipment joints.
- 3.3.9 <u>Tires and wheels.</u> Tires and wheels will be in accordance with NFPA 414. The vehicle will be equipped with single tires and wheels at all wheel positions. The vehicle will be equipped with tubeless steel belted radial tires with non-directional on/off-road typed tread mounted on disc wheel assemblies. Tire and wheel assemblies will be identical at all positions. Tire and wheels will be certified by the Manufacturer for not less than 25 miles of continuous operation at 60 mph at the normal operational inflation pressure. A spare tire and wheel assembly will be provided; however, the spare tire and wheel assembly are not required to be mounted on the vehicle. Tires will be new. Retreads, recaps, or re-grooved tires will not be permitted. Tire bead locks shall be provided on all tires and rims.
- 3.3.10 <u>Towing connections</u>. The vehicle will be equipped with towing connections in accordance with NFPA 414. The vehicle will be designed for flat towing; the capability to lift and tow the vehicle is not required. The tow connections may intrude into the 30 degree approach angle.
- 3.3.11 <u>Brake system.</u> The vehicle will be equipped with a multi-channel all-wheel antilock brake system with at least one channel for each axle. The brakes will be automatic, self-adjusting and fully air-actuated. Brakes will be in accordance with CFR 49 CFR 393.40 through 393.42(b), 393.43, and 393.43 through 393.52. The braking system, complete with all necessary components will include:
  - a. Air compressor having a capacity of not less than 16 standard cubic feet per minute(scfm).
  - b. Air storage reservoir(s), each tank equipped with drain (bleed) valves, and with safety and check valves between the compressor and the reservoir tank.
  - c. Automatic moisture ejector on each air storage reservoir. Manual air tank drains are acceptable if they are labeled, are centrally located in one compartment and are accessible by an individual standing at the side of the vehicle.
  - d. Automatic slack adjusters on cam brakes or internal self-adjusting brakes on wedge brakes on all axles.
  - e. Spring set parking brakes.

All components of the braking system will be installed in such a manner as to provide adequate road clearance when traveling over uneven or rough terrain, including objects liable to strike and cause damage to the brake system components. No part of the braking system will extend below the bottom of wheel rims, to ensure, in case of a flat tire, that the weight of the vehicle will be supported by the rim and the flat tire and not be imposed on any component of the braking system. Slack adjusters and air chambers will be located above the bottom edge of the axle carrier.

- 3.3.11.1 <u>Air dryer.</u> A replaceable cartridge desiccant air dryer will be installed in the air brake system. The dryer will have the capability of removing not less than 95 percent of the moisture in the air being dried. The dryer will have a filter to screen out oil and solid contaminants. The dryer will have an automatic self-cleaning cycle and a thermostatically controlled heater to prevent icing of the purge valve.
- 3.3.11.2 <u>Vehicle-mounted auxiliary air compressor.</u> The vehicle shall be equipped with a 110 volt shoreline connected vehicle-mounted auxiliary air compressor. The 110V shoreline connection shall be flush mounted (not to extend outside the body line), located on the exterior of the vehicle, either on the left side rear corner of the cab, or at the rear of the vehicle.
- 3.3.12 <u>Steering.</u> The vehicle will be equipped with power steering. The rear tandem axle shall be equipped with mechanical self-steering to facilitate a tight cornering radius and to reduce tire scrubbing.
- 3.3.12.1 Steering effort. The steering system performance will be in accordance with NFPA 414.
- 3.3.12.2 <u>Turning diameter</u>. The fully loaded vehicle will have a wall to wall turning diameter of less than three times the overall length of the vehicle in both directions in accordance with NFPA 414.
- 3.3.13 <u>License plate bracket.</u> A lighted license plate bracket will be provided at the left rear and left front of the vehicle. The location of the left front bracket will be placed so as not to interfere with the operation of firefighting systems.
- 3.4 <u>Cab.</u> The vehicle will have a fully enclosed two door cab of materials which are corrosion resistant, such as aluminum, stainless steel, or glass reinforced polyester construction. Steps and handrails will be provided for all crew doors, and at least one grab handle will be provided for each crew member, located inside the cab for use while the vehicle is in motion. The lowermost step(s) will be no more than 22 inches above level ground when the vehicle is fully loaded. A tilt and telescoping steering column will be provided.
- 3.4.1 <u>Windshield and windows.</u> The windshield and windows will be of tinted safety glass. Each door window will be capable of being opened far enough to facilitate emergency occupant escape in the event of a vehicle accident. The vehicle windows will have an electric control system.
- 3.4.2 <u>Cab interior sound level.</u> The maximum cab interior sound level will be in accordance with NFPA 414.
- 3.4.3 <u>Instruments and controls.</u> All instruments and controls will be illuminated and designed to prevent or produce windshield glare. Gauges will be provided for oil pressure, coolant temperature, and automatic transmission temperature. In addition to the instruments and controls required by NFPA 414, the following will be provided within convenient reach of the seated driver:
  - a. Master warning light control switch,
  - b. Work light switch(es), and
  - c. Compartment "Door Open" warning light and intermittent alarm that sounds when a compartment door is open and the parking brakes are released or the transmission is in any position other than neutral.
- 3.4.4 <u>Windshield deluge system.</u> The vehicle will be equipped with a powered windshield deluge system. The deluge system will be supplied from the agent water tank and will have an independent pumping system. The deluge system activation switch will be located within reach of the seated driver and turret operator.
- 3.4.5 <u>Forward Looking Infrared (FLIR)</u>. A forward looking infrared (FLIR) camera and in-cab monitor, meeting the requirements of NFPA 414, will be provided. In addition, the FLIR monitor described in NFPA 414 will have a minimum dimension of 10 in (25 cm) (measured diagonally) and be located in a position where it is visible to both the seated driver and turret operator.
- 3.4.6 <u>Climate control system.</u> The Manufacturer's standard heater/defroster system shall be provided. The climate control system will induct at least 60 cubic feet per minute of fresh air into the cab. Cab mounted components will be protected from inadvertent damage by personnel.

The vehicle air conditioning (AC) system shall have a minimum capacity of 60,000 Btu and shall be driven from the vehicle engine. The AC system shall be integral with the vehicles heater/defroster unit, utilizing the same set of controls and vents. The AC system shall be charged with HFC-134a refrigerant.

Manufacturer shall provide a minimum 15,000 Btu, RV-style roof top stationary cab AC system for use during the extreme high ambient (105°F or greater) summertime climate in the Tucson area. This AC system shall operate while the vehicle is parked in the station and shall automatically transfer from shoreline power to vehicle generated power once vehicle engine is in operation. A rear mounted auto eject plug shall be provided for quick connect and eject for the stationary cab AC system.

- 3.4.7 <u>Seats.</u> The driver seat will be adjustable fore and aft and for height. The turret operator's seat, located to the right front of the driver's seat, will be a fixed (non-suspension) type. Each seat will be provided with a Type 3 seat belt assembly (i.e., 3-point retractable restraint) in accordance with CFR 49 CFR 571.209. Seat belts must be of sufficient length to accommodate crew members in full Personal Protective Equipment (PPE).
- 3.4.7.1. <u>Seat Options</u>. Two types of seat options are allowed in the vehicle. A standard seat contains a hard/fixed back. For these seats, a remote-mounted bracket designed to store a Self–Contained Breathing Apparatus (SCBA) will be provided. The remote-mounted bracket for the driver and turret operator (at a minimum) must be placed inside the cab. The brackets for seat positions #3 and #4 may be placed outside of the cab if necessary. An SCBA seat, on the other hand, contains an opening which can accommodate someone wearing an SCBA. The chart below represents the user's stated preference for the vehicle seating configuration.

Position	Standard	SCBA – Seat	N/A
Driver	X		
Turret		X	
#3			X
#4			X

- 3.4.8 <u>Windshield wipers and washer.</u> The vehicle will be equipped with electrically powered windshield wipers. The wiper arms and blades will be of sufficient length to clear the windshield area described by SAE J198, Windshield Wiper Systems Trucks. Individual wiper controls will include a minimum of two speed settings and an intermittent setting. The wiper blades will automatically return to a park position, out of the line of vision. The vehicle will be equipped with a powered windshield washer system, including an electric fluid pump, a minimum one gallon fluid container, washer nozzles mounted to the wiper arms (wet arms), and a momentary switch.
- 3.4.9 <u>Warning signs.</u> Signs that state "Occupants must be seated and wearing a seat belt when apparatus is in motion" will be provided in locations that are visible from each seated position in accordance with NFPA 414."
- 3.4.10 <u>Lateral accelerometer and/or stability control system.</u> The vehicle will be equipped with a lateral accelerometer and/or an electronic stability control system in accordance with NFPA 414.
- 3.4.11 <u>Monitoring and Data Acquisition System (MADAS).</u> The vehicle will be equipped with a MADAS as prescribed by NFPA 414.
- 3.4.12 <u>Driver's enhanced vision system</u>. The vehicle will be equipped with a Driver's Enhanced Vision System (DEVS) which meets the requirements of AC 150/5210-19A including low-visibility vision enhancement, navigation, and tracking.
- 3.5 Body, compartments, and equipment mounting.
- 3.5.1 <u>Body.</u> The vehicle will have a corrosion-resistant body.
- 3.5.2 <u>Compartments.</u> The vehicle body will have lighted compartments in accordance with NFPA 414 with a minimum of 10 cubic feet of enclosed storage space.

- 3.5.2.1 <u>Compartment doors.</u> Storage compartments will have clear anodized aluminum, counterbalanced, non-locking, roll-up or single hinged doors as determined by the Manufacturer. Door latch handles on roll-up doors will be full-width bar type. Door straps will be provided to assist in closing the compartment doors when the rolled up or hinged door height exceeds six feet above the ground.
- 3.5.2.2 <u>Scuffplates.</u> Replaceable scuff plates will be provided at each compartment threshold to prevent body damage from sliding equipment in and out of the compartments. The scuff plates will be securely attached to the compartment threshold but will be easily replaceable in the event of damage.
- 3.5.2.3 Drip rails. Drip rails will be provided over each compartment door.
- 3.5.2.4 <u>Shelves.</u> An adjustable and removable compartment shelf will be provided for every 18 inches of each vertical storage compartment door opening. Shelving adjustments will require no more than common hand tools, and will not require disassembly of fasteners. Shelves will support a minimum of 200 pounds without permanent deformation. Each shelf will be accessible to crew members standing on the ground or using a pull out and tip-down configuration. Each shelf will have drain holes located so as to allow for drainage of any water from the stowed equipment.
- 3.5.2.5 <u>Drainage mats.</u> Each compartment floor and shelf will be covered with a removable black mat designed to allow for drainage of any water from the stowed equipment.
- 3.5.3 <u>SCBA storage tubes.</u> A single compartment or tubes for storage of four SCBA bottles will be provided. If tubes are provided, two will be installed on each side of the vehicle. The tubes will be of sufficient size to accommodate the procuring agencies SCBA cylinders.
- 3.5.4 <u>Ladder, handrails, and walkways.</u> Ladder, stepping, standing, and walking surfaces will be in accordance with NFPA 414. Handrails will be provided in accordance with NFPA 414. The lowermost step(s) or ladder rungs will be no more than 22 inches (56 cm) above level ground when the vehicle is fully loaded. The lowermost steps may extend below the angle of approach or departure or ground clearance limits if they are designed to swing clear. The tread of the bottom steps must be at least 8 inches (20 cm) in width and succeeding steps at least 16 inches (40 cm) in width. The full width of all steps must have at least 6 inches (15 cm) of unobstructed toe room or depth when measured from, and perpendicular to, the front edge of the weight-bearing surface of the step.
- 3.5.5 <u>Ancillary equipment.</u> Ancillary equipment to be provided is listed in the exhibit attached to the PS. Manufacturer shall provide the ancillary equipment at delivery of the vehicle, and install, if required, the ancillary equipment on the vehicle.
- 3.6 Agent system.
- 3.6.1 <u>Agent (fire) pump.</u> The vehicle will be equipped with a centrifugal pump capable of providing the performance specified herein as prescribed by NFPA 414.
- 3.6.1.1 Agent system piping. All piping, couplings, and valves and associated components that come into contact with the agent will be in accordance with NFPA 414.
- 3.6.1.2 <u>Tank to pump connection.</u> A check valve and shutoff valve will be provided in each tank to pump line.
- 3.6.1.3 Piping, couplings, and valves. All agent system piping will conform to NFPA 414 criteria.
- 3.6.1.4 Overheat protection. The agent system will be equipped with an overheat protection system in accordance with NFPA 414. Overheat protection is not required on vehicles utilizing a pre-mixed pressurized foam system.
- 3.6.1.5 <u>Pressure relief valves.</u> The agent system will be equipped with pressure relief valves in accordance with NFPA 414.
- 3.6.1.6 Drains. The agent system will be equipped with a drainage system in accordance with NFPA 414.
- 3.6.2 <u>Water tank.</u> The vehicle will have a water tank with a Manufacturer certified minimum capacity of at least 3000 gallons.

- 3.6.2.1 <u>Water tank construction.</u> The water tank will be constructed of passivated stainless steel, polypropylene, or Glass Reinforced Polyester (GRP) construction. All materials used will be capable of storing water, foam concentrate, and water/AFFF solutions.
- 3.6.2.2 Water tank overhead fill cover and drain. The water tank will be equipped with a 20 inch fill tower. The tower will be designed to allow for video inspection of the water tank interior. The water tank will incorporate a drainage system in accordance with NFPA 414.
- 3.6.2.3 Water tank overflow system and venting. The water tank will incorporate a venting system to relieve pressure on the tank during fill and discharge operations at maximum flow rates. It will have an overflow system to relieve excess fluid in the event of tank overfill. Drainage from the vent and overflow system will not flow over body panels or other vehicle components and will not be in the track of any of the tires. Tank vent hoses will be of the non- collapsible type.
- 3.6.2.4 <u>Water tank top fill opening</u>. A top fill opening of not less than 8 inches internal diameter with a readily removable <sup>1</sup>/<sub>4</sub>-inch mesh strainer will be provided. The fill opening may be incorporated as part of the manhole cover, and will be sized to accommodate a 2½-inch fill hose.
- 3.6.2.5 <u>Water tank fill connections.</u> The water tank will incorporate National Hose thread connections, and will be in accordance with NFPA 414. Water tank fill connections shall be provided on both right and left sides of the vehicle.
- 3.6.3 <u>Foam system.</u> (**NOTE:** The requirements of section 3.6.3 do not apply to pre-mixed pressurized foam systems.)
- 3.6.3.1 <u>Foam concentrate tank.</u> The foam concentrate tank(s) will have a Manufacturer certified working capacity sufficient for two tanks of water at the maximum tolerance specified in NFPA 412, Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment for 3 to 6 percent foam concentrate (i.e., 7.0-percent).
- 3.6.3.1.1 <u>Foam tank construction.</u> The foam tank will be constructed of passivated stainless steel, polypropylene, or GRP construction. All materials used will be capable of storing foam concentrate.
- 3.6.3.1.2 <u>Foam tank drain.</u> The foam tank will incorporate a drain and drain valve. The valve will be on the left side of the vehicle and controlled by a crew member standing on the ground. The drain line will have a minimum 1½-inch I.D. The foam tank drain outlet will be located so that the contents of the tank can be drained into 5-gallon cans and 55-gallon drums.
- 3.6.3.1.3 Foam tank top fill trough. The foam tank will incorporate a top fill trough mounted in the top of the tank readily accessible to at least two crew members on top of the vehicle. The top fill trough will incorporate a cover, latch, and sealed so as to prevent spillage under any operating condition. The top fill trough will be designed to allow two standard 5 gallon foam concentrate containers to be emptied simultaneously. The top fill trough neck will extend sufficiently close to the bottom of the tank to reduce foaming to a minimum during the fill operation. The top fill trough will incorporate readily removable, rigidly constructed 10 mesh stainless steel, brass or polyethylene strainers. All components in and around the top fill trough will be constructed of materials that resist all forms of deterioration that could be caused by the foam concentrate or water.
- 3.6.3.2 Foam tank fill connections. The foam tank will incorporate a 1.5-inch National Hose thread female hose connection on the left side of the vehicle to permit filling by an external transfer hose at flow rates up to 25-gpm. The connections will be provided with chained-on long handled plugs or rocker lug plugs. The top of the connections will be no higher than 48 inches above the ground and readily accessible. The fill lines will incorporate check valves and readily removable, rigidly constructed ¼-inch mesh strainers. All components in the foam tank fill system will be constructed of materials that resist all forms of deterioration that could be caused by the foam concentrate or water.
- 3.6.3.2.1 <u>Foam tank vent and overflow system.</u> The foam tank will incorporate a vent system to relieve pressure on the tank during fill and discharge operations at maximum flow rates and an overflow system to relieve excess liquid in the event of tank overfill. Drainage from the vent and overflow system will not flow over body panels or other vehicle components and will not be in front of or behind any of the tires. Tank vent hoses will be of the non-collapsible type.

- 3.6.3.3 <u>Foam transfer pump.</u> A foam transfer pump will be provided and mounted in a compartment on the vehicle. The pump will be capable of transferring and drawing foam liquid concentrate at adjustable flow rates up to 25-gpm directly through the pump and loading connections (see 3.6.3.2). All materials and components that come in contact with the foam will be compatible with the foam concentrate. The pump and its plumbing will have provisions for flushing with water from the water tank. A suitable length of hose with appropriate connections will be provided for filling the foam tank from an external foam storage container.
- 3.6.3.4 <u>Foam flushing system.</u> The foam concentrate system will be designed in accordance with NFPA 414 so that the system can be readily flushed with clear water.
- 3.6.3.5 <u>Foam concentrates piping.</u> All metallic surfaces of the piping and associated components that come into contact with the foam concentrate will be of brass, bronze, or passivated stainless steel. The foam concentrate piping will be in accordance with NFPA 414.
- 3.6.4 <u>Foam proportioning system.</u> The vehicle will have a foam proportioning system for Aqueous Film-Forming Foam (AFFF) (whether 3- or 6-percent foam concentrate) in accordance with NFPA 414. If a fixed orifice plate system is used, a plate will be provided for each percentage foam concentrate; the additional plate will be securely mounted in a protected location on the vehicle. A fire vehicle mechanic will be able to interchange the plates using common hand tools.
- 3.6.5 <u>Primary vehicle turret.</u> The vehicle will be equipped with a standard roof-mounted turret, high reach extendable turret, and/or high flow bumper mounted turret to serve as the primary source of agent delivery, as specified below:
- 3.6.5.1 The vehicle will be equipped with a high reach extendable turret (capable of penetrating the second level of the New Large Aircraft (NLA) class of aircraft, in accordance with paragraph 3.6.5.2. The NLA class aircraft are equivalent to the 'Airplane Design Group VI' category, as specified in AC 150/5300-13, Airport Design.
- 3.6.5.2 <u>High Reach Extendable Turret.</u> (capable of penetrating all aircraft except the second level of an NLA). The high reach extendable turret (HRET) must be in accordance with NFPA 414 and will have the vertical and horizontal reach necessary to service the highest placed engine of the aircraft being serviced. It will have a non-air-aspirating, constant flow, variable stream nozzle with dual flow rates for foam or water rated as specified in NFPA 414. The discharge pattern will be infinitely variable from straight stream to fully dispersed. The type of nozzle or turret drain will be per the Manufacturer's recommendation. The ET will be controlled by one or two joysticks, each with a pistol grip handle, positioned for use by the driver and the crew member seated to the right of the driver (the turret operator). The cab design will provide clear visibility of the turret to both the driver and the turret operator with the turret in any position.
- 3.6.5.2.1 <u>Video camera and monitor.</u> The HRET will be equipped with a remote video camera and a cab mounted monitor. The system will be a complete video system consisting of a single color camera equipped with auto-focus and a cab controlled zoom. The camera/lens assembly will be protected from the heat of the fire and from the same climatic extremes as the truck. A color video monitor with a minimum dimension of 10 inches (measured diagonally) will be positioned in the cab within view of both the driver's and the turret operator's seated positions. One monitor may be provided for both the FLIR (see 3.4.5) and the camera with a switch to change between the FLIR and the camera.
- 3.6.5.2.2 <u>Aircraft skin penetrator</u>. The HRET will be equipped with an aircraft skin penetrator and agent application tool. The skin penetrator will be a minimum of 20 inches long, installed at the tip of the HRET, and connected to the water/AFFF agent discharge line. Agent application through the skin penetrator must be capable of the minimum water/flow rate and pattern requirements of NFPA 414, Tables 4.1.1(c) and 4.1.1(d) and shall controlled from the cab. The penetrating nozzle must be movable to allow for proper alignment of the penetrator to the aircraft fuselage for piercing operations. The HRET shall have a lift point with the ability to lift up to 500-lbs. in any boom position above or below grade. The HRET tip shall have a 1½-in. NSFHT connection for use with soft jacketed hose for interior hand line attack.
- 3.6.6 <u>Bumper turret.</u> The vehicle will be equipped with a joystick controlled, constant flow, non-air-aspirating, variable stream type, fixed mount, high volume, dual rate (minimum 600/1200 gpm) bumper turret. The bumper turret will be capable of discharging at a minimum flow rate of foam or water as

specified by the user, with a pattern infinitely variable from straight stream to fully dispersed. The bumper turret will be capable of automatic oscillation, with the range of oscillation adjustable up to  $90^{\circ}$  each side of center (left and right) with vertical travel capabilities of  $+45^{\circ}/-20^{\circ}$  meeting section 4.20.2 in NFPA 414.

- 3.6.7 <u>Preconnected hand line(s)</u>. The vehicle shall be equipped with two (2) 200-foot, 1¾-inch preconnected hand lines located on (or accessible from) <u>each</u> side of the vehicle. Hand lines shall be woven jacket type equipped with a 1½-inch control valve and a pistol grip nozzle. A safety system will be provided to prevent charging of the hose until the hose has been fully deployed. The hand lines and nozzles will be in accordance with NFPA 414, and will allow for a minimum of 95 gpm at 100 psi nozzle pressure. A control for independently charging each hand line by both the driver and the turret operator shall be provided.
- 3.6.7.1 The vehicle shall be equipped with one (1) 100-ft., 1-in. twin agent (dry chemical / foam-water) hose reel on the right side of the vehicle; and, with one (1) 150-ft., 1-in. foam-water hose reel with a discharge rate of 95gpm on the left side of the vehicle.
- 3.6.8 <u>Under-truck nozzles.</u> The vehicle shall be equipped with under-truck nozzles discharging foam/water solution in an effective spray pattern to protect the underside of the vehicle and the inner sides of the wheels and tires. Minimum requirements are:
  - a. Not less than four (4) under truck nozzles shall be provided
  - b. Flow rates shall be per NFPA 414 standards 2012 edition.
  - c. All controls shall be placed in the cab convenient to the driver.
- 3.6.9 <u>Primary turret discharge nozzle.</u> The vehicle will be equipped with a combination dry chemical/AFFF nozzle of the entrainment type on the primary turret mounted on the front bumper.
- 3.7 <u>Dry chemical agent system.</u> The vehicle will be equipped with a 450 lb. minimum capacity potassium bicarbonate dry chemical auxiliary agent system. The propellant gas cylinder will be replaceable within fifteen minutes by two crew members standing on the ground and be equipped with a cylinder replacement hoisting system. The propellant gas cylinder will be secured to withstand off-road operations. A pressure indicator will be visible to any person opening the tank fill cap. Blow-down piping will be directed beneath the vehicle. The dry chemical agent tank will include lifting rings and will have a nameplate indicating, as a minimum, the following:
  - d. Extinguishing agent.
  - e. Capacity.
  - f. Weight full.
  - g. Weight empty.
  - h. Operating pressure.
  - i. Hydrostatic test date.
  - j. Type of agent required for re-servicing.
- 3.7.1 <u>Dry chemical primary turret discharge nozzle.</u> The vehicle will be equipped with a turret mounted on the front bumper with a combination dry chemical/AFFF turret of the concentric direct injection type, designed to entrain the dry chemical agent within the AFFF solution discharge. Dry chemical discharge control will be within reach of the driver and the turret operator.
- 3.7.2 <u>Dry chemical hose reel.</u> A hose reel, equipped with at least 100 feet of dry chemical hose, will be mounted in a compartment. Hand line agent and purge controls will be mounted in or adjacent to the compartment. All electrical components will be sealed against entry of water. The hose reel will have both electric and manual rewind provisions. The manual rewind handle will be bracket mounted and stored in the compartment. A quick acting control will be provided to activate the hand line from the cab of the vehicle.
- 3.8 Halogenated agent system.

- 3.8.1 A 460 lb. Halotron I clean agent system including an agent storage container, a hose reel and an argon propellant cylinder will be provided. The agent storage container will conform to ASME standards for unfixed pressure vessels. The system will be capable of discharging a minimum of 90% of the containerized agent without flow fluctuations or interruptions. The propellant gas cylinder will be replaceable within fifteen minutes by two crew members standing on the ground and be equipped with a cylinder replacement hoisting system. The propellant gas cylinder will be secured to withstand off-road operations. A pressure indicator will be visible to any person opening the tank fill cap. Blow-down piping will be directed beneath the vehicle. The Halotron I agent tank will include lifting rings and will have a nameplate indicating, as a minimum, the following:
  - a. Extinguishing agent.
  - b. Capacity.
  - c. Weight full.
  - d. Weight empty.
  - e. Operating pressure.
  - f. Hydrostatic test date.
  - g. Type of agent required for re-servicing.
- 3.8.2 <u>Halotron I hose reel.</u> A Halotron I hose reel will be provided in a compartment on the side of the vehicle. The reel will include 150 ft. of 1 inch booster type hose and an appropriate nozzle. The hose reel will be equipped with an electric rewind motor with manual rewind provisions and rollers to facilitate hose deployment. A tension device will be installed to prevent the hose from inadvertently unreeling. The nozzle will be capable of discharging a minimum of 5 lb./sec. of Halotron I agent in accordance with the performance requirements of the A/C. Controls at the reel will allow charging of the Halotron I agent in the agent storage container, and into the hand line.
- 3.8.3 <u>Halotron I system charging cylinder.</u> One (1) 400 cu. Ft. argon cylinder with an integral pressure gauge bottle will be provided for discharging the vehicle mounted Halotron I system. One (1) spare 400 cu. ft. argon cylinder will be provided. Each cylinder will have sufficient capacity to discharge all of the Halotron I agent in the agent storage container and perform a blow down operation of the system without requiring a cylinder change. A means of lifting the argon cylinder to its stored position or lowering it to ground level will be provided. The design will be such that it will allow one person to safely perform the argon cylinder re-servicing on the vehicle. The lifting/lowering mechanism will be stored on the vehicle adjacent to the nitrogen cylinder storage area. This storage provision must accommodate for the braking and for the high G forces experienced during off road travel as described in this specification.
- 3.9 <u>Electrical systems and warning devices.</u> The vehicle will have a 12-volt or 24-volt electrical and starting system in accordance with NFPA 414.
- 3.9.1 <u>Alternator.</u> An appropriate charging system, in accordance with NFPA 414, will be provided. The minimum continuous electrical load will include operation of the air conditioning system.
- 3.9.2 <u>Batteries</u>. Batteries will be of the maintenance-free type; addition of water will not be required during normal service life. The battery cover and vent system will be designed to prevent electrolyte loss during service and to keep the top of the battery free from electrolyte.
- 3.9.2.1 <u>Battery compartment.</u> The batteries will be enclosed in a weatherproof enclosure, cover, or compartment and be readily accessible.

- 3.9.3 <u>Battery charger or conditioner.</u> The vehicle will have a DC taper type battery charger or an automatic battery conditioner, or voltage monitoring system, providing a minimum 12 amp output. The charger/conditioner will be permanently mounted on the vehicle in a properly ventilated, accessible location. The charger/conditioner will be powered from the electrical shoreline receptacle (see 3.10.1). A charging indicator will be installed next to the receptacle. When a battery conditioner is provided, the conditioner will monitor the battery state of charge and, as necessary, automatically charge or maintain the batteries without gassing, depleting fluid level, overheating, or overcharging. A slave receptacle will be provided at the rear or on either side of the vehicle cab. Battery jump studs may be installed on the exterior of the battery box in lieu of a slave receptacle.
- 3.9.4 <u>Electromagnetic interference.</u> The vehicle electrical system will be in accordance with SAE J551-2 for electromagnetic interference.

#### 3.9.5 Work lighting.

- 3.9.5.1 <u>Cab interior lights.</u> Cab interior light levels will be sufficient for reading maps or manuals. At least one red and one white cab interior dome light will be provided.
- 3.9.5.2 <u>Compartment lights.</u> White lighting sufficient to provide an average minimum illumination of 1.0 foot-candle will be provided in each compartment greater than 4.0 cubic feet and having an opening greater than 144 square inches. Where a shelf is provided, this illumination will be provided both above and below the shelf. All compartments will be provided with weatherproof lights that are switched to automatically illuminate when compartment doors are opened and the vehicle master switch is in the 'on' position. Light switches will be of the magnetic (non-mechanical) type.
- 3.9.5.3 <u>Ladder, step, walkway, and area lights.</u> Non-glare white or amber lighting will be provided at ladders and access steps where personnel work or climb during night operations. In addition, ground lighting will be provided. Ground lights will be activated when the parking brake is set in accordance with AC 150/5220-10, *Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.* These area lights will be controlled with three-way switches on the cab instrument panel and near the light sources. The switch located in the cab will be a master switch and must be turned on before auxiliary switches near the light sources are operational.
- 3.9.5.4 <u>Spot/Floodlights.</u> Two spot/floodlights will be attached at the end of the primary turret or at the end of the HRET assembly. The lights will illuminate the area covered by the turret. Both lights will be controlled from switches in the cab. <u>LED</u> lights will be used.
- 3.9.5.5 <u>Flood Lights.</u> Two fixed 250W LED floodlights will be provided. One light will be mounted on the left and the right side of the vehicle. Both lights will be controlled from switches in the cab and will be powered by the auxiliary generator.
- 3.9.5.6 <u>Scene Lights.</u> A total of six high mounted floodlights will be provided to illuminate the work areas around the vehicle. Two lights will be mounted on the front and two will be mounted on each side of the vehicle. The lights will be powered by the vehicle alternator driven system or auxiliary generator, and the lights in the front will be controlled from switches in the cab. <u>LED</u> lights will be used.

#### 3.9.6 Audible warning devices.

- 3.9.6.1 <u>Siren.</u> The vehicle will be equipped with a streamlined electro-mechanical siren, long distance clearing, producing one hundred and twenty-three (123) decibels at ten (10) feet. of the driver and the turret operator. Siren activating foot switches will be located in front of the driver and the turret operator. The siren speaker will be rated at 100 watts minimum and will be located in a guarded position as low and as far forward on the vehicle as practical.
- 3.9.6.2 <u>Horn.</u> Dual forward facing air horns will be installed in protected locations near the front of the vehicle. Air horn activating foot switches will be located in front of the driver and the turret operator.
- 3.9.7 <u>Emergency warning lights.</u> All emergency warning lights must meet the requirements of AC 150/5210-5. Where applicable, <u>LED</u> lights will be used as the primary light type. Lighting units will be installed on the top front, sides, and rear of the vehicle to provide 360° visibility. A switch will be provided on the instrument panel to control all of the top, side, front and rear emergency warning lights. A

switch will also be provided on the instrument panel to disable all lower emergency warning lights when desired. All lighting systems will meet NFPA 414 emergency lighting criteria.

- 3.9.7.1 <u>Emergency warning light color.</u> All emergency warning lights will meet the requirements of AC 150/5210-5D *Painting, Marking, and Lighting of Vehicles Used on Airport.*
- 3.9.7.2 <u>Headlight flashing system.</u> A high beam, alternating/flashing, headlight system will be provided. The headlight flasher will be separately switched from the warning light panel.
- 3.9.8 <u>Radio circuit.</u> The vehicle will have three separate 30 amp circuits with breakers and connections provided in a readily accessible space adjacent to the driver and turret operator for installation of radios and other communications equipment by others after the vehicle has been delivered.

#### 3.9.9 Power receptacles.

- 3.9.9.1 <u>Primary power receptacles.</u> The vehicle will have two duplex 15-amp 110-volt power receptacles, one installed adjacent to the cab door on each side of the vehicle. Each duplex receptacle will include one straight blade and one twist-lock connection. These outlets will be powered by the generator.
- 3.9.9.2 <u>Auxiliary power receptacles.</u> The vehicle will have 2-12-volt auxiliary power receptacles mounted adjacent to the driver and crew member positions, preferably in the instrument panel.
- 3.9.9.3 <u>Cable Reel.</u> The vehicle will be equipped with an electrical cable reel, located within a compartment. The reel will be equipped with 200 feet of 20 amp, 600 volt, 90°C insulated electrical cable. The electrical cable will be equipped with a rubber ball stop to prevent cable pull through during rewinding operations. A four-way roller guide will be provided on the cable reel to prevent chafing of cable insulation. The cable reel will have an electric rewind motor with provisions for manual rewind in the event of motor failure; the manual rewind handle will be securely stored near the cable reel. A portable weatherproof duplex outlet box, with built-in circuit breakers and twist-lock receptacles, will be provided for on the cable end. The cable reel will be powered by the auxiliary generator.
- 3.9.10 <u>Auxiliary generator.</u> A minimum <u>10</u> kilowatt (kW) (continuous rating), 120/240-volt, 60 hertz, diesel, hydraulic, or split shaft Power Takeoff (PTO)-driven generator will be provided.

#### 3.10 Line voltage electrical system.

3.10.1 <u>Electrical shoreline connection.</u> The battery charger/conditioner will be powered from a covered, polarized, insulated, labeled, recessed (flush mounted), male, 110 volt AC auto-eject receptacle. The connection will be located on the exterior of the vehicle at the rear or on either side of the cab. A weatherproof charge meter will be installed next to the receptacle. A 15 amp rated, 110-120-volt, AC straight blade (non twist-lock) connector will be provided.

#### 3.11 Air systems.

- 3.11.1 <u>Air hose reel.</u> An air hose reel will be provided in an enclosed compartment on the vehicle. The hose reel will be equipped with 200 feet of 3/8-inch I.D hose line. A 3/8 inch National Pipe Taper (NPT) fitting and female style quick disconnect will be connected to the end of the hose line. A four-way roller guide will be provided for the hose reel to prevent hose chafing and kinking. The hose line will be equipped with a rubber ball stop to prevent hose pull through on roller guides during rewinding operations. The hose reel will have an electric rewind motor and provisions for manual rewind in the event of motor failure; the manual rewind handle will be securely stored near the hose reel. A pressure protected air supply from the chassis air system will be connected to the hose reel. The air supply lines will be routed with minimum bends and located or guarded from damage from the carried equipment.
- 3.12 Quality of Workmanship. The vehicle, including all parts and accessories, will be fabricated in a thoroughly workmanlike manner. Particular attention will be given to freedom from blemishes, burrs, defects, and sharp edges; accuracy of dimensions, radii of fillets, and marking of parts and assemblies; thoroughness of welding, brazing, soldering, riveting, and painting; alignment of parts; tightness of fasteners; et cetera. The vehicle will be thoroughly cleaned of all foreign matter.
- **4. REGULATORY REQUIREMENTS.** (moved to Procurement Documents, Supplemental Conditions)

#### 5. PRODUCT CONFORMANCE PROVISIONS.

- 5.1 <u>Classification of inspections.</u> The inspection requirements specified herein are classified as follows:
  - a. Performance inspection (see 5.2).
  - b. Conformance inspection (see 5.3).
- 5.2 <u>Performance inspection.</u> The vehicle will be subjected to the examinations and tests described in 5.6.3.1 through 5.6.3.5 (if applicable). The Manufacturer will provide or arrange for all test equipment, personnel, schedule, and facilities.
- 5.3 <u>Conformance inspection.</u> The vehicle will be subjected to the examinations and tests described in 5.6.3.1 through 5.6.3.5 (if applicable). The Manufacturer will provide or arrange for all test equipment, personnel, schedule, and facilities.
  - All final performance and acceptance testing shall be conducted at TIA subsequent to delivery and demonstrated compliance with these specifications except for those tests which require specific facilities not available at TIA.
  - b. Prior to delivery of the completed vehicle to TAA, a pre-delivery inspection by three (3) TAA personnel shall be conducted at the Manufacturer's facility. The Manufacturer shall provide full access to the vehicle, manufacturer's production facilities and all documents pertinent to this specific vehicle, and carry out such tests as may be requested by TAA representatives to determine compliance with these specifications. The Manufacturer shall make all necessary changes to the vehicle to bring any deficiencies into line with these specifications prior to delivery. Airfare, lodging and transportation for the TAA personnel shall be included in the price of the vehicle.
- 5.4 <u>Product conformance.</u> The products provided will meet the performance characteristics of this specification, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The purchaser reserves the right to require proof of such conformance.
- 5.5 <u>Technical proposal.</u> (moved to Procurement Documents, Supplemental Conditions)
- 5.6 <u>Inspection requirements.</u>
- 5.6.1 <u>General inspection requirements.</u> Apparatus used in conjunction with the inspections specified herein will be laboratory precision type, calibrated at proper intervals to ensure laboratory accuracy.
- 5.6.2 <u>Test rejection criteria.</u> Throughout all tests specified herein, the vehicle will be closely observed for the following conditions, which will be cause for rejection:
  - a. Failure to conform to design or performance requirements specified herein or in the Manufacturer's technical proposal.
  - b. Any spillage or leakage of any liquid, including fuel, coolant, lubricant, or hydraulic fluid, under any condition, except as allowed herein.
  - c. Structural failure of any component, including permanent deformation, or evidence of impending failure.
  - d. Evidence of excessive wear.
  - e. Interference between the vehicle components or between the vehicle, the ground, and all required obstacles, with the exception of normal contact by the tires.
  - f. Misalignment of components.
  - g. Evidence of undesirable roadability characteristics, including instability in handling during cornering, braking, and while traversing all required terrain.
  - h. Conditions that present a safety hazard to personnel during operation, servicing, or maintenance.
  - i. Overheating of the engine, transmission, or any other vehicle component corrosion.

- j. Evidence of corrosion.
- k. Failure of the firefighting system and sub-systems.

#### 5.6.3 <u>Detailed inspection requirements.</u>

5.6.3.1 Examination of product. All component Manufacturers' certifications, as well as the prototype and production/operational vehicle testing outlined in Table 1, will be examined to verify compliance with the requirements herein. Attention will be given to materials, workmanship, dimensions, surface finishes, protective coatings and sealants and their application, welding, fastening, and markings. Proper operation of vehicle functions will be verified as defined by NFPA 414, Acceptance Criteria chapter. A copy of the vehicle Manufacturer's certifications will be provided with each vehicle in accordance with NFPA 414. The airport may accept a Manufacturer or third party certification for any/all prototype and production/operational vehicle testing performed prior to delivery which proves that the vehicle meets the performance parameters of NFPA 414.

Table 1. Vehicle Test Data

NFPA 414	Test
paragraph	
Production Vehicle Operational Test (NFPA 414 – Section 6.4)	
(6.4.1)	Vehicle Testing, Side Slope
(6.4.2)	Weight / Weight Distribution
(6.4.3)	Acceleration. <b>NOTE:</b> With the modification that the instrument must be a GPS-based electronic data collection system.
(6.4.4)	Top Speed
(6.4.5)	Brake Operational Test
(6.4.6)	Air System / Air Compressor Test
(6.4.7)	Agent Discharge Pumping Test
(6.4.8)	Dual Pumping System Test (As Applicable)
(6.4.9)	Pump and Maneuver Test
(6.4.10)	Hydrostatic Pressure Test
(6.4.11)	Foam Concentration Test
(6.4.12)	Primary Turret Flow Rate Test
(6.4.13)	Piercing/Penetration Nozzle Testing (As Applicable)
Prototype Vehicle Tests (NFPA 414 – Section 6.3)	
(6.3.1)	Rated Water and Foam Tank Capacity Test
(6.3.2)	Cornering Stability. <b>NOTE:</b> With the modification that the evasive maneuver / double-lane change test must be conducted at 35 mph (56 kph)
(6.3.3)	Vehicle Dimensions

NFPA 414	Test
paragraph	
(6.3.4)	Diver Vision Measurement
(6.3.5)	Pump and Roll on a 40 Percent Grade
(6.3.6)	Electrical charging System
(6.3.7)	Radio Suppression
(6.3.8)	Gradability Test
(6.3.9)	Body and Chassis Flexibility Test

(6.3.10)	Service/Emergency Brake Test
(6.3.11)	Service/Emergency Brake Grade Holding Test
(6.3.12)	Steering Control Test
(6.3.13)	Vehicle Clearance Circle Test
(6.3.14)	Agent Pump(s)/Tank Vent Discharge Test
(6.3.15)	Water Tank Fill and Overflow Test
(6.3.16)	Flushing System Test
(6.3.17)	Primary Turret Flow Rate Test
(6.3.18)	Primary Turret Pattern Test
(6.3.19)	Primary Turret Control Force Measurement
(6.3.20)	Primary Turret Articulation Test
(6.3.21)	Handlin Nozzle Flow Rate Test
(6.3.22)	Handlin Nozzle Pattern Test
(6.3.23)	Ground Sweep/Bumper Turret Flow Rate Test
(6.3.24)	Ground Sweep/Bumper Turret Pattern Control Test
(6.3.25)	Under truck Nozzle Test
(6.3.26)	Foam Concentration/Foam Quality Test
(6.3.27)	Warning Siren Test
(6.3.28)	Propellant Gas
(6.3.29)	Pressure Regulation
(6.3.30)	AFFF Premix Piping and Valves
(6.3.31)	Pressurized Agent Purging and Venting
(6.3.32)	Complementary Agent Handlin Flow Rate and

	Range
(6.3.33)	Dry Chemical Turret Flow Rate and Range
(6.3.34)	Cab Interior Noise Test

#### 6. PACKAGING.

- 6.1 Preservation, packing, and marking will be as specified in the Procurement Specification, contract or delivery order.
- 6.2 The vehicle must be delivered with full operational quantities of lubricants, brake and hydraulic fluids, and cooling system fluid all of which must be suitable for use in the temperature range expected at the airport.
- 6.3 At Final Acceptance, after successful completion of all performance and conformance testing, the vehicle must be delivered with one complete load of firefighting agents and propellants. One complete load is defined as all of the agents and propellants necessary for the vehicle to be fully operational. One load shall include, at a minimum, one fill of a foam tank; one fill of a dry chemical tank (if applicable); one fill of a halogenated tank (if applicable); one spare nitrogen cylinder for a dry chemical system (if applicable); and one spare argon cylinder for a halogenated system (if applicable). Agents and propellants for required testing or training are to be provided by the Manufacturer in addition to this requirement. For the initial training period, water may be used in place of other extinguishing agents. The Manufacturer may pre-ship agents and propellants to a receiving airport to reduce overall procurement costs.
- 6.4. The vehicle Manufacturer must provide initial adjustments to the vehicle for operational readiness and mount any ancillary appliances purchased through the vehicle Manufacturer as part of the vehicle.

#### 7. TRAINING.

- 7.1 Upon delivery of the vehicle to the airport, the Manufacturer must, at no additional cost, provide the services of a qualified technician for five consecutive days (or up to eight days for a high reach extendable turret) for training. This is considered sufficient time for the purchaser to adjust shift work schedules to get maximum employee attendance to training sessions at some point during the training period. During this time sufficient repetitive learning opportunities must be provided by the Manufacturer to allow various shifts to complete the training requirements.
- 7.2 The technician must provide thorough instruction in the use, operation, maintenance and testing of the vehicle. This setup must include operator training for the primary operators, which will give them sufficient knowledge to train other personnel in the functional use of all firefighting and vehicle operating systems. Prior to leaving the vehicle, the technician should review the maintenance instructions with the purchaser's personnel to acquaint them with maintenance procedures as well as how to obtain support service for the vehicle.
- 7.3 Training must include written operating instructions, electronic training aids (videos/power point), or other graphics that depict the step-by-step operation of the vehicle. Written instructions must include materials that can be used to train subsequent new operators.

#### 8. REFERENCED DOCUMENTS.

- 8.1 Source of documents.
- 8.1.1 The CFR may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.
  - a. Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports (14 CFR Part 139)
    - Section 139.315 Aircraft Rescue and Firefighting: Index Determination.
    - Section 139.317 Aircraft Rescue and Firefighting: Equipment and Agents.

- Section 139.319 Aircraft Rescue and Firefighting: Operational Requirements.
- b. Title 49; Code of Federal Regulations (CFR), Part 393: Parts and Accessories Necessary for Safe Operation: Subpart C—Brakes.
- c. Title 49; Code of Federal Regulations (CFR), Part 571, Motor Carrier Vehicle Safety Standards, Part 209, Standard No. 209; Seat Belt Assemblies.
- 8.1.2 SAE documents may be obtained from SAE, Inc., 400 Commonwealth Drive, Warrendale PA 15096.
- 8.1.3 <u>National Fire Protection Association (NFPA):</u> NFPA documents may be obtained from NFPA, Batterymarch Park, Quincy MA 02269-9101.
  - a. NFPA 412, Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment (2014 Edition)
  - b. NFPA 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2012 Edition)
  - c. NFPA 1901, Standard for Automotive Fire Apparatus (2009 Edition)
- 8.1.4 <u>Federal Aviation Administration (FAA):</u> FAA ACs may be obtained from the FAA website: <a href="http://www.faa.gov/regulations">http://www.faa.gov/regulations</a> policies/advisory circulars/
  - a. AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles
  - b. AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport

#### **Optional Equipment**

This list of optional equipment is to be used for pricing purposes and will not be used in any way as a basis for award of contract. Although TAA is under no obligation to accept any, all, some or any combination of options listed, Bidders shall provide price quotations for each option.

Prices shall be for each option in its entirety, including installation as appropriate. Unit price, where applicable within an option, shall not be acceptable. If the option is not offered, so state; do not enter a "no-bid". If the option is included as a "standard item" on the vehicle bid, state "standard". If any option should extend the total anticipated time of vehicle production/delivery, bidder shall so state and include the specific time element predicted.

#### Par. 3.4.12 Driver's enhanced vision system:

The vehicle will be equipped with a Driver's Enhanced Vision System (DEVS) which meets the requirements of AC 150/5210-19A including Low-Visibility Vision Enhancement, Navigation, and Tracking.

#### Par. 3.3.12 Steering:

The rear tandem axle shall be equipped with mechanical self-steering.

#### Par. 3.3.8 Suspension:

The vehicle shall be equipped with an all-wheel independent suspension to meet the desired ride quality and handling characteristics described in Par. 3.1.6.1 for an off-road high mobility vehicle.

#### **Ancillary Equipment**

This list of ancillary equipment will be used for pricing purposes and will not be used in any way as a basis for award of contract. Although TAA is under no obligation to accept any, all, some or any combination of equipment listed below. Bidders shall submit prices on the following ancillary equipment.

Prices shall be for each equipment item in its entirety, including installation as appropriate. Unit price, where applicable for an equipment item, shall not be acceptable. If the equipment item is not offered, so state; do not enter a "no-bid". If the equipment item is included as a "standard item" in the vehicle bid, state "standard". If inclusion of any equipment item should extend the total anticipated time of vehicle production/delivery, bidder shall so state and include the specific time delay associated with the equipment item.

- 1. Three (3) 4.5 SCOTT 50 Series SCBA with quick refill, buddy breath system, built-in pass alarm, REC connection shall be provided, with three (3) spare 4.5 bottles for extended operational time; all bottles to have 45 minute rating.
- 2. One (1) Gas engine driven, positive pressure ventilator equipped with pneumatic tires and lever action tilt. Ventilator shall provide a minimum of 16,000 cfm and shall have the capability to tilt from +20° to -10°. Ventilator shall be stored in dedicated compartment space on vehicle.
- 3. One (1) Gas engine driven, rescue saw equipped with 16 inch carbide tipped blade, decompression valve, and carrying sling, complete with two (2) spare 16 inch blades.
- 4. One (1) Hand-held Thermal Imaging Camera, base weight not to exceed 3 pounds or 12 inches in height, supplied by integral battery pack. Include spare integral battery pack and vehicle charging system.
- 5. One (1) Crash Rescue Tool Kit to support rescue operations and forcible entry. Provide the following items with the vehicle.
  - a. One (1) Reciprocating saw, not battery powered.
  - b. One (1) 16 foot NFPA compliant roof ladder, 750 lbs., aluminum, channel rail type
  - c. One (1) 25 foot section of yellow, rubber-covered, 5-in. hose with Storz connectors

- 750 psi pressure rating
- d. 600 feet of 1.75 inch red, 100% polyester, EPDM rubber-lined, double-jacket fire hose, 600 pound test, supplied in 50 foot lengths
- e. One (1) 1.5-in., 125 gpm, pistol grip Akron Assault Nozzle
- f. Two (2) Low pressure lifting bags, 16psi or less, lifting height up to 43 inches, insertion height 1.2 inch with complimentary hoses, gauges and control valves
- g. One (1) Rocker lug spanner wrench set with mounted base
- h. One (1) Storz spanner wrench set with mounted base
- i. One (1) Halligan tool, one piece with mounting hardware
- j. One (1) Crowbar, pinch point, 60 inches with mounting hardware
- k. Two (2) Streamlight Fire Vulcan LED hand held lights, 12 volt charger base
- I. Two (2) Harness cutting tools, V-blade with replacement blades
- 6. Hand-Held, Portable Fire Extinguishers to be supplied with vehicle:
  - a. One (1) 15.5 pound Halotron extinguisher with heavy duty mounting bracket
  - b. One (1) 30 pound Class D extinguisher with heavy duty mounting bracket
  - c. One (1) 20 pound Purple K extinguisher with heavy duty mounting bracket
  - d. One (1) 2.5 gallon water extinguisher with heavy duty mounting bracket.

# CONTRACT AGREEMENT Tucson Airport Authority 10113300 ARFF Class 5 Vehicle AIP\_pending\_\_\_/ ADOT\_pending\_\_\_\_\_

THIS AGREEMENT, made as o	of, is
BY AND BETWEEN	
The Tucson Airport Authority:	Tucson Airport Authority 7005 S. Plumer Avenue Tucson, AZ 85756
And the CONTRACTOR:	
WITNESSETH:	
WHEREAS it is the intent of t Authority generally described as	he Tucson Airport Authority to purchase equipment for the Tucson Airpor follows;
ARFF Class 5 Vehicle	

NOW THEREFORE in consideration of the mutual covenants hereinafter set forth, Tucson Airport Authority and CONTRACTOR agree as follows:

#### Article 1 - Work

hereinafter referred to as the Project.

It is hereby mutually agreed that for and in consideration of the payments as provided for herein to the CONTRACTOR by the Tucson Airport Authority, CONTRACTOR shall faithfully furnish all necessary labor, equipment, and material and shall fully perform all necessary work to complete the Project in strict accordance with this Contract Agreement and the Contract Documents.

#### Article 2 - Contract Documents

CONTRACTOR agrees that the Contract Documents consist of the following: this Contract Agreement, Invitation to Bidders, Instructions to Bidders, General Terms and Conditions, Supplementary Provisions, Technical Specifications and Drawings, Bid Form with attachments, DBE Forms, all issued addenda, Notice to Proceed and any document incorporated in whole or in part by reference and

associated attachments, Required Bonds, Insurance certificates, documents incorporated by reference, documents incorporated by attachment, and all Tucson Airport Authority authorized change orders issued subsequent to the date of this Contract Agreement. All documents comprising the Contract Documents are complementary to one another and together establish the complete terms, conditions and obligations of the CONTRACTOR. All said Contract Documents are incorporated by reference into the Contract Agreement as if fully rewritten herein or attached thereto.

#### Article 3 – Contract Price

In consideration	of the	faithful	l performand	ce and o	completi	on of the	Work by	the	CONT	RACTO	OR in
accordance with	the Co	ontract I	Documents,	Tucson	Airport	Authority	shall pay	the	CONTR	RACTO	R an
amount equal to:											

(Amount in Written Words)

(Amount in Numerals)

subject to the following;

- a. Said amount is based on the schedule of prices and estimated quantities stated on CONTRACTOR'S Bid Form, which is attached to and made a part of this Contract Agreement;
- b. Said amount is the aggregate sum of the result of the CONTRACTOR'S stated unit prices and all applicable taxes multiplied by the associated estimated quantities;

#### Article 4 - Payment

Upon completion of the Work and its acceptance by the Tucson Airport Authority, all sums due the CONTRACTOR by reason of faithful performance of the Work, taking into consideration additions to or deductions from the Contract price by reason of alterations or modifications of the original Contract, will be paid to the CONTRACTOR by the TUCSON AIRPORT AUTHORITY after said completion and acceptance.

The acceptance of final payment by the CONTRACTOR shall be considered as a release in full of all claims against the Tucson Airport Authority, arising out of, or by reason of, the Work completed and materials furnished under this Contract.

Tucson Airport Authority shall make progress payments to the CONTRACTOR in accordance with the terms set forth in the General Terms and Conditions.

#### Article 5 - Contract Time

The CONTRACTOR agrees to commence work within 30 calendar days of the date specified in the Tucson Airport Authority's Notice-to-Proceed. CONTRACTOR further agrees to complete the Work within \_\_\_\_\_ days of the commencement date stated within the Notice-to-Proceed.

It is expressly understood and agreed that the stated Contract Time is reasonable for the completion of the Work, taking all factors into consideration. Furthermore, extensions of the Contract Time may only be permitted by execution of a formal modification to this Contract Agreement in accordance with the General Terms and Conditions and as approved by the Tucson Airport Authority.

#### Article 7 – CONTRACTOR'S Representations

The CONTRACTOR understands and agrees that all representations made by the CONTRACTOR within the bid shall apply under this Contract Agreement as if fully rewritten herein.

#### Article 8 - CONTRACTOR'S Certifications

The CONTRACTOR understands and agrees that all certifications made by the CONTRACTOR within the bid shall apply under this Contract Agreement as if fully rewritten herein.

#### Article 9 - Miscellaneous

- a. CONTRACTOR understands that it shall be solely responsible for the means, methods, techniques, sequences and procedures of manufacturer in connection with completion of the Work;
- CONTRACTOR understands and agrees that it shall not accomplish any work or furnish any
  materials that are not covered or authorized by the Contract Documents unless authorized in
  writing by the Tucson Airport Authority or their designated design professional;
- c. The rights of each party under this Contract Agreement shall not be assigned or transferred to any other person, entity, firm or corporation without prior written consent of both parties;
- d. The Tucson Airport Authority and CONTRACTOR each bind itself, their partners, successors, assigns and legal representatives to the other party in respect to all covenants, agreements, and obligations contained in the Contract Documents.
- e. CONTRACTOR understands that if any terms or provisions of this contract, or any contract documents made a part of this contract, or any application thereof shall be invalid or unenforceable, the remainder of this contract and any other application of any such term or provision shall not be affected, thereby.
- f. Any dispute arising out of the terms or the performance of this contract shall be controlled any subject to the laws of the State of Arizona and the prevailing party in such dispute shall be awarded a reasonable amount of attorney fees. Venue for dispute resolution shall in Tucson, Arizona.

#### Article 10 - Tucson Airport Authority's Representative

The Tucson Airport Authority's Representative is defined as follows:

Fred E. Brinker, P.E. Senior Director Planning & Development Tucson Airport Authority 7005 S. Plumer Avenue Tucson, AZ 85756

Said Representative shall assume all rights and authority assigned to them as stated within the Contract Documents in connection with the completion of the Work.

IN WITNESS WHEREOF, Tucson Airport Authority and CONTRACTOR have executed two (2) copies of this Contract Agreement on the day and year first noted herein.

TUCSON AIRPORT AUTHORITY	CONTRACTOR		
By:	Name:		
Printed Name:	Printed Name:		
Title:	Title:		
Date:	Data		

#### **BID FORM**

#### 10113300 ARFF Class 5 Vehicle

The undersigned hereby proposes to furnish all necessary labor, permits, material, machinery, tools, supplies and equipment to faithfully perform all work required for furnishing the equipment identified below in strict accordance with the Bid Documents and all issued Addenda within the specified Contract Time for the unit prices and all applicable taxes stated below:

BASE	BID	
	Bid Item Description	Price (F.O.B. Tucson)
	New ARFF Class 5 Vehicle	\$
	BASE BID PRICE (Written Format):	
BID AL	TERNATES SCHEDULE	
Alt. No.	Item Description	Price
1	Par. 3.4.12 Driver's Enhanced Vision System	\$
	Price (Written Format):	
2	Par. 3.3.12 Rear Tandem Axle Steering	\$
	Price (Written Format):	
3	Par. 3.3.8 All-Wheel Independent Suspension	\$
-	Price (Written Format):	
4	Par. 3.3.5 Ancillary Equipment	\$
	(Written Format):	
	TOTAL AGGREGATE BID	\$
	TOTAL AGGREGATE BID (Written Format):	
	TAX	
	TAX RATE PERCENTAGE  Note: Sales tax rate is determined by location of the Supplier's order address. If you are an Out-of-State Supplier and Not authorized to collect Arizona State Tax, please include 5.6% on the tax rate percentage line; the Authority must pay a 5.6% Use Tax to the State of Arizona on all out-of-state purchases	%

#### **ACKNOWLEDGEMENTS BY BIDDER**

- a. The Bidder acknowledges and accepts that the Project Documents are comprised of the documents identified within the Instructions to Bidders. The Bidder further acknowledges that each of the individual documents that comprise the Project Documents are complementary to one another and together establishes the complete terms, conditions and obligations of the successful Bidder.
- b. As evidence of good faith in submitting this proposal, the undersigned encloses a Bid Guaranty in the form specified in the amount of 10% of the total aggregate Bid amount. The Bidder acknowledges and accepts that refusal or failure to accept award and execute a contract within the terms and conditions established herein will result in forfeiture of the Bid Guaranty to the Authority as a liquidated damage.
- c. The Bidder acknowledges and accepts the Authority's right to reject any or all Bids and to waive any minor informality in any Bid or solicitation procedure.
- d. The Bidder acknowledges and accepts the Authority's right to hold all Bids for purposes of review and evaluation and not issue a Notice-of-Award for a period not to exceed 90 calendar days from the stated date for receipt of Bids. During this evaluation period, the Bidder agrees to honor the stated price(s) without any adjustment.
- e. The undersigned agrees that upon written Notice-of-Award of contract, he or she will provide executed payment and performance bonds and Evidence of Insurance within 14 days of the Notice-of-Award; and, furthermore execute the Contract Agreement within 14 days of the receipt of the formal Contract Agreement. The undersigned accepts that failure to execute the Contract Agreement and provide the required bonds within the stated timeframe shall result in forfeiture of the Bid Guaranty to the Authority as a liquidated damage.
- f. Time of Performance: By submittal of this Bid, the undersigned acknowledges and agrees to commence work within 30 calendar days of the date specified in the written Notice-to-Proceed as issued by the Authority. The undersigned further agrees to complete the Work within (\_\_\_\_) Calendar days from the date specified in the Notice-to-Proceed.
- g. The Bidder acknowledges that the requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the Authority to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. Although the Authority has not set a DBE goal for this contract, the Authority encourages the use of DBE firms and will make available to Bidders a DBE interest list upon request.

Addendum I	Number	dated	Received
Addendum I	Number	dated	Received

Addendum Number dated Received

#### REPRESENTATIONS BY BIDDER

By submittal of a proposal (Bid), the Bidder represents the following:

h. The undersigned acknowledges receipt of the following addenda:

- a. The Bidder has read and thoroughly examined the Bid Documents including all authorized addenda.
- b. The Bidder has a complete understanding of the terms and conditions required for the satisfactory performance of Work.
- c. The Bidder has found no errors, conflicts, ambiguities or omissions in the Project Documents, except as previously submitted in writing to the Authority that would affect cost, progress or performance of the Work.
- d. The Bidder is familiar with all applicable Federal, State and local laws, rules and regulations pertaining to execution of the contract and the Work.

e. The Bidder has complied with all requirements of these instructions and the associated Project Documents.

#### **CERTIFICATIONS BY BIDDER**

- a. The undersigned hereby declares and certifies that the only parties interested in this Bid are named herein and that this Bid is made without collusion with any other person, firm or corporation. The undersigned further certifies that no member, officer or agent of the Authority's has direct or indirect financial interest in this Bid.
- b. Contractor certifies that it has reviewed and understood the Supplementary Provisions, and that by submission of this bid, it will, at all times, comply with the contractual and legal requirements for AIP-funded projects.

#### ATTACHMENTS TO THIS BID

The following documents are attached to and made a part of this Bid:

- 1. Bid Guaranty in the form as per the requirements of the Instructions to Bidders
- 2. Completed DBE Utilization Form
- 3. Completed Interest List Form
- 4. Evidence of Bidder's qualifications per the requirements of the Instructions to Bidders and documented on the provided form
- 5. Standard Warranty on labor and materials including length of coverage and provider contact information
- 6. Completed Non Collusion Affidavit Form
- 7. Buy America Certification Form
- 8. Signed Supplementary Provisions

#### SIGNATURE OF BIDDER

#### IF AN INDIVIDUAL:

Name: _		
Ву: <sub>—</sub>	(Signature of Individual)	
Doing Business as: _		
Business Address: _		
Telephone Number: _		
IF A CORPORATION:		
Ву: _	(Authorized Signature) (Attach Evidence of Authority to sign)	
Name and Title: _		
Business Address: _		(CORPORATE SEAL)
Telephone Number: _		_
Federal I.D. Number: _		
ATTEST:		
Ву: _	(Authorized Signature)	_
Name and Title: _		_

Joint Venture Name: _	
Ву: _	
	(Authorized Signature) (Attach Evidence of Authority to sign)
Name and Title: _	
Business Address: _	
Telephone Number: _	
oint Venture Name: _	
Ву: _	
	(Authorized Signature) (Attach Evidence of Authority to sign)
Name and Title: _	
Business Address: _	
_	
Telephone Number: _	

IF A

#### BID BOND

#### KNOW ALL PERSONS BY THESE PRESENTS;

That, as principal and with its p under the laws of the State of with its p and duly authorized to do business in the State of Arizona and firmly bound unto the Tucson Airport Authority (h Dollars	, a principal office in a, (hereinafter ca nereinafter called	corporation organized and existing the City of llled the "Surety") as surety are held the "Obligee") in the amount of
Dollars whereof the said Principal and Surety bind themselves, a and assigns, jointly and severally, firmly by these presents.	and their heirs, a	dministrators, executors, successors
NOW, THEREFORE, if the Obligee accepts the particle a contract with the Obligee in accordance with the terms of insurance as specified in the standard specification performance of the contract and for the prompt payment of the contract, or in the event of the failure of the Principal certificates of insurance, if the Principal pays to the Obligeous between the amount specified in the proposal and good faith contract with another party to perform the world. Otherwise it remains in full force and effect.	of the proposal and with good and to enter into the such larger and ork covered by	and gives the bonds and certificates and sufficient surety for the faithful aterials furnished in the prosecution he contract and give the bonds and ce not to exceed the penalty of the nount for which the Obligee may in the proposal then this obligation is
WITNESS our hands this day of	, 2	<u>20</u> .
WITNESS:	Principal	Seal
	BY	
	Surety	Seal
	RV	

#### PAYMENT BOND

(Penalty of this bond must be 100% of the Contract Amount)

#### KNOW ALL PERSONS BY THESE PRESENTS;

That,			(he	reinafter called the	"Principal") as
principal and	, a corp	oration organize	ed and existing	reinafter called the under the laws of	the State of
with	its principal office	in the City of		and duly at	uthorized to do
				ty are held and firmly	
Tucson Airport Autho	ority (hereinafter call	led the "Obligee")	in the amount of	pal and Surety bind th	
Dollars (\$		payment where	of the said Princi	pai and Surety bind tr	nemseives, and
uteli fielis, autilitisli	ators, executors, suc	LCESSUIS, aliu as:	signs, joinny and s	severally, firmly by thes	e presents.
WHEREAS,				contract with the F Class 5 Vehicle.	Obligee, dated
monies due to all pe	ersons supplying lal	bor or materials t	to the Principal or	nat if the Principal pro the Principal's subco id. Otherwise it rema	ntractors in the
The prevail fees that may be fix			I recover as part	of the judgment reaso	onable attorney
WITNESS 0	ur hands this	day of		20 <u> </u> .	
WITNESS:			Principal	Seal	
		-	BY		
			Surety	Seal	
			RV		

#### PERFORMANCE BOND

(Penalty of this bond must be 100% of the Contract Amount)

KNOW ALL PERSONS BY THESE PRI	ESENTS;			
That,			_(hereinafter called the "P	rincipal")
That, as principal and wauthorized to do business in the State of	, a corp	poration organized ar	d existing under the laws of	the State
OI W	ith its principal	Office in the City of _ roinafter called the "	Suratu") as suratu ara bald a	and duly
bound unto the Tucson Airport Authority	on Anzona, (ne Chereinafter ca	alled the "Obligee") in	the amount of	nu ilinily
			nent whereof the said Princ	
Surety bind themselves, and their heirs, firmly by these presents.				
WHEREAS, the Principal has day of, 20 for 10113300 A			ontract with the Obligee, d	ated the
NOW, THEREFORE, the contract and fulfills all of the undertakings, covoriginal term of the contract and any exthe life of any guaranty required under covenants, terms, conditions and agree hereafter be made, notice of which movoid. Otherwise it remains in full force at the contract of	venants, terms ktension of the er the contract eements of all podifications to and effect.	conditions and ag contract, with or wit and also performs duly authorized mo the Surety being he	reements of the contract dinout notice to the Surety, and and fulfills all of the under odifications of the contract the contract the discourse of the above oblined.	uring the nd during rtakings, that may gation is
The prevailing party in a suit on this that may be fixed by a judge of the cou		cover as part of the	judgment reasonable attori	ney fees
WITNESS our hands this	day of		20	
WITNESS:		Principal	Seal	_
		BY		_
		Surety	Seal	_
		BY		

#### **NONCOLLUSION AFFIDAVIT**

Bidder hereby affirms to the Authority that it has not, in the preparation or submission of its bid, or with regard to any act of performance under the Agreement, entered into any contract, combination, conspiracy or other act in restraint of trade or commerce which is unlawful under the laws of the State of Arizona with regard to any contract with any person or entity for the purchase of equipment, labor or materials, or for the construction, repair, addition or alteration to any building, structure, or improvement under this Agreement; or any subcontract with a contractor or a proposed contractor for the purchase of equipment, labor or materials, or for the construction, repair, addition or alteration to any building, structure or improvement.

		BIDDER		
		Ву		
		Its		
STATE OF ARIZONA County of Pima	) ) ss. )			
SUBSCRIBED	AND SWORN	I TO before me this	day of	, by
		in his capa	city as	
		Notary Public		
My commission expires:				

#### **Buy America Certification**

(Title 49 U.S.C. Section 50101)

PROJECT NAME:	10113300 ARFF Class V Vehicle
AIRPORT NAME:	Tucson International Airport

This solicitation and any resulting contract are subject to the Buy America requirements of 49 U.S.C. Section 50101. The Bidder certifies it and all associated subcontractors will comply with the Buy American preferences established under Title 49 U.S.C. Section 50101 as follows:

#### U.S.C. Section 50101 - Buying goods produced in the United States

- (a) Preference. The Secretary of Transportation may obligate an amount that may be appropriated to carry out section 106(k), 44502(a)(2), or 44509, subchapter I of chapter 471 (except section 47127), or chapter 481 (except sections 48102(e), 48106, 48107, and 48110) of this title for a project only if steel and manufactured goods used in the project are produced in the United States.
- (b) Waiver. The Secretary may waive subsection (a) of this section if the Secretary finds that -
  - (1) Applying subsection (a) would be inconsistent with the public interest;
  - (2) The steel and goods produced in the United States are not produced in a sufficient and reasonably available amount or are not of a satisfactory quality;
  - (3) When procuring a facility or equipment under section 44502(a)(2) or 44509, subchapter I of chapter 471 (except section 47127), or chapter 481 (except sections 48102(e), 48106, 48107, and 48110) of this title -
    - A. The cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components of the facility or equipment; and
    - B. Final assembly of the facility or equipment has occurred in the United States; or
  - (4) Including domestic material will increase the cost of the overall project by more than 25 percent.
- (c) Labor Costs. In this section, labor costs involved in final assembly are not included in calculating the cost of components.

\* \* \* \* \* \* \*

	atter of bid responsiveness, the Bidder must complete and submit this certification with their bid. The Bidder must sign and date the certification. dder must indicate how they propose to comply with the Buy America provision by selecting one of the following certification statements.
	The Bidder hereby certifies that it will comply with Title 49 U.S.C Section 50101(a) by only installing steel and manufactured products produced in the United States of America. The Bidder further agrees that if chosen as the apparent low bid, it will submit documentation to the owner that demonstrate all steel and manufactured products are 100% manufactured in the United States.
	The Bidder hereby certifies that it cannot fully comply with the Buy America preferences of Title 49 U.S.C Section 50101(a); Bidder therefore requests a waiver per Title 49 U.S.C Section 50101(b) subject to the following conditions (check applicable condition:
	For equipment and material the FAA has already issued a waiver to AIP Buy American preferences as indicated on the current FAA Buy American conformance list, Bidder shall submit a listing to TAA of specific equipment and material it proposes to install on the project within 5 calendar days of the date of the notice of apparent award of contract.
	For equipment and material the FAA has not previously issued a waiver to Buy American preferences, the Bidder identified with the apparent low bid agrees to prepare and submit to TAA a waiver request and component calculation information within 5 calendar days of the date of the notice of apparent award of contract.
Official	Name of Bidder
Signatu	ure

Date

#### **BIDDER'S QUALIFICATION STATEMENT**

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO:

ADDRESS:

SUBMITTED BY:

NAME:

ADDRESS:

PRINCIPAL OFFICE:

Corporation
Individual

Partnership
Joint Venture

NAME OF PROJECT (if applicable): 10113300 ARFF Class 5 Vehicle

☐ Other

#### 1. ORGANIZATION

- 1.1 How many years has your organization been in business as a Contractor? (*Minimum of five years continuous operation is required.*)
- 1.2 How many years has your organization been in business under its current business name? (No minimum required if five years continuous operation required in Paragraph 1.1 can be demonstrated.)
  - 1.2.1 Under what other or former names has your organization operated?

1.3.1	Date of incorporation:
1.3.2	State of incorporation:
1.3.3	President's Name:
1.3.4	Vice-president's name(s):
1.3.5	Secretary's name:
1.3.6	Treasurer's name:
1.4 If	your organization is a partnership, answer the following:
1.4.1	Date of organization:
1.4.2	Type of partnership (if applicable):
1.4.3	Name(s) of general partner(s):
1.5 If	your organization is individually owned, answer the following:
1.5.1	Date of organization:
1.5.2	Name of owner:
1.6 If	the form of your organization is other than those listed above, describe it and
na	ame the principals:

If your organization is a corporation, answer the following:

1.3

	2.1	quali	jurisdictions ified to do icable.		_		•	_		-
	2.2	List j	urisdictions i	n which yo	ur organiz	ation's pa	ırtnership	or trade	name is	filed
3.	EXPERIE	ENCE								
	3.1		ns and Suits. ch details.)	. (If the an	swer to a	ny of the	question	ns below	is yes, p	lease
	3.1	l.1 F	las your orga	nization eve □ Yes	er failed to □ No	o complet	e any woi	rk awarde	d to it?	
	3.1		Are there any outstanding a				=	ngs or suit	s pendin	g or
	3.1		las your orga o procureme		-		-	arbitration	n with re	gard
	3.1		Has your orga procurement		er been de □ No	efaulted o	n or term	inated fro	m a	
	3.2	beer	in the last fiv an officer or urement con	r principal o	f another	organizat is yes, ple	ion when	it failed to		

2.

LICENSING

- 3.3 On a separate sheet, list major procurement contracts your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.
  - 3.3.1 State total worth of work in progress and under contract:
  - 3.3.2 List name, address and telephone number of a reference for each project listed under Item 3.3 above.
- 3.4 List name of project, location, owner, contract amount, date of completion and percent of work with own forces of the ARFF Class 5 vehicle projects which your organization has completed in the past five years. Also include a brief description of the vehicle produced for each project, and list name, address and telephone number of a reference for each project listed.
- 3.5 On a separate sheet, list the experience and present commitments of the key individuals of your organization.
  - 3.6.1 On a separate sheet, list the name of the project manager who will be primarily responsible for this procurement project, their experience with the same or similar type of project in the last five years. Include the projects name, dates of construction and locations for each project with which they were involved. Attach resumes for the proposed project manager.

REFERE	NCES	
4.1	Trade	References:
4.2	Bank F	References:
4.3	Surety	<i>y</i> :
4.3	3.1 Na	ame of bonding company:
4.3	3.2 Na	ame and address of agent:
FINANC	ING	
5.1	Financ	cial Statement.
	5.1.1	Attach an audited financial statement, including your organization's latest balance sheet and income statement showing the following items:
		Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);
		Net Fixed Assets;
		Other Assets;
		Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

4.

5.

	Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).
5.1.2	Name and address of firm preparing attached financial statement, and date thereof;
5.1.3	Is the attached financial statement for the identical organization named on page one? $\hfill \mbox{$\square$ Yes } \hfill \mbox{$\square$ No}$
5.1.4	If not, explain the relationship and financial responsibility of the organization whose financial statement is proved (e.g., parent-subsidiary).
	ne organization whose financial statement is attached act as a guarantor of ntract for construction?
	□ Yes □ No

5.2

6.	SIGN	IATURE			
	6.1	Dated at		this	day of
			, 200		
		Name of Organization:			
		Ву:			
		Title:			
			Being duly swo	orn depose	s and says that
the	e info	ormation provided herein is true a	nd sufficiently complet	e so as not	to be misleading.
	bscri 0	bed and sworn to before me this _	day of		
N /1.	. Co.	-	Notary Public		
IVI	CUI	nmission Expires:			

AIP: PENDING

## TUCSON AIRPORT AUTHORITY DISADVANTAGE BUSINESS ENTERPRISE UTILIZATION FORM TO BE SUBMITTED WITH BID

Name & Address of DBE Firm to be Used	Disadvantaged Owner and Basis of Disadvantage	Type of Work Performed	Dollar Value of Work
	n this project is not required, TAA e with certified Disadvantaged Busin AA's contracts.		
Total Amount of Bid \$			
Total Proposed DBE Participati	on: \$	Percent of Total Amount of Bid	%
By signing and submitting this [	DBE utilization form, the bidder commit	ts that it will use the DBE subcontractor	or(s) listed above.
Program Partners prior to the d Tucson. For a current list of D	listed above must be currently certificate that bids are due. TAA recognize BE firms recognized by TAA, or if you AA DBE Liaison Officers, at 520-573-4	s only current certifications by ADOT, u have any questions about TAA's DI	City of Phoenix, and City of
The Tucson Airport Authority of Directory.	does not guarantee or certify the prof	essional or technical capabilities of t	he DBEs listed in any DBE
	d by the successful bidder within seven use each DBE subcontractor listed about id as described above.		
Tucson Airport Authority has goal, however, and the bidder	ccompanying documentation is requises established a specific goal for DBI is not meeting that goal, the bidder estrate that it made good faith efforts to 49 CFR, Part 26.	E participation on this contract. If must attach a description of the eff	ΓΑΑ has set such a contractories orts it made to obtain DBE
	Bidder Aut	horized Signature	
	Official Nat	me of Bidder	
	 Date		

### TUCSON AIRPORT AUTHORITY INTEREST LIST FORM

The Tucson Airport Authority ("TAA"), in compliance with federal regulations, is seeking to compile an interest list containing the following information about each firm who has interest in an airport project. Please complete this form if you are not already on TAA's list, and for any subcontractors, materialmen, or suppliers from whom you solicited interest, if they are not already on TAA's list. A copy of the current TAA Interest List can be obtained from Sylvia Granillo via phone at 520-573-4821, via fax at 520-573-8013, or via email at <a href="mailto:sgranillo@tucsonairport.org">sgranillo@tucsonairport.org</a>.

Firm understands and agrees that the following information will be published and made available to interested parties upon request (please check one): Yes No
Name of Firm:
Contact Person:
Address of Firm:
Telephone:
Fax:
Email Address:
Specialty of Firm:
Is the firm currently certified as a disadvantaged business enterprise ("DBE") by any Partner(s) of the Arizona Unified Certification Program (City of Tucson, City of Phoenix, Arizona Department of Transportation)?
Yes No
If yes, please state from which Partner(s) the firm received its certification: