

**INVITATION TO BIDDERS**  
**FORKS TOWNSHIP REPAIR OF FIRE TRAINING BUILDING**

Notice is hereby given that Forks Township will receive sealed bids for the repair of its fire training building. Three (3) complete copies of the bids may be delivered or mailed to Forks Township at 1606 Sullivan Trail, Easton, PA 18040 until 10:00 A.M. on Friday, September 9, 2022. All timely bids will then be opened at 10:30 A.M. on Friday, September 9, 2022 by a representative of the Township, at the Forks Township Municipal Office. Any bid received after the deadline will not be opened. All bids shall be sealed, marked and addressed as follows:

Forks Township  
1606 Sullivan Trail  
Easton, PA 18040  
**BIDS ENCLOSED**  
**FIRE TRAINING BUILDING REPAIRS**

All documents and solicitation details may be obtained at the Forks Township municipal office located at 1606 Sullivan Trail, Easton, PA 18040 or on the Township website. Bids must be accompanied by a certified check or a bid bond with a corporate surety authorized to do business in Pennsylvania, in accordance with the project specifications in the amount of 10% of the total bid amount. A Performance Bond in the amount of 100% of the contract shall be furnished by the successful bidder as detailed in the Instructions to Bidders. A mandatory pre-bid meeting will be held on Friday, August 26, 2022, at 10:00 AM at 3400 Glover Road, Easton, PA 18040. All bidders must attend. No bidder may withdraw their bid within sixty (60) days after the date of the bid opening or later if permitted by law. The Township reserves the right to accept or reject any and all bids or take whatever steps in its sole discretion it deems necessary to best serve the citizens and taxpayers of the Township.

Donna M. Asure  
Township Manager  
Forks Township

## **PROJECT SPECIFICATIONS**

### **BID SECURITY, BONDING AND INSURANCE REQUIREMENTS:**

#### **I. BID SECURITY**

A. Each Bid shall be accompanied by a bid security in the form and the amount of 10% of the bid if so stipulated in the Instructions to Bidders. See attached sample bid bond and performance bond form for minimum guidance as to the acceptable form of the bid bond to be provided. The Bidder pledges to enter into a Contract with Forks Township on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to Forks Township as liquidated damages, not as a penalty.

B. The form of the Bid Bond, unless otherwise provided in the Bidding Documents, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

C. Forks Township will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected.

#### **II. BONDING**

A. The Bidder shall furnish bonds in 100% of the contract value covering the faithful performance of the Contract and payment of all obligations arising thereunder. Bonds may be secured through the Bidder's usual sources.

B. The cost of furnishing such bonds stipulated in the Bidding Documents shall be included in the Bid.

C. If Forks Township requires that bonds be secured from other than the Bidder's usual sources, changes in cost will be adjusted as provided in the Contract Documents.

#### **III. TIME OF DELIVERY AND FORM OF BONDS**

A. The Bidder shall deliver the required bonds to Forks Township not later than ten days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to Forks Township that such bonds will be furnished and delivered in accordance with the bid requirements.

B. The bonds shall be dated on or after the date of the Contract.

C. The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

### III. INSURANCE REQUIREMENTS

A. The successful bidder, prior to commencing work, shall provide at his own expense, the following insurance to Forks Township, evidenced by certificates of insurance. Each certificate shall require that notice be given, thirty (30) days prior to cancellation or material change in the policies, to Forks Township. All policies shall name Forks Township, its officers, agents, employees as additional insured. This coverage shall be reflected on the Certificates of Insurance. Nothing contained in this section shall be construed as limiting the extent of the bidder's responsibility for payment of damages resulting from his operations under the contract.

B. Workers' Compensation including Occupational Disease and Employer's Liability Insurance.

1. Statutory – Amounts and coverage as required by Pennsylvania Workmen's Compensation and Occupational Disease Laws.

2. Employer's Liability – Bodily Injury by:

Accident \$100,000 each

Disease \$500,000 minimum policy limit

Disease \$100,000 each employee

2. Liability – The bidder shall maintain a Commercial General Liability Insurance Policy, using an occurrence form of coverage. The required coverage forms are:

Comprehensive

Premises – Operation

Contractual Insurance

Independent Contractor

The General Liability Policy shall have a minimum limit of liability of \$1,000,000 per occurrence.

Automobile Liability coverage with minimum combined single limits of \$1,000,000 per occurrence.

The Contractor shall obtain total minimum coverage limits of \$2,000,000 per occurrence. The additional limits above the General Liability and Automobile Liability policies (required above) may be provided by Excess and/or Umbrella Liability policies.

**OBSERVANCE OF LAWS AND REGULATIONS.** The contractor shall observe all laws and regulations pertaining to his work, including regulations of the Department of Labor and Industry, the Department of Environmental Resources, the applicable local laws or ordinances, and shall furnish as required any permits, licenses and certificates and pay any fees incidental thereto. The Contractor agrees to save harmless and fully indemnify Forks Township from all damages, costs or expenses for infringement of any patent rights as a result of use on the project of patented articles.

**INSPECTION AND CHANGES.** All work will be subject to inspection and acceptance by Forks Township. Forks Township will conduct a final inspection of the project site. Forks Township shall have the right to make changes in the quantities or character of the work involved. Adjustments to the contract amount to be on the unit price and/or lump sum price.

**TEMPORARY SERVICES AND JOB CONDITIONS.** The Contractor shall be responsible for providing temporary facilities necessary to execute and protect his work. The Contractor shall accept all conditions as found by him upon examination of the site. He shall cooperate in the arrangements of his work as necessary to least affect the administration or operations of present buildings, and shall keep the site clean at all times. If such modifications materially increase the unit cost of work, the increased expense will be paid by Forks Township following execution of a Change Order in a dollar amount determined by Forks Township, in its sole discretion, to be fair and reasonable. If such modifications diminish the unit cost of the work, the amount of said diminution may be retained or withheld by the Forks Township. No consequent loss of anticipated profit on work not executed will be paid to the Contractor.

**LABOR REQUIREMENTS.** Contractor shall complete and submit the attached non-collusion affidavit, non-discrimination sexual harassment affidavit, and EEO ADA statement with the bid submission package.

**PAYMENT TERMS.** Payment will be made upon satisfactory completion of items listed in bid documents. If after substantial completion of work, final completion thereof is materially delayed through no fault of the Contractor, Forks Township, may without terminating the Contract, make payment for that portion of the work completed and accepted. Upon completion, final approval and acceptance of work, the Contractor, will be paid the total amount of the Contract, subject to any authorized additions to or deductions from the Contract amount.

**TEMPORARY SERVICES AND JOB CONDITIONS.** The Contractor shall be responsible for providing temporary facilities necessary to execute and protect his work. The Contractor shall accept all conditions as found by him upon examination of the site.

**EXCISE TAXES, PENNSYLVANIA SALES TAX.** It is further understood Forks Township is exempt from all Excise Taxes. This also applies with reference to the Pennsylvania Sales Tax; however, the Contractor remains liable for the payment of Sale and Use Tax on all materials and fixtures which he purchases or uses for the purpose of fulfilling this contract, irrespective of the fact that the work is being performed for a governmental instrumentality.

## **Bid Bond Sample**

## **Performance Bond Sample**







## **INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT**

1. This Non-Collusion Affidavit is material to any contract awarded pursuant to this bid. According to the Pennsylvania Antibid-Rigging Act, 73 P.S. § § 1661 et seq. governmental agencies may require Non-Collusion Affidavits to be submitted together with bids.
2. This Non-Collusion Affidavit must be executed by the member, officer or employee of the bidder who makes the final decision on prices and the amount quoted in the bid.
3. Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of bids are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the bidder with responsibilities for the preparation, approval or submission of the bid.
4. In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and an Affidavit must be submitted separately on behalf of each party.
5. The term “complementary bid” as used in the Affidavit has the meaning commonly associated with that term in the bidding process, and includes the knowing submission of bids higher than the bid of another firm, any intentionally high or noncompetitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.
6. Failure to file an Affidavit in compliance with these instructions will result in disqualification of the bid.

## **NONDISCRIMINATION/SEXUAL HARASSMENT CLAUSE**

The Contractor agrees:

1. In the hiring of any employee(s) for the manufacture of supplies, performance of work, or any other activity required under the contract or any subcontract, the Contractor, each subcontractor, or any person acting on behalf of the Contractor or subcontractor shall not, by reason of gender, race, creed, or color, discriminate against any citizen of this Commonwealth who is qualified and available to perform the work to which the employment relates.
2. Neither the Contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate against or intimidate any employee involved in the manufacture of supplies, the performance of work, or any other activity required under the contract on account of gender, race, creed, or color.
3. The Contractor and each subcontractor shall establish and maintain a written sexual harassment policy and shall inform their employees of the policy. The policy must contain a notice that sexual harassment will not be tolerated and employees who practice it will be disciplined.
4. The Contractor and each subcontractor shall not discriminate by reason of gender, race, creed, or color against any subcontractor or supplier who is qualified to perform the work to which the contract relates.
5. The Contractor and each subcontractor shall, within the time periods requested by Forks Township, furnish all necessary employment documents and records and permit access to their books, records, and accounts by the contracting agency and the Bureau of Minority and Women Business Opportunities (BMWBO), for purpose of ascertaining compliance with provisions of this Nondiscrimination/Sexual Harassment Clause. Within fifteen (15) days after award of any contract, the Contractor shall be required to complete, sign and submit Form STD-21, the "Initial Contract Compliance Data" form. If the contract is a construction contract, then the Contractor shall be required to complete, sign and submit Form STD-28, the "Monthly Contract Compliance Report for Construction Contractors", each month no later than the 15th of the month following the reporting period beginning with the initial job conference and continuing through the completion of the project. Those contractors who have fewer than five employees or whose employees are all from the same family or who have completed the Form STD-21 within the past 12 months may, within the 15 days, request an exemption from the Form STD-21 submission requirement from the contracting agency.
6. The Contractor shall include the provisions of this Nondiscrimination/Sexual Harassment Clause in every subcontract so that those provisions applicable to subcontractors will be binding upon each subcontractor.

7. Forks Township may cancel or terminate the contract and all money due or to become due under the contract may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause. In addition, the agency may proceed with debarment or suspension and may place the Contractor in the Contractor Responsibility File.

Contractor Signature: \_\_\_\_\_

Contractor Name: \_\_\_\_\_

Date: \_\_\_\_\_

Project Name: \_\_\_\_\_

## **EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS**

### **AMERICAN WITH DISABILITIES ACT**

Equal Opportunity for Individuals with Disabilities:

The Contractor and Forks Township do hereby agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C. S12101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs, and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereto, are made a part of this Contract. In providing any aid, benefit, or service on behalf of Forks Township pursuant to this Contract, the Contractor agrees that the performance shall be in strict compliance with the Act. In the event that the Contractor, its agents, servants, employees, or Subcontractors violate or are alleged to have violated the Act during the performance of this Contract, the Contractor shall defend Forks Township in any action or administrative proceeding commenced pursuant to this Act. The Contractor shall indemnify, protect, and save harmless Forks Township, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The Contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to Forks Township's grievance procedure, the Contractor agrees to abide by any decision of Forks Township which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against Forks Township or if Forks Township incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the Contractor shall satisfy and discharge the same at its own expense.

Forks Township shall, as soon as practicable after a claim has been made against it, give written notice thereof to the Contractor along with full and complete particulars of the claim. If any action or administrative proceeding is brought against Forks Township or any of its agents, servants, and employees, Forks Township shall expeditiously forward or have forwarded to the Contractor every demand, complaint, notice, summons, pleading, or other process received by Forks Township or its representatives.

It is expressly agreed and understood that any approval by Forks Township of the services provided by the Contractor pursuant to this Contract will not relieve the Contractor of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless Forks Township pursuant to this Paragraph.

It is further agreed and understood that Forks Township assumes no obligation to indemnify or save harmless the Contractor, its agents, servants, employees and Subcontractors for any claim which may arise out of their performance of the Agreement.

Furthermore, the Contractor expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the Contractor's obligations assumed in this Agreement, nor shall they/he construed to relieve the Contractor from any liability, nor preclude Forks Township from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

## **TECHNICAL SPECIFICATIONS**

The following stipulations, specifications and description of work are defined and described as Technical Specifications and it is understood and agreed that everything herein contained is hereby made part of the contract. Wherever any feature of the work is not fully set forth in these Technical Specifications, it must be understood that the same shall be governed by the rules of the best prevailing practice for that class of work, as determined by the Township's Representative. These Technical Specifications and any drawings, maps and/or plans forming a part thereof will cover the furnishing of all labor, technical assistance, equipment, tools and materials necessary to perform the design and construction work, as required under this contract.

### **FIRE TRAINING BURN BUILDING/SIMULATOR REPAIR**

Fork Township, Northampton County, Pennsylvania ("Forks Township") is requesting sealed bids for repair and lining of the Fire Training/Burn Building. The attached specifications are submitted for your consideration. Bids must be delivered or mailed to Forks Township at 1606 Sullivan Trail, Easton, PA 18040 until 10:00 A.M. on Friday, September 9, 2022. It is the responsibility of the bidder to ensure that their bid is delivered prior to the due date and time. Any responses received after this time will not be considered.

### **PRE-BID MEETING**

There will be a pre-bid meeting on Friday, August 26, 2022, at 10:00 AM at 3400 Glover Road, Easton, PA 18040. This will be a mandatory meeting. All bidders must attend. Forks Township shall provide the mechanism for the evaluation of all information received, the final determination of responsible bids, and reserves the right to waive informalities and irregularities and to accept or reject any or all bids.

Bid documents may be obtained at the Forks Township municipal office located at 1606 Sullivan Trail, Easton, PA 18040 or on the Township website. Only bids from qualified and experienced contractors will be considered. Experienced contractors will be those that have completed similar projects.

### **PROJECT SUMMARY**

Forks Township desires to repair and line the existing fire training facility. Manufacturers and suppliers of lining systems meeting or exceeding the levels of performance and safety as specified herein are strongly encouraged to submit a bid. Any deviation shall include detailed explanations of any exceptions to the specifications within the bid.

The lining system shall meet or exceed the requirements of the specifications in these bid specifications. It is the intent of these bid specifications to engage a manufacturer,

supplier, or contractor with the technical expertise to develop a design/build facility meeting the fire training needs of our organization.

### **1.1 Scope of Project**

Forks Township requests bids for repairs, renovations and upgrades of our Forks Township Fire Training Facility, located at 3400 Glover Road Easton, PA 18040.

The project is a “turn key” project, bids shall include all work for completion of the facility as described within these bid specifications. The scope of work will consist of the following basic components: mobilization and equipment, demolition, repairs/remodel of burn rooms.

### **1.2 Point of Contact (“POC”)**

All communications regarding this request for bid proposal, including final submission of responses, shall be directed to:

Matt Border

1606 Sullivan Trail, Easton, PA 18040

610-252-0785

[mborder@forkstownship.org](mailto:mborder@forkstownship.org)

Additional information may be requested via the POC for refinement or clarification of included requirements.

### **1.3 Definitions**

1. The Owner:

Forks Township

1606 Sullivan Trail

Easton, PA 18040

2. Bidder – The business entity actively responding to this bid request. Sub-contractors and equipment suppliers utilized by this respondent are not considered to be the Bidder in this context, but rather agents thereof.

3. Forks Township Fire Training Facility – The building owned by Forks Township, located at:

3400 Glover Road



## **2.0 General Requirements**

### **2.1. Timeline**

Forks Township will entertain submission of bids to this request beginning August 12, 2022. There will be no exceptions to this timeline.

### **2.2. Required Submissions**

#### **2.2.1. Document List**

The bid should include a narrative response to the details of this request, and any supporting documentation as warranted by each bidder's response. In addition, the following documents are considered part of bid and are to be included at time of submission:

1. **Installation Contract:** Bidder must provide proposed contract terms for the installation and configuration portions of the bid, including all equipment, supply, shipping, storage, and labor costs. If the bidder is awarded the bid, alterations to this contract may be required to satisfy purchasing regulations. In addition, the Township shall require proof of insurance and terms for a performance bond.
2. **Narrative:** Bidder must provide a narrative describing their approach to this project. The narrative must include, but not be limited to, the proposed methodology for design, submissions, and contract performance; experience in the field of design/build contracts for fire training facilities, sample warranties, typical detail drawings, and any exceptions or deviations from the base specifications. Proposed drawings and specifications must be submitted highlighting any deviations from the minimum standard set forth in the bid specifications.

#### **2.2.2. Submission Format**

1. Three (3) copies of all bid documents must be delivered or mailed to Forks Township at 1606 Sullivan Trail, Easton, PA 18040.

### **2.3. Bid Evaluation**

Responses to the request will be evaluated by the POC and their designated staff members. This evaluation will be based at a minimum on the following criteria:

1. Commitment for expedient delivery and installation.

2. Commitment to the general conditions contained herein, including warranty.
3. Completeness of the bid documents, e.g., the degree which it responds to all requirements and requests for information contained herein.
4. Installation and delivery schedule.
5. The Contractor shall include a detailed list, including project description, completion dates, and contacts for projects performed in the Commonwealth of Pennsylvania. This information shall include the experience of the prime contractor as well as any sub-contractors with experience under this program.
6. Any exceptions to the basis of design.

#### **2.4. Contents of Bid Specifications**

Some items in this request have been specified by brand name or model number. These have been carefully selected because of their reliability and availability. In order to be most responsive, items named, or an item “equal to” the item specified by brand name or model, should be contained in the bid documents. It is the bidder’s responsibility to prove to the Purchaser that an item bid as “equal to” a particular specified item, is truly of equal quality, design, and function as the specified item. The Purchaser maintains the right to make a final decision as to the acceptability of an item bid as “equal to” a particular specified item. For each item in the Detailed Specification section, bidder’s response should include an item-by-item YES or NO notation as to whether or not the requirement of the specification has been included in the overall package.

#### **2.5. Inspection of Site**

It is the responsibility of any bidder to inspect the site by arrangement with Forks Township to determine the existing site conditions and scope of installation. Arrangements to inspect the site can be made by contacting:

Matt Border

1606 Sullivan Trail, Easton, PA 18040

610-252-0785

[mborder@forkstownship.org](mailto:mborder@forkstownship.org)

#### **2.6. Contract Award**

Forks Township reserves the right to reject any or all bids in the best interest of Forks Township. Forks Township also reserves the right to waive any informalities, irregularities and technicalities in procedure. Forks Township reserves the right, before awarding the contract, to require a bidder to submit

evidence of his qualifications as may be deemed necessary. Documentation which may be required is financial soundness, technical competency, and other pertinent qualifications of a bidder, including past performance (experience) with Forks Township. Upon award of contract, the contract will be between the winning bidder and Forks Township. Contracts between Forks Township and a sales representative, dealer, distributor, or agent of the manufacturer will not be acceptable.

## **2.7. Prices and Payments**

The bid price will be F.O.B. Destination, on an installed and accepted basis at the Forks Township Fire Training Facility. The total price on bidder's bid sheet must include all items listed in these specifications. Listing any items contained in the specification as an extra cost item, unless specifically requested to do so in these specifications, will automatically be cause for rejection. Bidder will compute pricing less federal and state taxes. Forks Township will only remit payment upon successful and complete execution of the accepted contract(s). Evaluation of "successful" and "complete" are determinations reserved to Forks Township.

## **2.8. Warranty**

Bidder must warrant all equipment and related installation, to the satisfaction of Forks Township, for a period not less than one calendar year from the completion of the project. Warranty shall include but not be limited to any and all replacement parts, equipment, infrastructure, and installation/repair labor. Additional warranty requirements for specific components are outlined in the detail section.

## **2.9. Technical Information**

Bidder will furnish free of charge, upon request, technical information, graphs, charts, photographs, engineering diagrams, instruction guides, samples, or other documentation as requested to show that the equipment offered fully complies with these specifications.

# **FIRE FIGHTING SIMULATOR TOWER REPAIRS**

## **PART 1 – GENERAL**

### **1.1 Work Included**

- A. The work under this section shall include the furnishing of all items shown as specified including:
  - 1. Prep and coat interior floor joist structural framing members in the immediate burn areas with rust inhibitive primer or cold galvanizing solution.
  - 2. Clean, caulk, and seal proof parapets and roof hatch at concrete to steel seams and all concrete roof surfaces.
  - 3. Add wireless temperature monitoring system, 6 thermocouples, (two per burn room). See specification.
  - 4. Install retrofit drains, one in each second floor burn room. (Two Total)
  - 5. Install three new burn rooms, and hallway with thermal tile lining system. See specification.
  - 6. Replace Eleven (11) high temperature door sweeps. (Option #1)
  - 7. Remove gable roof railing, demolish and remove all plywood, felt, shingles and install new plywood, felt, and shingles and reinstall railings. (Option #2)
  - 8. Remove ladder to tower roof, reinstall at 180 degrees from existing location. (Option #3)
  - 9. Provide a contract for inspections of the burn building to be performed every other year. (Option #4)
  - 10. Provide a contract for maintenance of the burn building. (Option #5)
- B. Contractor shall provide the Township Facilities Director, and any other representative identified by the Township, with detailed training on day-to-day maintenance and repairs of the various components of the burn building.

### **1.2 Definition**

- A. This burn building is used to provide training for firefighters in a controlled simulated environment, which is commensurate with actual fire conditions. These specifications shall be used in conjunction with the drawings for dimensions, features, and exact configuration of the lining system.

### **1.3 References**

- A. National Fire Protection Association (NFPA)
  - 1. NFPA 1402 – Guide to Building Fire Training Centers
  - 2. NFPA 1403 – Standard on Live Fire Training Evolutions

- B. American Society for Testing and Materials (ASTM)
- C. AWS D1.1 – Structural Welding Code – Steel
- D. American Institute of Steel Construction (AISC), Manual of Steel Construction, latest edition
- E. Occupational Safety and Health Standards (OSHA)
  - 1. 29 CFR 1910.23 – Guarding Wall and Floor Openings
  - 2. 29 CFR 1910.24 – Fixed Industrial Stairs
  - 3. 29 CFR 1910.27 – Fixed Ladders

#### **1.4 Submittals**

- A. Burn Room Liner
  - 1. Submit [ 3] sets of cut sheet information on the burn room liner.
  - 2. Submit [ 3] sets of MSDS reports on all applicable materials to be used as burn room liner.
  - 3. Submit [ 3] 2”x2” samples of burn room liner material.
  - 4. Submit [ 3] sets of burn room layout drawings including ceiling layouts, wall layouts, and any necessary details.

#### **1.5 Quality Assurance**

- A. Supplier shall have a minimum of 10 years experience in the design, engineering, and fabrication of fire training simulators and must offer these turn-key services to complete this section of work.
- B. Contractor shall be qualified by the supplier and have a minimum of 5 years experience installing pre-engineered metal building projects and a minimum of 5 completed projects of similar size and scope.

#### **1.6 Delivery, Storage, and Handling**

- A. All components and accessories necessary for the assembly of the simulator including interior stairs, decks, and insulating material for burn rooms shall arrive at the project site by over-the-road trailer. Other small items including fasteners, instruments, and instrumentation shall be delivered separately.
- B. Store all building components according to building storage instructions above ground, separated, and protected from exposure to the elements & from physical damage caused by other activities.
- C. During storage, space surfaces of materials to permit free circulation of air.
- D. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer’s absolute limits.

#### **1.7 Warranty**

- A. Supplier shall provide a one (1) year warranty from the date of Substantial Completion warranting all components to be free from defects in materials and workmanship under normal use and service.
- B. Supplier shall provide a five (5) year extended materials and workmanship warranty from the date of structure delivery warranting all components included in the “Steel Building System” to be free from defects in materials and workmanship under normal use and service.

## **PART 2 – PRODUCTS**

### **2.1 Materials**

- 1. Conform to applicable ASTM specifications.
- 2. Galvanize all structural and non-structural materials used, less than ¼” in thickness, whether or not exposed to the elements.

#### **Burn Room Lining System**

- 1. High temperature insulating tiles and attachment materials shall be provided for the interior walls, ceiling, doors, and windows of the burn rooms as specified.
- 2. Tiles in burn rooms shall be supported by a system of 18-gauge galvanized mounting channels mounted both horizontally and vertically and fastened to the building steel wall verticals using proper Tek screws.
- 3. Tiles shall be pre-cut to size and shall be 1" thick. Tiles shall be pre-treated with a chemical system to be water resistant/repellent. Tiles shall allow for live fires in temperatures up to 1700-degree F maximum. No screws shall penetrate the insulating tiles.
- 4. Insulating materials shall be a minimum of 1" thick, 4000 psi compressive strength, designed to transfer less than 105 degrees through the thermal lining system at 1000 degrees F, and be capable of continuous service at temperature ranges to 1700 degrees F. System shall withstand repeated exposure to heat and the application of water to heated surfaces without the breakdown of insulating properties. Insulating materials shall not require “drying out” periods following the application of water nor be subject to “spalling” due to heat/moisture conditions.
- 5. A full set of installation drawings shall be prepared by the tile supplier and submitted for approval, which clearly shows the tile layout, sub-framing system and attachment layout. The contractor shall provide a sample of the material, written specifications, engineered drawings showing a typical installation with hardware and sub-framing system clearly shown, and a MSDS.
- 6. Complete layout drawings shall show all elevations, views, and details the location of the mounting channels, battens, and cut pieces of tiles.

## **2.2 Temperature Monitoring System**

- A. The temperature monitoring system shall provide real time, temperature monitoring for live fire events. Six (6) thermocouples shall be provided, two per burn room. All data shall be downloadable to an SD card for documentation purposes.

## **PART 3 - EXECUTION**

### **3.1 Installation**

- A. Comply with the respective manufacturer's recommendations for preparation of building components.
- B. Comply with respective manufacturer's instructions and approved shop drawings.

### **3.2 Adjusting and Cleaning**

- A. Repair or replace damaged components.
- B. Contractor shall properly maintain the site, collect all waste material, place all debris and waste in Contractor provided containers and remove from the site.