

**ADDENDUM 2**



**HVAC Improvements to:  
Huntington Fire Station**

1415 Huntington Road  
Stratford, CT 06614

TOWN PROJECT NUMBER: 2016-036

ISSUED: 8/1/2016

**MECHANICAL ENGINEER**

**DIVERSIFIED TECHNOLOGY CONSULTANTS**

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Hamden, CT 06518  
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The work shall be carried out in accordance with the following supplemental instructions and in accordance with the Contract Documents.

### **SPECIFICATION CHANGES**

#### **Request for Proposal - Design-Build HVAC Improvements**

- See attached revised specification section. **Changes highlighted.**

### **MISCELLANEOUS CHANGES / CLARIFICATION**

#### **Removal of Existing Mechanical Equipment**

- Existing mechanical equipment shall not be removed until new systems are installed and fully functional.

#### **Requests for Information (RFI's)**

- See attached updated RFI Log

**\*END OF ADDENDUM NO. 2\***



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**Town of Stratford  
Huntington Road Fire Station  
1415 Huntington Road, Stratford, CT**

**Request for Proposal  
Design-Build HVAC Improvements**

**Project Scope:**

The Town of Stratford, Connecticut is seeking proposals from qualified contractors for a design-build contract to design and install new heating and air conditioning equipment at the Huntington Road Fire Station. The primary goal of the project is to remove the existing oil fired equipment and replace with natural gas fired equipment. Also included are gas fired and electric unit heaters installed in various spaces.

Interested contractors may enhance their proposals by recommending participation in any local utility programs that would provide the Owner with rebates or other incentives. Additional information concerning these programs may be obtained from the utilities. Include a separate line item in the fee spreadsheet to the Owner listing potential savings.

**Applicable Codes:**

All work shall be designed to current applicable codes and standards in place at the time the building permit is issued, including but not limited to:

- 2003 International Building Code
- 2003 International Existing Building Code
- 2003 International Plumbing Code
- 2003 International Mechanical Code
- 2009 International Energy Conservation Code
- 2011 National Electrical Code (NFPA 70)
- 2005 Connecticut State Building Code including 2009, 2011, & 2013 Amendments

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### **Required Documents:**

The design-build team shall provide copies of the drawings, specifications, equipment lists, and shop drawings to the Owner for review and approval prior to the purchase and installation of any equipment or system related components. All drawings shall be in AutoCAD format and signed and sealed by a Connecticut licensed Professional Engineer. Architectural backgrounds in AutoCAD format will be provided to the design-build team.

The design-build team shall submit heating and cooling load calculations for all spaces, and mechanical ventilation calculations for the Second Floor areas, to the Owner for review and approval. These calculations shall be based on the following: building orientation, existing building envelope, the number of people occupying the building, lighting fixtures, field surveys, equipment load information, heating set point of 72 degrees F for all spaces, and cooling set point **per OSHA prescribed range of 74 degrees F** for the Second Floor spaces. These calculations shall be performed per the requirements of the International Mechanical Code and associated ASHRAE standards and guidelines.

Within 30 days of signing the contract, the design-build team shall prepare a detailed project schedule that provides a complete breakdown of design and construction. This schedule shall highlight critical milestones and shall be fully coordinated with the Owner's operations. Construction shall be performed between May 15, 2016 and October 1, 2016, and the heating system must be fully operational by October 1<sup>st</sup>. The schedule must be coordinated with and approved by the Owner.

A pre-construction meeting will be required, and any and all design-build team employees will be subject to a background check.

### **Scope of Work:**

The scope of work for this project shall include, but is not limited to, all mechanical electrical, plumbing, control systems, and removal / repair to architectural building elements needed in order to provide for a fully functional system. This includes, but is not limited to, a field survey of the existing building and spaces within the scope of work

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June 7, 2016

August 1, 2016 (REVISED)

Page 3 of 6

Huntington Fire Station  
Request for Proposal  
Design-Build HVAC Improvements

to determine the extent and visible condition of existing mechanical electrical and plumbing services, obstructions, and building elements that may need temporary removal and reinstallation or patch/repair, meet with building maintenance personnel to discuss the existing systems, and create current background drawings in AutoCAD from the existing CAD plans and field-gathered information. The design-build team shall be fully responsible for start-up and testing of the equipment to verify that the systems installed and the integration with their controls, meets all performance parameters and design criteria for the system.

Controls shall be provided for all new equipment. The unit heaters shall each be provided with a thermostat to maintain the heating set point. The two furnaces with central air conditioning shall be independently controlled with their own dedicated ~~7-day~~ programmable thermostats. The domestic hot water heater shall be monitored for status. Install controls to provide a complete and fully functioning system.

For the two furnaces with central air conditioning, new galvanized sheet metal ductwork shall be installed. Flexible ductwork shall be permitted for connections to individual diffusers and registers with a maximum length of five (5) feet. Ductwork shall be insulated per the requirements of the International Energy Conservation Code.

Combustion air intake and exhaust vent locations shall be through the roof or exterior walls, and must be installed per the requirements of both the manufacturer and all applicable building codes. Intakes and vents for furnaces located in attic to be either through the roof, or through the rear exterior wall of the attic. Intakes and vents for all equipment located on the First Floor and in the Basement to be vented through exterior walls. Contractor to coordinate intake and vent locations with Owner, for Owner's review and approval prior to installation. Contractor shall include all roofing, sealing, patching, and painting as required to weatherproof the openings and match adjacent appearance of finishes.

Include all gas, condensate, and refrigerant piping as required. Gas piping shall be schedule 40 black steel. Condensate piping shall be PVC and installed at a slope to drain under gravity to the nearest indirect connection. Where gravity drainage is not possible due to equipment location or height of equipment drains, condensate pumps shall be utilized. Refrigerant piping shall be sized per manufacturer's recommendations. Refrigerant piping and condensate piping shall be insulated per the requirements of both the manufacturer and the International Energy Conservation Code.

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June 7, 2016

August 1, 2016 (REVISED)

Page 4 of 6

Huntington Fire Station  
Request for Proposal  
Design-Build HVAC Improvements

A new gas service will be required for this project. Design-build team shall submit a gas load letter to utility, and install all required components for the new gas service to the building.

Include all electrical work required to provide a fully functioning system. Electrical disconnect and reconnect is allowable, however it is the design-build team's responsibility to evaluate the existing system, and new connections must meet current code requirements. If the existing panels are not large enough, provide either new panels or secondary panels. Provide low voltage wiring and programming for the control systems as required. Materials shall include copper wiring, EMT for exposed locations, MC Cable for concealed locations, and IMC for exterior locations.

Abatement of hazardous materials in the areas of the building impacted by this project shall be included in the scope of work. See report from the Town of Stratford's Environmental Consultant which describes hazardous materials based on recent testing.

The building will remain operational 24 hours per day, 7 days per week throughout the duration of this project. Contractor must coordinate working hours with Owner, coordinate any shutdowns a minimum of 7 days in advance, and minimize duration of shutdowns. Contractor shall also coordinate means and methods of system and equipment installation with the Owner, so as to not interfere with the Fire Department's operation.

Design-bid team is responsible for all permits and associated fees.

Equipment and installation shall come warranted for a minimum of 1 year after substantial completion, with the following equipment and components requiring longer warranties:

- A. Gas-fired Unit Heaters: Minimum 9 years for heat exchangers and burners, minimum of 2 years for all other components.
- B. Central Air Conditioners: Minimum 5 years for compressors.
- C. Furnaces: Minimum 5 years for heat exchangers and burners.

The design-build team is responsible for all necessary maintenance of all installed equipment during the one-year warranty period. The design-build team shall supply the Owner with final as-built drawings in AutoCAD and PDF electronic formats, and in hard-

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June 7, 2016

August 1, 2016 (REVISED)

Page 5 of 6

Huntington Fire Station  
Request for Proposal  
Design-Build HVAC Improvements

copy format. Design-build team shall also supply the Owner with operating manuals (PDF and hard copies), and Owner's training at the completion of the project.

The scope of work for specific spaces within this building shall include the following:

1. Demolition & Patching (Bid Scope of Work #1 & #2): Remove and dispose of existing oil tank(s), oil fired boiler, oil fired domestic water heater, existing unit heaters & convectors, all existing oil lines, all existing hydronic hot water piping, and all components and appurtenances of these systems. Remove existing ductless split A/C system in Recreation Room and return to owner. Patch all finishes to match existing. Contractor to provide separate pricing for the following: 1) All work in the Basement and 2) All work on the First & Second Floors.
2. Second Floor (Bid Scope of Work #3): Install two (2) natural gas fired, direct vent, condensing furnaces with central air conditioning in the attic. One unit is to serve the Bunk Room, Adjacent Office Space, and Weight Room, with the thermostat located in the Office. The other unit is to serve the Kitchen / Living Area, Computer Room, Shower Room, Toilet Room, and Stair Hall, with the thermostat located in the Living Area. Provide return air filter grilles in the Bunk Room, Offices, Weight Room, and Living Area for the second floor systems. Furnaces shall have a minimum AFUE rating of 95%. Condensing units shall have a minimum efficiency rating of 16 SEER, and be located on concrete pads at grade. Furnaces and condensing units shall be Energy Star certified. Manufacturer for furnaces and condensing units shall be Trane, Carrier, or York.
3. Second Floor Toilet Room (Bid Scope of Work #4): Install ceiling mounted exhaust fan(s) with integral electric heat and lights.
4. First Floor Apparatus Room (Bid Scope of Work #5): Install a minimum of two (2) natural gas fired, direct vent, separated combustion, hanging unit heaters in the Apparatus Room. These unit heaters shall be sized to maintain the heating set point even when the garage doors are frequently opened. Units shall include condensate pumps, mounting kits, and condensate PH neutralizing kit. Primary heat exchanger shall be stainless steel. Unit heaters to have a minimum thermal efficiency of 91%. Unit heaters shall be Modine Effinity 93 Model PTC or Reznor Model UEAS.

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Page 6 of 6

Huntington Fire Station  
Request for Proposal  
Design-Build HVAC Improvements

5. First Floor Equipment Room (Bid Scope of Work #6): Install a natural gas fired, direct vent, separated combustion, hanging unit heater in the Equipment Room, which will serve both the Equipment Room and adjacent Storage Room. Unit shall include mounting kits. Unit heater shall be Modine Hot Dawg Model HDS or Reznor Model UDAS.
6. First Floor Bathroom (Bid Scope of Work #7): Install a wall mounted electric heater in the Bathroom. Electric wall heater shall be surface mounted Qmark Model CWH1000 Series, Berko Model SRA Series, or Trane Model UHAA.
7. Basement (Bid Scope of Work #8): Install one (1) or two (2) ceiling mounted electric unit heaters in the Basement. Electric unit heaters shall be Qmark Model MUH, Berko Model HUHAA, or Trane Model UHEC.
8. Basement (Bid Scope of Work #9): Install one (1) natural gas fired, 80-gallon domestic hot water heater. Equipment shall meet ASHRAE 90.1-2012 and be Energy Star certified. Vent to be in existing chimney, with new chimney liner installed if no liner currently installed.

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<b>RFI LOG</b>					
<b>HVAC Improvements: Huntington Fire Station</b>					
Date: 8/1/2016					
DTC Engineers					
	<b>Question</b>	<b>Date Received</b>	<b>Directed To</b>	<b>Response</b>	<b>Response Date</b>
1	What is the size of existing oil tank?	7/29/2016	DPW	Existing oil tank is 2000 gallons	8/1/2016
2	Please advise regarding existing electric service?	7/29/2016	DPW	200 Amp, Single-Phase	8/1/2016