PURCHASING DEPARTMENT
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NOTICE TO BIDDERS
ADDENDUM #002

FOR: B020-05 ROGER SHERMAN CHILLER

FOR: City of Meriden

BID DUE DATE: September 26, 2019 at 11:00 AM

Please acknowledge receipt of all addenda on the Proposal Pages.

The purpose of this addendum is to:

- Refer to the revised bid form for Prevailing Wage Determination (Refer to Addendum #001)
- Refer to the revised bid form for additional Add/Alternate #001 (See Attached)

Adam B Tulin
Purchasing Officer
Dated: September 19, 2019

ADDENDUM 2

DATE: September 18th, 2019

GENERAL

1. **Refer to revised Bid Form for wage rates**
2. **Refer to revised Bid Form for additional Add Alternate #1** – Replace (9) 3-way chilled water control valves with 2-way control valves. Include 3'-0" of insulated pipe on each side of the valve and new coil isolations valves. Isolation valves size shall match existing. Repair any damaged insulation. Connect new control valves to existing BMS.
   Provide the following 2-way control valves: (1) 2 ½", (4) 2", (2) 1 ½", (1) 1 ¼".

SPECIFICATIONS

1. Revise Section 23 21 13 – HYDRONIC PIPING. _ include paragraph 2.18 UNDERGROUND CHILLED WATER PIPING

   A. Poly-Therm:

   1. All underground and above ground chilled water lines, outside the building, shall be the Schedule 80 steel, poly-therm type, as manufactured by Perma-Pipe. Equal products by Thermacor or Rovanco will be acceptable. Underground and above ground pipe subject to freezing conditions shall be heat traced. Heat trace system shall be connected to the emergency power circuit.
   2. All straight sections, fittings, anchors and other accessories shall be factory fabricated to job dimensions and designed to minimize the number of field welds. Each system layout shall be computer analyzed by the piping system manufacture to determine stress on the carrier, pipe, and anticipated thermal movement of the service pipe.
      The system design shall be in strict conformance with ANSI B31.1, latest edition.
      Factory trained field technical assistance shall be provided for critical periods of installation; unloading, field joint instruction, and testing.
   3. All joints shall be butt-welded for 2 1/2" and greater, and socket or butt-welded for 2" and below. Where possible, straight sections shall be supplied in 40 foot random lengths with piping exposed at each end for field joint fabrication.
   4. End seals, gland seals and anchors shall be designed and factory fabricated to prevent the ingress of moisture into the system.
   5. Service pipe insulation shall be spray applied nominal 2 pound per cubic foot density, polyurethane foam for straight sections and preformed polyurethane foam for all fittings.
   6. To ensure no voids are present, all insulation shall be inspected by one of the following three methods; visually checked prior to application of the protective jacket; infrared inspection of the entire length; or x-ray inspection of the entire length. The insulation shall be applied to the minimum thickness specified below. The insulation thickness shall not be less than indicated in these specifications.

Pipe Size (In.)	Insulation Thickness (in)	
	Chilled Water	Hot Water
1" to 6"	1	1
8" - 14"	1	1½
16" - 24"	1½	2

7. All straight sections of the insulated piping system shall be filament wound, polyester resin/fiberglass reinforcement composite directly applied on the insulating foam. Thermoplastic casing material, e.g. PVC or PE, shall not be allowed. The minimum thickness for FRP jacket shall be as follows: For jacket diameter up to 15.5 inches - thickness = 0.55 inches; jacket diameter between 15.6 and 24.5 inches - thickness = 0.85 inches; jacket diameter between 24.6 and 31.0 inches - thickness = .110 inches; and jacket diameter between 31.1 and 40.0 inches - thickness = .140 inches. All fittings of the insulated piping system shall be prefabricated to minimize field joints and jacketed in a chopped spray-up, polyester resin/fiberglass reinforcement composite, directly applied onto the insulating foam to a thickness related to the filament wound jacket thickness.

8. The internal pipe shall be hydrostatically tested to 150 PSIG or 1 1/2 times the operating pressure, whichever is greater. Insulation shall then be poured in place into the field weld area. All field applied insulation shall be placed only in straight sections.

9. Field insulation of fittings shall not be acceptable. The mold for the polyurethane shall be made of clear adhesive backed polyester film. The installer shall seal the field joint area with a heat shrinkable adhesive backed wrap or with wrappings of glass reinforcement fully saturated with a catalyzed resin identical in properties to the factory-applied resin.

10. Backfilling shall not begin until the heat shrink wrap has cooled or until the FRP lay-up has cured. All insulation and coating materials for making the field joint shall be furnished by Perma-Pipe.

B. Installation - The installing contractor shall handle the system in accordance with the directions furnished by the manufacturer and as approved by the architect and engineer. The casing shall be air tested at 15 PSIG and the service piping shall be hydrostatically tested to 150 PSIG or 1 1/2 times the operating pressure, or as specified in the contract documents. The test pressure shall be held for not less than one hour.

C. Backfill - A 4 inch layer of sand or fine gravel shall be placed and tamped in the trench to provide a uniform bedding for the system.

D. The entire trench shall be evenly backfilled with a similar material as the bedding in 6 inch compacted layers to a minimum height of 6 inches above the top of the insulated piping system. The remaining trench shall be evenly and continuously backfilled in uniform layers with suitable excavated soil.

DRAWINGS

1. Drawing M1.2– NEW CHILLED WATER SYSTEM PIPING DIAGRAM – Chilled water by-pass in the mechanical room shall be 3".
2. Drawing M1.2– NEW CHILLED WATER SYSTEM PIPING DIAGRAM – Total Filter shall be 2", Commercial Type.
3. Drawing M1.2– NEW CHILLED WATER SYSTEM PIPING DIAGRAM – New Underground Chilled Water Supply and Return shall not be heat traced.
4. Drawing M1.2– NEW CHILLED WATER SYSTEM PIPING DIAGRAM – Core bore existing foundation wall. Provide link seal at chilled water pipes foundation wall penetration.
5. Drawing M1.2– CHILLER SPECIFICATIONS – Acceptable substitutions are by Smardt or York.