Weston Air Handler Replacement
October 22, 2010

HVAC SPECIFICATIONS

1. GENERAL

A. Work includes HVAC work for Town of Weston, Connecticut. Provide ductwork, air handling units, condensing units, piping, removals, refrigerant piping, insulation, pads, temperature controls, electrical, etc as indicated and or implied in contract documents for a complete and fully functional installation. Project shall be a complete turnkey installation.

B. All work shall comply with requirements of the State of Connecticut building codes.

C. Prior to submission of his bid, this contractor shall visit the job site to ascertain the actual field conditions as they relate to the work as indicated on the drawings and described herein. Discrepancies, if any, shall be brought to the Owner's attention prior to submission of his bid, and if not resolved to his satisfaction, shall be a written qualification of his bid. The submission of a proposal will be construed as evidence that such an examination has been made, and later claims for labor, equipment or materials required for difficulties encountered which could have been foreseen had such an examination been made, will not be recognized.

D. Prior to submission of his formal bid, this contractor shall review all documents of the entire project and he/she shall notify the Owner of work required in his bid which is indicated or implied in other sections of the work.

E. Install work in a neat workmanlike manner readily accessible for operation, maintenance and repair.

F. Specifications indicate general arrangement of systems and work in contract. The specifications do not undertake to illustrate or describe all items necessary for the work. The contractor is to be completely familiar with the function of all items included and that his estimate shall reflect the inclusion of all hangers, inserts, etc., necessary for a complete and operable system. All material, work, incidental accessories or other details not shown but necessary to make the work complete and perfect, and in all respects ready for operation, even if not particularly specified, shall be provided by the contractor at no additional cost to owner.

G. Refer to project general conditions for warranty and guarantee requirements. In the absence of same, contractor shall provide guarantee of one year on workmanship and materials from date of owner acceptance and an additional 4 years on compressors..

H. If any errors, omissions or discrepancies appear in the Specifications or other documents, the contractor shall within ten (10) days after receiving such documents notify the Owner in writing of such omissions or errors. In the event of the contractor's failure to give such notice, errors or omissions, the cost of rectifying same, shall be borne by this contractor.

I. If there are any conflicting requirements between this specification and clarification is not received by the contractor then, the contractor shall abide by the more stringent requirement.

J. The contractor shall be responsible for total coordination between the different divisions of the contract. Items furnished under one division and requiring work under another division is part of the contract and no allowance will be given to the contractor's claim for extra work.

K. All work shall be performed in accordance with the Town of Weston building standards. Coordinate with facilities for special requirements.

L. Seal all penetrations through fire separation with an approved UL listed assembly and fire stopping materials.

2. SCOPE OF WORK

A. Provide all labor, materials, equipment and contractor's services necessary for complete, safe, installation of all work in full conformity with requirements of State of Connecticut building codes and of all authorities having jurisdiction.

B. Secure certifications, permits, pay all fees and charges for all work installed.

C. Provide proper evacuation and reclamation of the existing refrigerants.

D. Project include HVAC system replacement at the following locations:

1. Library
2. Highway Department
3. Record Room
4. Dog Pound
5. Compactor Office Building

E. Contractor shall provide a lump sum turnkey proposal for items 1 and 2 above and add alternates for items 3, 4 and 5. The add alternates will chosen depending available monies left in the budget.

F. Provide make and model of proposed equipment for the project with submitted bid.

G. All equipment shall be installed to match the existing system capacities. The specifications provided for each location are to be used a basis for system selection and proposals. Contractor shall verify all condition on the project and include in their bid.

H. Contractors are required to coordinate a walkthrough with the Owner to review the site conditions prior to submitting their bids.

I. Remove all existing equipment from site and dispose of per State of Connecticut requirements.

J. Coordinate with Owner for access and schedule work to minimize disruption of services.

K. Verify and coordinate all equipment voltages prior to ordering of equipment.

L. Provide modification to existing concrete pads to house new equipment. In absence of same proved manufactured high impact equipment pads.

M. Remove and replace existing refrigeration piping.

N. Insulate all new piping and ductwork.

O. Upon completion of project provide operation and maintenance manuals to Owner.

3. DESCRITPION OF SYSTEMS

A. Library (1)

1. Trane TTAO73D3OOA R410 (6 TON 13 SEER) condensing unit

2. Trane TWE090 R410 Air Handler with hot water coil
3. Trane TTA240E300A R410 (20 TON 13 SEER) condensing unit
4. Trane TWE240 Air Handler with hot water coil
5. New 7 day electronic programmable thermostat per unit.

B. Highway Department (2)

1. Trane TTAO73D3OOA R410 (7.5 TON 13 SEER) condensing unit
2. Trane TWE090 R410 Air Handler with hot water coil.
3. New 7 day electronic programmable thermostat per unit.

C. Record Room (3)

1. Trane (2 TON 20 SEER) XL20i Ultra High Efficiency AC System Model 4TTZ0024A1000t
2. Trane Air Handler/Variable speed R410A with hot water coil.
3. New 7 day electronic programmable thermostat per unit.
4. Secondary drain pan under unit.
5. 10 year compressor warranty.

D. Dog Pound (4)

1. Trane (2 TON 15 SEER) Ultra High Efficiency AC System Model 4TTX5024A1000
2. Trane cased aluminum high efficiency upflow/downflow/horizontal coil Model 4TXCB025AS3HCA
3. Condensate pump 20ft head, 115 volts.
4. New 7 day electronic programmable thermostat per unit.
5. Secondary drain pan under unit.
6. 10 year compressor warranty.

E. Compactor Office Building (5)

1. Mitsubishi MSZ09NA indoor unit
2. Mitsubishi MUZA09NA outdoor unit 17 SEER
3. Ductless split wiring package
4. Enclosing of existing wall opening by Town of Weston.

4. DUCTWORK

A. All ductwork shall be galvanized steel, fabricated and installed in accordance with smacna hvac duct construction standards, latest edition, all seams and joints sealed and taped for a 2" pressure class.

B. Acoustically lined ductwork, mat-faced glass duct liner, 1-inch thick 1-1/2 lb/cf density. Duct dimensions indicated are clear (net) inside dimensions.

C. Seal all duct connections.

D. Seal opening around ducts through walls with mineral wool or other non-combustible material.

G. Ducts shall be sealed to conform to SMACNA air leakage test manual, 1985 edition: low pressure, seal class "c"

5. PIPING

A. Hot water 2-1/2" and smaller: black schedule 40 steel pipe and fittings with screwed joints or type "L" copper and wrought fittings with soldered joints.

B. Condensate drain piping: type "L" copper and wrought fittings with soldered joints.

C. Refrigerant piping: copper ACR type tubing with wrought copper fitting and silver soldered joints.

D. Provide pipe hangers consistent with piping material.

E. Hanger materials to be prime painted or zinc coated.

F. Use dielectric fittings for connecting dissimilar materials.

G. Provide 22 gauge galvanized pipe sleeves for pipe penetrations through sheetrock walls. Use schedule 40 galvanized for sleeves through masonry walls of one pipe diameter than outside diameter of insulation.

H. Provide air vents at high points and drains at low points of piping system.

I. Provide ball type isolation valves at each supply and return branch pipe extending from chase.

J. Ball valves: bronze 3-piece, full port design, 600 wog.

K. Pressure test each section of piping independent of chase if work proceeds in fragmented.

6. INSULATION

A. All new supply ductwork above suspended ceiling (not acoustically lined) with fibrous glass blanket, foil faced 1.5 inch thick, ¾ pound density.

B. Flexible ductwork: factory pre-insulated, 1-inch foil-scrim kraft facing.

C. All hot water and condensate piping shall be insulated with 1" thick piping insulation similar to Owens Corning type 25 with ASJ.

D. All hot water piping shall be insulated with 1.5" thick piping insulation similar to Owens Corning type 25 with ASJ.

E. Insulate all pipe fittings with zeston type fittings wrapped over packed fill to match thickness of insulation.

F. Refrigerant piping: ½" thick foam cell insulation inside, 1" thick at exterior of building. Wrap exterior insulation with watertight aluminum jacket.

7. CLEANING, BALANCING AND ADJUSTMENT

A. Thoroughly clean all new apparatus (coils, replace filters, etc) prior to placing in operation. Calibrate and/or replace faulty components as required.

B. Provide a reading of the existing unit air flows and water flows and restore new units to match existing capacities.

C. Mark equipment settings, including damper control positions, devices, to show final settings at completion of balancing. Provide markings with paint or other suitable permanent identification materials.

D. Test, adjust, and balance new air distribution systems to provide air quantities indicated within plus or minus 5 Percent.

E. Test, adjust and balance hot water hydronic coils.

F. Submit a test report indicating quantity of air at each outlet after balancing. List obvious noise and air draft problems and recommended corrective action.

END OF SECTION