

Simsbury Public Library

Condensing Unit Replacement Project

Request for Proposals

The Town of Simsbury is seeking proposals from qualified design / build contractors to replace air conditioning system components at the Public Library located at 725 Hopmeadow Street.

This outline specification is intended to provide initial guidance on project requirements and highlight critical performance details. In no event shall the lack of details in this document be construed to undermine the requirement for a quality installation of completely functional system.

Proposal Requirements

All proposals are due on or before 10:00 a.m., Thursday, May 9, 2013 to Thomas J. Roy, Director of Public Works, (mailing address) PO Box 495, Simsbury, CT 06070.

- Approach: Describe how your firm will approach this project in terms of design, preparation and assurances that the work will minimize disruption and result in a high quality installation. Provide details of your process and how this will be accomplished.
- Qualifications: Provide a brief overview of key staff and their skills and education in performing similar work along with licenses held. Include the brief history of the firm(s): number of years in business, principal services provided, etc.
- Products: Provide details on specific product(s) that will be installed.
- Town Responsibilities: Indicate what is expected of the Town to achieve a successful project.
- Schedule: Indicate key scheduling milestones and associated timeframes for the duration of the project.
- Price: Provide a fixed, all-inclusive not-to-exceed price to provide services as specified with alternate pricing for refurbishment/replacement of the air handler. Any further recommendations or alternates that provide additional benefits and/or better life cycle value to the Town are welcomed and encouraged; pricing and appropriate descriptions for alternatives are to be provided separately from the base scope.

Questions:

Any questions about this project should be directed to: Mr. George McFee, Project Manager, CES at (860) 632-1682 or by E-mail at gmcfee@cesct.com. To receive consideration, such questions must be received at least five (5) calendar days before the established date for receipt of proposals. No oral interpretations shall be made to any respondent as to the meaning of any of the Request for Proposals. Every request for an interpretation shall be made in writing.

The Town will respond to all appropriate questions received via addenda available to all prospective bidders. Such addenda will become part of this Request for Proposals and the resulting contract. At least three (3) days prior to the receipt of bids, the Town will post a copy of any addenda to its website, located at: www.simsbury-ct.gov/finance. It shall be the responsibility

of each bidder to determine whether addenda have been issued, and if so, to download copies directly from the Town's website.

Pre-Proposal Conference / Site Review:

A pre-proposal conference is scheduled for Tuesday, April 30, 2013 at 9:00 a.m. at the Simsbury Library. All prospective bidders are encouraged to attend. As part of this conference, representatives from the Town and our consulting engineering firm will review the project requirements, and provide a tour of the work site. Review of the site at times other than during the pre-proposal conference will be allowed by appointment only. To schedule an appointment, please contact Mr. Mark Rustic, Supervisor of Buildings and Grounds at (860) 392-8374.

Insurance Requirements:

The Contractor must carry insurance under which the Town is named as an assured, as follows:

Such insurance must be by insurance companies licensed to write such insurance in Connecticut against the following risks with the following minimum amounts and minimum durations.

- A. Workman's Compensation, as required by Connecticut State Statute.
- B. Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

Injury or death of one person:	\$1,000,000
Injury to more than one person in a single accident:	\$1,000,000
Property damage in one accident:	\$1,000,000
Property damage in all accidents:	\$1,000,000
- C. Automobile and Truck (Vehicular) Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

Injury or death of one person:	\$1,000,000
Injury to more than one person in a single accident:	\$1,000,000
Property damage in one accident:	\$1,000,000
Property damage in all accidents:	\$1,000,000
- D. Builders Risk including Fire and Extended coverage:

In an amount equal to the value of construction completed plus materials delivered to the site. Insurance under B, C, D above must provide for a 30 day notice to the Town of cancellation/or restrictive amendment.

Insurance under B and C above must be for the whole duration of the contract and for twelve (12) months after acceptance of the project by the Town.

Insurance under D above must be carried for the whole duration of the project and until acceptance by the Town.

Subcontractors must carry A, B, C in the same amounts as above for the duration of the project and until acceptance by the Town.

Certificates of insurance must be submitted to the Director of Public Works prior to the signing of the contract and within ten days of notification of award of contract. Should any insurance expire or be terminated during the period in which the same is required by this contract, the Director of

Simsbury Public Library - Replace ACCU-E

Public Works shall be notified and such expired or terminated insurance must be replaced with new insurance and a new certificate furnished to the Director of Public Works.

Failure to provide the required insurance and certificates may, at the option of the Town, be held to be a willful and substantial breach of this contract.

Background

The original Town Library was first opened in 1985. A major addition and renovation was completed in 2007, and the facility now totals about 40,000 square feet. The library includes stacks, reading areas, circulation desk, offices, and downstairs area including children's section, large program room, several smaller meeting rooms, and public bathrooms.

The library's operating schedule is Tuesday through Thursday from 10 a.m. to 8 p.m., Fridays from 10 a.m. to 5 p.m., Saturday from 10 a.m. to 5 p.m., and Sunday from 1 p.m. to 5 p.m. In the summer, the library is closed on Sundays. All construction related work will need to be done with a minimal disruption to the Library operations.

Three DX air handlers and a DX rooftop unit condition the building. One of the units (EAHU-1) serves the original building and dates to 1985. The balance of the HVAC systems is associated with the 2007 addition, including AHU-1 which is a Carrier air handler in need of a new DX coil. A separate price for this work is requested in Part 4 of this RFP.

The air handlers supply terminal VAV boxes throughout the library. Each is equipped with static pressure controlled fan motor variable speed drive. Heating is provided via hydronic VAV reheats, air handler coil and several unit heaters and radiators. Each air handler coil has a freeze protection pump that operates in cold weather.

The condensing unit for EAHU-1 (ACCU-E) is beyond the end of its expected service life and requires replacement before the 2013 cooling season. EAHU-1 is itself in fair condition for its age and has remaining life; but its DX coil requires replacement to meet pressure requirements of required refrigerant alternates associated with replacing ACCU-E. Detail on the units is provided below:

EAHU-1: Trane climate changer model No. CCDB41K8ND, Serial No. K85A49974.

- 20 hp high efficiency supply fan motor, 208-volt three-phase electrical service.
- 21,300 cfm fan rating @ 4 inch TSP,
- Two stage DX coils, 669 MBH rating
- Electrically actuated hot water control valve
- Pneumatically actuated mixed air dampers
- Located in attic mechanical room with difficult access for replacement

ACCU-E: Trane Model No. RAUBC606BE01B1A, Serial No. J85A80188

- 669 MBH capacity, 71.1 kW input, 208 three-phase service
- Two scroll compressors, 109 FLA each, R-22 refrigerant
- Six 1 hp condenser fans
- Pad mounted behind library

Note that EAHU-1/ACCU-E was designed to serve the original library, with its entire perimeter being exterior walls. However, with the 2007 additions, much of this zone now adjoins conditioned space. Also, lighting load levels have dropped significantly with the conversion to T8 technology while computer loads have increased.

Therefore, current load requirements of the systems are different than the original design. An engineering study has qualified a **40 ton** condensing unit to be the correct size to satisfy the reduced cooling load.

Design Intent

The intention of this project is to renew the library's air conditioning system in the original section of the building and to assure long-term comfort and reliable operations of these systems. The project includes replacement of the outdoor condensing unit (1), replacement of the air handler DX coils (2), adjustment to air handler fan output and ventilation settings as appropriate, as well as updates to refrigerant piping, new expansion valves and controls interface. Optional work includes complete refurbishment or replacement of the air handler.

Part 1 – General Requirements

All work shall be in compliance with all applicable codes and regulations and the Contractor is responsible for a complete functioning system. This specification is intended to outline the project and highlight critical details. If ceiling or roof insulation/vapor barriers are damaged during the execution of this contract it shall be fully restored.

Part 2 - Submittals

Contractor will be required to submit a design package for approval prior to ordering equipment and/or beginning the installation. Design package will include as a minimum the following:

1. Drawings showing demolition and installation details (as applicable to modifications), mechanical/electrical details and mechanical schedule data.
2. Equipment performance and selection details for new condensing unit, valves, coils, etc.
3. Cut sheets for new HVAC equipment and components, including control devices.

Part 3 – Required Equipment Selection, Installation, Commissioning

1. Condensing Unit and DX Coil

- Remove and replace Trane packaged condensing unit. Includes all necessary site work including but not limited to: demolition, refrigerant recovery, pad repairs/modifications, rigging, refrigerant piping modifications and connections, suction pipe insulation replacement, electrical connections and updates as necessary.
- New condensing unit shall be manufactured by Trane. Initial selection is for Model RAUC-C40. Other manufacturers including McQuay and York will be considered if there is a lifecycle cost advantage to the Town.
- New units shall have efficiency rating of 11.2 EER or better. Condenser fan motors shall have highest efficiency rating available.
- Replace DX coils (2), expansion valves and update/replace refrigerant piping as needed with all interconnections. Replace coil pan and replace/repair drain line as necessary.

Clean and inspect hot water coils once exposed and provide recommendation for additional work, if needed.

- DX coil shall be a Trane product installed to properly fit the coil space. Ensure all panels, access doors, components removed as part of the installation are replaced per manufacturer recommendations.
 - Include all rigging and handling as required to remove the existing coil from the premises and fit the new DX coil into place without damage. Any concerns regarding handling or access should be addressed during the pre-proposal conference
 - After existing DX coil is removed from the unit, clean the heating coil with a biodegradable detergent to remove any and all film or debris.
 - New DX coil to have integral drain pan or provide new stainless steel pan with size and location to match existing. Furnish and install new condensate piping to reconnect to existing condensate system
 - Furnish and install all refrigerant devices as required to make unit function as intended
 - New installation shall be triple evacuated and recharged to meet manufacturer's requirements. All work to be completed per AHRI industry standards.
 - Confirm all control connections and associated devices are correct and functioning properly. Initial cooling start up shall be completed during warm weather conditions per manufacturer recommendations to ensure proper operation.
- Equipment cut sheet to be provided along with a certified equipment start up sheet listing pressures and temperatures recorded. A one year parts and warranty labor certificate shall also be provided upon completion.
 - Interconnect new units with existing Tridium based Johnson Controls DDC system. Contractor is responsible for functionality of controls to new devices.
 - Consideration will be given to units that provide a higher efficiency and/or provide a lower life cycle cost.

2. Air Handler Refurbishment/Replacement (Price as Optional)

- Remove and replace air handler with new Trane (or equal) sectional unit including all site work, rigging, interconnections, etc. Note that access is challenging and building modifications may be needed to deliver the unit into the attic. New air handler unit shall include integral variable speed drive, premium efficient fan motor and electrically actuated dampers; or
- Refurbish existing air handler including: Inspection of fan, shaft and bearings with service or replacement of worn components as necessary. Replace hot water coils, if warranted. Repair/replace insulation on floor of mixed air plenum and add protection for future chafe due to staff access for filter changes. Replace make-up air; return air and relief damper sections. New damper units shall be electrically actuated. Demo pneumatic lines and provide new wiring and terminations to DDC panel at air handler. Airseal air handler enclosure including replacement of access panel gaskets and flex connections.

- Inspect hot water piping and supports and update as needed. Reinsulate hot water piping in the vicinity of the air handler to the mains.
- Consideration will be given to units that provide a higher efficiency and/or provide a lower life cycle cost.

3. Test and Balance (Price as Optional)

- Test and air balance air handler and all associated VAV zones. Provide report and recommendations to resolve discovered deficiencies.

4. Start-Up and Commissioning

- Pressure-test all refrigerant piping
- Pre-functional and functional testing of new equipment as per manufacture's recommendations
- Point-to-point and sequence check of all new control points.
- As-built drawings.
- O&M manual for new systems and components.

Part 4 – AHU-1 DX Coil Replacement (Price as Optional)

General: AHU-1 is a split system Carrier unit, model 39MN14C01067811XDS, installed as part of the 2007 Library renovation and requires a new DX cooling coil. The existing coil cannot be repaired due to numerous leaks and must be removed and replaced.

Scope of Work

- DX coil shall be a Carrier product, match the performance characteristics of the coil being replaced and be installed to properly fit the coil space. Ensure all panels, access doors, components removed as part of the installation are replaced per manufacturer recommendations.
- Include all rigging and handling as required to remove the existing coil from the premises and fit the new DX coil into place without damage. Any concerns regarding handling or access should be addressed during the pre-proposal conference
- After existing DX coil is removed from the unit, clean the heating coil with a biodegradable detergent to remove any and all film or debris.
- New DX coil to have integral drain pan or provide new stainless steel pan with size and location to match existing. Furnish and install new condensate piping to reconnect to existing condensate system
- Furnish and install all refrigerant devices as required to make unit function as intended
- Isolate and protect the condensing unit and associated refrigerant piping. Fully evacuate and reclaim refrigerant. Reconnect existing refrigerant piping and recharge as required to provide a fully functional refrigerant system. New installation shall be triple evacuated and recharged to meet manufacturer's requirements. All work to be completed per AHRI industry standards.

- Confirm all control connections and associated devices are correct and functioning properly. Initial cooling start up shall be completed during warm weather conditions per manufacturer recommendations to ensure proper operation.

Equipment cut sheet to be provided along with a certified equipment start up sheet listing pressures and temperatures recorded. A one year parts and warranty labor certificate shall also be provided upon completion.