

WOODBURY COUNTY BOARD OF SUPERVISORS AGENDA ITEM(S) REQUEST FORM

#9c

Date: 8/23/2017 Weekly Agenda Date: 8/29/2017

ELECTED OFFICIAL / DEPARTMENT HEAD / CITIZEN: Kenny Schmitz

WORDING FOR AGENDA ITEM:

Courthouse HVAC Automation Project- Engineering Services

ACTION REQUIRED:

- Approve Ordinance Approve Resolution Approve Motion
Public Hearing Other: Informational Attachments

EXECUTIVE SUMMARY:

Resource Consulting Engineers Project Scope for the Woodbury County Courthouse HVAC Automation Project has changed requiring additional time to identify and now separate the project into Two Projects.

BACKGROUND:

The current Courthouse HVAC needs required a change in the original project scope to modify and address items necessary to address current space temperature demands and comfort levels.

FINANCIAL IMPACT:

Resource Consulting Engineers- \$12,000
Original Fee for Courthouse & LEC= \$64,000
New Total- (deducting LEC) & separation of Courthouse with addition of a Second Project at Courthouse= \$76,000

IF THERE IS A CONTRACT INVOLVED IN THE AGENDA ITEM, HAS THE CONTRACT BEEN SUBMITTED AT LEAST ONE WEEK PRIOR AND ANSWERED WITH A REVIEW BY THE COUNTY ATTORNEY'S OFFICE?

Yes No

RECOMMENDATION:

Building Service requests approval of Resource Engineering proposal in the amount of \$12,000.

ACTION REQUIRED / PROPOSED MOTION:

Motion to approve Resource Consulting Engineers Proposal dated August 16,2017 in the amount of \$12,000.

August 16, 2017

Kenny Schmitz

Director of Building Services

Woodbury County
620 Douglas Street
Sioux City, IA 51101



RESOURCE
CONSULTING
ENGINEERS LLC

Re: Woodbury County Courthouse – Control System Upgrades – Revised Proposal

Dear Kenny,

I am pleased to present you with a revised proposal for services related to a Control System and Equipment Upgrades Project for the Woodbury County Courthouse. This proposal includes Engineering Design and Construction Administration Services for the project. I appreciate the opportunity to provide this proposal, and look forward to helping Woodbury County in significantly improving operational reliability and efficiency for this important facility.

Key differences between this proposal and the original proposal are:

- The Project Scope is now limited to the courthouse
 - Given the condition and operational capabilities of numerous pieces of major equipment at the Law Enforcement Center, it was determined that spending significant resources upgrading controls for these pieces of equipment was not appropriate
- The courthouse scope has been modified to include equipment replacement and/or modification in select areas to address existing operational limitations:
 - The chilled water system currently operates year-round to meet cooling loads throughout the building
 - This appears to be due primarily to systems not having functional economizers
 - Modifications to the chiller and chilled water pumps will be incorporated to allow for variable-primary chilled water flow, which will reduce pumping energy required to operate the chilled water system
 - Economizer operation will be added to AHU-B-1, which serves the Basement Level of the Building – this will help to address the chilled water system issue requiring year-round operation
 - Because of the configuration of mechanical systems serving the 3rd through 7th Floors, a control system upgrade alone is unlikely to improve comfort in many

spaces during significant portions of the year – additionally, these spaces currently don't have economizer operation capability, and are partially responsible for the chilled water system needing to operate year-round

- New mechanical systems, along with new controls, are intended to be installed at these levels – this will require each level to be temporarily vacated while work is completed – the resulting configuration will improve control capabilities, along with improving occupant comfort and indoor air quality, while allowing for economizer operation at each level
- Due to budgetary concerns, it may not be feasible to complete all of the work currently included into a single Project while meeting maximum cost requirements
 - The original intent for this Project was to replace controls only, and this will generally continue to be the scope for the Basement through 2nd Floors and on the 8th Floor
 - The scope of work for the 3rd through 7th Floors will involve more trades, coordination, etc., as well as staff relocation during work on each level
 - Given the difference in scope between these areas of the building, as well as budget concerns, it is recommended that the scope of work be split into two separate Projects
- With the incorporation of the equipment replacement on Floors 3 through 7, the construction cost of the Project is expected to increase to approximately \$1,100,000

Scope of services:

Services to be provided:

- Mechanical and Electrical Engineering Design Phase Services, including:
 - Site Surveys to document locations of existing control components and to determine requirements for new control systems, e.g., what sensors will be required to control a system and where they will be located
 - Development of sequence of operations for each system located in the Courthouse
 - Development of required points list for each system located in the Courthouse
 - Design of modifications to AHU-B-1 in Courthouse
 - Load Calculations for Floors 3 through 7 of Courthouse
 - Ventilation Calculations for Floors 3 through 7 of Courthouse
 - Design of demolition and new equipment for Floors 3 through 7 of Courthouse
 - Development of Drawings showing:
 - Modifications to AHU-B-1
 - New Mechanical Systems for Floors 3 through 7
 - Modifications to Ceilings for Floors 3 through 7
 - Locations of equipment to be controlled
 - Locations of control components not mounted at equipment, including temperature sensors, differential pressure sensors, static pressure sensors, etc.
 - Flow diagrams where necessary to communicate system configuration and control component locations
 - Details related to installation of new control components (valves, flow measurement devices, etc.)
 - Sequences of Operations
 - Point Lists
 - Information for required electrical power system modifications to serve new control components
 - Development of Project Manual, including:
 - Procurement and Contracting Requirements (Division 00 Specification Sections) – specific forms and requirements to be reviewed with County Personnel prior to development
 - General Requirements (Division 01 Specification Sections)
 - Technical Specifications (expected to include Division 23 and Division 26 Specification Sections)
 - Review meeting(s) with County Personnel to review proposed sequences of operations and point lists for new control systems, as well as configuration of system modifications and new systems

- Development of bid alternates as determined appropriate by County Personnel
- Review meeting with Woodbury County Personnel to verify required information is included in Contract Documents to be used for bidding the Project
- Production of contract documents to include:
 - Project Manual
 - Drawings
- Mechanical and Electrical Engineering Bidding Phase Services, including:
 - Response to requests for information
 - Attendance at pre-bid meeting
 - Preparation of Addenda as necessary
- Mechanical and Electrical Engineering Construction Phase Services, including:
 - Review of submittals
 - Response to contractor questions
 - Preparation of Supplemental Instructions, Proposed Contract Document Revisions, etc., as necessary
 - Attendance at project construction progress meetings
 - Field observations during construction phase as appropriate
 - Preparation of punch list
 - Incorporation of changes into electronic record documents

Not included (available upon request):

- Mechanical system design and construction services not listed above, including:
 - Heating and cooling load calculations for areas not specifically identified
 - Ventilation calculations for areas not specifically identified
 - Building pressurization analysis for areas not specifically identified
 - Energy modeling services
 - Modifications to other mechanical systems not specifically identified above
- Design of modifications to electrical power distribution system (other than those specifically required to serve control system modifications)
- Design of modifications to plumbing systems
- Design of modifications to fire alarm system (other than those associated with control of mechanical equipment such as air handling units)
- Design of modifications to lighting or lighting control systems
- Design of modifications to communications systems
- Design of modifications to building architectural components

- Building code analysis
- Review with Authority overseeing building areas listed on National Register of Historic Places (not believed to be required due to scope of project)
- Design of modifications to, or analysis of, building structural components
- Design of modifications to building systems other than those described herein
- Commissioning Services
- Civil Engineering services
- Support for LEED or other third party certification programs

Deliverables:

- Review Documents to be approved before production of Contract Documents, including detailed opinion of cost
- Contract Documents (assumed to be a single set for both buildings) to include:
 - Project Manual including Procurement and Contracting Requirements, General Requirements, and Technical Specifications
 - Drawings defining scope of Project Work (scope limited to necessary information to locate controlled equipment and system components – will not include all mechanical system components)

Schedule

We will work with Woodbury County and Baker Group to develop a detailed schedule for completion of documents once we have received a notice to proceed. Based on our understanding of the project at this time, we expect to be able to complete the work described in this proposal by September of 2017.

Basic Services

We propose to provide the Architectural and Engineering Design and Construction Administration Services outlined above for a fixed fee of \$76,000. This fee is based on an expected combined project construction cost of approximately \$1,100,000.

Additional services outside the scope defined in this proposal will be provided on an hourly basis. No additional services will be provided without prior authorization from Woodbury County. The hourly rates for staff expected to work on this project are as follows:

- Senior Mechanical Engineer/Project Manager - \$140/hour
- Senior Electrical Engineer - \$140/hour
- Mechanical or Electrical Engineer - \$125/hour
- Engineering Intern or Designer - \$80/hour
- Clerical - \$40/hour

Summary

I appreciate the opportunity to provide this proposal to provide design and construction administration services for a Controls System and Equipment Upgrade Project at the Woodbury County Courthouse. Our original proposal for this Project is attached for reference. If you have questions or comments regarding this revised proposal, please do not hesitate to share them with me. I would be happy to review scope and fees in detail if it is helpful. I look forward to working together on this project. Thank you.

Respectfully,

A handwritten signature in black ink, appearing to read 'C. Metzger', with a long horizontal line extending to the right.

Corey B. Metzger, PE
Principal
Resource Consulting Engineers, LLC