

City of Lynchburg
Procurement Division
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Addendum for Invitation for Bids
REBID
Monument Terrace Building Air Handler & Controls Replacement
2016-056

Date: 06/23/2016
From: Lisa Moss, Buyer VCA
RE: Addendum No. 1

This Addendum supplements and amends the original Plans and Specifications and shall be taken into account in preparing proposals and shall become a part of the Contract Documents. The Bidder shall indicate receipt of this Addendum and all previously issued Addenda on the Bid Form.

1. In section 230900, it states: **Any control vendor that must provide additional BMS server software shall be unacceptable. Only systems that utilize the WEBs Niagara AX' Framework shall satisfy the requirements of this section.** Niagara AX is no longer the most current version of Tridium software, meanwhile the WEBs version is a Honeywell only product. Is it Lynchburg City's intent to sole source Honeywell on this project.

Following research of the latest releases of Niagara and discussion with controls vendors, we chose to remain with Tridium AX instead of the new Tridium 4. The City's BAS and front end all operate with the Niagara AX framework. The controls for Monument Terrace must operate seamlessly with the existing system which is Honeywell. The manufacturer of the fire alarm system is a Simplex 4010 with DACT control panel.

2. Drawing MED1.0 Note #2 states to demo the disconnect and starter for existing pump P2 and drawing ME1.1 Note #5 states to install new variable speed drive for the new pump P2. Is the existing electrical circuitry adequate for the new pump? If not what do we need to provide and where does the existing circuit originate?

The existing circuitry is adequate for the new pump.

3. In reviewing the mechanical equipment schedule for the Air Terminal Units on drawing M0.1 I noticed that VAV106, VAV 107 and VAV 108 are shown having electric heat. In looking at drawing ME1.2 where these units are shown there is no indication that they need electrical power. Do the units that are being replaced already have power and all that has to be done is to disconnect what is there and reconnect to the new units or do we need to provide an electrical feed to these units? If an electrical feed is required where is it to come from?

No VAV terminal units are being replaced or added as part of this project. All existing VAV terminal units have existing electric power.

4. On drawing ME1.5 Notes #18, 19, 20 and 21 states to provide new electric service to the return air fan EP-1 and supply fan EP-2. These notes state to provide new breakers in the existing panel but do not tell us what size they need to be. It also is not very clear what type of controller is required for the fans; is a disconnect, starter or VFD required for this? Also, what manufacturer is the fire alarm system for this building since we will need to modify this system for the smoke detectors.

The supply fan array and return fan array will be controlled independently via VFDs. The Maximum Over Current Protection will vary depending on the AHU manufacturer's

requirements. It is anticipated that the smaller return fan circuit will have a breaker size of 45 amps and the larger supply fan circuit will have a breaker size of 150 amps.

5. In reference to specification section 237313, item 2.02.A.1.a – Are there any specific overall acoustical performance criteria (airborne or radiated) that we should be following? If so, please forward this criteria. The specified silencer as listed in this section is really a proprietary device and can't be met using fans such as Twin City or Greenheck.

The intent is to avoid nuisance noise generated by the supply and return fans blades from being heard by building occupants. The term acoustical silencer is not intended to represent a specific methods or technology. However, a method of reducing the noise generated by the fans should be incorporated into the AHU design.

6. In reference to specification section 237313, item 2.02 (A.2) and (C.1) – These two sections appear to describe that all fan motors shall be wired to a single VFD; but the controls drawing (M2.1) shows that each fan motor is wired to a separate VFD. Please confirm how the fan array motors are configured to the VFD. If a single VFD is used to drive all motors in the fan array, will a redundant VFD be required?

Each fan motor in the array will be wired to an individual VFD. Therefore, if there are three fans, there will be three VFDs.

7. Is there a specification for the VFD's?

Yes, see specification section 26 2923

8. Drawing M2.1 describes a sequence of operation for the fan array system which is proprietary to one AHU vendor. Would it be acceptable to control all fans together in unison in lieu of shutting-off individual fans?

The sequence of operation is not proprietary and is what we typically use for multiple fans or pumps operating to maintain a pressure setpoint in a system. The intent of the sequence of operations is to minimize energy use. When the air handler is operating at higher air flows, all fans in the array will operate in unison at the same speed. If the air flow decreases to a point where all fans are operating at their minimum speed but duct pressure is greater than the setpoint, then one fan will drop out, and the remaining fans will continue to operate at the same speed to achieve the pressure setpoint.. This process will continue until a single fan is operating. The purpose is to prevent operating all fans at minimum speed when fewer fans can achieve the air flow requirement.

9. It's unclear which controls system is actually controlling the fan arrays within the air handler. The controls sequence (M2.1) indicates that the controls contractor is managing and controlling the fan arrays, but section 237313, item 2.02 B & C describes another stand-alone system which is proprietary. Would it be acceptable for the fan arrays to operate together as described above in item #4, therefore the necessary control devices to control the array would be as described on M2.1?

See the answer above for question 8. AHUs may be provided with an onboard controller that communicates with the BAS, or they may be provided without an onboard controller where the VFDs are controlled by the BAS. The sequence of operation outlined on M2.1 should be followed in either case.

10. Since the control of the fan array will be accomplished through the BAS, the control interface panel as described in section 237313, item 2.03 (E.2) will not be included within the AHU. Please confirm if this is acceptable.

If the AHU is not supplied with an onboard controller, then the control signal Interface is not needed. The information listed would typically be available through each variable frequency drive. See the specification section for VFDs, 26 2923.

11. Section 237313, item 2.2.A indicates the air handler shall be factory assembled and factory tested prior to shipment. Would it be acceptable to offer an air handler that is a fully customizable type unit that is factory fabricated and shipped to the jobsite for final assembly and testing at the jobsite?

Testing at the jobsite is acceptable.

12. Are we to replace the reheat coils?

Replacement of reheat coils in existing VAV terminal units is not included in this project.

13. What security procedures are going to be in place for contractors that are working after hours downtown?

The City of Lynchburg will provide any security personnel that may be required for after hours or weekend work. The successful contractor will be provided access into any areas in the building after hours and on weekends pending a 72 hour notice.

14. Can you please clarify the commissioning responsibilities for contractor...ie..clarify the difference between the base bid and alternate.

In the base-bid, the contractor is responsible for all commissioning activities as outline in specification section 23 0800 including developing a commissioning plan, completion of system verification checklists, writing functional performance test scripts, completing functional performance tests, and correcting any deficiencies found during commissioning activities.

In the Bid Alternate, a Commissioning Authority is hired by the city. The Commissioning Authority develops a commission plan, system verification checklists, and functional performance test scripts. The contractor then completes the system verification checklists and other aspects of the commissioning plan. The contractor completes functional performance tests which are witnessed by Commissioning Authority. In both the base and alternate, the contractor is responsible for commissioning. In the alternate, the contractor needs to allow time to work with the commissioning authority. Also, in the alternate, the Commissioning Authority completes the Plan, writes the system verification checklists (which are completed by the contractor), and writes the Functional Performance Test scripts (which are completed by the contractor and witnessed by the Commissioning Authority).

Company Name: _____ Address: _____ Date: _____

Authorized Signature: _____ Title: _____

Print Name: _____ Telephone No.: _____ Fax No.: _____