

**Attachment A  
Scope of Work (SOW)**

**Orange County Educational Arts Academy  
Building 825 HVAC RTU Replacement 2018**

**SCOPE OF WORK**

The Design-Build Contractor shall provide all the necessary engineering, material procurement, management, labor, materials, tools, equipment, supplies, services, components, and disposal and comply with the contract's General Conditions to successfully complete the replacement of existing HVAC units scope of work to the satisfaction of the Owner. This project is funded by Proposition 39 and emphasizes energy savings. All replacement units shall meet the minimum efficiency requirements shown in the specifications.

The schools under this scope of work shall include:

1. Orange County Educational Arts Academy (825 N. Broadway, Santa Ana, CA 92701)

**General Description of Requirements**

**HVAC Equipment**

- Demolish existing HVAC units in accordance for all equipment defined in Attachment C: Pricing Sheet
- Procure and install new like-for-like high efficiency units (SEER 15)
- Procure and install new supply fan variable speed drive
- Proposed/installed Unit weight shall not exceed 5% above existing HVAC unit weight
- Reuse existing curbs on the roof, provide curb adapter if necessary.
- Install new disconnect switch and conduit to the new units

**Ducting and Air Distribution**

- Re-use existing ductwork
- Test and balance all modified systems
- Perform duct leak remediation as required in compliance with 2016 Title 24 Standards and Regulations, Section 110 (or prevailing Title 24)

**Controls**

- Install smoke detector and connect to existing fire alarm systems if required by code.
- Connect new HVAC equipment to existing thermostat and/or controls. Only where needed for compatibility, update thermostat.

**Commissioning**

- Commission equipment and controls
- Commission outside air economizer consistent with 2016 Title 24 Code requirements for ventilation (or prevailing Title 24).
- Document and submit Commissioning log for all equipment as outlined in Appendix A to the Scope of Work
- As needed, install smoke detector and connect to existing fire alarm systems as required by code.

**Remarks**

For cases in which the Scope of Work and applicable Code conflict, Code shall prevail. In cases where Code and Safety Conflict, Contractor shall immediately inform and consult with Construction Project Manager for guidance.

**Verification of Details**

This scope of work, the associated drawings and specifications are provided to the Design-Build Contractor for information purposes only. Designer-Build Contractor assumes all the responsibility for site verification of equipment for replacement with high-efficiency units, controls and other items required to successfully complete the HVAC replacements and meet the necessary building and safety codes as more fully described in the specifications and general conditions.

Design-Build Contractor shall become familiar with details of work in the field and shall advise OWNER of any discrepancy prior to performing any tasks, including but not limited to existing and proposed equipment quantities, building and area locations, etc. The Design-Build Contractor shall thoroughly investigate and satisfy itself of the conditions affecting the work prior to construction start.

Weights of existing units are best estimates available. It is the responsibility of the contractor to find HVAC units that meet the energy performance requirements while not exceeding the existing unit weights by more than 5%. If the contractor is unable to find the units that meet the above stipulation, the Design-Build Contract will immediately inform and consult with the Construction Project Manager for guidance.

**Design Submittal Requirements**

The Design-Build contractor shall obtain all required approvals and permits prior to proceeding with the installation of the work in this scope. Design-Build Contractor is responsible for the review of electrical specifications, equipment performance specifications, and related design criteria prior to the purchase of equipment, materials and installation of the work. Design-Build Contractor shall submit the following information considered as the Design Submittal.

**Material Product Submittals**

- Provide submittal with equipment type, manufacturer, model, EER Rating, options, quantity; cut sheets, and product warranties (*submitted within 10 days from Notice to Proceed*).

**Commissioning Requirements**

Design-Build Contractor shall provide information to the District in the format attached in Appendix A.

**Closeout Documents**

Design-Build Contractor shall meet all requirements of the General Conditions for closeout; Design-Build Contractor shall provide to the District the following document prior to Closeout:

- List of Manufacturers with contact information and parts reordering information for all products installed.
- As-built drawings of HVAC unit replacements and thermostats (as applicable) installations at each site
- Commissioning checklist for each HVAC unit as outlined in Appendix A.

**HVAC Replacement Equipment List**

The following is an outlined of the existing equipment and the proposed replacements.

ID	Existing Equipment	Description of Proposed
1	Make: Trane (Heat Pump) Model: TWA060D400A1 Serial: A424UMA1F	Equivalent new high efficiency (SEER 15) heat pump RTU with new curb adapters and proposed weight not greater than 5% above existing equipment weight.
2	Make: Trane (Heat Pump) Model: TWA060D400A1 Serial: Z423RT71F	
3	Make: Trane (Heat Pump) Model: WCH075C400BC Serial: Z39100976D	
4	Make: Trane (Heat Pump) Model: TWA060D400A1 Serial: Z443TOP1F	

**APPENDIX A**

Commissioning Checklist for Each HVAC Unit (to be provided with Submittal)

PROJECT: _____
Equipment Name/Tag: _____ Location: _____

ITEM	√	COMMENTS
<b>PRE-START-UP INSPECTION</b>		
Commissioning lock-out procedures reviewed		
Operation and maintenance information		
Mounting/support system and vibration isolation		
Seismic restraints		
Equipment guards		
Alignment & V-belt tension		
Freedom of rotation		
Lubrication		
Plenums clean and free of loose material		
Temporary start-up filters		
Fire & balance dampers positioned		
Access doors, Insulation and interior lights		
Filter bank, DP switch gauge and photohelics		
Local valving/piping (gas, condensate, pans, drains)		
Motorized dampers		
D/X expansion (cooling) coil and compressor		
D/X condensing coil and fans		
Gas piping and valving complete		
Gas inspection certificate		
Regulatory authority approved installation and burner control (certificate available)		
Building cleanliness		
Electrical wiring complete		
Overload protection (sized correctly)		
Disconnect switch (tested)		
Local control module with DDC interface		
Control system - point to point checks complete		
<b>START-UP</b>		
Start-up by manufacturer's representative with report and certificate or log provided		
Direction of rotation		
Electrical interlocks - stop/start		
Local air leakage acceptable		
Vibration & noise level acceptable		
Motor Amps - Rated : _ Actual : _____		
Motor Volts - Rated : _ Actual : _____		
Final operating filters installed		