

**SECTION 010000**

**GENERAL DESIGN-BUILD CRITERIA**

**PART 1 GENERAL**

**1.1 DESCRIPTION**

- A. The StopWaste building at 1537 Webster St in Oakland, California has four rooftop air conditioning units that require replacement.

**1.2 SCOPE OF WORK**

A. Summary:

1. Remove the (4) existing AC units.
2. Install (3) replacement heat pump units and (1) replacement AC (cooling-only) unit.
3. Connect new units to existing controls and update controls package (see Section 250000).
4. Test and service existing thermafuser diffusers.

- B. Work Included: Design, furnish, and install all equipment and systems specified herein and as required for complete and fully functional systems. This is a turn-key project. "Contractor" herein refers to all contractors including subcontractors. The mechanical contractor will be the prime contact and may also serve as the general contractor, retaining subcontractors as required. See also the following Sections:

1. Section 230000 Mechanical Specifications and Drawings
2. Section 250000 Building Automation System Specifications and Drawings
3. Electrical Drawings
4. Section 238119 Packaged Heat Pump and Air Conditioning Rooftop Units
5. Structural Report

- C. All work that is required shall be performed by the Contractor, including but not limited to the following.

1. Demolition
2. Rigging
3. New mechanical equipment
4. Roof repair (if needed)
5. Seismic restraints

6. Electrical power systems for new equipment
7. Building Automation System
8. Test and balance
9. Operator training
10. Permit submission and fees

### 1.3 ALTERNATES AND UNIT PRICES

#### A. Alternates

1. Replace gas domestic hot water heater with hybrid heat pump water heater as scheduled.
  - a. Demolish existing water heater, cap existing gas and vent lines.
  - b. Install required 208V receptacle and breaker.
  - c. Install new heat pump, re-attach to existing hot water, cold water, and condensate lines.
  - d. Unit will vent to room, no external venting required.
2. Same as Alternate 1, but limited to running new electrical wire only. Remaining scope of Alternate 1 (removal of existing water heater and installation of new water heater) would be future scope.
3. Any at contractor's option.

#### B. Unit Prices

1. Replace 2'x2' thermafuser with Acutherm TF. Assume 40 total replacements for the purposes of unit pricing.

### 1.4 ALLOWANCES

1. None.

### 1.5 CONTRACTOR PROPOSALS

- A. Contractor shall visit site prior to bid. Ascertain and check all conditions and take all measurements that may affect the work. No allowance shall subsequently be made for any additional expenses or claims due to the failure or neglect under this section to make such examination, including examination of restricted working conditions or such other difficulties that can be visually observed during site visit.
- B. By submitting a price, Contractor guarantees that the proposal is complete and turn-key, except where specific exceptions are provided herein or clearly noted in the Contractor's proposal.

C. Prior to bid, Contractor shall coordinate acceptable downtime periods with building management. Price shall include any overtime required for this project.

D. Proposals shall include:

1. Pricing using bid form attached.
  - a. Provide break-out prices indicated.
  - b. Provide alternate pricing for any voluntary alternates at contractor's option.
2. A preliminary schedule of installation including final date of completion for the project. Owner understands that completion is contingent upon delivery of AC units to the site. Assume for the purposes of bid that AC units have a 35-week lead time.
3. Any exclusions in addition to those already clearly excluded in these specifications. Do not exclude anything that is obviously required for the project; this is a turn-key project. Do not repeat exclusions that are already clearly listed in these specifications.

## 1.6 REFERENCE STANDARDS

A. Requirements of Regulatory Agencies:

1. Nothing in Drawings or Specifications shall be construed to permit Work not conforming to applicable laws, ordinances, rules, regulations.
2. When drawings or Specifications exceed requirements of applicable laws, ordinances, rules and regulations, comply with documents establishing the more stringent requirement.
3. Applicable codes include the current version of those listed below, in addition to others specified in individual sections:
  - a. CBC – California Building Code
  - b. CMC – California Mechanical Code
  - c. City of Oakland City Codes, Ordinances, and Code Amendments
  - d. The State of California Codes
4. If any of above requirements is in conflict with one another, or with Specifications' requirements, the most stringent requirement shall govern. Where codes are silent on an issue, NFPA Standards shall apply.

B. Published specifications, standards, tests or recommended method of trade, industry or governmental organizations as listed below apply to all work in this Section:

1. AABC - Associated Air Balance Council
2. ADC - Air Diffuser Balance Council

3. AMCA - Air Moving and Conditioning Association
4. ANSI - American National Standards Institute
5. ARI - Air Conditioning and Refrigeration Institute
6. ASHRAE - American Society of Heating, Refrigeration and Air Conditioning Engineers
7. ASME - American Society of Mechanical Engineers
8. ASTM - American Society for Testing and Materials
9. ETL - Intertek Semko (Formerly Electrical Testing Laboratories)
10. IEEE - Institute of Electrical and Electronic Engineers
11. NEMA - National Electrical Manufacturer's Association
12. NFPA - National Fire Protection Association
13. SMACNA - Sheet Metal and Air Conditioning Contractors National Association
14. UL - Underwriters' Laboratories

C. Industry standards and manufacturers' recommendations, diagrams or requirements shall be strictly adhered to for installation of materials and equipment.

#### 1.7 QUALITY ASSURANCE

- A. All equipment and accessories to be the product of a manufacturer regularly engaged in its manufacture.
- B. All items of a given type shall be the products of same manufacturer.
- C. Supply all equipment and accessories new and free from defects.
- D. Supply all equipment and accessories in compliance with the applicable standards listed in Paragraph 1.6 with all applicable national, state and local codes.

#### 1.8 DEFINITIONS

- A. "Provide": to supply, install and connect up complete and ready safe and regular operation of particular work referred to unless specifically noted.
- B. "Install": to erect, mount and connect complete with related accessories.
- C. "Supply": to purchase, procure, acquire and deliver complete with related accessories.
- D. "Work": labor, materials, equipment, apparatus, controls, accessories, and other items required for proper and complete installation.

- E. "Piping": pipe, tube, fittings, flanges, valves, controls, strainers, hangers, supports, unions, traps, drains, insulation, and related items.
- F. "Wiring": raceway, fittings, wire, boxes and related items.
- G. "Concealed": embedded in masonry or other construction, installed in furred spaces, within double partitions or hung ceilings, in trenches, in crawl spaces, or in enclosures.
- H. "Exposed": not installed underground or "concealed" as defined above.
- I. "Indicated," "shown" or "noted": as indicated, shown or noted on drawings or specifications.
- J. "Similar" or "equal": of base bid manufacture, equal in materials, weight, size, design, and efficiency of specified product, conforming to PART 2 Materials.
- K. "Reviewed," "satisfactory," or "directed": as reviewed, satisfactory, or directed by or to Architect.
- L. "Motor Controllers": manual or magnetic starters (with or without switches), individual pushbuttons or hand-off-automatic (HOA) switches controlling the operation of motors.
- M. "Control or Actuating Devices": automatic sensing and switching devices such as thermostats, pressure, float, electro-pneumatic switches and electrodes controlling operation of equipment.

#### 1.9 DESIGN DOCUMENTS

- A. Employees of or consultants to the Contractor shall serve as Engineers-of-Record, including:
  - 1. Mechanical/Plumbing
  - 2. Electrical
  - 3. Structural
- B. All design documents shall be prepared under the supervision of the Engineers-of-Record.
- C. See Mechanical and Electrical specifications for drawing requirements.

#### 1.10 SUBMITTALS

- A. Schedule: Allow 10 working days for approval, unless Engineer agrees to accelerated schedule.
- B. Submit drawings, product data, samples and certificates of compliance required as hereinafter specified in this Section.
- C. Submission Procedure:
  - 1. Initial submittal:
    - a. Submit one electronic copy of product data in word-searchable format such as Adobe pdf via email. Paper copies will not be accepted. Include electronic tabs for each drawing/equipment section.

- b. Submittal will be reviewed and comments returned to Contractor
- 2. Resubmission:
  - a. Make any corrections or change in submittals as required
  - b. Resubmit for review in electronic format described above until no exceptions are taken
  - c. The cost of Taylor Engineering's review of submittals after first resubmittal will be borne by Contractor at Taylor Engineering standard billing rates
- 3. Final approval: Once submission is accepted, Contactor shall print two bound sets of submittals for Owner. Taylor Engineering does not require or desire paper copies.

D. Contents of Submittals

- 1. See Mechanical and Electrical specifications for requirements.

1.11 COMPLETION REQUIREMENTS

- A. See Mechanical and Electrical specifications for requirements.

1.12 SCHEDULE OF WORK

- A. Design and construction work to be approved by Owner prior to start.

B. Schedule of Work Constraints

- 1. Building is occupied by tenant and must remain online during regular business hours.
- 2. AC units should be replaced over the course of one or more weekends to avoid occupied downtime. Weekend hours shall be defined as 6 PM on the last work day of the previous week until 6 AM of the first weekday of the subsequent week.
- 3. Elevator Access
  - a. There is no elevator access to the roof
- 4. No system shutdown shall be permitted without the expressed written approval from the Owner's Representative. The Contractor shall submit requests for each shutdown at least one week in advance. The request shall state what system is to be shutdown, what areas will be affected, how long the period will be, and what contingency plan is provided if the work cannot be completed within the specified time.
- 5. Include any charges, including overtime wages, required to perform work within scheduling criteria specified above.

1.13 GUARANTEE

- A. The Contractor shall guarantee the following:

1. All new materials, new equipment, apparatus and workmanship shall be free of defective materials and faulty workmanship.
  2. All equipment and material will produce the results specified.
  3. All systems have been fully tested, adjusted, balanced, and commissioned.
- B. The Contractor shall furnish written guarantee to replace all defective work, materials, and services furnished under this Section, at no additional cost to the Owner, for the warranty period
- C. The warranty period shall be one (1) year from date of filing of Notice of Completion or beneficial system usage, whichever comes first.
- D. The Owner reserves the right to make temporary repairs as necessary to keep equipment in operating condition without voiding the guarantees or relieving responsibility during the guarantee period.
- E. The warranty shall not include:
1. Standard maintenance items
  2. Repairs or replacement of equipment damaged as a result of misuse, abuse, or lack of proper maintenance.
  3. Existing equipment and materials not provided by this contract.

#### 1.14 DESCRIPTION OF RETROFIT WORK

- A. See Mechanical and Electrical specifications and drawings for detailed requirements. Where there are discrepancies between sections, request an interpretation before proceeding.
- B. Existing equipment to be demolished:
1. AC-1 through AC-4
- C. Existing equipment to be reused:
1. All ductwork
  2. Rooftop AC curbs (curb adapters shall be used)
  3. AC unit condensate and bleed drain piping
  4. All mechanical equipment not being demolished
- D. New work:
1. Mechanical and Controls Work
    - a. See Mechanical specifications.
  2. Plumbing Work

- a. See Mechanical specifications.
- 3. Electrical Work
  - a. See Electrical drawings.
- 4. All other work required for a complete installation.

## PART 2 MATERIALS

### 2.1 GENERAL

- A. See Mechanical and Electrical specifications and drawings for requirements.

END OF SECTION