STATEMENT OF WORK

Design and Construct
Building 046 Replacement HVAC system
(PN15160020)
State of Hawaii, Department of Defense
Hawaii Army National Guard (HIARNG)
91-1227 Enterprise Ave, Kapolei, HI 96707

1. PROJECT DESCRIPTION

Design and construct replacement HVAC system for Building 046 at Kalaeloa, Kapolei, Hawaii. See 15001-Kalaeloa location of Building 046 (B046) and HAZMAT reports.

Modify existing centrally ducted Heating, Ventilation and Air-Conditioning (HVAC) system. Provide 90.0 tons of cooling that meet Hawaii Energy premium high-efficiency qualifying Integrated Part Load Value (IPLV) requirements for air-cooled HVAC systems.
Remove and replace air-cooled chiller, pumps, valves, mechanical rooms chilled water piping and chilled water insulation.
Remove and replace Air-Handler Unit (AHU) and Variable-Frequency Drive (VFD).
Install Heat recovery reclaim system for chiller and potable hot water system.
Paint roof ducting, curbing, pitch pockets and duct penetrations with silicone based roof coating.
Clean and Spray all existing interior lined ducting with HVAC sealant.
Provide supplemental cooling for occupied offices during central HVAC downtime, see 3.2.A.2.
Install Direct Digital Controls (DDC) for all new HVAC equipment, see attached EMCS specifications.
Install all electrical and communication upgrades to meet codes requirements.
Install DDC monitoring for three existing network closet split units.
Remove and replace twenty-six (26) Variable-Air-Volume boxes (VAV) with DDC and occupancy sensor controls.
Provide HVAC system commissioning by licensed and certified 3rd party.
Provide Test-and-Balance (TAB) report.
1st and 2nd floor mechanical rooms: Remove and replace exterior doors and ventilation louvers. Paint to match (with HIARNG approval).

Deductive item 001:
Remove and replace sixty (60) Variable-Air-Volume boxes (VAV).
Remove and replace sixty (60) VAV controls with DDC and occupancy sensor controls.

Attached plans are for reference only; plans should not to be used to indicate any new construction work and/or notes.

2. DESIGN/PERMITS

2.1 Design Drawings

A. Drawings and specification shall be in compliance to all County of Honolulu, State, and Federal applicable codes, regulations and obtain permits related to construction of this project.

A.1 Applicable Codes and Standards:

A.1.1 Unified Facilities Criteria (UFC) 1-200-02, High Performance and Sustainable Building Requirements. American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) standards

A.1.2 International Code Council: Existing Building (IEBC), Mechanical (IMC), Energy Conservation (IECC) current

A.2 Specifications:

A.2.1 Chiller: Carrier AquaSnap 30 (or approved equal)

- salt-air corrosion coil coating

A.2.2 AHU: Carrier 39 (or approved equal)

- UV-C lights

A.2.3 DDC router: Automated Logic LGR1000 (or approved equal)

A.2.4 HVAC sealant: Fiberlock Technologies IAQ 8500 HVAC Sealant (or approved equal)

A.2.5 roof silicone coating: Gaco Western GacoFlex S20 (or approved equal)

A2.6 VAV: Metalaire model TH-5000 with 120/24VAC transformers included and mounted on box (or approved equal).

B. Drawings shall be prepared, stamped and signed by an Architect or Engineer (A/E) registered in the State of Hawaii at the cost of the Contractor.
C. List codes, regulations and ordinances (and their dates) utilized in the design.

C.1 All equipment and material shall be UL listed and meet Buy America Act requirements and be Energy Star qualified. Equipment and material specified by catalog numbers and names: In case of obsolescence, supersede, or error in identification, the intent implied by the description, application, required performance and the features of competitive brands also listed shall govern.

D. Drawing sheet size 22" x 34"
E. Contractor shall provide complete design drawings and specifications to Project Manager for approval.

2.2 Permits

A. Contractor shall obtain and pay for all permits prior to start of work.
B. Contractor to provide a copy of all permits to Facility Management Office (FMO) project manager.

3. CONSTRUCTION

3.1 Groundwork and Staging Area

A. Minimum area shall be disturbed. Staging area location to be approved by Project Manager.
B. Contractor shall clean and grub around the concrete slab perimeter. Area under slab shall be level and compact.

3.2 Minimum CTA Construction

A. Contractor shall provide all labor (in accordance with Davis-Bacon Act), equipment, and materials required for a complete and useable structure in accordance with the approved design and specifications.

A.1 Applicable Trade, Testing and Association Standards:

A.1.1 ASHRAE, NEEB, AABC, SMACNA, NEMA, NRCA, ASTM

A.2 Temporary cooling for occupied offices (while AHU is unavailable):

A2.1 1st floor: 101-110,119,123-124,126-127,130

A2.2 2nd floor: 213,217

A2.3 3rd floor: 302-303,310-311,313

B. Concrete slab shall with thickened edge reinforced with wire mesh and rebar.
C. Base course layer shall be compacted gravel and sand with a moisture barrier.
D. Concrete floor shall have a gradual slope from the center toward the perimeter edges for drainage. Light broom finish texture.

4. OTHER PROJECT REQUIREMENTS

4.1 Required Contractor Submittals

A Design and construction schedule.

B. Design drawings and specifications.
C. Permit copies.
D. Shop drawings and product submittals.
E. Certified Payroll.
F. Hawaii Energy rebates

4.2 Contractor Cleanup

A. Contractor shall be responsible of and not limited to:
   1. Cleaning up debris on project site at the end of each working day.
   2. Properly dispose of removed materials and debris at completion of project.

5. TIMELINE

Contract shall have 300 calendar days from Notice to Proceed (NTP) for design, permitting, construction, and project acceptance. Contractor shall provide a schedule within 7 calendar days of NTP consistent with the time provided for each of the following milestones:

- Contractor will be allowed to have entire centrally ducted HVAC system offline for a maximum of consecutive 4-weeks. Dates TBD with HIARNG approval.

1. Executed Contract (pre-construction meeting to set NTP): TBD
2. Complete Drawings and Specifications: 4 weeks
3. HIARNG Approval: 4 weeks
4. Building Permit Approved: 12 weeks
5. Final Inspection: 1 week
6. Project Acceptance (all punchlist items and submittals completed): 2 weeks