DESIGN-BUILD STATEMENT OF WORK

PROJECT NUMBER: EEPZ254660

REPAIR CONTROL TOWER HVAC, B1806

COLUMBUS AFB, MISSISSIPPI

03 AUGUST 2026

TABLE OF CONTENTS

CHAPTER 1 NOMENCLATURE 4
1.1 ACRONYMS & ABBREVIATIONS 4
1.2 BASIC TERMS 5
CHAPTER 2 DESCRIPTION OF PROJECT 6
2.1 SUMMARY 6
2.2 BACKGROUND 6
2.3 SCOPE OF PROJECT 6
2.4 GOVERNMENT FURNISHED EQUIPMENT/MATERIALS 9
2.5 SALVAGE 9
CHAPTER 3 DESIGN REQUIREMENTS 10
3.1 SUMMARY 10
3.2 NATURE/EXTENT OF DESIGN 10
3.3 RESPONSIBILITY 10
3.4 DESIGN STANDARDS 10
3.5 SUBMITTALS 11
3.6 REVIEWS 12
3.7 CONFERENCES 12
CHAPTER 4 ADMINISTRATION OF CONSTRUCTION 14
4.1 PERFORMANCE CAPABILITIES 14
4.2 COMMENCEMENT, PROSECUTION & COMPLETION 15
4.3 SCHEDULING 16
4.4 MANAGING 18
4.5 MATERIAL SUBMITTALS AND SHOP DRAWINGS 18
4.6 WORK BY GOVERNMENT 20
4.7 PRE-FINAL AND FINAL INSPECTION 20
4.8 WARRANTY 21
4.9 CONTRACTOR OFFICE 22
4.10 CONSTRUCTION SITES 23
4.11 CONSTRUCTION EQUIPMENT 25
4.12 AVAILABILITY OF UTILITY SERVICES AT JOB SITES 25
4.13 TEMPORARY UTILITIES 25
4.14 CONSTRUCTION SECURITY 26
CHAPTER 5 QUALITY REQUIREMENTS 28
5.1 QUALITY CONTROL PLAN 28

5.2 TESTING AND INSPECTION SERVICES 29
5.3 MANUFACTURERS' FIELD SERVICES 30
5.4 PRODUCT REQUIREMENTS 30
5.5 CLOSEOUT PROCEDURES 31
CHAPTER 6 SAFETY, HEALTH AND ENVIRONMENTAL PROTECTION 34
6.1 SAFETY AND HEALTH 34
6.2 GENERAL 34
6.3 HAZARDOUS MATERIAL 35
6.4 PROJECT EXECUTION 35
6.5 HAZARDOUS WASTE GENERATION/DISPOSAL 35
6.6 RECYCLING 36
6.7 PROHIBITED MATERIAL/ACTIONS 37
6.8 SPILLS AND CLEANUP 37
6.9 AIR CONSIDERATIONS 38
6.10 AFFIRMATIVE/GREEN PROCUREMENT/BIO-BASED/ENERGY 38
6.11 ASBESTOS/LEAD BASED PAINT 38
6.12 DRINKING WATER 38
6.13 EMS 39
6.14 HISTORICAL AND CULTURAL ARTIFACTS 39
6.15 NATURAL RESOURCES 39
6.16 NOISE 39
6.17 PESTICIDES/FERTILIZERS 39
6.18 STORM WATER PROTECTION 39
6.19 REQUEST FOR CE SERVICE/ACTION/CLEARANCE; AF FORMS 332/813 40
6.20 TANKS 40
6.21 LIMITS AND EXCEPTIONS 40
6.22 LEGAL AUTHORITY 41

CHAPTER 1 NOMENCLATURE

1.1 ACRONYMS & ABBREVIATIONS

AF	Air Force
AFI	Air Force Instruction
AFM	Air Force Manual
AFUE	Annual Fuel Utilization Efficiency
AHU	Air Handling Unit
ATFP	Anti-terrorism/Force Protection
BCE	Base Civil Engineer
CAD	Computer Assisted (or Aided) Design
CAFB	Columbus Air Force Base
CDs	Construction Documents
CEPM	Civil Engineering Project Manager
CES	Civil Engineering Squadron
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CHW	Chilled Water
CMI	14CES Construction Manager Inspector
CO	Contracting Officer
COR	Contracting Officer Representative
Comm	Communications
CPM	Contractor's Project Manager
CSS	Contractor's Site Superintendent
DP	Design Professional
EMCS	Energy Management & Control System
EMI	Electromagnetic Interference
EPA	Environmental Protection Agency
ETL	Engineering Technical Letter
FAR	Federal Acquisition Regulation
FCU	Fan Coil Unit
FM	Factory Mutual
FOD	Foreign Object Debris
fps	feet per second
ft.	foot or feet
GFCI	Government Furnished Contractor Installed
gpm	gallons per minute
Hazmat	Hazardous Materials
HMW	Hazardous Material or Waste
HTW	Hazardous and Toxic Waste
HVAC	Heating, Ventilating and Air Conditioning
NEC	National Electrical Code
NTP	Notice to Proceed
O&M	Operation and Maintenance
OSP	Originally Specified Product
PDF	Portable Document Format
PE	Professional Engineer
Ph	Phase (electrical)
PM	Project Manager
psi	pounds per square inch
QCP	Quality Control Plan
RFP	Request for Proposal
SOW	Statement of Work
TI	Technical Instruction
TL	Technical Letter
TM	Technical Manual
UFC	Unified Facilities Criteria
UPS	Uninterruptible Power Supply
VAV	Variable Air Volume
V	Volts
W	Watts

1.2 BASIC TERMS

The following table provides many of the meanings of words or phrases commonly used in this document.

All directives, informative, etc. statements are directed to the Contractor even if the term "contractor" or the contractor name is not included (e.g. "Provide a nail." is equivalent to "The contractor shall provide a nail." And "remove" is equivalent to "The Contractor shall remove"). Also, the Contractor shall ably and competently execute all directives including all directly or indirectly related tasks required to safely and legally perform the directive (e.g. "remove debris from CAFB" includes "safe and legal removal, disposal and obtaining all necessary permits, etc.)	
A device, equipment or system referred to in the singular (e.g. "the pump", or "the ___ system") includes all related devices, elements and components required to **Provide** (see below in this table) that device, equipment, or system.	
The Term	*Shall Mean (*=Shall in Addition Mean)*
Approved (by CAFB)	*without waiving or suspending the full force of Contractor obligation to fulfill the CDs
Aspect	Distinct feature or element of the project
CAFB	Government contracting Authority on Columbus Air Force Base
Construction Documents	Drawings, specifications and their references including all Design Criteria and Design & Construction Requirements for this Project.
Contractor	The Design-Build entity holding a current Government contract including all personnel in direct or indirect employ of same entity servicing same contract including partners, consultants, subcontractors, suppliers, and manufacturers.
Design Professional	(Abbreviated: DP) Professionals including Architects, Engineers and Landscape Architects licensed to practice in one or more states of the U.S.
Day	Calendar day unless noted otherwise.
DP	Licensed Design Professional fully responsible for all professional design on this project.
	Engineer DP
For example (e.g.)	One among many possible examples
Government	Columbus Air Force Base Contracting Officer
Including [Includes]	Including, but not limited to [Includes, but is not limited to]
Provide	Furnish and install complete, functional, and ready for use without added government action
Provision	Furnishing & installation complete, functional, and ready for use without added government action
Will, must, shall	& similar *Terms* are mandatory directives whereby '*Term*' = '*Term + to CAFB satisfaction*'
Work	The whole or any part, product, system or subsystem of this project
Replace	Demolish and dispose of existing element. Provide new element of equal or greater value.
Review	Review and, if and when acceptable to the government, approval
Subcontractor	Subcontractor and all personnel in Subcontractor's direct or indirect employ on any given Project including suppliers and manufacturers

CHAPTER 2 DESCRIPTION OF PROJECT

2.1 SUMMARY

This scope of work outlines the requirements for the replacement of four (4) existing fan-coil HVAC units within the Aircraft Control Tower, Building 1806, at Columbus Air Force Base, MS. The contractor shall provide all labor, materials, tools, transportation, and equipment necessary to complete the work as described within this Statement of Work (SOW), in accordance with all applicable building codes, Air Force regulations, safety regulations, and the manufacturer's installation instructions.

2.2 BACKGROUND

The project takes place within the Aircraft Control Tower at Columbus AFB, MS. This facility is critical for day-to-day base operations, and the contractor must ensure construction activities do not disrupt these operations. The Control Tower presents its own unique challenges with limited work space, tight ceiling plenums, security protocols, and elevator or stairwell travel for materials and equipment. The scope includes work on floors 1, 2, 4 and 7. All personnel, materials, and equipment are permitted to use the elevator to access the upper floors of the tower. An internal stairwell is also available for use. All contractor personnel are required to check-in at the entrance door to the tower, and will be shadowed by a security escort during the working day. Work can be performed during normal duty hours.

Columbus AFB utilizes JCI's (Johnson Controls Inc.) Metasys system for our EMCS (Energy Management Control System) architecture. The Aircraft Control Tower utilizes N2 communications instead of BACnet.

2.3 SCOPE OF PROJECT

Project Phasing: The construction actions of the project will contain four (4) phases. Each phase is to be completed in full before performing work on the next:

- Phase 1 – **FCU-2**
- Phase 2 – **FCU-4**
- Phase 3 – **FCU-7**
- Phase 4 – **Shut-off Valve Changeout (FCU-2, FCU-4, and FCU-7)** and **FCU-1 to Electric Unit Heater Changeout**

Sections 2.3.1 through 2.3.15 apply to the following spaces:

- **Floor 2, Room 203**
- **Floor 4, Room 403**
- **Floor 7, Room 703**

2.3.1 Cover and protect all existing furniture, flooring, and equipment in the work area with heavy-duty drop cloths or plastic sheeting prior to demolition.

2.3.2 Carefully disconnect, support, and protect all existing ceiling-mounted devices, including light fixtures, smoke detectors, speakers, etc. If any devices are to be temporarily uninstalled, store them within the room being renovated and cover/protect the devices from damage.

2.3.3 Remove the existing acoustic ceiling tiles, suspended grid system, and existing hanger wires back to the structural deck.

2.3.4 Disconnect electrical power, chilled water lines, and heating water lines from the fan-coil units. Drain existing lines and cap as necessary to prevent leakage during transition. Ensure work does not disrupt the function of chilled and heating water loops feeding the remainder of the building HVAC.

2.3.5 Remove the fan-coil units and their associated mounting hardware, drain pans, ductwork, diffusers, electrical disconnects, and valves.

2.3.6 Supply and install three (3) new 4-pipe cassette-type fan-coil HVAC units designed for integration into standard 2'x2' suspended ceiling grids. Install fan-coil units in the approximate location of the old units. Units must be independently supported from the building structure using threaded rods and vibration isolators. No outside air is required for these units.

2.3.7 The basis of design for these fan-coil units is the Carrier Airstream 42WKN Hydronic Ceiling Cassette Unit, but approved equal units are acceptable if they meet the specifications required within this SOW. Fan coil units must meet the following criteria:

- MERV 13 filter racks with disposable filters.
- 18 MBH cooling capacity.
- Electro-mechanical 24v controls for integration into the EMCS.
- 4-pipe configuration with both heating water and chilled water coils.
- 208/1 voltage.
- Water control valves that are compatible with the existing EMCS infrastructure.

2.3.8 Reconnect units to the existing chilled water and heating water supply and return piping from the old units. Install new combination shut-off valves and unions at all water connections. Installing the new valves will require the Contractor to coordinate with Government personnel to determine a suitable weekend to bring down the building HVAC to perform the valve changeover. The Contractor must drain and fill the chilled and heating water systems in order to perform the valve changeout.

2.3.9 Install new condensate drain piping from each unit to the existing drain location. All condensate lines shall be properly sloped, trapped, and ensure positive drainage.

2.3.10 Insulate all exposed heating water piping, chilled water piping, and condensate piping located above each room's ceiling, including any discovered existing piping that is lacking insulation located above the removed ceiling grid.

2.3.11 The new fan-coil units must be equipped with controls that are compatible and can integrate with the existing EMCS architecture. Provide new TEC3000 type thermostats with N2 capability, compatible with the 4-pipe configuration setup of the new fan-coil units. Install the new thermostats in place of the existing ones. Pull new control wiring for the new thermostats. Connect to the existing EMCS DDC controllers. Some of the existing fan-coil units have both a thermostat and an additional temperature sensor. An additional temperature sensor is not required with the new-fan-coil units. Install a blank cover over one spot and the new thermostat in the other.

2.3.12 Integrate the new units into the building's existing EMCS. This facility utilizes N2 communications instead of BACnet. Provide a full control point mapping list and integrate this control scheme into the existing EMCS front-end. At a minimum, the following points must be visible, trended, and controllable (where applicable) at the EMCS graphical user interface:

- Space Temperature (Read)
- Temperature Setpoint (Read/Write)
- Heating/Cooling Mode Status (Read)
- Fan Status / Speed Command (Read/Write)
- Chilled Water Valve Position (Read)
- Hot Water Valve Position (Read)
- Unit Alarm / Maintenance Status (Read)

2.3.13 Provide and install new external electrical disconnects and wiring to the fan-coil units. Install disconnect switches within sight of each unit.

2.3.14 Provide a heavy-duty, commercial-grade, 15/16” tee grid system. Provide minimum 12-gauge galvanized carbon steel hanger wire. Center the ceiling grid layout in each room to avoid narrow border tiles (borders must be greater than half a tile width where possible). Install the main runners and cross tees level and securely tied and braced. Secure hanger wires directly to the building's structural deck (concrete, steel joists, etc.) using approved fasteners. Hanger wires shall not be attached to pipes, conduit, or HVAC ductwork. Provide standard 2'x2' mineral fiber acoustic tegular tiles.

2.3.15 Reinstall and properly align all previously removed light fixtures and ceiling-mounted devices into the new ceiling grid. Ensure all light fixtures and heavy ceiling-mounted devices are independently supported to the structural deck with their own hanger wires. Ensure all reinstalled devices fit flush with the new ceiling tiles. Restore all electrical and low-voltage connections to the reinstalled lighting and other ceiling devices. Replace any damaged flexible conduit or wiring discovered during the reinstallation process. Ensure all penetrations through the ceiling grid are finished with professional-grade trim kits.

Sections 2.3.16 through 2.3.22 apply to the following spaces:

- **Floor 1, Room 107**

2.3.16 Disconnect electrical power and heating water lines from the fan-coil unit. Drain existing lines and cap as necessary to prevent leakage during transition. Ensure work does not disrupt the function of the heating water loop feeding the remainder of the building HVAC.

2.3.17 Remove the fan-coil unit and its associated mounting hardware, drain pans, ductwork, diffusers, electrical disconnects, and valves.

2.3.18 Supply and install one (1) new electric unit heater in the approximate location of the existing fan-coil unit. Unit heater must be independently supported from the building structure.

2.3.19 Permanently demolish, cap, or loop the existing heating water lines to ensure proper operation of the remainder of the heating water loop.

2.3.20 The new unit heater must be equipped with controls that are compatible and can integrate with the existing EMCS architecture. Provide new TEC3000 type thermostat with N2 capability, compatible with the unit heater. Install the new thermostat in place of the existing one. Pull new control wiring for the new thermostat. Connect to the existing EMCS DDC controller.

2.3.21 Integrate the new unit into the building's existing EMCS. Provide a full control point mapping list and integrate this control scheme into the existing EMCS front-end. At a minimum, the following points must be visible, trended, and controllable (where applicable) at the EMCS graphical user interface:

- Space Temperature (Read)
- Unit Enable/Disable (Read/Write)
- Heating Setpoint (Read/Write)
- Unit Alarm / Maintenance Status (Read)

2.3.22 Provide and install new external electrical disconnect and wiring to the unit heater. Install disconnect switch within sight of the unit. Install new conduit and wiring for this disconnect and connect to nearby emergency panel EP21, located in room 104. Provide a new breaker in this panel within one of the spare locations for the equipment.

Sections 2.3.23 through 2.3.26 apply to entire jobs:

2.3.23 Perform daily cleanup of the work site. Upon completion, thoroughly vacuum floors and wipe down any dust on surfaces, windows, and newly installed grid. This includes all rooms included in the construction plan, any corridors and stairwells utilized by personnel, and the facility elevator if utilized by personnel.

2.3.24 Provide a third-party certified testing, adjusting, and balancing (TAB) report for air and water flow of new HVAC equipment.

2.3.25 Coordinate with the Base Fire Marshal for the testing of any life-safety devices post-reinstallation.

2.3.26 Upon completion of the installation, the contractor shall perform the following:

- Leak-test all piping connections.
- Verify correct electrical voltage and amperage draw.
- Test the condensate pump and drain system to ensure proper operation.
- Functionally test each unit in all modes of operation utilizing the EMCS.
- Balance the chilled water flow to each unit.
- Verify functionality of all reinstalled light fixtures and ceiling-mounted devices.
- Provide training to base maintenance personnel on the operation and maintenance of the new units.

2.4 GOVERNMENT FURNISHED EQUIPMENT/MATERIALS

The Government will not furnish any equipment or materials for this project.

2.5 SALVAGE

The Government will not salvage anything for this project.

CHAPTER 3 DESIGN REQUIREMENTS

3.1 SUMMARY

Design consists of all site investigations and the development of material submittals and shop drawings required to execute the work described in this SOW. The Contractor shall develop a work plan based on the functional and technical data contained in this SOW. The Contractor will be required to submit equipment/material data and shop drawings for review as described in Paragraph 3.6. The Contractor will be required to attend review and conference meetings as needed and requested by the Government.

3.2 NATURE/EXTENT OF DESIGN

This project does not require the services of licensed Design Professionals. The scope of this project is limited to the submittal of manufacturer's product data and shop drawings necessary for a complete and code-compliant final installation.

3.3 RESPONSIBILITY

3.3.1 The Contractor must perform all services, including travel, required to prepare and to furnish complete material submittals and shop drawings, as required, for the construction of the project in accordance with this SOW.

3.3.2 Record drawings may be provided to the Contractor as a courtesy, but their accuracy is not guaranteed. The Contractor is responsible for performing their own field investigations to verify all existing conditions.

3.3.3 The conceptual information and sizing provided by the Government within this SOW are considered accurate and reflect the required scope of work. The Contractor shall utilize this information as the primary foundation for their installation plan. While the Contractor is still required to perform standard field investigations to verify existing site conditions and ensure seamless physical integration, the Government-provided specifications shall dictate the baseline for the final design and execution.

3.3.4 The sizing and specification of equipment suggested by this SOW are based on government analysis and are considered accurate for the project's requirements. The Contractor shall base their design and installation on these specifications. The Contractor remains responsible for the final integration, ensuring constructability, code compliance, and a fully functional final product that meets the performance intent of this SOW

3.3.5 The Contractor must immediately notify the contracting officer and secure any documents found with “Classified”, “Controlled Unclassified Information” (CUI), or personal information.

3.4 DESIGN STANDARDS

All work and construction must be accomplished in accordance with applicable UFC’s, ETL’s, (UFC’s and ETL’s may be found on-line at www.wbdg.org.) local and national codes, Columbus AFB Installation Facility Standards (IFS) and all Appendices (Special Construction, Mechanical, and Electrical) and other guidance as modified by this SOW. The IFS document may be found at the following location: https://www.wbdg.org/airforce/ifs/columbus-afb-ifs. The list of documents includes, but is not limited to, the latest editions of the following:

- UFC 1-200-01 DoD Building Code (General Building Requirements)
- UFC 1-200-02 High Performance and Sustainable Building Requirements
- UFC 3-401-01 Mechanical Engineering
- UFC 3-410-01 Heating, Ventilating, and Air Conditioning Systems
- UFC 3-410-02 Direct Digital Control for HVAC and Other Building Control Systems

- UFC 3-410-04 Industrial Ventilation
- UFC 3-501-01 Electrical Engineering
- UFC 3-520-01 Interior Electrical Systems
- UFC 3-530-01 Interior and Exterior Lighting Systems
- UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings
- NFPA 101
- NFPA 72
- NEC 70
- ACGIH: Industrial Ventilation Manual
- Columbus AFB IFS
- CAFB Base Standards

The Contractor must submit a written request for approval of any deviations from the Government's established standards. No deviations from the Government's established standards will be permitted unless the Contracting Officer has issued prior written approval of such deviation.

3.5 SUBMITTALS

The Contractor shall prepare and furnish all submittals as required by the Contract Documents to ensure the proposed materials and work plans comply with this Statement of Work (SOW).

3.5.1 GENERAL REQUIREMENTS

- Delivery: Unless otherwise specified, the Contractor shall deliver one (1) digital copy of each submittal via DoD SAFE directly to the Contracting Officer (CO), accompanied by a completed AF Form 3000 (Material Approval Submittal). Hard copies, if required, shall be delivered to:

  14th Contracting Squadron
  495 Harpe Blvd, Suite 293
  Columbus, MS 39710

- Ownership: All submittals become the property of the Government upon receipt.

- Procedural and Formatting Requirements: All submittals must be prepared, submitted, reviewed, and revised in accordance with the detailed procedures outlined in Section 4.5, Material Submittals and Shop Drawings. This includes requirements for the Submittal Log, contractor accountability, and government review timelines.

3.5.2 REQUIRED SUBMITTALS

The Contractor is required to provide the following submittals, in addition to any others specified in the Contract Documents:

- Work Plan: A detailed plan outlining the schedule, methods, and procedures for executing all work described in this SOW.

- Shop Drawings & Product Data: Manufacturer's data and shop drawings for all equipment and materials to be installed, as needed for a complete and code-compliant installation.

- Submittal Log (AF Form 66): A comprehensive log of all construction submittals, to be submitted as specified in Section 4.5.8.

- Proposed Products and Qualified Installers List: A complete list of major products and installer qualifications, as specified in Section 4.5.9.

- DD Form 1354: A completed Transfer and Acceptance of Military Real Property form, submitted as specified in Section 4.5.15.

3.6 REVIEWS

3.6.1 SUBMITTAL REVIEWS: Government review of the 'Construction Submittal' will require up to fourteen (14) days. The Government will determine the sufficiency of the submittal as follows:

1. Approved as Submitted: Contractor may proceed with construction.

2. Approved - Except as Noted: The submittal has minor errors. The contractor may proceed with construction but must incorporate corrections.

3. Disapproved: The submittal is incomplete or requires more than minor corrections. The contractor must revise and resubmit. Construction may not begin.

3.6.2 REVIEW PERIOD: The Government will have fourteen (14) days to verify that all review comments have been addressed and no unapproved changes have been made. Upon Government approval of the submittals, the Contractor may begin construction.

3.6.3 IMPACT OF REVIEW ON PERIOD OF PERFORMANCE: Contract completion time includes time for Government review of material submittals. Unless otherwise noted, the Government will use no more than 14 calendar days for review of each submittal and each subsequent re-submittal of “Disapproved” submittals. There will be no increase in the period of performance for review of re-submittals.

3.6.4 RESPONSE TO REVIEW COMMENTS: The Contractor is required to respond to all review comments. All comments must either be accepted and incorporated into the next submittal or satisfactorily rebutted

3.6.5 CONTRACTOR ACCOUNTABILITY: The Contractor is solely responsible for accurately constructing everything necessary to provide a fully functional product. Government approval of any submittal does not waive or remove full liability from the Contractor to provide a facility or final product that meets the intent of this SOW, performs as intended, and adheres to all applicable codes and standards.

3.7 CONFERENCES

3.7.1 PRECONSTRUCTION CONFERENCE: A Preconstruction Conference (Pre-Con) will be held at the Contracting Office as indicated.

3.7.2 COORDINATION/REVIEW CONFERENCES: Coordination/review conferences may be held from time to time as required. The Contractor may request such conferences when it is deemed necessary by both parties to clarify the work or expedite the preparation of plans, specifications or construction.

3.7.3 REVIEW/CONFERENCE MINUTES: The Contractor will be responsible for making memoranda of record of any conversations and minutes of any meeting with Government personnel concerning this project and forward one copy of these memoranda/minutes to each party concerned and one copy to the Contracting Officer within seven (7) days. The final version of the meeting minutes will be approved and filed at the CO’s discretion. Each copy will be numbered consecutively and chronologically.

3.7.4 MEETING LOCATIONS: Meetings will be held in person at Columbus Air Force Base. Contractor transportation costs for attending all conferences/reviews and meetings must be included in the Contractor's Proposal. There will be no teleconferences unless permitted otherwise by the Contracting Officer.

End of Design Requirements

CHAPTER 4 ADMINISTRATION OF CONSTRUCTION

4.1 PERFORMANCE CAPABILITIES

4.1.1 One week prior to the start of work under this contract, Contractor must submit in writing to the CO for review and possible approval the names and credentials of Contractor Project Manager, Contractor Site Superintendent, and Quality Control Manager. Subsequent proposed changes of approved personnel must be submitted in writing to and receive prior approval from the CO before working on the project. Each of these personnel may upon CO approval hold additional onsite duties which must not diminish their required performance. Contractor must demonstrate to the Government's satisfaction that proposed personnel exceed education, technical and experience levels of personnel described in this Contract including the following:

4. Contractor Project Manager (CPM) - Provide management of the prime contract to include subcontract purchasing and administration, review of material submittals and shop drawings. CPM must have full authority to develop cost proposals, negotiate with Government and subcontractors, sign awards and modifications, supervise project superintendents, attend weekly CO/CE/PM Contractor status meetings as well as pre-performance site visits, pre-final and final inspections. The CPM must have a minimum of 5 years previous experience as primary contract manager or equivalent experience as a primary estimator and negotiator with a contracting firm engaged in similar multi-discipline commercial construction projects. CPM must also have not less than 5 years' experience managing subcontractors.

5. Contractor Site Superintendent (CSS) - Provide on-site construction superintendent(s) to oversee all work under this contract. Site supervision must be daily (constant throughout each day) and includes submission of detailed weekly progress reports, scheduling and coordination of subcontractors and material suppliers, and attendance at all construction progress meetings, CO site visits, and pre-final and final inspections. Superintendents must have a minimum of 5 years previous experience as a project superintendent (exclusive of time employed as a tradesman or working foreman) for a general contracting firm overseeing one or more multi-discipline commercial construction projects. The superintendent must be available within 15 minutes during all normal working hours, except for such incidental errands as required by his duties. The superintendent must be responsible for the proper coordination and timeliness of the work, and for the proper workmanship of all trades; therefore, his absence from the project site without a suitable substitute Contractor representative must be considered as damaging to the Government.

6. Quality Control Manager (QCM) - Provide quality control management for the project. QCM must continually (constant throughout each day) ensure full compliance with all safety requirements, verification that work and materials in place and stored on site are in accordance with the approved construction documents, shop drawings and material submittals. QCM must submit daily status reports recording activities at each project site, prepare and coordinate material submittal sheets and shop drawing submittals, schedule and coordinate testing procedures, prepare quality control reports for construction progress and other required meetings, and attend all pre-final and final inspections. QCM must have a minimum of five years' experience in Quality Control Management of multidiscipline construction projects.

4.1.2 Contractor must have additional personnel including management, technical, service, labor or subcontractor, available as necessary to fulfill all construction contract requirements. The Government may restrict employment under this contract of any personnel identified as a potential threat to the health, safety, security, well-being, or operational mission of CAFB and its population.

4.1.3 Contractor must be available by telephone 24-hours a day, 7-days a week and upon 15 minutes' notice during normal duty hours and 30 minutes' notice during non-duty hours must meet the CO at a CO designated location.

4.2 COMMENCEMENT, PROSECUTION & COMPLETION

4.2.1 Contractor must start design and various construction phases at times specified by CO issued Notice(s) to Proceed (NTP), prosecute the work, and complete the entire work within the Period of Performance.

4.2.2 Contractor must provide a Submittal Log (Schedule of Material Submittals), Progress Schedules, Progress reports and Status Reports.

7. **Submittal Log**: See Material Submittals and Shop Drawings below.

8. **Progress Schedule:** (AF Form 3064) Submit the progress schedule to the CO within 10 days after contract award, unless otherwise specified by the CO. Subdivide total schedule into individual work items. Show completed work percentages at the end of each two-week reporting period. Progress schedule should only be resubmitted during the project duration if there's an issue with Period of Performance or if deemed necessary by the CO as described in 4.2.2.3.

9. **Progress Reports**: (AF Form 3065) Submit Project Progress reports to the CO minimum twice per month on the first working day of each month and again on the 15th. Describe the percentage of work completed during the report period. If behind schedule, report in writing what actions will be taken to regain the schedule. If the CO agrees to add days to the contract performance period, Contractor must provide an amended schedule.

10. **Status Reports**: Submit to the CO daily reports of the work status. In each report, list the tasks accomplished for that day, any deliveries received, equipment currently on-site, weather conditions for that day, and number of personnel working on each area listed by trade. Photos may be included.

4.2.3 Period of Performance: Is the period between the issuance of the NTP and the time all construction is complete, including all punch list items, and final inspection is approved by the Government. The total Period of Performance for this project is 60 days.

4.2.4 Contract Completion: At contract conclusion, vacate all work areas, including: Contractor offices, storage and staging areas, and individual work sites. Restore these areas to their condition prior to Contractor occupancy not more than 14 days from the earlier of: approved final inspection or CO notification.

4.2.5 Coordination and Project Conditions: Schedule and manage submittals, materials, products, equipment, manpower, etc. to control all parts of the work efficiently and orderly. Verify compatibility of existing building utilities with new operating equipment. Coordinate required space, supports, and mechanical and electrical work shown (even if via diagrams) on Drawings. Follow routing shown for pipes, ducts, and conduit; place runs parallel with building lines. Use space efficiently to maximize maintenance and for repair accessibility for other systems. Conceal wiring behind finish surfaces and locate fixtures and outlets with finish elements. Coordinate pre-Substantial Completion clean-up in separate building areas. After CAFB occupancy, coordinate site access to correct defective (or non-compliant with CDs) to minimize disruption of Government activities.

4.2.6 Cutting and Patching: Only employ skilled and experienced workers to cut and patch. Report in writing to the CO wherever cutting and patching might degrade: safety; appearance, structure, weatherproofing, O&M, or separate Contractor or government construction. Prevent damage to existing or new construction and provide proper surfaces to receive patching and finishing. Match new finishes to existing adjacent surfaces unless noted otherwise. Maintain integrity of existing walls, ceilings, or floors; completely seal voids. Refinish entire assemblies and continuous surfaces to nearest intersection. Cut, fit, and patch where CDs require e.g.: mechanical and electrical penetrations; integration of new components with one another or with existing construction; removal and replacement of defective and non-conforming elements; remove samples for testing.

4.2.7 Special Procedures: Employ skilled and experienced tradespersons to perform alteration work. Remove debris from open work areas and concealed spaces. Remove, cut, and patch to minimize damage and provide means of restoring products and finishes to original or specified condition. If a change of plane of 1/4 inch or more is discovered, submit recommendation to the CO for providing a smooth transition. Patch or replace portions of existing surfaces which are damaged or showing other imperfections. Finish surfaces as specified.

4.2.8 Airfield Waiver: Airfield waiver is not required for this project.

4.2.9 Welding Permits: No cutting or welding will be permitted without first obtaining a permit issued by the Base Fire Department. All fire and safety regulations are to be followed stringently. Contractor's failure to obtain a cutting or welding permit may not be reason for extending the contract performance period. Any damages incurred while welding work is done without a permit are the responsibility of Contractor.

4.3 SCHEDULING

4.3.1 Contractor must coordinate all work schedules and manage progress of work with the CO and CEPM prior to start of work. Weekly progress meetings will be conducted with the CO, CMI, and Contractor's team which may require corporate management representation at CAFB discretion.

4.3.2 Contractor must schedule all work. Performance periods must not be established or extended to accommodate insufficient personnel resources. Contractor will not move crews on and off the project while making minimal progress on concurrent projects as this must be construed as having an inadequate work force to fulfill the contract requirements. Contractor's CPM and CSS must not change more than two (2) times during project construction as this would demonstrate an inadequate management force to fulfill contract requirements.

4.3.3 Before construction begins, Contractor must agree with CO on a sequence of procedures; means of access to premises and buildings; materials and equipment storage space; delivery of materials and use of approaches, corridors, and stairways. Contractor may be required to revise the CD work-phasing schedule.

4.3.4 Interference and inconvenience to Government operations and personnel caused by project work including use and delivery of materials, tools and equipment must be kept to a minimum.

4.3.5 The Government may require that work, so far as practicable, be done in separate phases. Each phase may relate to a different occupied or unoccupied area, in which work in one area must be completed before work in another area may begin. Phased work areas must be clearly delineated and annotated in the CDs.

4.3.6 Hours of Work: Normal work hours will be Monday through Friday from 7:30am to 4:15pm excepting days observed as Federal Holidays as listed below:

New Year's Day	1 January
Martin Luther King's Birthday	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Juneteenth Day	19 June
Independence Day	4 July
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veterans Day	11 November
Thanksgiving Day	Fourth Thursday in November
Christmas Day	25 December

1) Observe Saturday holidays the preceding Friday. Observe Sunday holidays the succeeding Monday.

2) For weekend, after hours, or holiday work, submit a 72 hour advance written request to the CO, describing dates, locations, and types of work. CAFB has the right to approve or deny the request. Work in CAFB occupied areas during extra-normal work hours require AF escorts in the occupied areas. Modification to contract sum or period of performance will not be allowed.

3) The Government's request for Contractor to work outside of the normal duty hours must be justification for modification to contract sum or period of performance.

4) If CAFB observes an unscheduled holiday, participates in training exercises, etc. Contractor may be prohibited from working for part or the whole of a day. 14CES does not know how many or when these activities might be scheduled but anticipate not less than two per year. CMI will allow additional contract time for these disruptions. Zero-cost modification to period of performance will be allowed.

4.3.7 Construction Schedule: Submit preliminary schedule to the CO at the Preconstruction Meeting, but not later than fourteen (14) days after issuance of Notice to Proceed. After CAFB review and comment, revise and resubmit schedule within seven (7) days. Upon approval by the CO, the schedule becomes the official Construction Progress Schedule. Keep a copy available at Contractor (field) Office. This schedule will only be changed with prior approval of the CO through a contract Modification.

4.3.8 Construction Progress Schedule: Submit and maintain an accurate and current Gantt chart to track construction progress with a separate horizontal line for each major work activity of subcontractors, manufacturers, and suppliers. Vertical lines must identify the first workday of each week. Show complete sequence of construction by activity, identifying separate stages of work and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration of each activity. Revise chart weekly to accurately identify progress made, percentage completion, and projected completion date for each activity. Show activities modified and scope changes. Submit written report to identify problems, anticipated delays, corrective actions, and affected completion dates. Provide additional progress schedule information as requested by the CMI. Construction progress schedule update forms will be provided at the preconstruction conference.

4.4 MANAGING

4.4.1 Preconstruction Conference: at CAFB will be scheduled by the CO after issuing the NTP. Required attendees include the Contractor, Contractor Project Manager (CPM), and Contractor Site Superintendent (CSS). Contractor must record meeting minutes and within two days after the meeting distribute two (2) copies to all participants and to all others affected by decisions made at the meeting. The meeting Agenda will be issued in advance by the CO and will include one or more of the following:

11. Execution of Government-Contractor Agreement.
12. Submission of executed bonds and insurance certificates.
13. Distribution of Contract Documents.
14. Submission of Subcontractors list, products list, schedule of values, and progress schedule.
15. Designation of personnel representing the parties in Contract.
16. Procedures for processing field orders, submittals, substitutions, payment applications, proposal requests, Change Orders, and Contract closeout.
17. Construction Schedule

4.4.2 Site Mobilization Meeting: Prior to Contractor project site(s) occupancy, the CO will schedule a meeting at which required attendants include the CO, Contractor, Contractor's Project Manager (CPM), Contractor's Site Superintendent (CSS), and major Subcontractors. Contractor must record meeting minutes and within two days after the meeting distribute two (2) copies to all participants, and to all others affected by decisions made at the meeting. The Agenda for this meeting will include:

18. Government and Contractor Use of Premises.
19. Government Requirements.
20. Construction facilities and controls provided by Government.
21. Temporary utilities provided by Government.
22. Security and Housekeeping Procedures.
23. Construction Schedules.
24. Application for Payment Procedures.
25. Testing Procedures.
26. Record Documents Maintenance Procedures.

4.4.3 Weekly Progress Meetings: with the CMI will occur throughout construction duration. Required attendants include the CO, Contractor, the CPM, and the CSS. Contractor must record meeting minutes and within two days after the meeting distribute two (2) copies to all participants, and to all others affected by decisions made at the meeting. The agenda for these meetings will include the following:

1) Review previous week's work progress.	Review minutes of previous meetings.
2) Evaluate work quality and safety.	Review field observations, problems, and decisions.
3) Construction Schedule update.	Corrective measures planned to regain projected schedules.
4) Evaluate construction progress.	Identification of problems which impede planned progress.
5) Work progress planned for the next week.	Effect of proposed changes on construction schedule
6) Submittals: review status and schedule.	Review of off-site fabrication and delivery schedules.
7) Other business	

4.5 MATERIAL SUBMITTALS AND SHOP DRAWINGS

4.5.1 Definitions: A **submittal** is a package of project information, samples, drawings, schedules, certifications, product data, etc., submitted to the Contracting Officer for Government review. A **deviation** is a submittal wherein Contractor identifies an item that is in agreement with the intent of the Contract Documents, but does not precisely conform to those documents and Contractor requests either substitution or change for the purpose of increasing the quality of the final product. A Submittal or Deviation of a system must be considered as an integrated collection of component parts.

4.5.2 Purpose: Submittals formalize Government review of Contractor choices in complying with the CDs and providing Minimum Installer Qualifications (Section 4.8.1). They also formalize Contractor's proposed Deviations, color choices, shop drawings, etc. early enough in the contract time when changes will have less impact on the ordering of materials and products.

4.5.3 Accountability: Contractor is wholly responsible for the contents of a submittal. Contractor by act of submittal certify that all items listed or implied, fully meet the intent, materiality and requirements of the design, quality, and functionality of the CDs. Neither Contractor furnishing nor Government approval of a submittal either suspends or waives Contractor responsibility for full compliance with the CDs. This includes materials, equipment, equipment sizing, performance, etc. The Contractor maintains sole responsibility for providing a fully functional product that meets the intent of this SOW, performs as intended, and adheres to all applicable codes and standards.

4.5.4 Basic Compliance: Comply with all "Material Submittals and Shop Drawings" requirements of the SOW. All submittals must be delivered to the Contracting Officer within twenty-one (21) days of approval of the Work Plan unless otherwise specified by the CO. Failure to deliver all submittals within this time period constitutes basis for the CO to refuse Progress Payments until all submittals are delivered to the CO.

4.5.5 Submittals must be accurate, easily legible, with all detail necessary for a thorough review. Every copy of product data must clearly identify proposed models, options, and relevant design data including physical, functional, and utility connection requirements. Where practicable, render manufacturer data specific to this Project.

4.5.6 Each submittal package and shop drawing sheet must bear the approval signature of the Contractor before delivery to the CO. Each submittal must be attached to a Material Approval Submittal (MAS) Form (AF Form 3000). Upon Government review, one copy of each submittal will be returned with its MAS form marked to indicate approval or disapproval.

4.5.7 Government Review: Contractor must deliver one (1) copy of each submittal. Contractor must allow fourteen (14) days for government review excluding delivery time from and to Contractor.

4.5.8 Submittal Log: Contractor must during the design phase of the project log all construction submittals required by completing a "Schedule of Material Submittals" (AF Form 66). The form must include all submittals necessary to ensure the project is built to the satisfaction of CAFB including shop drawings, manufacturer's literature, product data, certificates of compliance, material samples, finish samples, extensions to the design, guarantees, test results, etc. The CO will provide Contractor with an AF form 66 template. Contractor must complete and submit the AF Form 66 in MS-Excel electronic format and in hard-copy format to the CO for review and approval by the CEPM within fourteen (14) days upon issuance of the NTP. Form 66 will be the first submittal item and must be attached to its own (MAS) form. Place the entire Submittal Log in an appendix of the final specifications.

4.5.9 Proposed Products and Qualified Installers List: Within 28 days after Notice to Proceed is issued, submit list of major products proposed for use, with manufacturer name, trade name, model or catalog number designation, and reference standards (for products specified only by reference standards) of each product.

4.5.10 Material Approval Submittal: The CO will provide Contractor with MAS form template. Each MAS form must be attached to one and only one submittal item. Multiple submittal items on a single MAS form will be rejected without review. The MAS "Submission Number" must be the same as its corresponding "Item No." in the Submittal Log. Each submittal must reference the specifications paragraph or the drawing sheet number where the submittal is required. Clearly mark an MAS form "DEVIATION" for any whole system or any part thereof to which the Deviation applies. The Deviation must be reviewed by the CEPM.

4.5.11 Re-Submittals: Resubmitted MAS forms must bear the original "submission number" with an alphabetic suffix (sequenced for multiple re-submittals). Identify all changes made since the previous submission. Allow fourteen (14) days for Government review excluding delivery time from and to Contractor.

4.5.12 Materials, Finishes, Patterns, Textures, Colors, etc.: Submit samples of all visible exterior or interior finish items including: surfaces, materials, paint, fixtures, doors and frames, windows, glass, and hardware prior to ordering or installation. Contractor must deliver the full range of available manufacturer samples to the CEPM showing all materials, finishes, patterns, textures and colors available for each item. Submit ALL samples at the same time. Attach to each sample an AF Form 3000 with Opportunity ID Number, Project Name and Submittal Number. The CEPM will make selections and will keep one sample of each item submitted. Any non-compliance with this paragraph voids any selection regardless of CEPM approval to the contrary. Samples must be the actual material, or actual material coatings bonded to the actual backup material that will be installed. Submittals with false or approximate material or color renderings may be rejected. Sample sizes must be sufficient for the CAFB to perceive true colors and patterns. If a submitted material does not meet the design objectives, CAFB reserves the right to reject the product and require a new submittal. The CEPM decision in this regard will be final.

4.5.13 Certifications: Submit all Contractor, subcontractor, fabricator, and manufacturer certifications for review and, if acceptable, approval by the Government. Denote the specified requirements met or exceeded by the certified element provided whether material, construction system, portion of work, product, equipment, etc. Include supporting references, data, affidavits, certificates, etc. Certifications may be recent or previous test results on the same provided element, but must be acceptable to Government.

4.5.14 Manufacturers Information: For each manufactured product provided in this Project, submit three copies of all manufacturers' printed instructions for delivery, storage, assembly, installation, adjusting, finishing, and usage to the Government. Submit three copies to the CO of any manufacturer's field report within 30 days of manufacturer's field visit and observations.

4.5.15 DD Form 1354: Contractor must submit a completed DD Form 1354, *Transfer and Acceptance of Military Real Property* to the CO prior to final punch-walk.

4.6 WORK BY GOVERNMENT

4.6.1 The Government reserves the right to accomplish work using Government or Contractor work forces other than those contracted for the Project, as the Government deems necessary or desirable, and so doing will not breach or otherwise violate the Project contract. The Contractor may be required to coordinate work with one or more other Contractors in order to complete the Project.

4.6.2 Contractor must bear responsibility for any existing Government material or equipment to be removed and reinstalled. Contractor must protect against damage or loss any Government equipment remaining at construction sites. Government equipment damaged or lost while stored or moved by Contractor must be replaced by Contractor with equal or better equipment.

4.7 PRE-FINAL AND FINAL INSPECTION

4.7.1 The Contractor may request in writing a pre-final inspection purposed to obtain Government assistance in identifying potential problems prior to final inspection. However, any discrepancies (punch list items) identified at the pre-final inspection shall be completed before the final inspection. The Contractor shall schedule the pre-final inspection at least ten (10) days before the final inspection.

4.7.2 If the Contractor does not request a pre-final inspection, the Contractor must schedule final inspection NOT LATER than 10 calendar days prior to the contract completion date unless precluded by Government scheduling problems. Before requesting final inspection, Contractor must submit to the CO project close-out documents including: hard-copy and digital copies (delivered via DoD SAFE) as-built drawings, all test and recycling reports, O&M manuals, DD1354 package, and a quality control (QC) report signed by his Quality Control Manager (QCM) listing any discrepancies. Contractor must submit a written request for final inspection to the CO a minimum of 36 hours prior to the requested inspection date. The request must include certification that Work is complete according to the CDs and ready for CO review. If the CO approves the request, Submit final Payment Application identifying total adjusted Contract Sum, previous payments and payment remaining due.

4.7.3 The QCM, Contractor's superintendent, and CO will conduct the final inspection. Contractor and subcontractors must correct discrepancies and punch-list items within the time limit specified by the CO. In undertaking a final inspection, if the Government determines the project unsuitable for final inspection, the CO will end the inspection, and not less than 24-hours must pass before the final is rescheduled. If, due to one or more such terminations, the actual final inspection date is later than the contract completion date, Liquidated Damages (LDs) may be assessed before the rescheduled "final" inspection. Contractor must submit each request for rescheduled final inspection in writing to the CO.

4.7.4 The CMI and CEPM are the designated representatives of the CO for the purpose of technical surveillance of workmanship and inspection of materials for work performed under this contract. This designation in no way authorizes anyone other than the CO to obligate the government to changes in the terms of the contract. All field changes must be approved by the CO prior to accomplishment. Government inspections or related comments neither constitute QC nor in any way either substitute or supplement Contractor's QCM responsibility. CMI will conduct inspections, but only the CO may authorize final acceptance.

4.8 WARRANTY

4.8.1 Minimum Installer Qualifications: Prerequisite to all warranty and required on every aspect of this project are demonstrated Minimum Installer Qualifications including: manufacturer certification (if required by manufacturer's warranty) that the installer is qualified to perform the work specified.

4.8.2 Standard Warranty: Provide a materials and workmanship warranty for all work for not less than one year from time of total project acceptance by the government.

4.8.3 Exceptions to Standard Warranty: Where this SOW requires longer warranties for one or more products or systems, the extended warranties will supersede the Standard Warranty, but in no case will any item in the project be warranted for less than the Standard Warranty. Whenever products or systems offer a warranty greater than the Standard Warranty, Contractor must pass the greater warranty in full to the Government.

4.8.4 Equipment Data:

1) Major Equipment: Provide a list of all equipment furnished and installed under this contract. This list must include each piece of equipment having a serial number. Each listing must positively identify the piece of property by including all the following information as applicable: date installed/replaced, warranty/guarantee expiration date, item installed, type, model, serial number, style, voltage, cycles, horsepower, size, quantity, frame, item cost, item replacement cost, and location of item/equipment. This list must be furnished to the CO as one (1) reproducible and three (3) copies at the CO's request any time during the contract

2) Major equipment includes air conditioners, air handlers, transformers, and electric motors, compressors, condensing units, chillers, exhaust fans, generators and transfer switches. Contractor

must place an Equipment Warranty sticker on all equipment furnished and installed under this contract.

3) This is not meant to include: light switches, fixtures, relays, valves, and such material items as: piping, insulation, and minor component parts of larger assemblies.

4.8.5 Contractor and Subcontractors must perform any warranty related work according to all manufacturer specifications and recommendations so as not to reduce or void any warranty. Contractor must transfer all manufacturer warranties to the Government on a submittal AF Form 3000 prior to project closeout.

4.8.6 Emergency Repair: Failure of any mission essential work under warranty constitutes an emergency, and Contractor must complete corrective repair(s) not later than a date to be established by the CO. If not responsive in a timely manner, Contractor may be charged for Government to complete repairs.

4.8.7 Non-Emergency Repair: Contractor must respond within 48-hours and effect corrective action in such timely manner as to minimize down-time and mediate inconvenience to any CAFB employees. CO's determination of appropriate time to complete repair(s) governs.

4.8.8 Contractor Non-Responsiveness: If Contractor fails to respond to notifications, the CO will find repair methods and seek restitution through legal means, including through Contractor bonding agents.

4.9 CONTRACTOR OFFICE

4.9.1 No CAFB building will be available for Contractor who requires a temporary office on CAFB. At the Pre-Construction Conference, the CO will designate a site for Contractor's installation of a temporary office on CAFB (not less than 30' from existing structures). Proposed improvements including extensions of utility lines into this area must be approved by the CO prior to installation. Contractor must bear all expenses of these improvements and temporary office. Prior to contract completion, remove buildings, foundations, and utility services and restore all areas thereby affected to their original condition.

4.9.2 Contractor's office must be a weather tight standard manufactured structure securely fixed to foundations, with steps and landings at entrance doors, having a clean appearance and color that are aesthetically acceptable to the CEPM with no patches, broken windows, dirt, rust, etc. with trailers having skirts to grade. Contractor must bear the responsibility and expense for all site work and setup.

4.9.3 Provide and maintain the office with services and equipment including working HVAC equipment to automatically maintain 68º heating and 76º cooling, electric lighting, electrical receptacles, fire extinguishers, and adequate lighting (50 fc at desk top height).

4.9.4 Provide office with items including a facsimile machine, Email address, and telephone service (may be cell) so Contractor employees may be contacted at all times during normal duty hours. Provide CO with an emergency phone number so Contractor can be reached at all other times. All installation, connection and operation costs of these items including utilities, phone, computer, and internet and office security must be provided at Contractor's expense. All on-base connections may be coordinated and monitored by the CO.

4.9.5 Contractor must furnish its own housekeeping and janitorial services for office space. At all times maintain in clean and orderly appearance the interior and exterior of Contractor base office. Trees and shrubs must be kept trimmed and regular mowing must keep grass and other ground cover to not more than 4" height.

4.9.6 Contractor must provide a commercially produced white painted metal job sign on the office bearing Contractor's name and project name in four-inch high black lettering. Job sign shall include up to date information, including current construction completion date.

4.10 CONSTRUCTION SITES

4.10.1 Temporary Power: Provide all necessary electrical connections including temporary transformers, utility poles, cable, weather-heads, panels, and any other electrical items needed for construction. Final electrical hookup must be done after approval of the Contracting Officer, and with a minimum written twenty-one (21)-day notification of hookup. All electrical work must conform to the latest editions of the National Electrical Code (NEC) and the National Electrical Safety Code (NESC). Any hookups to the exterior electrical system (anything outside building demarcations) will be done by or under the inspection 4-County. Requests for any exterior work must be submitted to the 14CES Electrical COR not less than 21-days in advance. Holidays are not included in the 21-days.

4.10.2 Neat and Orderly: Maintain construction sites neat, clean, and orderly. At each day's end collect job site debris, waste, and rubbish, and dispose of properly and remove tools and equipment from passageways. Do not leave or enclose debris, waste or rubbish in pipe chases, plenums, attics, or other closed or remote spaces. Contain dust within project site (plastic barriers) and prevent it from moving into occupied areas. Broom and vacuum interior areas prior to start of surface finishing, and keep dust away from finishes. Contractor must bear final clean-up costs. At end of project, return all construction-affected non-project elements to original condition (including accesses, grass, dirt, sprinkler systems, etc.).

4.10.3 Prevent pests and insects from entering the building renovation areas. Keep all facilities, equipment, and vehicles fully serviced and usable. Immediately remove from site rusted, broken, torn, bent, or otherwise objectionable elements, equipment, material, dumpsters or vehicles. Only normal operator maintenance on Contractor vehicles is allowed on site. Maintain trees and shrubs trimmed, grass regularly mowed and other ground cover not exceeding 4" in height. Clippings or mowing debris must not at any time be allowed to accumulate. If the CO determines the site is unsafe due to clutter or debris, the CO may immediately halt construction and the site must be cleaned by Contractor without delay to the project deadline.

4.10.4 Parking: As approved by the CMI, locate temporary Contractor parking and restrict construction parking to these areas only. Do not allow heavy vehicles, construction equipment or staging in parking areas. Keep parking areas free from mud, dirt, snow, ice, etc. Repair damaged paving including air breaks, potholes, low areas, standing water and other deficiencies, to maintain paving and drainage in their original condition. Repair all adjacent areas damaged by use of parking, to their original condition.

4.10.5 Noise Control: Contractor must comply with all applicable state and local laws, ordinances, and regulations relative to noise control. The Government may require that operations that generate excessive noise be scheduled at other than standard work hours.

4.10.6 Site Storage: As approved by the CMI, locate an exterior area to store all equipment and supplies in a manner that precludes theft or damage of any kind (including mechanical and climatic). Stored materials must be sorted, separated and neatly stacked to protect materials from wind, rain, and contact with ground. Provide adequate lighting for inspection of materials and products. Equipment and vehicles must be located in one area of the site. Contractor must provide a new six-foot high chain-link security fence (and an optional top outrigger of three-strand barbed wire) with vehicular and pedestrian gate(s) with locks. Keep vegetation clear from the fence at all times.

4.10.7 Dumpsters: Trash, debris or other refuse within the work areas must not be visible, but must be fully placed into (never overflowing) approved dumpsters or other manufactured disposal receptacles. Place receptacles within work areas, inconspicuous from the main roads, as approved by the CMI. Refuse from the project must not be dumped into government dumpsters. Construction refuse found in government dumpsters must immediately be removed either by Contractor or by the CAFB at Contractor's expense as directed by the CO. Before the end of project and prior to final inspection, the receptacles must be removed by Contractor who must restore exposed dumpster-covered surfaces to equal or exceed their original condition.

4.10.8 Hauling Trash and Debris: Contractor must dispose of all trash and debris via sanitary landfill or other approved method conforming to all local, state, and federal guidelines and regulations. All refuse removal trucks must be covered and secured prior to leaving job sites. If any materials fall from the trucks, they must be stopped and reloaded to prevent falling debris. Contractor must bear all liability for any damage or injury resulting from falling debris. Certified dump tickets, including cost, for all waste disposals marked with the project number must be submitted to the CO for all waste disposals.

4.10.9 Access and Haul Routes: Propose and obtain prior CO approval for hauling and site access thoroughfares and confine construction traffic to these routes. Provide traffic control at CO designated areas of haul routes to minimize interference with normal CAFB traffic. Off-site streets and parking lots soiled by mud, dirt, debris, foreign objects, or spills caused by Contractor must be cleaned off the same day. Keep parking aprons used as access to work or staging areas clean and clear of all foreign objects and debris at all times.

4.10.10 Vehicular Access: Build any necessary temporary all-weather access roads from existing pavement to serve construction areas, of width and load bearing capacity to provide unimpeded construction traffic with prior approval of the CO. Provide and maintain 20 foot wide driveways with unimpeded access to fire hydrants, control valves and for emergency vehicles. Remove mud from vehicles before they enter paved areas.

4.10.11 Concrete Truck Cleaning: CAFB has no approved concrete truck clean-out sites. Washing-out of on-site concrete trucks may be done only into Contractor-owned dumpsters. If concrete trucks are cleaned out anywhere else on base, clean-up charges will be billed back to Contractor.

4.10.12 Trees, Shrubs, and Hedges and other Plants: Provide barriers to prevent injury to any plant not designated for removal within or near the project site or haul routes. Do not fasten ropes or cables to any existing trees. Vehicles or equipment must never be driven or parked within the drip line of any tree. Obtain written approval from the CO before removing or pruning any plant. Smaller plants including shrubs, hedges or trees damaged during construction, must be replaced with plants of equal size, type, and value with a one-year warranty at no expense to the Government. Larger trees damaged during construction must be recompensed with a number of smaller trees with an aggregate area of noon-shade equal to the larger tree. Damaged or destroyed plants must be replaced between 1 November and 1 April.

4.10.13 Special Excavation Requirements: Contractor must call Mississippi 811 prior to any excavation and must provide drawings showing exact location and description of the proposed excavation. The Government will help the CPM/QCM obtain excavation permits. The government will make a reasonable effort to locate and identify buried lines. “In the area” means “three (3) feet in all directions”, except when the CO indicates otherwise. Any lines flagged or painted on-site or identified on the drawings or digging permit must be avoided by Contractor whenever possible.

Extra care must be taken when work is near marked underground lines and, if these lines are broken Contractor must bear all excavation or repair expenses. If a line is broken that was not by the Government either marked on site or identified on drawings or permit, repair costs will be borne by the Government, unless the CO determines otherwise. If Contractor is deemed responsible for the damaged line, Contractor must **IMMEDIATELY** repair the line to its prior condition at no cost to the Government. Contractor must maintain all marks provided by Base CE for the duration of the Project. Any utilities discovered during excavations that are not shown on the drawings must be drawn and annotated on the As-Built drawings.

Contractor must immediately notify the CO when any utility line is damaged. Contractor must immediately notify the fire department in the event that any gas line is broken or damaged.

4.10.14 Occupancy: Building 230 will not be occupied by personnel during construction. Temporary utilities (power, HVAC, lighting, etc.) will not be required to support occupancy functions during construction.

4.11 CONSTRUCTION EQUIPMENT

4.11.1 All Contractor-supplied equipment is the sole responsibility of Contractor. The Government is not liable for theft, vandalism, or damage to any Contractor supplies or equipment on CAFB. Secure and protect all materials and equipment from damage. Do not leave equipment unattended anywhere on CAFB.

4.11.2 Equipment and Vehicles: Those used on base must be safe and in good operating condition. The CMI may at any time inspect and reject any on-base equipment they consider unsafe, in poor operating condition, or inappropriate for work. Immediately notify the CO of broken down Contractor equipment on CAFB. Move broken down equipment to a CO-designated location within 24-hours. Keep any construction equipment with metal wheels or tracks (i.e. roller, excavator etc.) off CAFB paved areas. All equipment must be trailer hauled to and from construction sites. Prevent loading pavement beyond design capacity which is greater than or equal to the legal capacity of local roads accessing CAFB.

4.12 AVAILABILITY OF UTILITY SERVICES AT JOB SITES

4.12.1 Water: Subject to available supply, the Government, without charge to Contractor will from existing outlets and supplies furnish reasonable amounts of potable water. Conserve water. Provide temporary pipe insulation to prevent freezing. Contractor, at its own expense, must install and maintain necessary temporary connections and distribution lines and must remove the connections and lines prior to final acceptance of construction. Water services may not be available at or adjacent to Contractor's staging, storage or office areas, but may be obtained from an outlet as designated by the Contracting Officer.

4.12.2 Electricity: Exterior supply is available subject to approval from 14CES Electrical COR. Request hookups to exterior electricity not less than 21-days in advance. Costs will be negotiated with the CO. Electricity from interior outlets and supplies are available without cost. Do not disrupt CAFB service without prior CO approval. With CO approval, Contractor must, at its own expense, install and maintain temporary connections and distribution lines and must remove the connections and lines prior to final acceptance of construction. Do not use permanent convenience receptacles during construction.

4.12.3 Sanitary Provisions: Contractor must, at its expense, provide and maintain temporary facilities and necessary appurtenances and must remove same prior to final acceptance.

4.13 TEMPORARY UTILITIES

4.13.1 Temporary Electric Wiring: must meet the requirements as established below and must be installed, maintained, and removed by Contractor at no expense to the Government. Skilled electrical tradesman must accomplish work. Do not disrupt any CAFB use of service without prior CO approval.

4.13.2 Temporary Power and Lighting: Contractor must provide construction power according to the safety requirements of the National Electric Code, NFPA 70. Enforce all electrical safety requirements for subcontractor work. All 15 and 20-Amp outlets not part of the permanent building or structure wiring, must have ground fault circuit interrupters (GFI) for personnel protection. GFI must be provided for extension cords and for all permanent receptacles that are not properly grounded. Provide and maintain construction lighting of not less than 2 watts/ft^2, exterior staging and storage lighting of not less than 1 fc, and after-dark interior lighting of not less than 0.25 fc. Do not use permanent building lighting during construction.

4.13.3 Heating and Cooling: Provide and maintain heating and cooling devices needed to maintain construction operations. Provide these devices with regular preventative maintenance including new filters, lubrication, and parts replacement. Maintain a maximum ambient temperature of 80ºF and a minimum ambient temperature of 55ºF where construction is in progress.

4.13.4 Construction Tools and Equipment: Superseding other requirements, temporary wiring conductors installed for operation of construction tools and equipment must be either Type TW or THW contained in metal raceways or must be hard usage or extra hard usage multi-conductor cord. Temporary wiring must be secured in a workmanlike manner above the ground or floor without obstructing movement of personnel or equipment. Open wiring may only be used outside of building and according to the provisions of the National Electrical Code.

4.13.5 Removal Prior to Substantial Completion: Remove temporary utilities, equipment, facilities, and materials, prior to final inspection. Remove underground installations to a minimum depth of 2 feet. Grade site as required. Clean and repair damage caused by installation or use of temporary work. Restore to original condition existing and permanent facilities used during construction.

4.14 CONSTRUCTION SECURITY

4.14.1 Security Program: Protect Work, including construction site, construction office and all construction material, tools and equipment, from damage, theft, vandalism, and unauthorized entry until project is turned over complete to the Government. Submit a construction security program coordinated with CAFB's existing security services, and obtain CO approval for project mobilization. Maintain program throughout construction until CAFB occupancy.

4.14.2 Entry Control: Restrict entry of persons and vehicles into Project site(s) to authorized persons with proper identification. Coordinate access control with CAFB security forces.

4.14.3 Barriers: Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

4.14.4 Use of Electromagnetic Emission Devices: Electromagnetic emission devices include: radio/RADAR transmitters, navigational aids, instrumentation's, signaling, intrusion detection and identification devices, mobile and fixed business radio communication equipment, and Military Affiliate Radio Station (MARS), Citizen Band (CB) and amateur radio stations. Contractor must comply with the AFMTC Regulation Sup 1 to AFR 700-14 which is available for inspection at the Network Control Center, Bldg. 932, CAFB, MS.

4.14.5 Historical and Archeological Finds: Contractor must carefully preserve all items having any apparent historical or archeological interest, which are discovered in the course of any construction activities. Contractor must cordon off the discovered items from further disturbance and must immediately report the find to the CO so that the proper authorities may be notified. Any items of value or interest will be considered property of CAFB.

4.14.6 Airfield Requirements:

Contractor must contact 14 Civil Engineering Squadron, Columbus AFB, or Base Operations for construction restrictions involving the flight line, taxiway and runway areas and must comply with AFI 13-213.

Two-way radio contact on VHF Radio is required for all vehicles, equipment and personnel working on the flight line, taxiways and runways. The Government will provide radios when they are required.

4.14.7 Contractor Restrictions:

27. Unauthorized Reconnaissance: Contractor access to areas outside of the immediate work area (excluding restrooms near the work site, public eating facilities, direct haul and access routes, CO and CMI, and points of supply and storage) is prohibited. Persons engaged in unauthorized reconnaissance of other Contractor or government activity will be referred to the CO for disposition.

28. Cameras: Cameras and photographing are forbidden on CAFB except by prior written approval of the CO.

29. Contractor Parking: Contractor and Subcontractor vehicles must not be parked on grass surfaces at any time. In addition, vehicles may not be driven over grass surfaces, unless indicated during site visit or pre construction conference or specifically approved by the CO.

30. Elevators: Contractor may not use elevators for any reason without prior approval of the CO.

31. Toilet Facilities: Contractor personnel will not use building facilities.

32. Smoking in AETC Facilities: The Base Commander has placed restrictions on smoking of tobacco products in AETC facilities. All Contractor and Subcontractor employees and visitors are subject to the same restrictions as government personnel. Smoking is permitted only in designated smoking areas. AFI 40-102, Tobacco Use in the Air Force, and its AETC supplement 1, outline the procedures used by the Commander to control smoking in AETC facilities.

End of Administration of Construction

CHAPTER 5 QUALITY REQUIREMENTS

5.1 QUALITY CONTROL PLAN

5.1.1 Present to the CO a Quality Control Plan (QCP) that ensures all elements of Work meet required standards and adhere to the CDs. The plan must include: who is responsible for quality inspections, processing acceptance or rejection, documentation and resolution of quality deficiencies, trend analysis, identification of corrective action, and coordination with Government inspectors. This plan will become a compliance document upon contract award and will remain in effect for the life of the contract. This plan must specify the work the Contractor must inspect and frequency of inspections (not less than daily). CAFB may require changes to the QCP during the life of the contract.

5.1.2 The Contractor is responsible for project quality control, from design through completion. The Contractor must provide and maintain a comprehensive Quality Control Program to ensure that all materials and workmanship thoroughly comply with the CDs. CAFB inspections do not constitute de facto quality control for Contractor on this project. The QCP includes:

33. Monitor suppliers, manufacturers, products, services, site conditions, and workmanship, to ensure specified construction quality.

34. Ensure all completed new construction is protected from damage, deterioration or degradation of any kind.

35. Thorough compliance with manufacturers' instructions and tolerances (if manufacturers' instructions or tolerances conflict with Contract Documents, obtain CO clarification before proceeding).

36. Application of more stringent standards, tolerances and codes, whenever two or more disagree.

37. Verify work is performed only by personnel qualified to produce the specified quality.

38. Verify field measurements exactly correspond to CDs, Shop Drawings or manufacturer instructions.

39. Verify connections and use anchors designed to withstand stresses, vibration, distortion, or disfigurement.

40. Prevent the accumulation of product fabrication and installation tolerances.

41. Monitor and adjust product dimensions and positioning before securing in place.

5.1.3 The QCP must incorporate both acceptable work quality and government inspections. The Contractor must inspect and document all work quality compared to the minimum standards. Documentation must include completion and submittal of a “Contractor’s Quality Control Report (QCR) Daily Log of Construction – Military” to the CE Inspector each day. QCP standards and reference actions include:

42. Comply with related association, trade, or other consensus standard for products or workmanship, unless applicable codes are more stringent.

43. Conformance to reference standards whose issue dates precede the final Contract Documents date unless code sets a specific date.

44. Obtaining copies of standards where required by product specification sections.

45. If specified reference standards conflict with CDs, obtain CO clarification before proceeding.

46. Corrective Actions for Defects in the Work including:

- Replace the Work, or portions of the Work, not conforming to specified requirements. The Work or portions of the Work will both be referred to as "Work" or "the Work".
- If, in the opinion of the CMI, it is not practical to remove and replace the Work, the defective Work may remain, but the CO will direct an appropriate remedy or determine a payment adjustment.
- The authority of the Government to assess the defect and determine payment adjustment(s) is final.

47. Rejected Products: Payment will not be made for rejected products for any of the following:

- Products wasted or disposed of in an unacceptable manner.
- Products determined as unacceptable before or after placement.
- Products not completely unloaded from the transporting vehicle.
- Products placed beyond the lines and levels of the required Work.
- Products remaining at work site(s) after completion of the Work.
- Loading, hauling, and disposing of rejected products.

5.1.4 Quality Control Manager QCM: The Quality Control Manager must direct Contractor's QCP and must be responsible for plan administration and inspection of work. The QCM must during normal duty hours be available to meet with the CO upon 15 minutes notification at a location selected by the CO.

5.2 TESTING AND INSPECTION SERVICES

5.2.1 Materials Testing: If required by the Final approved Construction Documents, Contractor must employ and pay for services of an independent testing agency or laboratory acceptable to the Government. Within five (5) days of NTP issue date submit: testing laboratory name, address, and telephone number; and names of full time registered Engineer/specialist and responsible officer; and a copy of the most recent laboratory facilities inspection report of made by Materials Reference Laboratory of National Institute of Standards and Technology, with memorandum of remedies of any deficiencies reported by the inspection.

1) All tests of materials or systems must be certified and submitted in the original form.

2) Concrete compressive strength test cylinders or borings must be taken in the presence of, and at the times and locations designated by the CMI. Contractor must notify the CO 36 hours prior to any concrete placement. The CO must notify the CMI 24 hours prior to concrete placement. Contractor must immediately label test cylinders legibly with black permanent marker indicating cylinder number, project number, and date.

3) Perform compaction tests of fill material in the presence of the CMI, who will specify each test location. Compaction tests will be required for each lift. Contractor must notify the CMI at least 24 hours in advance of each test and results of any compaction test performed without the CMI present will not be accepted.

4) Inspections, tests, and reports of lab test results made by Contractor, and Contractor agents must be furnished according to the Project specifications. Contractor must bear all costs for tests required for quality assurance. Government requested tests beyond those required by the CDs, the

QCP or standard industry practice will be paid by the Government. Copies of environmental related test results must be to the CO via Submittal.

5.2.2 Testing Consultant: An independent firm will perform tests, inspections and other services specified in the Construction Documents and as required by the CO. Testing equipment must be calibrated at reasonable intervals with devices of accuracy traceable to the National Institute of Standards and Technology or to professionally accepted values of natural physical constants. Testing, inspections and source quality control may occur on or off the project site. Employment of testing agency or laboratory will not relieve Contractor of obligation to perform Work in accordance with the Construction Documents.

5.2.3 Contractor Responsibilities: Assist testing firm with incidental tasks; furnish samples of materials, design mix, equipment, tools, storage; and provide safe access. Notify CMI and testing firm 24 hours before services required. Pay testing firm for required additional tests and samples. Re-testing or re-inspection required because of non-conformance to CDs must be performed by the same independent firm as directed by the CO.

5.2.4 Agency Responsibilities: Test samples of mixes submitted by Contractor. Provide qualified personnel at site. Cooperate with CMI and Contractor in providing services. Perform specified sampling and product testing according to specified standards. Ascertain compliance of materials and mixes with requirements of Contract Documents. Promptly notify CMI and Contractor of observed irregularities or non-conformance of Work or products. Perform additional tests required by Government. Attend preconstruction and all progress meetings.

5.2.5 Agency Reports: After each test, promptly submit reports in duplicate to CO, to CMI and to Contractor. Reports must indicate observations, results of tests, and compliance or non-compliance with CDs. When requested by CMI, provide test results interpretations including: Issue date; project title and number; location within the project; inspector's name; date and time of sampling or inspection; identification of product and specification section; type of inspection or test; test date; test results; conformance with CDs.

5.2.6 Testing Authority Limits: Agency or laboratory may not release, revoke, alter, or enlarge the Contract Documents. Agency or laboratory may not approve or accept any portion of the Work. Agency or laboratory may not assume any Contractor duties. Agency or laboratory has no authority to stop the Work.

5.3 MANUFACTURERS' FIELD SERVICES

Major equipment manufacturers must provide qualified staff personnel to observe site conditions, surface and installation conditions, workmanship quality, equipment start-up, and to test, adjust and balance equipment as necessary, and to initiate instructions when necessary. Submit observer qualifications to CO for approval at least 30 days prior to site visits. Observer must report observations, decisions or directions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

5.4 PRODUCT REQUIREMENTS

Provide products suitable for intended use from qualified manufacturers. Provide products of each type by a single manufacturer unless specified otherwise. Do not use materials or equipment removed from existing premises, unless specifically allowed by the Contract Documents. Provide interchangeable components of the same manufacturer for components being replaced.

5.4.1 Delivery, Storage and Handling: Transport, protect, handle and store products according to manufacturer's instructions. Product seals and labels must be intact, visible and legible at all times. Inspect shipments to ensure that products are undamaged and comply with CD requirements. Keep all products away from contact with the ground. Protect products from any form of soiling, disfigurement, damage, condensation and degradation to products before and after installation. Arrange stored products to permit access for inspection.

5.4.2 Substitutions: Substitutions may be considered when an Originally Specified Product (OSP) becomes unavailable through no fault of the Contractor. Provide a substitution request in report form on Contractor company letterhead including, to the CEPM's satisfaction, all information necessary to substantiate compliance of proposed Substitution with the CDs. The cover page of a substitution request must have been reviewed by and bear approval seal and signature of the Contractor. Substitution requests must neither have the appearance of nor be attached to any Material Submittal or Shop Drawing. Using Submittal forms or process to obtain approval for substitutions will be viewed as an attempt to defraud the Government.

5.4.3 A substitution request represents that Contractor: warrants that the proposed substitution meets or exceeds the OSP quality; will provide an equal or better warranty for the substitution than for the OSP; will make changes to other Work necessary to accommodate the substitution and that those changes will not reduce the quality of the whole or any part of the Project; will revise Construction Documents (As-Builts) as necessary; waives claims for any additional costs or time extension arising from incorporation of the substitution into the Project; will reimburse Government for review or redesign services associated with re-approval by authorities.

5.4.4 Substitution Request Procedure: Submit three copies of Substitution Request for review by the CEPM. Limit each request to one proposed Substitution. Submit Shop Drawings, Product Data, and certified test results attesting to the proposed product equivalence. Burden of proof is on Contractor. The CO will notify Contractor in writing of decision to accept or reject the request. If rejected, Contractor may propose another substitution.

5.5 CLOSEOUT PROCEDURES

5.5.1 Final Cleaning: Execute prior to final project assessment. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces. Clean equipment and fixtures to a sanitary condition with appropriate cleaning materials. Clean operating equipment filters. Clean debris from roofs, gutters, downspouts, and drainage systems. Clean site; sweep paved areas, rake clean landscaped surfaces. Remove waste and surplus materials, rubbish, and construction facilities from the site.

5.5.2 Starting Of Systems: Coordinate schedule for start-up of various equipment and systems. Notify Government seven days prior to start-up of each item. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer. Verify that wiring and support components for equipment are complete and tested. Execute start-up under supervision of applicable personnel in accordance with manufacturer's instructions. Submit a written report that equipment or system has been properly installed and is functioning correctly.

5.5.3 Demonstration and Instructions: Demonstrate operation and maintenance of products and equipment to Government's personnel two weeks prior to Substantial Completion date. A manufacturer's representative who is knowledgeable about the Project must demonstrate equipment and products. If equipment or systems require seasonal operation and Substantial Completion is out-of-season, perform demonstration within six months. Use operation and maintenance (O&M) manuals as basis for instruction. Review contents of manual with Government personnel in detail to explain all aspects of operation and maintenance. Demonstrate operation, control, adjustment, troubleshooting, servicing, and maintenance of each item of equipment at agreed time, at CO designated location. Prepare and insert additional information in operations and maintenance manuals when need for additional data becomes apparent during instruction. Provide adequate amount of time required for instruction on each item of equipment and systems necessary for complete cognizance by government maintenance personnel, but not less than indicated in individual specification sections.

5.5.4 Operation and Maintenance Manuals: Submit bound in 8-1/2 x 11 inch (A4) text pages, three D size ring binders with durable plastic covers. Binder cover(s) must bear: the title "OPERATION and MAINTENANCE INSTRUCTIONS"; project title; project number; and binder subject matter. Subdivide binder contents with reinforced punched tabbed permanent page dividers; with section dividers clearly printed under reinforced laminated plastic tabs; organized logically as described below:

48. Drawings: Bind with text; fold larger drawings to size of text pages.

49. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:

50. Part 1: Directory, listing names, addresses, and telephone numbers of Contractor, Subcontractors, and major equipment suppliers.

51. Part 2: O&M instructions arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify: Significant design criteria; List of equipment; Parts list for each component; Operating instructions; Maintenance instructions for equipment and systems; and Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.

52. Part 3: Project documents and certificates, including the following: Shop drawings and product data; Air and water balance reports; Certificates; Originals and photocopies of warranties and bonds.

5.5.5 Submit draft copy of completed volumes 21 days prior to final inspection. This copy will be returned with Contracting Officer comments after final inspection. Revise content of all document sets as required prior to final submission. Submit two sets of revised final volumes, within 14 days after final inspection.

5.5.6 Spare Parts and Maintenance Products: Specify spare parts and extra products adequate for equipment and products maintenance for two years beyond the warranty period. Specify project site delivery location(s) and require delivery receipts prior to final payment to Contractor.

5.5.7 Product Warranties and Bonds: Require the following: Obtain and collect transferrable warranties, and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within 14 days after completion of related work; Verify documents are legal, complete, and notarized; Co-Execute submittals when required; Provide Table of Contents and assemble in three D side ring binder with durable plastic cover; Submit prior to final Payment Application. Require these document submittal times: For equipment or component parts put into service during construction and with CO permission: within 14 days of acceptance; Others: within 14 days of Substantial Completion, before final Payment Application; If acceptance delayed beyond Substantial Completion: within 14 days after acceptance, stating acceptance date as the beginning of the warranty or bond period.

5.5.8 Maintenance Service: Specify that: Service and maintenance must be furnished during warranty periods; System components must be examined at a frequency consistent with reliable operation and be cleaned, adjusted and lubricated as required; Parts must be repaired or replaced whenever required; Only parts produced by the original component manufacturer must be used; and Maintenance service must not be assigned or transferred to any agent or Subcontractor without prior written consent of the CO.

End of Quality Requirements

CHAPTER 6 SAFETY, HEALTH AND ENVIRONMENTAL PROTECTION

6.1 SAFETY AND HEALTH

6.1.1 Contractor Responsibility: The Contractor bears full responsibility and liability for compliance with all Occupational Safety and Health Administration (OSHA) and applicable state and local safety and health regulations for this Project and holds the Government harmless for any Contractor action resulting in illness, injury, or death. The Contractor is solely responsible for ensuring the safety of all Contractor and non-contractor personnel whenever and wherever present on CAFB. Additional safety and health requirements stated or implied in this SOW apply to Contractor work that could affect non-contractor personnel at CAFB.

6.1.2 Applicable Publications: The publications listed below form a part of these Base Standards to the extent referenced herein or in the Project scope. The publications are referred by basic designation only. Wherever listed publications are applicable, the Contractor must comply with the latest extant publication.

1) Code of Federal Regulations (CFR)

- OSHA General industry Safety and Health Standards (29 CFR 1910) Publications
- OSHA Construction Industry Standards (29 CFR 1926)
- National Emission Standards for Hazardous Air Pollutants (40 CFR, Part61)
- Hazardous Chemical Reporting (40 CFR 370)

2) Federal Standards (Fed Std)

- 313A Safety Data Sheets, Preparation and the Submission of Safety and Health requirements, DA Circular 40-83-4

3) No asbestos containing materials will be allowed in performance of this contract or anywhere on CAFB.

6.1.3 Safety Program: The Contractor must organize, maintain and document a program to ensure compliance with safety requirements, with personnel assigned to manage its functions including: administrative, liaison, and technical to implement, direct, monitor, control, and allocate resources for all safety tasks within all aspects of the work. The Contractor must ensure full compliance of all on-site subcontractors with all safety requirements. All safety documents and related data must be available in the Contractor site office for review by the CO at any time.

6.1.4 Confined Spaces: Before entering a "Confined Space", the CMI must brief the Contractor on the space's known hazards. The Contractor must develop a Confined Space plan and obtain a Confined Space permit. Government provided information and issued permit notwithstanding, the Contractor remains fully responsible for the safety of anyone directly or indirectly affected by work in that confined space.

6.2 GENERAL

6.2.1 Contracting Officer (CO) and assigned Quality Assurance Evaluator (QAE) or Construction Inspector (CI) are terms not specified in this document. The generic CO is used throughout to designate the Government representative with contract authority. NOTE: Contacts for base offices are NOT to be included in revisions of this document. The point of all Contractor contact with the installation is the CONTRACTING OFFICER.

6.2.2 "Contractor" refers to the prime and all sub-contractors. Everyone on site must follow the agreements made with the signatory Contractor.

6.2.3 The Contractor is responsible for compliance with all federal, state, and local environmental laws and regulations, as well as Air Force regulations and guidance. These requirements include, but are not limited to, items discussed in this section.

6.2.4 This installation is subject to federal, state, and local inspections to review compliance with environmental protection laws. An inspection by the Environmental Protection Agency (EPA), Mississippi Department of Environmental Quality (MDEQ), Air Force Civil Engineer Center (AFCEC), or any other environmental or safety enforcement agency may include questioning and inspection of Contractor personnel, sites, and processes.

6.2.5 Contractors must complete and provide documentation as requested by the Contracting Officer or by inspectors, including documentation of any environmental training required by federal, state, or local regulations.

6.2.6 If a Notice of Violation (NOV) is issued to the Government or Contractor due to the Contractor's error or omission, the Contractor will be held liable for damages—including fines, penalties, or corrective actions imposed by federal, state, or local agencies.

6.2.7 If there is an accidental spill, the Contractor must follow installation spill reporting and clean up procedures as outlined in 6.8.

6.3 HAZARDOUS MATERIAL

6.3.1 Submit the following list BEFORE the project starts: Submit a list of ALL wet and dry chemical materials to be used during the performance of the contract with an estimated total annual use on site, MSN (if available), manufacturer, container size, and intended use to the CO before project start. Materials are to be checked in through (and tracked by) the 14CES/CEIE HazMat Tracking Activity (HTA) as they arrive on station with a current Safety Data Sheet specific to the manufacturer, container quantity, and total quantity brought on station. Changes of quantity or manufacturer are to be immediately cleared through the CO and the 14CES/CEIE HMMP HTA. All drums and/or containers of liquid materials must be marked to indicate contents. Unmarked containers are not allowed on site. All containers must be kept closed when not in use.

6.4 PROJECT EXECUTION

6.4.1 Hazardous materials must be stored and used in accordance with all federal, state, and local laws and regulations. Hazardous materials must not be stored in containers in direct contact with the ground. Containers must be in good condition with no holes, leaks, creases, or excessive rust. Containers must be kept closed when not in use. No hazardous materials/waste will be stored on the installation without CO approval.

6.4.2 Safety Data Sheets (SDS) must be available on site (at the location) for all hazardous materials.

6.4.3 Any hazardous or special waste generated must be handled in accordance with all local, state, and federal laws and regulations, including RCRA requirements for waste management and DOT requirements for waste transport. The Contractor must be responsible for obtaining all necessary permits, licenses, and approvals unless otherwise specified in writing by the CO.

6.5 HAZARDOUS WASTE GENERATION/DISPOSAL

6.5.1 The Contractor must maintain records of all waste determinations, including appropriate results of analysis performed, substances and sample locations, date and time of collection, and other pertinent data as required by 40 CFR Part 280, Section 74 and 40 CFR, Part 262, Subpart D.

6.5.2 The Contractor must provide a copy of all hazardous waste manifests to the CO no later than close of business the same day waste is transported off base. The Contractor must provide a closed copy of the hazardous waste manifests not later than 30 days after the waste is transported off base or before final payment, whichever occurs first. Since CAFB's EPA identification number will be used on all hazardous waste manifests, 14 CES/CEIE must sign the manifest. The Contractor still retains all liabilities associated with containerizing, loading, shipping, and disposing of the hazardous waste.

6.6 RECYCLING

6.6.1 The Contractor may elect (in the contract) to manage their own recycling of materials. In such cases, tonnage (weight slips) of material disposed of and reused or recycled (including reports of "no activity" in a given month) must be reported to the CO no later than the 5th of each month until the contract is completed. The COR must transfer all such reports to the CO upon receipt.

6.6.2 The Contractor must notify the CO a minimum of 3 business days prior to the need for recycle materials containers or changes in container size or delivery schedule so the appropriate containers and delivery schedule can be established.

6.6.3 A roll-off recycle metal materials container can be provided to the Contractor by 14 CES/CEIE upon request.

6.6.4 The following materials are acceptable for inclusion in the container provided for recycling:

- Copper: sheeting, wire, devices with an extension cord, electronics, motors.
- Steel: iron, sheet, structural beams, components.
- Aluminum: sheet, structural components, cast material and containers.
- Lead: batteries, sheeting, pipe
- Paper: cardboard, office paper, mixed paper.

6.6.5 The following items may be included in the provided containers with exceptions as noted. Again, the saving to the Contractor is the avoided disposal fees.

- Oversize materials (limbs/steel/aluminum) may not need reducing by the Contractor. Contact the recycling center directly to have exceptions inspected for handling at Government expense.
- Glass: bottles only, not mixed with construction debris collection. Office material recycling allows for the mixing of paper/glass/cans/plastic to be dropped off at the recycling center during business hours.
- Wood/scrap lumber/limbs: under 6" diameter, non-treated, nail/screw/mixed material free. Wood not meeting these criteria are construction debris.
- Plastic bottles: #1&2 only, empty of any liquid or dry material. Rinsing not required.
- Other: must be cleared with the recycling staff.

6.6.6 C&D diversion on or off base is reportable in tons to the CO. Items and exception are:

- Wood: limbs, pallets, clean straight lumber scrap may be collected for wood mulch BUT no screws, hardware, metal straps, bolts, plastic, Formica or treated products are wanted. The dumping of unwanted materials is a contract violation and the Contractor will be directed to dispose of the material properly at their expense.
- Concrete: as fill, riprap, cut and reused, or crushed.
- Asphalt: millings used for new construction.
- Gravel: used decorative gravel may be counted as a diverted material if it is suitable for another purpose. Plastic and other materials are to be removed prior to reuse as a ground cover.

6.6.7 Materials NOT meeting any of the above criteria will be considered “construction debris” and must be disposed of at the Contractor’s expense.

- Foam, Styrofoam, sheet plastic contaminated with dirt.
- Furniture, chairs, office dividers, mixed material items are generally not acceptable.
- Plate glass, glass objects, table tops, Pyrex.
- Liquids are generally not acceptable. Oil may be recycled but not in the provided mixed material container.
- Wood with nails or paint/brick/masonry/sheetrock.

6.6.8 The Contractor MUST NOT recycle pressurized containers, containers with free liquid, free solids, or other material. Container puncturing, emptying, crushing, or cutting MUST be in accordance with MDEQ and installation Air, Water and disposal regulations and permit conditions.

6.7 PROHIBITED MATERIAL/ACTIONS

6.7.1 If materials not indicated in the current contract requirements are encountered that may be dangerous to human health upon disturbance at any time, such as polychlorinated biphenyl's (PCBs), lead-based paint, and friable and non-friable asbestos, the Contractor is to take no action that would disturb or further disturb the material encountered and must notify the Contracting Officer (CO), and assigned Quality Assurance Evaluator (QAE) or Construction Inspector (CI) immediately. Failure to make such notification relieves the Government from all liability for cost and/or performance time impacts until such time proper notifications are received by the CO. Verbal notification must be followed up with written notification within three workdays.

6.7.2 Class I Ozone Depleting Substances (ODS) as defined in Section 602(a) of the Clean Air Act must not be used in the performance of this contract. Radioactive materials or instruments capable of producing ionizing radiation—as well as materials that contain asbestos, mercury or PCBs—are also prohibited, as are materials that contain potentially hazardous concentrations of lead. The Consumer Product Safety Commission states that potentially hazardous concentrations of lead are greater than 90 parts per million or 0.009%. Exceptions to the use of the above excluded materials may be considered by the CO, upon written request by the contractor; however, their use is a violation of federal law, AFI, executive orders, or policy.

6.7.3 Disposal of any chemical or materials into the sanitary sewer system or out in the environment where it can enter the storm system or any natural waterway is prohibited. Disposal of any hazardous material on base is prohibited.

6.8 SPILLS AND CLEANUP

6.8.1 If there is a spill—of any amount or type—of hazardous materials or waste to include all petroleum products, the Contractor must immediately call 911 to call the installation fire dispatch providing description of material spilled (including SDS), time and location of spill, estimate of amount spilled, spill surface, and path of spill (i.e., Did the material enter or will it soon enter a drain inlet, waterway, soil, etc.?). Note that spills as used here includes releases of materials from ruptured or leaking storage receptacles (such as tanks), from transmission lines and valves, either as a part of contract work or as a result of contract work on nearby storage or transmission lines, or the leak of hazardous gases such as chlorine into the air. A follow-up written report to the CO is required within 3 business days.

6.8.2 The Contractor must take immediate action to contain and clean up spills. If the Contractor is unable to begin cleanup action within 15 minutes of the spill, the Government reserves the right to begin cleanup, continue cleanup efforts/actions until the Contractor can properly take over, or enlist the services of another contractor to begin and continue cleanup as determined by the CO.

6.8.3 All costs incurred by the Government until Contractor is capable of taking control, as determined by the on scene commander, will be the sole responsibility of the Contractor. Contractor must ensure equipment, material, and trained personnel are available to meet response time and cleanup requirements.

6.8.4 Spill cleanup personnel must be trained and certified to perform spill cleanup. The Contractor must assume responsibility for the proper characterization and disposal of any waste and cleanup materials generated. All waste and associated cleanup material must be removed from the base and transported/stored in compliance with applicable regulations until final disposal.

6.8.5 The Government reserves the right to control spill cleanup activities. The on scene commander will determine best practices for spill cleanup. The CO remains as the only Air Force representative that may amend contract requirements.

6.8.6 The Contractor is responsible for restoring a spill site to the condition of the site prior to the spill or to an improved condition.

6.9 AIR CONSIDERATIONS

6.9.1 Columbus AFB is in an air attainment zone. The base operates under a true minor permit that requires extensive data gathering to verify no violations of the permit. Fueling operations, painting other than buildings, media blasting, and dust generation require reporting to the CO. The requirements for monthly reporting, if needed, will be coordinated with the CO.

6.10 AFFIRMATIVE/GREEN PROCUREMENT/BIO-BASED/ENERGY

6.10.1 There is a series of executive orders that require the purchase of preferred materials. Whenever possible—and assuming comparable quality, availability and price—supplies are to be of the appropriate minimum energy efficiency or better, made from recovered or recycled material, or made of renewable materials. Certified materials with appropriate labeling is a good guide. The CO has fiduciary obligation to follow executive orders and enforce them on the Contractor.

6.11 ASBESTOS/LEAD BASED PAINT

6.11.1 After coordination with the CO, all asbestos manifests must be signed by 14 CES/CEIE Haz Waste manager before leaving the installation. A copy of certifications must be delivered to the CO (555 Simler BLVD, CAFB MS 39710-5010) three business days before start of work.

6.11.2 No lead based paint will be utilized by any Contractor on any base facility or equipment. Removal of paint or disturbing of surfaces may result in exposing lead based paint. All such loose material, chips, and debris will be removed and not allowed to contaminate the ground or other areas as part of the contract work. All lead based paint contaminated dust/chips must be surrendered to the CO. Government will dispose of such dust/chips at Government cost.

6.12 DRINKING WATER

6.12.1 Water main breaks must be reported immediately. The base emergency customer service system will take emergency reports and after-hours calls, use the number 662-434-2856. The contracting office may become involved with liability or repair issues.

6.12.2 Back Flow Prevention is MANDATORY on all connections to the drinking water system. Taking water directly from hydrants for contractor use is prohibited without the use of a back flow preventer. Drinking water utility use may be metered; estimated use must be agreed to in advance.

6.13 EMS

6.13.1 Contractors are required to take USAF EMS awareness training and certificates must be submitted to 14 CES/CEIE for recordkeeping. Where workers are transitory (less than 160 hrs. annually), the requirement may be waived as long as a supervisor or foreman has the training. The USAF does NOT automatically recognize ISO 7000 or 14001 training or certification as equivalent.

6.14 HISTORICAL AND CULTURAL ARTIFACTS

6.14.1 Upon discovery of human remains, pottery, or other artifacts that may or may not be of Native American origin, the work site MUST BE secured, work in the area of discovery halted, and the CO immediately notified. The Contractor should also immediately notify the CO of any damage to such artifacts. The worksite will be released to the CO (or all practical portions) by 14CES/CEIE archaeological representative. Columbus AFB has no registered historic buildings or sites. Even so, there are culturally significant attributes of the chapel, there is a known cemetery on site, and WWII debris could be discovered.

6.15 NATURAL RESOURCES

6.15.1 Preserve natural resources within project boundaries and outside limits of permanent work. Do not cut, deface, or remove trees or shrubs without CO permission unless allowed under the contract. Protect existing trees that may be damaged by contractor activities. Do not fasten ropes, cables, or guying to trees without CO approval.

6.15.2 Do not disturb fish and wildlife. Do not alter water flows or significantly disturb native habitat adjacent to the project site.

6.16 NOISE

6.16.1 Noise in excess of 85dB within 50 feet of occupied space is to be avoided, muffled, baffled, or of short duration. Occupants are to be notified in advance should long term (6hrs or more) noise be anticipated due to Contractor work.

6.17 PESTICIDES/FERTILIZERS

6.17.1 Contractors must be licensed to apply any pesticide. Coordinate and report all pesticide and fertilizer application with the CO. All quantities used/applied must be reported by the 5th of the month.

6.17.2 If pest control, termite treatment for new slabs, or any type of similar actions are required by the Contract, see Attachment 1 for additional requirements. Attachment 1 is in our templates folder as Pest Control document. Be sure to attach the document.

6.18 STORM WATER PROTECTION

6.18.1 Columbus AFB has a MDEQ Industrial Storm Water Permit. All discharges to storm drains, surface water, or indirectly to the ground are regulated and reportable. Even “clean” water is subject to the permit. The washing of vehicles will be in designated areas only. The use of soap outside of these sites is strictly prohibited. Wash water will not be dumped on the ground, parking lots, or in storm drains. Paint and paint brushes MUST NOT be rinsed outside. Such actions must be done in a sink that has a septic hookup. Options may include capture of all fluids and transfer to an agreed upon sanitary sewer dump point. Situations and specifics are open to discussion; however, fluids must not be disposed of on the ground without a MDEQ approved Industrial Storm Water Permit modification.

6.18.2 Any bare dirt or off road activity will generate sediments. These are considered a pollutant to the waters and must be controlled with dikes, silt cloth, hay bales, and other measures. Records of weekly inspections of work sites may be demanded and must be kept current. Equipment and metals will not be placed directly on the ground.

6.18.3 If the project involves open excavations, surface water diversion methods must be taken in order to minimize entrance of runoff into the excavations. If site characteristics present potential for sediment removal due to storm water, drains in the area must be protected using hay bales, silt screens, or approved equivalent.

6.19 REQUEST FOR CE SERVICE/ACTION/CLEARANCE; AF FORMS 332/813

6.19.1 These are the key forms to getting government furnished space repaired, clearing trenching operations outside of the originally identified work area, or bringing in or ending an operation. The CO will help you coordinate on these documents, if and when needed.

6.19.2 Mississippi One Call 811 must be used before the start of any dirt work.

6.20 TANKS

6.20.1 Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water. Secondary containment is required around temporary fuel oil or petroleum storage tanks of any size, if any leakage could enter a storm drain, ditch or other waterway. Notify the CO prior to bringing any tanks on- site. Any container 55 gallons or greater is regulated as requiring secondary containment in the state of Mississippi. Smaller containers should be protected in a spill locker or on a spill pallet or other device that can contain 110% of the container contents.

6.20.2 Contractor tanks will meet all tank, air, and storm water requirements, be in good repair, not rusted, labeled, sheltered, and be removed when no longer needed.

6.21 LIMITS AND EXCEPTIONS

6.21.1 General: These Contractor guidelines apply to all Contractors working on Columbus Air Force Base, except those transient in the nature of their tasks (such as delivery operations that have no other presence on the base).

6.21.2 EMS Training: Services of a transitory nature may be exempt from EMS training. Qualifying transitory contracts have very limited presence on the installation, making EMS training impractical. A carpet cleaning service working completely out of a service truck, preforming a single short term task, having no on site presence would qualify as exempt. A lawn service storing fuel overnight would not. The CO is to include all Contractors unless there is a compelling reason not to. Non-resident delivery and freight services are exempt (such as Fed-ex).

6.22 LEGAL AUTHORITY

6.22.1 Contractors will follow the listed clauses. This guide has given local information pertaining to these and is not to be considered complete information. The Contractor is instructed to become familiar with the full text of each clause as they have specific applications.

- Safe Drinking Water Act http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm
- Clean Water Act http://www2.epa.gov/laws-regulations/summary-clean-water-act
- Clean Air Act http://epa.gov/oar/caa/caaa_overview.html
- Resource Conservation and Recovery Act (RCRA) http://www.epa.gov/agriculture/lrca.html
- Comprehensive Environmental Response, Compensation and Liability Act http://www.epa.gov/superfund/policy/cercla.htm
- Code of Federal Regulations (CPR) series 29 (OSHA), 40 (Environmental) and 49 (DOT)

End of Safety, Health and Environmental Protection