



# **STATEMENT OF WORK**

**FTFA 22-CB02**

**TRIRIGA ID: 1115168**

**Replace Main HVAC and Electrical System**

**Bldg 210**

**Eglin AFB, FL**

**Date: 14 December 2023**



**96th Civil Engineer Group**

**Replace Main HVAC and Electrical System**  
**Bldg 210**  
**FTFA 22-CB02**

Eglin CEG Drawing/Specification: 23AA

Eglin AFB, FL

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Replace Main HVAC and Electrical System  
Bldg 210  
Eglin AFB, FL

Revision 0: 14 December 2023

### 1. BIDDING SCHEDULE

CLIN Item No.	Description	Amount
<b>BASE BID</b>		
0001	Design and Construction of SOW	\$
0002		\$
<b>BID OPTION</b>		
0003		\$

## 1-1. General Information of Bid Schedule

This section comprises an explanation of the bid items identified in the Bidding Schedule. This section is a general scope of work for the bid items described in the Bidding Schedule and is not intended to be all encompassing in the description. All work specified herein shall be accomplished in accordance with the procedures prescribed in the technical provisions of the specifications, the plans/details as shown on the contract drawings, and required local, state, and federal codes. The contractor shall bid each type of work under the applicable bid item. Measurement for payment will not be made. Payment described for the various bid items will be full compensation for all labor, materials, and equipment required to complete the work. Compensation for any item of work described in the contract but not listed in the bid schedule shall be included in the payment for the item of work to which it is made subsidiary. See “Government Pre-design Analysis” in Section 3-10, and design information for additional details regarding each bid item.

## 1-2. Explanation of Bid Items

### 1-2.1. Design of SOW

All costs in connection with the design of the items are listed under the “Construction of SOW” section of Bid Schedule.

### 1-2.2. Construction of SOW

There shall be no interruption for the operation in Bldg 210. All costs in connection with furnishing all labor, materials, tools, equipment, and associated incidentals necessary to complete the following:

- Replace HVAC chiller, cooling tower, circulation pumps, controls, and instrumentation, see Section 3-10.2 for details.
- Replace electrical motor control center, switchboard, safety switches, electrical panels, and transformer, see Section 3-10.2 for details.
- Dispose all waste properly offsite and clean up the project site.

All work involved is in the mechanical room and mechanical yard in the back of Bldg 210. This facility is in Eglin AFB (Figure 1).



*Figure 1 Bldg 210 Location*

**----- END OF SECTION -----**

## 2. GENERAL INFORMATION

### 2-1. Project Information

FTFA 22-CB02, Replace Main HVAC and Electrical System Bldg 210, hereinafter referred to as the “Project”, is a design-build (D/B) project. This project is to replace equipment in the mechanical room and mechanical yard in Bldg. 210, see **Section 3. Design** for details. This project shall deliver a complete and usable facility and or systems. The project will comply with applicable DoD, Air Force, and base design rules and standards. There shall be no interruption for the operation in Bldg 210.

### 2-2. Period of Performance

The Contractor shall commence design under this portion of the contract within eight (8) calendar days after the date the Contractor receives the Notice to Proceed.

The entire design and construction of the project shall be completed and ready for use not later than **360 days** after the receipt of the notice to proceed. This time stated for completion shall include final cleanup of the premises.

### 2-3. Liquidated Damages

If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the amount is to be stated in the contract.

If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

### 2-4. Project Delivery Method

Project delivery method will be Design-Build (D-B) method where design and construction are performed under the same contract with one prime contractor. This contract statement of work (SOW) covers the Architect-Engineer (A-E) design, and Construction requirements.

### 2-5. D/B Price Proposal

Provide a cost proposal with detailed breakdowns in the 50 Division Master Format for each bid item. A price shall be provided on all numbered items of the bidding schedule. Proposal must contain sufficient detail of costs that include but not limited to; material, labor, equipment, subcontracts, overhead and extended overhead costs, bonds, and profit.



## 2-6. Design Submittal Review

For each design review submittal, the Contractor will be furnished comments from personnel of the 96 Civil Engineer Group and from other concerned agencies involved in the review process. The review will be for conformance with the technical requirements of the solicitation and compliance with any previous comments. The Government will take fourteen (14) calendar days to review and comment on each unreviewed design submittal including the 100% unreviewed submittal. The last two weeks of the calendar year shall not be considered when scheduling review times or meeting times. If the Contractor disagrees technically with any comment or comments and does not intend to comply with the comment, they shall clearly outline, with ample justification, the reasons for noncompliance within five (5) days after receipt of these comments in order that the comment can be resolved. The disposition of all comments shall be furnished in writing within 5 working days after the review meeting. The Contractor is cautioned in that if they believe the action required by any comment exceeds the requirements of this contract, that they should take no action and notify the Contracting Officer in writing immediately.

Review comments will be written using Design Review and Checking System (DrChecks). DrChecks is an Internet based computer program. DrChecks is free of charge. Comments will be written in DrChecks. The Contractor shall annotate the comments using DrChecks and the Government will backcheck the comments. For more information on DrChecks, go to <https://www.projnet.org/projnet/binKornHome/index.cfm>

Review conferences will be held for each design submittal at Eglin AFB, FL. The Contractor shall bring all personnel that developed the design submittal to the review conference. These conferences will take place the week after the fourteen (14) day review period on a mutually agreed upon day. The Contractor shall be responsible for writing and distributing minutes on each submittal review meeting within 7 calendar days of the meeting. Time for design submittal reviews and conferences will be included in the Contractor's schedule.

If a design submittal is over one (1) day late in accordance with the latest design schedule and the Contractor has not given the COR a one (1) week written notice that the submittal will be late, the Government review period will be extended 7 days. The review conference will be held the week after the extended review period on a mutually agreed upon day.

During the design review process, comments will be made on the design submittals that will change the drawings and specifications. The Government will make no additional payments to the Contractor for the incorporation of comments. Review comments are considered part of the design/build process.

If the Contracting Officer requests a design change after the Design Complete Submittal drawings and specifications have been submitted, then this shall be considered a change and proper payment will be made by the Contracting Officer.

If a design submittal is not of the quality level required for the stage of design submitted, the Government has the right to return the submittal to the Contractor so the design quality can be increased, and request a resubmittal. The review time will begin when the submittal received is of the quality level required for the stage of design submitted by the Government. Returned incomplete submittals will not be the basis of a claim by the Contractor for additional time or money.

2-7. Construction Submittal Review

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals are to be the same as those used in the contract drawings. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements. The Prime Contractor is to prepare, review, and stamp with Contractor’s approval all submittals prior to submitting for Government approval. Use transmittal form AF Form 3000: Material Approval Submittal, for submitting in accordance with the instructions on the reverse side of the form. Once received from the Contracting Officer at 96 CEG, the government will have 14-days to review submittals and return AF Form 3000 to the Contractor.

2-8. Time Extensions for Unusually Severe Weather

This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the contract clause entitled "Default: (Fixed Price Construction)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

- (1) The weather experienced at the project site during the contract period must be found to be unusually severe. Unusually severe weather is defined as hurricanes, floods, tornados, or earthquakes.
- (2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.
- (3) The Contractor's progress schedule must reflect completion of the project within the specified contract duration including all weather except that as defined as unusually severe.

The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

Monthly anticipated adverse weather delay. Work days based on (5) day work week.											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
5	5	5	3	3	5	8	6	5	3	4	5

Upon acknowledgement of the Notice to Proceed and continuing throughout the contract, the Contractor will record on its daily Contractor Quality Control report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day.

The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in above paragraph, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Contract Clause entitled "Default (Fixed Price Construction)".

## 2-9. Schedule

Within 7 days after NTP is acknowledged, D/B Contractor shall provide a preliminary schedule showing the entire **360 contract days** of contract activities. Within 14 days, D/B Contractor shall provide a detailed schedule of the entire contract that demonstrates a reasonable and realistic sequence of activities which represent all work through the entire contract performance period.

Prepare for approval a Project Schedule, as specified herein, pursuant to FAR Clause 52.236-15 Schedules for Construction Contracts. Show in the schedule the proposed sequence to perform the work and dates contemplated for starting and completing all schedule activities. The scheduling of the entire project is required. The scheduling of design and construction is the responsibility of the Contractor. Contractor management personnel must actively participate in its development. Designers, Subcontractors and suppliers working on the project must also contribute in developing and maintaining an accurate Project Schedule. Provide a schedule that is a forward planning as well as a project monitoring tool. Use the Critical Path Method (CPM) of network calculation to generate all Project Schedules. Prepare each Project Schedule using the Precedence Diagram Method (PDM).

Develop the Project Schedule to the appropriate level of detail to address major milestones and to allow for satisfactory project planning and execution. Failure to develop the Project Schedule to an appropriate level of detail will result in its disapproval. The Contracting Officer will consider, but is not limited to, the following characteristics and requirements to determine appropriate level of detail:

- Activity dates and durations
- Procurement activities
- Submission of shop drawings
- Submission of DD1354 data
- Construction start date
- Design and Permit Activities
- Submission, review, and acceptance of submittals (design and construction)
- Submission of O&M's and as-builts
- Contract start and end date
- Float

- Milestones
- Major inspections
- Correction of punchlist from Contractor's pre-final inspection
- Correction of punchlist from Government's pre-final inspection
- % Complete
- Contractor's pre-final inspection
- Government's pre-final inspection
- Final Inspection

D/B Contractor shall provide an updated project schedule on a regular basis, monthly at a minimum. Update the schedule to include detailed construction activities as the design progresses, but not later than the submission of the final unreviewed design submission for each separate design package. The Contracting Officer may require submission of detailed schedule activities for any distinct construction that is started prior to submission of a final design submission if such activity is authorized.

Update information including Actual Start Dates (AS), Actual Finish Dates (AF), Remaining Durations (RD), and Percent Complete is subject to the approval of the Government at the meeting.

AS and AF dates must match the date(s) reported on the Contractor's daily report for an activity start or finish.

**----- END OF SECTION -----**

### **3. DESIGN**

#### 3-1. Design Criteria

The Contractor shall prepare complete construction documents for all work designed as required by the RFP. The construction documents to be prepared include, but are not limited to construction drawings, specifications, submittals, and design analysis for the basis of design. The project shall be designed and constructed in accordance with the criteria contained herein and using industry standard materials and efficient practices. The system/facility design and the materials selected shall be high quality, durable and easily maintained. The Contractor shall be responsible for the professional quality, code compliance, technical accuracy and coordination of all designs, drawings, specifications and other documents or publications upon which the design and construction are based.

Design and construction criteria shall include but not be limited to, the requirements given by the latest editions of standards, construction codes, and Eglin specific guides. When a conflict exists, it is the designer's responsibility to select and use the most stringent design and construction requirements.

Eglin Specific Criteria shall be incorporated in the design specifications and construction contract documents. This includes but not limited to Eglin Architectural Compatibility Plan, Eglin Engineering Design Manual, Eglin Comm Squadron Design Guide, Fire System Requirements, Eglin AFB DDC Design Guidelines, ASUS design drawings and specifications, and CHELCO's design drawings and specifications.

Equipment, Materials, Products, and Supplies – Specify and/or note on the drawings that all equipment, materials, products, and supplies installed in this project shall be newly manufactured of the latest version unless otherwise specified herein. Replacement parts shall be standard and readily available through commercial means. Discontinued products shall not be specified or noted as a basis of design.

#### 3-2. Drawings and Specifications

This project design shall be accomplished using English units. Drawings shall be created in AutoCAD. Specifications shall be created from Unified Facilities Guide Specifications (UFGS) 50 division masters in SPECSINTACT format. See "Design Information" paragraph for detailed drawing and specification requirements.

The contractor shall provide Architectural, Structural, Civil, Mechanical, and Electrical drawings as necessary. Architectural, Structural, and Civil drawings shall be provided in the event of any modifications to the facility or grounds around the facility. Mechanical drawings shall include equipment schedules, controls schematics (to include sequence of controls), and layout plans. Electrical drawings shall be provided to include all panel schedules, riser diagrams, and show all electrical connections necessary for equipment installation.

### 3-3. Design Analysis

The A-E shall prepare and submit a design analysis. The design analysis is a written explanation of the project design and is expanded and revised for each submission. The design analysis shall contain a summary of the criteria for the history of the project design, including criteria designated by the customer, letters, codes, references, design review comments/responses, design review conference minutes, and pertinent research. The justification for each major selection and design decision shall be clearly stated. Design calculations, computerized manual shall be included in the design analysis. Narrative descriptions of design solutions shall also be included. Diagrams and sketches to convey design concepts may be provided to illustrate all written material.

The design analysis shall also contain the following documents, as applicable:

- Permits
- Sustainable Design and Development

#### 3-3.1. Environmental Permits

The A-E is responsible to determine and prepare signature ready documents for all environmental permits including storm water if applicable. Contact the 96 CEG Environmental Compliance POC for permit consultation.

In the design analysis, list all required permits by title, permit number or form number, permitting agency, effective date, and expiration date. Show signature responsibility (Government, designer, or construction contractor), fee required, and days required to obtain. Provide a statement if permits are not required.

If permits are required, specify requirements in the appropriate UFGS specification sections (e.g., Section 01 11 00 Summary of Work and/or Section 01 57 19 Temporary Environmental Controls) and provide a coordination note on the drawings.

#### 3-3.2. Sustainable Design and Development

No project specific sustainable design and development (SDD) criteria or rating level has been determined or is required for this project. Integrate low/no cost SDD approaches into the design where practical.

### 3-4. Construction Schedule

The A-E is not required to provide an independent construction schedule. Instead, the A-E will include UFGS Section 01 32 01.00 10 Project Schedule into construction contract specifications.

### 3-5. Construction Submittal Register

The Contractor shall develop construction submittal requirements required during construction as part of the design phase of the contract. This shall be done by the Contractor's Designer of Record by producing a Contractor Submittal Register at each submittal during design. A submittal register shall be prepared for each section of the

specifications for the submittal requirements of that section. The Contractor's Designer of Record shall be responsible for listing all required submittals necessary to ensure the project requirements are complied with. The Register shall identify submittal items such as shop drawings, manufacturer's literature, certificates of compliance, material samples, guarantees, test results, etc. that the Contractor shall submit for review and/or approval action during the life of the construction contract. SPECSINTACT software has an automated feature to produce this document. If alternate specification software is approved for use, the A-E shall manually prepare and submit AF Form 66, or approved electronic equal.

### 3-6. Construction Safety

The A-E shall include UFGS 01 35 26 Governmental Safety Requirements into construction contract specifications.

### 3-7. Design Quality

The A-E shall be responsible for the professional quality, technical accuracy, and coordination of all drawings, specifications, code compliance, and other documents or publications upon which the design is based. The engineering features of the work (architectural, structural, environmental, civil, etc.) shall be accomplished, reviewed, and approved by engineers and architects who are licensed professionals with experience to practice in their respective professional field by any State in the United States. Design Drawings shall be sealed and signed by all Designers of Record.

All design documents shall be well prepared, completed, and accomplished in accordance with the best of professional practice to show clearly and concisely the type and extent of work to be performed.

The D/B Contractor Team shall investigate the existing site conditions to perform the design analysis. Pertinent notes and calculations shall be organized, readable and included in the formal design analysis submittal. After the initial site visit, any concerns or questions shall be in writing and directed to the Contracting Officer with a copy to the Project Manager.

### 3-8. Design Errors or Deficiencies

The provisions of the contract clause entitled "Responsibility of the Architect Engineer Contractor" will be fully enforced by the Government. Of particular note are the D/B Contractor responsibilities noted below:

- The D/B Contractor is completely responsible for the professional quality, technical accuracy, and coordination of all designs, drawings, specifications, and other work or materials produced and furnished by his own staff and that of consultants, and will be required to correct or revise any errors or deficiencies in their work, notwithstanding any review, approval, acceptance, or payment by the Government.

- Corrections and changes resulting from review of the D/B Contractor's completed work will not be made by the Government but will be returned to the D/B Contractor for correction. Further, the D/B Contractor shall be liable to the Government for damages to the Government caused by negligent performance by the D/B Contractor. These responsibilities apply equally to any consultant used by the D/B Contractor and in no way relieve the consultant from a similar responsibility and accountability to the D/B Contractor.
- During construction, the D/B Contractor shall provide an evaluation of any problem resulting from what the Government considers to be a design error or deficiency. The evaluation will be provided within 10 days of notification by the Government and will be in the following format:

Problem: Provide a brief description of the problem and the status of the construction at the time of its discovery.

Analysis: Provide a complete and detailed analysis of the problem. Background facts such as circumstances, conditions, dates, personnel involved, and cost data should be included if pertinent. Design conflicts, errors, omissions, and/or ambiguities contributing to the problem should be identified. Describe recommended corrective actions. Attach sketches or drawings if appropriate.

D/B Contractor Evaluation: Provide the rationale and justification for whether or not the problem should be considered a design deficiency.

### 3-9. Deviations

Deviations from the requirements given in this Statement of Work shall be allowed only at the convenience of the Government. If at any time the D/B Contractor feels that it will not be possible to meet these requirements, he/she shall notify the Contracting Officer in writing, immediately, with reasons as to why the requirements may not be met.

### 3-10. Government Pre-design Analysis

This section summarizes existing conditions, preliminary/alternate design approaches, and provides general design requirements for the major disciplines. The discipline breakdown is for ease of reference only and may not reflect the actual work organization.

#### 3-10.1. Existing Conditions

The following was observed on the Government's initial site visit. A thorough assessment of the existing conditions will be required of the D/B Contractor before project award.

Bldg 210 was built in 1973. The existing HVAC system, and electrical service and distribution system have reached the end of their life cycle. If not repaired, these systems shall failure to sustain the facility, impact the mission and services provided at the 96th Force Support Squadron



### 3-10.2. Design Considerations & Requirements

This section covers considerations for the design of each scope of work line item. D/B contractor shall provide all designs in accordance with latest applicable design standards to include but not limited to; Unified Facilities Criteria (UFC), DoD Building Code, Florida Building Code, National Electrical Code (NEC), NFPA 70E, Air Force Instructions (AFI), Eglin Architectural Compatibility Plan, Eglin Engineering Design Manual, Eglin Comm Squadron Design Guide, Fire System Requirements, ASUS and CHELCO's design drawings and specifications.

#### ***Replace HVAC System***

- Replace cooling tower and necessary piping, conduit, and wiring
- Replace existing chiller and its control center with Trane chiller and control center
- Replace circulation pumps including hot water pump and chilled water pump
- Replace condenser and condenser water pump
- Replace chemical feed controller and chemical feed pumps
- Replace the existing piping, wiring, and conduit necessary to accommodate the new HVAC system
- Provide and install Direct Digital Control (DDC) system and all ancillary components, adhere to Eglin AFB DDC Design Guidelines
- Return all existing controllers to DDC
- Dispose these removed items properly after contacting HVAC shop.

#### ***Replace Electrical System***

- Replace the entire Motor Control Center (MCC)
- Replace switchboard
- Replace transformer 2ME1
- Replace electrical panels including 2ME1, UPS, and X
- Replace safety switches for compressor, condenser pump, hot water pump, UPS, and panel X
- Replace wiring and conduits in the mechanical room necessary to accommodate the new electrical system
- Dispose these removed items properly.

### 3-10.3. Verification of Existing Conditions and site Survey

Bidders/Offerors should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and location of work and the general and local conditions that can affect the work or cost thereof.

Use of existing condition data provided by the Air Force conveys acceptance and as such does not relieve the Contractor of liability associated with performance as the Engineer of Record. The Contractor shall be solely responsible for verification and validation of existing conditions, coordination of existing conditions in parallel with proposed requirements, and both above and below grade condition assessments. Information obtained from the Contractor's own evaluations shall be used as the basis of design.

The contractor shall perform field reconnaissance, surveys, and site investigations required to obtain engineering information and design data for the accomplishment of the contract documents of the project in accordance with requirements of this Statement of Work (SOW). As-built drawings of existing facilities shall be provided to the contractor upon request if available.

## 3-11. Design Information

### 3-11.1. Submittals

Requirements for each submittal are generally described below.

- 35% Design Submittal: This submittal shall be of sufficient detail of the description in this statement of work. Submittal shall show how the users' functional and technical requirements will be met, indicate the designer's approach to the solution of technical problems, show compliance with design criteria or provide justification for noncompliance. The 35% Design shall consist of:
  - Design Analysis:
    - Design narrative
    - Intended (outline) specifications list.
  - 35% Design Drawings
  
- 65% Design Submittal: This submittal, if required, is intended to insure that funding limitations are not being exceeded and that the drawings, design analysis, and specifications are proceeding in a timely manner and that the design criteria and previous review comments are being correctly interpreted. Redlined marked up specifications will be submitted at this design phase. The 60 to 65% Design shall consist of:
  - Design Analysis developed to approximately 60 to 65% completion outlining further design development and engineering calculations.

- Approximately 60 to 65% complete drawings including those addressing construction phasing.
- Redlined marked up specifications.
- Basis of design for pertinent materials and/or equipment.
- Completed permit applications (if an Interim submittal was not required, the completed permit applications are required 60 days prior to the Final submittal).
- Specific Criteria incorporated into specifications and drawings. Specific criteria include:
  - Unified Facilities Criteria (UFC's)
    - UFC 1-200-01 General Building Requirements
    - UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard
    - UFC 3-190-01FA Design: Joint Sealing for Buildings
    - UFC 3-190-02FA Design: Builder's Hardware
    - UFC 3-301-01 Structural Engineering
    - UFC 4-021-01 Mass Notification Systems
    - UFC 3-500-10N Electrical Engineering
    - UFC 3-501-01 Electrical Engineering
    - UFC 3-520-01 Interior Electrical Systems
    - UFC 3-530-01 Interior and Exterior Lighting and Controls
    - UFC 3-550-03FA Design: Electrical Power Supply and Distribution
    - UFC 3-560-01 Electrical Safety
    - UFC 3-570-06 Cathodic Protection Systems Operation and Maintenance
    - UFC 3-575-01 Lightning and Static Protection
    - UFC 3-580-10 NMCII Standard Construction Practices
    - UFC 3-600-01 Fire Protection Engineering for Facilities
    - UFC 4-010-01 DOD Minimum Antiterrorism Standards for Buildings

Eglin AFB Requirements

- Eglin Engineering Design Manual (Feb. 2019)
- Eglin Architectural Compatibility Plan
- Eglin Fire Alarm Requirements (Sep. 2022)
- Eglin 96 Comm Squadron Design Guide (Feb. 2020)
- Eglin 96 CEG As-Built Requirements
- Eglin AFB DDC Design Guidelines

Other Requirements

- ASUS Requirements
- CHELCO Requirements

- Florida Building Code 2020
- ACI 301-16, ACI 315, and ACI 318-19
- National Electrical Code (NEC, 2020 Edition)
- NFPA 70E (2018 Edition)
- OSH 1910.97 Occupational Safety and Health Standard 1910.97
- ASTM E329 Standard for Agencies Engaged in Construction, Inspection, Testing, or Special Inspection

All construction must be in compliance with all Public Laws (P.L.), Executive Orders (E.O.), Code of Federal Regulations (CFR), Department of Defense Instructions (DODI) and Department of Defense Directives (DODD) or other higher authority documents as applicable, as listed in MIL-STD-3007F.

- 95% Design Submittal/Unreviewed 100% Design: This submittal represents a 100% complete design with the exception of the incorporation of any review comments resulting from the review of the submittal. The Final Design shall consist of:
  - Design Analysis with all items 100% complete. It shall include all backup material previously submitted and revised, as necessary, all design calculations, all explanatory material giving the design rationale for any design decisions which would not be obvious to an engineer reviewing the Final drawings and specifications, and any information for the Contracting Officer that will assist in administering the construction contract.
  - 100% complete drawings including those addressing project construction phasing.
  - Specifications. Final edited specifications.
  - Annotated Interim review comments.
  - Basis of design for pertinent materials and/or equipment.
  - Review comments and Contractor responses from the 65% design.
  - All supporting documentation required for permit application approvals, if applicable.
  - Specific Criteria incorporated into specifications and drawings. Specific criteria include:
    - Unified Facilities Criteria (UFC's)
      - UFC 1-200-01 General Building Requirements
      - UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard
      - UFC 3-190-01FA Design: Joint Sealing for Buildings
      - UFC 3-190-02FA Design: Builder's Hardware
      - UFC 3-301-01 Structural Engineering
      - UFC 4-021-01 Mass Notification Systems
      - UFC 3-500-10N Electrical Engineering
      - UFC 3-501-01 Electrical Engineering
      - UFC 3-520-01 Interior Electrical Systems
      - UFC 3-530-01 Interior and Exterior Lighting and Controls

- UFC 3-550-03FA Design: Electrical Power Supply and Distribution
- UFC 3-560-01 Electrical Safety
- UFC 3-570-06 Cathodic Protection Systems Operation and Maintenance
- UFC 3-575-01 Lightning and Static Protection
- UFC 3-580-10 NMCI Standard Construction Practices
- UFC 3-600-01 Fire Protection Engineering for Facilities
- UFC 4-010-01 DOD Minimum Antiterrorism Standards for Buildings

#### Egline AFB Requirements

- Eglin Engineering Design Manual (Feb. 2019)
- Eglin Architectural Compatibility Plan
- Eglin Fire Alarm Requirements (Sep. 2022)
- Eglin 96 Comm Squadron Design Guide (Feb. 2020)
- Eglin 96 CEG As-Built Requirements
- Eglin AFB DDC Design Guidelines

#### Other Requirements

- CHELCO Requirements
- ASUS Requirements
- Florida Building Code 2020
- ACI 301-16, ACI 315, and ACI 318-19
- National Electrical Code (NEC, 2020 Edition)
- NFPA 70E (2018 Edition)
- OSH 1910.97 Occupational Safety and Health Standard 1910.97
- ASTM E329 Standard for Agencies Engaged in Construction, Inspection, Testing, or Special Inspection

All construction must be in compliance with all Public Laws (P.L.), Executive Orders (E.O.), Code of Federal Regulations (CFR), Department of Defense Instructions (DODI) and Department of Defense Directives (DODD) or other higher authority documents as applicable, as listed in MIL-STD-3007F.

- 100% Issued for Construction (IFC) Design Submittal: This submittal represents a complete design (design analysis, specifications, and drawings) including annotated design submittal review comments that answer and/or incorporate review comments resulting from the review of the Final design submittal

#### 3-11.2. Design Submittal Data

Design data shall be submitted at each design phase, in both hard copy and electronic formats, for review, comment, and approval by the Government. Set quantities shall be as shown in the table below.

Submittal Description	35% Design	65% Design	95% Design	100% IFC	Total
<b>HARD COPY DATA</b>					
Drawings – Half Size Paper	3	3	3	3	12
Drawings – Full Size Paper	0	0	0	0	0
Drawings – Full Size Mylar (As-Builts)	Provided upon completion of work				
Specifications – 8.5” x 11”	3	3	3	3	12
Design Analysis – 8.5” x 11”	3	3	3	3	12
<b>ELECTRONIC DATA (CD Sets):</b>	1	1	1	1	4
Drawings – AutoCAD	X	X	X	X	X
Drawings – PDF Full Size	X	X	X	X	X
Specifications – PDF	X	X	X	X	X
Specifications – SPECSINTACT	X	X	X	X	X
Design Analysis – PDF	X	X	X	X	X
Notes: N/A = Not Applicable; X = Included					

All hard copy documents and electronic data presented shall be organized, legible, and clearly expressed. Provide a cover sheet for each document set and clearly note the Project Number, Project Title, Submittal Design Phase, and Date. Electronic data sets shall be on computer disks (CD) and professionally labeled. The CD shall be organized into separate folders (one folder for each submittal item in the above table).

Drawings and Specifications shall be in the sizes and formats shown in the above table, and in accordance with “Design Information” paragraph.

The 95% submittal and the final design shall be signed and sealed by a licensed professional Engineer.

Government requires a Mylar set of as-builts in the appropriate format as required by Eglin AFB Drafting Office once construction is complete. This includes the contract drawings and pertinent shop drawings.

### 3-11.3. Government Design Submittal Review Procedure

Each design submittal progresses through an iterative review, feedback, and change process that moves the design to the next submittal phase. The process consists of four steps

1. A-E Design Submittal
2. Government Review Comments

### 3. A-E Response

#### 4. Design Review Conference

The Government uses the ProjNet Dr. Checks site for all design reviews. The intent is to use Dr. Checks to maintain design review documents and discussion records for viewing of all involved parties.

##### 3-11.3.1. Government Review Comments

Following each A-E design submittal the Government Reviewers will input their respective design review comments into Dr. Checks. Review organizations and locations are diverse. Government reviews may consist of various DoD, Air Force, Air Force Reserve, Air Force Services Agency, and other Eglin AFB Offices that are not part of the 96 Civil Engineering Group (96 CEG). The comments will be from multiple individuals and will likely contain duplicate issues.

The A-E may continue with project efforts during this time.

##### 3-11.3.2. A-E Response

Within three working days of receipt of the Government review comments, the A-E shall provide evaluation responses of concur or non-concur with comments in Dr. Checks to each Government review comment and notify the Government Project Manager once all comments have been evaluated. Next design submission will not be accepted unless initial responses have been entered in Dr. Checks to all items from the previous design review.

##### 3-11.3.3. Government Backcheck Response

All Government Design Reviewers shall be responsible for backchecking the A-E's response to their respective comments. If the Government Reviewer is satisfied with the A-E's response, Government Reviewer shall "Close without comment". If Government Reviewer is not satisfied with A-E's response, Government Reviewer shall keep the comment open, flag for follow-up and provide additional details.

##### 3-11.3.4. Design Review Conference

The BCE Project Manager will coordinate with the A-E Project Manager and schedule a Design Review Conference. The BCE Project Manager shall schedule a conference room and send meeting invitations. The A-E will conduct the conference and issue a written set of meeting minutes for project files within two (2) business days. Meeting discussions will generally focus on comments that the A-E has not concurred or viewed as such and clarifications of comments and responses.

##### 3-11.3.5. Other A-E Reporting Responsibilities

The A-E is responsible for making a memorandum of record (MFR) of all conversations and minutes of any meeting with any Government personnel concerning this project. The A-E shall forward, within two (2) business days, one copy of such memoranda to the

Project Manager and the Contracting Officer. At a minimum, the MFR shall address: Comments not included in Dr. Checks, clarifications, summary of discussions pertinent to the A-E's work, direction received; attendees list; action items, if any, and to whom they were assigned. The MFR is intended to augment rather than duplicate the review comments and responses provided in Dr. Checks

#### 3-11.3.6. Out of Project Scope

Government review comments or other verbal comments interpreted by the A-E as being beyond the scope of work shall be identified as such in writing and submitted to the Contracting Officer with a copy to the Project Manager.

#### 3-11.3.7. Contracting On-Board Reviews

At the option of the Government, the contracting officer may request an on-board review of the work with the A-E and his representative staff at any (or all) submittal stage(s). An on-board review may also be requested by the A-E. The Government will accord this accommodation at the discretion of the contracting officer.

#### 3-11.3.8. Minor Review Comments

Review comments of minor importance may be relayed to the contractor by telephone. Such comments should be acted upon as if written and they shall be recorded by the Contractor with a memorandum forwarded to the project manager and contracting officer.

### 3-11.4. Drawings

All drawings shall be created using Computer Aided Design and Drafting (CADD) methods. Project drawings shall be created in AutoCAD and saved in DWG file formats. Create drawings in a version of Auto CAD that is coordinated with 96 CEG drafting section.

Drawing components, plans, elevations, sections, and details shall be drawn in Model Space to a 1:1 Scale Ratio only. The use of redline schematics shall not be acceptable. Drawings shall be of sufficient detail to fully communicate the project concept. Sheet Borders, Title Blocks, and related Text shall be in Layout Space.

All design sheets shall contain the standard Eglin Air Force Base Sheet Borders and Title Blocks. Standard sheet border and title block drawings are available upon request through the CEN Drafting Office. Include the Project Number, Spec Number Code, and Drawing Number Code in the appropriate title block fields. Include the Building Number in the title block Title field. Include the A-E firm logo near the title block and leave room for required signed PE/RA seals on the Final design.

Plans, elevations, sections, and details shall be to scales as normally used in professional practice, including detailed schedules and appropriate legends to describe the project. Number and name each plan or detail and note the scale. Submission of drawings that plot to an incorrect scale shall result in disapproval of the submittal.



Paper Drawings shall be bound black line prints. Drawings shall be to the correct scale (true full, 1:1 and true half, 1:2).

### 3-11.5. Specifications

#### 3-11.5.1. UFGS 50 Division Specifications

Architect-Engineer (A-E) designers shall create technical specifications using the Unified Facilities Guide Specifications (UFGS) unless specifically directed otherwise. UFGS masters are available on the Whole Building Design Guide (WBDG) website in both PDF and SPECSINTACT formats. Each section shall be edited and tailored to the project design.

The Government default software for creating technical specifications is SPECSINTACT, which is available at no cost and widely used by A-E firms.

The use of alternate specification software by the designers may be allowed if requested and approved in writing prior to the start of work. Numbering, titles and page formats shall be maintained, as well as the UFGS technical content.

#### 3-11.5.2. Specifications to be provided by A-E Design Team (at a minimum)

At the very minimum, the D/B Contractor's A-E shall provide but not limited to the following specification sections:

- 01 32 01.00 10 Project Schedule
- 01 33 00 Submittal Procedures
- 01 35 26 Governmental Safety Requirements
- 01 45 00.00 10 Quality Control
- 01 50 00 Temporary Construction Facilities and Controls
- 01 57 19 Temporary Environmental Controls
- 01 78 00 Closeout Submittals

Additional specifications shall be added as required for construction specifics of this project.

#### 3-11.5.3. Hard Copy and PDF Formats

Specifications, shall be 8.5" x 11", printed on two sides, and bound. Add blank even numbered pages as necessary in electronic PDF files to facilitate two sided printing and publishing. Break the project specification set into volumes, if needed for ease of use and reproduction. Provide a cover sheet and complete Project Table of Contents at the beginning of each bound volume.

#### 3-11.5.4. Scope and Quality

The designer is responsible for the accurate preparation and coordination of the technical specifications.

Specifications prepared by the designer must be accurate, clear, and precise and should not be subject to interpretation. The specifications will be specific, free of ambiguities, and well-coordinated with the drawings. The designer shall be solely responsible for insuring the relevancy and accuracy of cross-references between technical sections of the specifications.

#### 3-11.5.5. Tailoring and Coordination of Specifications

Each specification used in the preparation of project specifications shall be tailored to fit the requirements of the project. Where numbers, symbols, words, phrases, clauses, or sentences are enclosed in brackets [ ], a designer's choice or modification must be made. The designer shall exercise care in making the choice or modification. Where blank spaces are provided for insertion of data or text, the designer shall insert the appropriate data or text. Where entire paragraphs are not applicable, they must be deleted. Paragraphs describing systems or materials not used in the construction of the project shall be deleted. When necessary to add requirements, they must be consistent with the other requirements of the specification and must not unnecessarily restrict products that can be furnished.

Each specification used in the preparation of project specifications must be coordinated with other specification sections included in the project and with the project drawings. Duplication of requirements in other sections or on the drawings should be avoided. Cross-referencing of requirements will be done only when necessary to avoid misunderstanding. If the specification states "as shown" or similar wording, the requirement must be shown on the drawings. If the drawings reference the specifications, the specification must cover the reference. If a specification references another specification, the referenced specification must be included in the project. The designer shall insure that specifications and drawings are properly used. Specifications are used to establish requirements such as quality and workmanship, and drawings are used to establish requirements such as layouts and dimensions.

#### 3-11.5.6. Tailoring Specifications Shop Drawings and Product Data Submittals

The Shop Drawings typically listed in each UFGS specification are intended to cover the majority of circumstances for a variety of projects. Not all Shop Drawings listed in the specification need to be included in every project. During the editing of the Shop Drawing Submittal portion of each specification, the designer should carefully consider which Shop Drawing Submittals are actually required from an Engineering Verification and Quality Control perspective. All submittals that are not absolutely necessary should be deleted whether listed for "Government Approval" or "For Information Only".

Shop Drawings and Product Data Submittals requiring Government Approval should be limited to major pieces of equipment or systems requiring review by the designer, color selection, testing reports, etc. For each Submittal that requires Government Approval, provide the desired reviewer designation "CE" for "Eglin Civil Engineering". Recommendations for labeling Shop Drawing Submittals requiring Government

Approval are provided below. See UFGS specification Section 01 33 00 SUBMITTAL PROCEDURES for further information.

- Preconstruction submittals should be labeled "CE".
- Shop Drawings and Product Data Submittals for major pieces of equipment or systems requiring review by the designer should be labeled "CE".
- Submittals involving "Samples", or "Color" selection should be labeled "CE" for coordination with the BCE or other Installation office.
- Test Reports, Certificates, Operations and Maintenance Data and Closeout Submittals should be labeled "CE".
- "For Information Only (FIO)" Submittals: For Shop Drawing Submittals not requiring Government Approval, the "CE" designation after the Shop Drawing Title shall not be included.

**----- END OF SECTION -----**

## **4. CONSTRUCTION**

### **4-1. Contractor Responsibility**

The Contractor is responsible for the construction of all work. In order to ensure quality, the Contractor shall develop a Quality Control Plan and submit to Government for review and approval. Quality Control Plan shall be developed in accordance with UFGS 01 45 00.00 10 QUALITY CONTROL.

In order to allow the Government to monitor the Contractor's progress and review their work, the Contractor shall develop a submittal register as specified in UFGS Section: 01 33 00 SUBMITTAL PROCEDURES.

### **4-2. Working hours**

Regular working hours shall be 7:00 a.m to 4:00 p.m, Monday through Friday, excluding Government holidays.

Work outside regular working hours requires Contracting Officer's prior approval. Make application 15 calendar days prior to such work to allow arrangements to be made by the Government for inspecting the work in progress, giving the specific dates, hours, location, type of work to be performed, contract number and project title. Based on the justification provided, the Contracting Officer may approve work outside regular hours. During periods of darkness, the different parts of the work shall be lighted in a manner approved by the Contracting Officer. Utility cutovers may be done after normal working hours or on Saturdays, Sundays, and Government holidays unless directed otherwise.

### **4-3. Deliveries**

All construction deliveries shall either be inspected at the commercial Gate of Eglin Main Base or 7<sup>th</sup> Special Forces to get properly examined. Once their vehicle is cleared, they shall receive a pass that can be daily or weekly. The delivery vehicles can then proceed to Eglin AFB or Duke Field and show their pass to enter through the security checkpoint.

### **4-4. Utility Cutovers and Interruptions**

Planned interruptions of utility services (electrical power, water, natural gas, etc.) shall be detailed and coordinated by the Contractor. Requests for interruptions shall be submitted in writing by the Contractor to the Contracting Officer's Representative at least 14 calendar days before the planned outage. This request shall also be shared with the Contracting Officer.

Contractor shall not interrupt service(s) until approval has been granted. Requests shall include facility/facilities affected, date of scheduled outage, and duration. Requests for interruption of service(s) will not be approved until all equipment and materials required for that particular phase of work are on the job site.

Road cuts are not currently allowed. Contractor shall find other means necessary.

Work shall be scheduled to hold outages to a minimum.

Utility outages and connections required during the prosecution of work that affect existing systems shall be arranged for at the convenience of the Government and shall be scheduled outside the regular working hours or on weekends.

#### 4-5. Environmental Protection

Activities shall be planned and implemented in a manner that protects existing site utilities, structures, surface features, service operations, and the general site environment. This includes the protection of trees, shrubs and other vegetation not in the affected zone from dust damage, soil compaction, and physical contact with machines and equipment.

If appropriate, the contractor shall conserve uncontaminated topsoil by removal, storage, or redistribution. All reasonable measures shall be taken to minimize and suppress fugitive emissions of dust, vapors, and other site materials during site work.

All fill materials shall be non-contaminated. The Contractor shall conduct operations and activities with the intent of reducing the amount of pollution generated. Specific areas to be focused on are generation of solid waste, use of hazardous materials, use of ozone depleting chemicals (HVAC requirements), generation of hazardous waste, and use of energy and water.

The Contractor shall plan, construct, operate, maintain, optimize, and commission systems necessary to control storm water run-on and runoff. At a minimum, the contractor shall employ best management practices consistent with the Florida Development Manual, Chapter 6, Storm-water and Erosion and Sediment Control Best Management Practices for Developing Areas.

#### 4-6. Road Closures

Planned road closures shall be detailed and coordinated by the Contractor. Requests for road closures shall be submitted in writing by the Contractor to the Contracting Officer's Representative at least 14 calendar days before the planned closure. When it becomes necessary to close roads for construction, the Contractor shall immediately put in place the necessary signs and barricades required. All traffic control devices (signs, barricades, pavement markings, traffic signals, intersection control beacons, delineators, etc.) shall conform to the FHWA Manual on Uniform Traffic Control Devices and the FHWA publication Standard Highway Signs, most current edition. These include, but are not limited to, begin/end construction signs, standard traffic control signs, including clearly marked detours and barricades with yellow flashing caution lights. Hand painted plywood signs (or other materials) are not allowed or acceptable. Upon completion of road work, all signs and barricades shall be immediately removed and all normal traffic control devices and signs returned to their original condition. Signs and barricades shall not be left along sides of roadways.

#### 4-7. Base Access and Gate Hours

Any person, individual, entity, or company requiring base access shall contact the Contracting Officer to obtain and process an access permit. Current Photo Identification, Current Driver's License, Current Registration, and Current Vehicle Insurance shall be required for vehicle access pass. A Day-Pass can only be obtained on the day of arrival. Base Contracting can submit completed Base Access Request for up to six-months.

Gate hours are subject to change by the Government at any time due to military activities. Contractor shall then be responsible for coordinating with the Contracting Officer for base access.

#### 4-8. Construction and Dig Permits

A local permitting procedure is in effect at Eglin AFB for any work which may disrupt aircraft or vehicular traffic flow, base utility services, routine activities of the installation or which may involve subsurface excavation. Contractor must plan and detail any work of this nature sufficiently in advance of the proposed work. An AF Form 103, Base Civil Engineering Work Clearance Request, must be submitted at least 14 calendar days in advance of the proposed performance date to the Contracting Officer. Work will not begin until approval has been granted. Forms will be made available to the Contractor at Building 696 on Eglin AFB. This includes soil borings.

#### 4-9. Welding

Welding shall not be performed without first obtaining a welding/burn permits issued by the Base Fire Department.

#### 4-10. Radioactive Equipment

Use of radioisotopes or radiation producing equipment (density gauging, NDE weld testing, etc.) requires a Nuclear Regulatory Commission (NRC) Radioactive Material License, with all documentation submitted and approved prior to bringing the material on base. To obtain authorization contact Bio-Environmental, Tyndall AFB Hospital and Environmental Section in the 325 Civil Engineer Squadron.

The Contractor shall also comply with all requirements of AFI 40-201.

The Contractor shall forward application to the Contracting Officer 30 days prior to commencing operations using radioactive materials.

Contractors possessing Agreement State Licenses must also submit an NRC Form 241 to NRC in compliance with 10 CFR 150.20.

Request shall include the following:

- a. Description of proposed activities on NRC Form 241.
- b. Procedures established to ensure radiological health and safety of all personnel.
- c. Name of responsible Contractor representative.

- d. Current copy of application for NRC or Agreement State License. The license must specifically state the installation by name or approval for temporary job sites anywhere in the United States where the NRC or Agreement State maintains jurisdiction.
- e. The part of the Air Force contract describing work to be done at the base and the inclusive dates of such work.
- f. An acknowledgement that the base RPO can make periodic checks to ensure the Contractor is following applicable radiological health and safety practices.
- g. Contractors requiring more than 180 calendar days per calendar year of operation must possess an NRC license.

#### 4-11. Construction Submittals

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals are to be the same as those used in the contract drawings. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Use transmittal form AF Form 3000: Material Approval Submittal, for submitting in accordance with the instructions on the reverse side of the form. Once received from the Contracting Officer at 96 CEG, the government will have 14 calendar days to review submittals and return AF Form 3000 to the Contractor.

#### 4-12. Contractor Quality

The Contractor is responsible for the quality of construction for all phases of work. Establish and maintain an effective quality control (QC) system in accordance with specification 01 45 00.00 10. QC consists of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. Cover all construction operations, both onsite and offsite, and be keyed to the proposed construction sequence. The Contractor's designated Quality Control Representative will be held responsible for the quality of work and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. In this context the highest level manager responsible for the overall construction activities at the site, including quality and production is the Quality Control Representative. The Quality Control Representative must maintain a physical presence at the site at all times and is responsible for all construction and related activities at the site, except as otherwise acceptable to the Contracting Officer.

#### 4-13. Request for Information

Submit a Request for Information (RFI) when questions arise concerning interpretation, conflicts, omissions, errors, or regulatory violations within the Contract Documents.

Review all RFIs prior to submission to the Contracting Officer or Government's Designated Representative. The General Contractor is responsible to have a thorough and

working knowledge of the entire contract documents and to review their subcontractor's and in-house RFIs for legitimacy and reasonableness. Do not forward questions to the Contracting Officer or Government's Designated Representative that are easily answerable from a cursory review of the contract documents.

Allow 14 calendar days for government review of the RFI. The Government will respond to all RFI's on the RFI form with the Contracting Officer's signature. If the response to the RFI does not involve a change to the contract, after receipt of the government response, proceed as if the answer to the RFI existed within the Contract Documents. For RFIs where the government determines a change to the Contract price or time is appropriate, officially close the RFI and refer thereafter as a pending modification. Comply with the modification requirements.

Use the attached RFI form to submit RFI's to the Contracting Officer. For tracking purposes, submit an updated RFI tracking log with each new RFI or upon request.

#### 4-14. Meetings

##### 4-14.1. Progress Meetings

Government will conduct progress meetings with Contractor. Contractor shall have all participants at these conferences familiar with the project and authorized to conclude matters relating to the work. Contractor representatives shall include the required the on-site staff. Agenda of progress meetings will include but not limited to:

1) Project Statistics	2) Schedule
3) User Coordination	4) Status of Submittals
5) Safety	6) Deliveries
7) Off-site fabrication problems	8) Access
9) Site utilization	10) Temporary facilities and services
11) Hours of work	12) Hazards and risks
13) Housekeeping	14) Quality and work standards
15) Changes to the contract	16) Pay Request Information
17) Status of RFI's	18) Other topics as required
19) Resolution of existing issues	20) New business

Government will provide minutes for the prior bi-week's progress meeting prior to each new bi-weekly meeting, distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report. Contractor shall provide schedule update and 3-week lookahead the day before this meeting.

##### 4-14.2. Periodic Schedule Update Meetings

Conduct periodic schedule update meetings for the purpose of reviewing the proposed Periodic Schedule Update, Narrative Report, Schedule Reports, and progress payment. Conduct meetings at least monthly within five days of the proposed schedule data date. Provide a computer with the scheduling software loaded and a projector which allows all



meeting participants to view the proposed schedule during the meeting. The Contractor's authorized scheduler must organize, group, sort, filter, perform schedule revisions as needed and review functions as requested by the Contractor and/or Government. The meeting is a working interactive exchange which allows the Government and Contractor the opportunity to review the updated schedule on a real time and interactive basis. The meeting will last no longer than 8 hours. Provide a draft of the proposed narrative report and schedule data file to the Government a minimum of two workdays in advance of the meeting. The Contractor's Project Manager and scheduler must attend the meeting with the authorized representative of the Contracting Officer. Superintendents, foremen and major subcontractors must attend the meeting as required to discuss the project schedule and work. Following the periodic schedule update meeting, make corrections to the draft submission. Include only those changes approved by the Government in the submission and invoice for payment.

#### 4-14.3. Red-Zone Meeting

A pre-initial Red Zone meeting will be held to build a schedule of events necessary to achieve project and fiscal completion within **90** days of the Project Beneficial Occupancy Date (BOD). The initial meeting identifies key project milestones, responsibilities, and target task completion dates. Particular attention must be given to the BOD date. The initial Red Zone meeting is held approximately 60 days prior to BOD.

There are three objectives to the initial meeting:

- 1) Representatives responsible for specific remaining tasks must be identified and be in attendance at the meeting.
- 2) Representatives in attendance must be able to fully identify remaining work necessary to complete their portion of the scope.
- 3) Representatives must commit to finishing the task they are responsible for by the agreed date.

The objective of each follow on weekly meeting is to discuss and record actual progress of each task. If a specific task appears to be slipping or occurs earlier than the completion date; means methods and resources will be discussed, identified, and committed to maintain the Red Zone Schedule. The impact to related activities is determined and discussed. The entire team is notified of the potential impact to the remaining work. Contractor representatives shall include the required the on-site staff.

#### 4-15. Temporary Facilities and Work Area

Temporary Facilities: Refer to Specification 01 57 19.

Additionally, regarding temporary facilities, provide and maintain within the construction area minimum field type sanitary facilities approved by the Contracting Officer and periodically empty wastes into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility. Obtain approval from the system owner prior to discharge into any municipal, district, or commercial sanitary sewer system. Any penalties and / or fines associated with improper discharge will be the responsibility of

the Contractor. Coordinate with the Contracting Officer and follow station regulations and procedures when discharging into the station sanitary sewer system. Maintain these conveniences at all times without nuisance. Include provisions for pest control and elimination of odors. Government toilet facilities will not be available to Contractor's personnel.

Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazard.

#### 4-16. Schedule of Available Utilities

The Contractor is responsible for formally requesting temporary/permanent service. The contact information for connection pricing from these utility providers is as follows:

- a. Electric: CHELCO Eglin Operation Center: Telephone: (850) 892-2111.

Any existing utilities damaged during construction shall be repaired immediately by the Contractor at no cost to the government.

#### 4-17. Temporary Cranes

All cranes shall have a red strobe light and two flags attached to the end of the boom. The flags shall be 18-inches square and international orange in color. The strobe does not need to be flashing during daylight hours or when the boom is lowered to the ground at night. The strobe shall be flashing when operating during weather in which visibility is reduced or when operating at night. The strobe shall remain flashing if the boom remains elevated at night.

All cranes used by the Contractor for construction purposes will require written acceptance for their use by the Contracting Officer. All requests shall be made seven (7) days in advance of the crane's arrival on the job site and shall include such information as latitude and longitude of the crane location, total operating height, mode of transportation and delivery to the project site, period of use and methods of conforming to all safety and airfield operations procedures. Cranes operating at night shall require a red blinking light at the highest point on the crane boom which conforms to Federal Aviation Administration (FAA) requirements and the SPECIAL CONTRACT REQUIREMENT CLAUSE: AIRFIELD SAFETY PRECAUTIONS. FAA Form 7460-1 shall be completed by the Contractor and filed with the FAA. A copy of Form 7460-1 shall also be submitted to the Contracting Officer's representative.

An FAA Form 7460-1 may be required to be completed by the Contractor and filed with the FAA. If required, a copy of Form 7460-1 shall also be submitted to the Contracting Officer's representative. Contractor is responsible for obtaining all necessary FAA Permits for erection of temporary structures. No cranes are allowed on base until the FAA forms are completed and turned into the Contracting Officer.

Address to submit FAA Form 7460-1 is:

Federal Aviation Administration  
Southern Regional Office  
Air Traffic Division, ASO-530  
P.O. Box 20636  
Atlanta, GA 30320

Address of the Southern Region Office is:  
Southern Region Office  
Air Traffic Division, ASO-530  
1710 Columbia Avenue  
College Park, GA 30337  
Tel. 404-305-5585

#### 4-18. Inspection

##### 4-18.1 Acceptance Tests

The contractor shall ensure acceptance test of the following features, parameters, or characteristics. Any personnel radiation hazards on expected work surfaces (i.e. ground, nearby roof tops, etc.), as determined by OSHA standard 1910.97, shall be mitigated. Posting a warning sign shall not constitute adequate mitigation.

1. Grounding (per AFI 32-1065)
2. HVAC System
3. Electrical System.

##### 4-18.2 Pre-Final Inspection

The Contractor shall conduct a pre-final walk through inspection with Base personnel and publish the prefinal inspection findings in a pre-final inspection (punch list) report. The contractor shall include a draft DD Form 1354, Transfer and Acceptance of Real Property to the contracting officer for review.

##### 4-18.3 Final Inspection

The Contractor shall conduct a final inspection with base personnel and publish the findings in a final inspection report. The inspection shall concentrate on the items identified at the pre-final inspection and recorded in the pre-final inspection (punch list) report. A final inspection shall not be performed until the pre-final inspection (punch list) report has been resolved. At the final inspection, the Contractor shall present a completed DD Form 1354, Transfer and Acceptance of Real Property to the Base Civil Engineer (BCE) or other appropriate organization for signature and acceptance, if required.

#### 4-19. Red-line Drawings

The Contractor shall have on his staff, personnel to mark up a set of paper copy construction drawings to show the as-built conditions. These as-built marked copies shall be kept current and available on the job site at all times. All changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded, as the events occur, by means of details and notes. The Contractor shall call attention to entries by redlining areas affected. The red line as-built will be jointly inspected for accuracy and completeness by the Contracting Officer's representative and a responsible representative of the Contractor prior to submittal of each request for payment. The Contracting Officer's approval of the current status of the as-built drawings shall be a prerequisite to the Contracting Officer's approval of request for progress payment and request for final payment under the contract. The drawings shall show the following information, but not be limited thereto:

- (1) The location and description of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions to permanent features.
- (2) The location and dimensions of any changes within the building or structures.
- (3) Correct grade or alignment of roads, structures or utilities if any changes were made from contract plans.
- (4) Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.
- (5) All changes or modifications which result from the final inspection.
- (6) Options: Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the as-built drawings.
- (7) Extensions of Design: Shop Drawings such as structural fabrication and erection drawings and fire alarm & fire suppression systems that will require extensive redrafting effort will be included as an Appendix to the paper copy set and provided in .PDF format for inclusion on the same CD-ROM as the other electronically submitted set of drawings.

The Contractor shall participate in monthly review meetings with the Contracting Officer's Representative to show the progress made the preceding month and make all required changes. Prior to final construction inspection, the Contractor shall submit one copy of the red lined as-built drawings to the Contracting Officer's Representative for review and approval. The as-built drawings shall be certified as to their correctness by the signature of an authorized representative of the Contractor

#### 4-20. As-Built Drawings

Copies of the drawings will be the responsibility of the Contractor. The as-built drawings shall be a record of the construction as installed and completed by the Contractor. They shall include all the information shown on the contract set of drawings and a record of all deviations, modifications, or changes from those drawings which were incorporated in the work; all additional work not appearing on the contract drawings; and all changes which are made after final inspection of the contract work. In the event the Contractor accomplishes additional work which changes the as-built conditions of the facility after submission of the as-built drawings, the Contractor shall furnish revised and/or additional drawings as required to depict as-built conditions. The requirements for these additional drawings will be the same as for the as-built drawings included in the original submittal.

##### 4-20.1 General

- As-built drawings shall be submitted in a version of AutoCAD that is coordinated with 96 CEG drafting section at time of submission.
- The as-built DWG files shall have no reference files attached as all shall be bound into the file to make one AutoCAD DWG file, which also shall be purged and created with standard AutoCAD pen table.
- Scaled drawings should provide a bar scale and shall be in feet not meters. Contractor shall provide 1 hard copy of as-built on Mylar on an Arch D sheet size and 2 CD's in AutoCAD and PDF.
- The as-built DWG files shall have the Design model physical features such as floor plans and civil site plans in Model Space. Sheet features such as title blocks, notes, north arrows and scale bar will be in the Layout View (Paper Space).
- Final As-builts shall include the assigned building number in the title block and Air Force FTFA number.

##### 4-20.2 Other Requirements

- AutoCAD drawings shall have correct geometry:
  - Segmented lines and arcs are to be made continuous and free of self-overlapping sections, thus decreasing files size and increasing efficiency within the AutoCAD platform.
  - All AutoCAD data shall be free of topological errors such as slivers, undershoots, overshoots dangles, overlaps, intersections, etc.
  - Area features such as building footprints, parking lots, roadways, and airfield pavements shall be true polyline polygons. Adjacent polygons shall not have gaps or overlaps.
- AutoCAD drawings shall be checked for correct spatial projection to one of the following:
  - North American Datum 1983 Florida State Plane North FIPS 0903 Feet (AutoCAD Code FL83-NF).

- Universal Transverse Mercator 1984, Zone 16 North (AutoCAD Code UTM84-16N).
- Any Building Information Models (BIM) developed for a project shall be supplied in a Model Archive as part of the final as-built submittal consisting of two sets of files:
  - The first set shall be a collection of individual Models as received from the Model Element Author(s).
  - The second set of files shall consist of the aggregate of those individual Models in a format suitable for archiving and viewing. The aggregate model shall also be submitted in a DWG file format.
- Drawings submitted for approval as as-builts shall have all changes incorporated into the final drawings.
  - Drawings shall be free of revision clouds, hand-written notes, scanned in change orders, etc.
  - Revision symbols shall be accompanied with an entry in the sheet's revision block. Revision block entries shall consist of a brief description of the change along with the change order number.
  - Each sheet shall be annotated in bold letters near the title block with the date the as-builts were accepted (i.e. AS-BUILT DRAWING 12 APR 2012).

#### 4-21. DD Form 1354

Using the blank DD Form 1354 provided by the Government, the Contractor shall submit a Draft DD Form 1354 no later than 80% completion of the project. Using this Draft DD Form 1354, the Contractor shall submit the Interim DD Form 1354 for the project no later than fourteen (14) days prior to the Beneficial Occupancy Date (BOD). Category Code numbers found on the DD Form 1354 Checklist provided at the end of this section shall be used in completing the Final DD Form 1354. Additional Category Codes can be found in the publication entitled "Air Force Real Property Category Code Descriptions" which can be obtained from the Directorate of Technical Support, Air Force Civil Engineer Support Agency, Tyndall AFB, FL 32403-5319 and must be coordinated with 96 CEG Real Property office at "Draft" submission.

**----- END OF SECTION -----**

## **5. ADDITIONAL ENCLOSURES**

### 5-1. Eglin Specific Criteria (AVAILABLE UPON REQUEST)

- Eglin Engineering Design Manual (Feb. 2019)
- Eglin Architectural Compatibility Plan
- Eglin Alarm Requirements (Sep. 2022)
- CHELCO Requirements
- ASUS Requirements
- Eglin 96 Comm Squadron Design Guide (Feb. 2020)
- UFC 1-200-01 DoD Building Code
- Florida Building Code 2017
- ACI 301-16 and ACI 318-19
- National Electrical Code (NEC, 2020 Edition)
- NFPA 70E 2018
- Eglin 96 CEG As-Built Requirements
- Eglin AFB DDC Design Guidelines
- UFC 3-600-01 Fire Protection Engineering for Facilities

### 5-2. 50 Division MasterFormat Excel Spreadsheet (AVAILABLE UPON REQUEST)

### 5-3. Request for Information (RFI) Form (AVAILABLE UPON REQUEST)

### 5-4. Existing Utilities Located in the Area (AVAILABLE UPON REQUEST)

**----- END OF SECTION -----**

Replace Main HVAC and Electrical System  
Bldg 210  
Eglin AFB, FL

Revision 0: 14 December 2023

## **APPENDIX A EXISTING MECHANICAL PLAN**



Replace Main HVAC and Electrical System  
Bldg 210  
Eglin AFB, FL

Revision 0: 14 December 2023

**APPENDIX B EXISTING ELECTRICAL PLAN**

Replace Main HVAC and Electrical System  
Bldg 210  
Eglin AFB, FL

Revision 0: 14 December 2023

## **APPENDIX C HVAC AS-BUILT**