MATOC TASK ORDER
(SOUTH FLORIDA HUBZONE)

RFP NO: W9127819SFHZ0005
CADD CODE: MEF19013

SPECIFICATIONS

FOR

DESIGN BUILD

FY-19 FIRE STATION #2

TYNDALL AIR FORCE BASE, FLORIDA

(BAY COUNTY)

"GOOD ENGINEERING RESULTS IN A BETTER ENVIRONMENT"

US Army Corps of Engineers
BUILDING STRONG®

U.S. ARMY ENGINEER DISTRICT, MOBILE
109 St. Joseph St
Mobile, Alabama 36602

LEADERS IN CUSTOMER CARE
U.S. ARMY CORPS OF ENGINEERS
WE CARE FOR THOSE WE SERVE
MOBILE DISTRICT

TO: SOUTH FLORIDA HUBZONE OFFERORS

Subject: W9127819SFHZ0005, Task Order, Request for Proposal (RFP) Design-Build FY-19 Fire Station #2, Tyndall AFB, FL.

1. You are requested to submit a Firm Fixed-Priced (FFP) proposal, as detailed in the specifications, on the website that will be provided to you by e-mail from the Contract Specialist.

Description of Work: Work includes constructing a two bay crash/fire rescue station utilizing economical design and construction methods to accommodate the mission of the facility. A primary facility for the base crash rescue/structural fire station and capable of housing a full accompaniment of fire vehicles is required. Site location must consider response time to both automotive and structural emergencies. The facility will house fire-fighting vehicles and require 2 bays. The facility will also provide space for maintenance, administration, physical fitness, training and living quarters for fire fighters.

The approximate Cost Range for the project is estimated to be between $10,000,000.00 - $25,000,000.00

The Programmed Amount for this project is $18,000,000.00.

Basis of Award: Low Price

Construction Time: 720 days

Liquidated Damages: Please refer to Specification Section 01 00 00

Wage Rates – Please refer to Specification Section 01 00 00

2. You are requested to submit your proposal not later than 2:00 pm (CDT), **September 3, 2019 electronically to the following email address:**

SAMCT-C@usace.army.mil

Proposals shall be emailed in .pdf format, hard copies are not required to be submitted.

It is requested that all technical questions be submitted to the **Bidder's Inquiry Portal** in ProjNet at website http://www.projnet.org/projnet, in order to be considered for response and inclusion in the amendment. The cut-off date for submission of RFIs is **August 19, 2019**. **Do not send RFI's after this date.** All RFIs for this solicitation will be posted in the ProjNet website for your review. Please see Requests for Information attached.

3. If a Contractor does not wish to be considered for this particular task order, please respond in writing on or before the proposal due date indicating the reasons why.

4. Your proposal should include a cover letter (on company letterhead) documenting the submission of your proposal to include a signature by an officer of the company so duly authorized to bind the company contractually. Amendments shall be acknowledged by completion of blocks 15A and 15B, and 15C of Standard Form 30 Amendment form and returned with your proposal.

5. Price Proposal should include the following:

a. The contractor shall provide a FFP proposal for performance of this project as identified in the Scope of Work.

b. The FFP shall be structured as described in the solicitation, and shall match the format of the RFP Bidding Schedule.

c. In accordance with Section 1004, paragraph 4.3.2.3 of the main IDIQ contract document, the prices for the CLINs, as offered in the original solicitation CLIN schedule, shall serve as the basis for establishing prices for all contract CLINS utilized in pricing this task order (and all modifications thereto), including the field overhead, design, and mark-ups, as applicable to the work involved in the requirement.

The Contractor's costs for the CLINs may be equal to or less than, but shall not exceed the costs shown in the contract CLIN schedule. The Government reserves the right to obtain breakdowns of the proposals, in the event discussions of prices are required in order to resolve differences between the proposals and the Government's estimate. Such price discussions, normally, will be conducted with all Contractors that are competing on the same Task Order. However, a Contractor may be excluded from discussions, in the interest of efficiency and timeliness of the award of a Task Order, if their price is so unreasonable that it will have little or no chance of becoming competitive."

The Government reserves the right to verify Contractor past performance information which may include reference checks and reviews of surveys found in the Contract Performance Assessment Reporting System (CPARS). The Government reserves the right to verify past and present performance on any projects performed by the Offeror. The Offeror will be given an opportunity to address adverse past performance information, if the Offeror has not had a previous opportunity to review the rating. Recent contracts with interim ratings that are below "Satisfactory" will be examined to ensure that corrective measures are being implemented. The Contracting Officer will consider the number and severity of the problems, the appropriateness and/or effectiveness of any corrective actions taken (not just planned or promised), and the Offeror's overall work record. Prompt corrective action in isolated instances may not outweigh overall negative trends.

6. Pricing submitted for this task order shall be good for a period of 120 calendar days after the proposal due date. The Government may request a detailed breakdown of your offer if necessary. The Government reserves the right to conduct discussions, if the Contracting Officer determines that discussions are necessary or are otherwise in the Government's best interest. However, The Government intends to make award on the basis of initial offers, without discussions.

Sincerely,

RODGERS.KYLE.M.1399975847 Digitally signed by RODGERS.KYLE.M.1399975847 Date: 2019.08.02 14:49:43 -05'00'

Kyle M. Rodgers
Contracting Officer

Attachments:
Request for Information
FAR Clause 52.204-9 – Personal Identity Verification of Contractor Personnel
FAR Clause 52.222-23 – Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity for Construction
Calculation Form for Compliance with FAR 52.236-1

REQUESTS FOR INFORMATION

Any questions about this solicitation, including technical questions about plans and specifications, shall be submitted via the Bidder Inquiry Portal in ProjNet at https://www.projnet.org. Questions should be submitted no later than **19 AUGUST 2019** at 2:00 p.m. Central Time to allow time for a response, and amendment to the solicitation if necessary. On this date and time the portal will be closed. For technical questions, no other means of communication, e-mail, fax, or telephone will be accepted. Oral exchanges between Offerors and the Government prior to award of the contract will not be binding. In addition to information available to Offerors on the Bidder Inquiry Portal, any substantive information or changes concerning this solicitation will be furnished to all Offerors as an amendment to the solicitation if the information is necessary to the submittal of offers or bids.

To submit and review inquiry items, prospective Offerors must use the Bidder Inquiry Key presented below and follow the instructions listed below the key for access. From this page Offerors can view all inquiries for this solicitation or add an inquiry. A prospective Offeror who submits a comment /question will receive an acknowledgement of their comment/question via email, followed by a response to their comment/ question posted to the ProjNet system after it has been processed by the USACE technical team.

The Solicitation Number is: **W9127819SFHZ0005**

The Bidder Inquiry Key is: **9X3E5E-C4HT7R**

Specific Instructions for ProjNet Bid Inquiry Access:

1. From the ProjNet home page linked above, click on **Quick Add** on the upper right side of the screen.
2. Identify the Agency. This should be marked as **USACE**.
3. Key. Enter the **Bidder Inquiry Key** listed above.
4. Email. Enter the email address you would like to use for communication.
5. Click Continue. A page will then open saying that a user account was not found and will ask you to create one using the provided form.
6. Enter your First Name, Last Name, Company, City, State, Phone, Email, Secret Question, Secret Answer, and Time Zone. Make sure to remember your Secret Question and Answer as they will be used from this point on to access the ProjNet system.
7. Click Add User. Once this is completed you are now registered within ProjNet and are currently logged into the system.

Specific Instructions for Future ProjNet Bid Inquiry Access:

1. For future access to ProjNet, you will not be emailed any type of password. You will utilize your Secret Question and Secret Answer to log in.
2. From the ProjNet home page linked above, click on **Quick Add** on the upper right side of the screen.
3. Identify the Agency. This should be marked as **USACE**.
4. Key. Enter the **Bidder Inquiry Key** listed above.
5. Email. Enter the email address you used to register previously in ProjNet.
6. Click Continue. A page will then open asking you to enter the answer to your Secret Question.
7. Enter your Secret Answer and click Login. Once this is completed you are now logged into the system.

Offerors are requested to review the solicitation and amendments in their entirety, as well as to review the Bidder Inquiry Portal for previous questions and responses, prior to submission of a new inquiry on the Portal.

CAUTION: ANY INQUIRY SUBMITTED AND ANSWERED WITHIN THIS SYSTEM, WILL BE ACCESSIBLE TO VIEW BY ALL INTERESTED OFFERORS OR BIDDERS ON THIS SOLICITATION.

The call center for the ProjNet operates weekdays from 8 AM to 5 PM U.S. Central Time. The telephone number is 1-800-428-HELP.

52.204-9 PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL (SEP 2007)

(a) The Contractor shall comply with agency personal identity verification procedures identified in the contract that implement Homeland Security Presidential Directive-12 (HSPD-12), Office of Management and Budget (OMB) guidance M-05-24, and Federal Information Processing Standards Publication (FIPS PUB) Number 201.

(b) The Contractor shall insert this clause in all subcontracts when the subcontractor is required to have routine physical access to a Federally-controlled facility and/or routine access to a Federally-controlled information system.

(End of clause)

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
14.1%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured

against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is Tyndall AFB, FL.

(End of provision)

CALCULATION FORM FOR Work Performed by the Contractor

A. Clearly describe the work to be self-performed by the prime contractor:

_____
_____
_____
_____

B. Calculation of Self-Performed Work:

Total Contract Value $_____

Deduct Subcontracted MEP Value - $_____

Deduct Prime contractor G&A, home office overhead, markups for profit, bond, taxes, and any other burdens on the labor or materials. - $_____

Corrected Contract Value **B1** $_____

Identify and give the dollar value of all work being done on the Site by the prime contractor's own organization and its forces, which includes the cost of labor performed and materials brought on site. Exclude all prime contractor G&A, home office overhead, markups for profit, bond, taxes, and any other ODCS or burdens on the labor or materials. **B2** $_____

Percentage of work done by Prime = B2/B1 X 100%

B2) $_____/(B1) $ _____ X 100%= _____%

Prime contractors work must be equal to or greater than 15%.

TABLE OF CONTENTS

--End of Project Table of Contents--

BIDDING SCHEDULE NO. 1 - 3 BAY FIRE STATION #2

BIDDER'S NAME:_____

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
	Base Bid:				
1.	Design of New Fire Station #2 and Supporting Sitework	1	Job	XXX	_____
2.	Construct Fire Station #2 Building	1	Job	XXX	_____
3.	Construct Site Work, Improvements and Utilities	1	Job	XXX	_____
4.	GCEC (Privatized Electrical Utility) Construction and Inspection Fee	1	Job	XXX	$ 180,140.00
5.	GCEC (Privatized Water Utility) Construction and Inspection Fee	1	Job	XXX	$ 5,078.60
6.	TECO Gas (Privatized Gas System Utility Sitework)	1	Job	XXX	$ 18,000.00
7.	Soil Characterization and Removal	1	CY	_____	_____
			Total Base Bid		_____
	Bid Option No. 1				
8.	Procure and Install Furniture, Fixture & Equipment (FF&E) Package	1	Job	XXX	_____
			Total Base Bid Plus Bid Option		_____

_____ _____
Signature Certification Date of Certification

The Offeror's signature above certifies that his/her firm has included all MATOC CLIN prices for this Task Order proposal, in order to arrive at an overall proposed price for this Task Order.

BIDDING SCHEDULE NO. 2 – 2 BAY FIRE STATION #2

BIDDER'S NAME:_____

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
	Base Bid:				
1.	Design of New Fire Station #2 and Supporting Sitework	1	Job	XXX	_____
2.	Construct Fire Station #2 Building	1	Job	XXX	_____
3.	Construct Site Work, Improvements and Utilities	1	Job	XXX	_____
4.	GCEC (Privatized Electrical Utility) Construction and Inspection Fee	1	Job	XXX	$ 180,140.00
5.	GCEC (Privatized Water Utility) Construction and Inspection Fee	1	Job	XXX	$ 5,078.60
6.	TECO Gas (Privatized Gas System Utility Sitework)	1	Job	XXX	$ 18,000.00
7.	Soil Characterization and Removal	1	CY	_____	_____
			Total Base Bid		_____
	Bid Option No. 1				
8.	Procure and Install Furniture, Fixture & Equipment (FF&E) Package	1	Job	XXX	_____
			Total Base Bid Plus Bid Option		_____

_____ _____
Signature Certification Date of Certification

The Offeror's signature above certifies that his/her firm has included all MATOC CLIN prices for this Task Order proposal, in order to arrive at an overall proposed price for this Task Order.

NOTES FOR BIDDING SCHEDULE

NOTE NO. 1. To better facilitate the receipt and proposal process, all modifications to proposals are to be submitted on copies of the latest bid schedules as published in the solicitation or the latest amendment thereto. In lieu of indicating additions/deductions to bid items, all bidders should state their revised prices for each item. The company name should be indicated on the face of the bidding schedule to preclude being misplaced.

NOTE NO. 2. Bidders must insert a price on all numbered items of the Bidding Schedules. Failure to do so will disqualify the bid.

NOTE NO. 3. If a modification to a bid is submitted and provides for a job adjustment to the total estimated cost, the application of the job adjustment to each unit price and/or job price, in the bid schedule must be stated or, if it is not stated, the bidder agrees that the job adjustment shall be applied on a pro rata basis to every bid item in the bid schedule.

NOTE NO. 4. All the extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the bid. Reference Section 00700 (of the parent contract), clause 52.211-18 Variation in Estimated Quantity (Apr 1984).

NOTE NO. 5. CONDITIONS GOVERNING AWARD OF TASK ORDERS.

There are two Bid Schedules for this RFP – Bidding Schedule No. 1 and Bidding Schedule No. 2. Bidders are to provide bids for each Bidding Schedule. The Government will evaluate all bids, comparing Bidding Schedule No. 1 bids and then comparing Bidding Schedule No. 2 bids. Award will be made for only one of the two Bid Schedules. Because funds are limited, award will be made for the Bid Schedule the customer elects to fund. Award of the selected Bid Schedule will be based on Low Price in accordance with the RFP Letter. Evaluation of Base Bid and all Options shall be in accordance with the following clause:

52.217-5 EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(End of clause)

The Government may require the delivery of the numbered line items, identified in the schedule as option items, in the quantity and at the price stated in the schedule. Subject to the availability of funds, the Contracting Officer may exercise the Bid Option by written notice to the Contractor within 120 days of Notice to Proceed.

NOTE NO. 6. ADDITIONAL SUBMISSION REQUIREMENTS:

Upon the Government’s request, the offeror shall submit a price breakdown of the bid items directly to the Mobile District Office. Details on where and how to send the breakdown will be provided by the requesting official making the request on behalf of the Government. The format of the breakdown will be

left up to the offeror. However, as a minimum, the offeror shall provide pricing for the major categories of work under each bid item, for example: architectural, electrical, mechanical, etc. This information will not be needed sooner than three (3) working days after the proposal submission due date.

NOTE NO. 7. CHECKLIST FOR THE BIDDING SCHEDULE:

a. Is it completely filled out? Y__ NA__

b. It may not be altered either as to quantities or as to items offered. Y__ NA__

c. There can be no language of limitation either as to quantities or as to items offered. Y__ NA__

d. If you corrected your numbers, have you initialed these corrections? Y__ NA__

e. If the bidding schedule has been changed by Amendment, is the bidding schedule that you are submitting from the most recent amendment ? Y__ NA__

f. Do prices for each bid item include all costs, mark-ups and taxes (if any taxes are imposed)? Y__ NA__

g. In preparing your bid, remember the Corps does not make advanced payments on its contracts Y__ NA__

END OF BID SCHEDULE

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EXPLANATION OF BID ITEMS

GENERAL:

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 and the plans/details as shown on the contract drawings. 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.

BIDDING SCHEDULE NO. 1 – 3 BAY FIRE STATION #2

BASE BID:

1. Payment under Bid Item No. 1 "Design of New Fire Station #2 and Supporting Sitework" shall constitute full compensation for furnishing all materials, plant, tools, labor costs, testing, expenses, and other associated incidentals associated with the design and preparation of design review documents, permitting with related fees and documents, and construction documents for the facility and supporting sitework for base bid including, but not limited to following design and engineering; architectural, interior design, civil, site environmental remediation design, landscape design, structural, mechanical, fire protection, electrical, cathodic protection, and communications/security systems, all performed in accordance with design-build Request for Proposal (RFP) solicitation documents, criteria, and requirements. This job fee shall include all meetings and reports required during the design phase, construction phase involvement by the designers of record and their supporting team members, as well as surveying and geotechnical investigations and reports.

2. Payment under Bid Item No. 2 "Construct Fire Station #2 Building" shall constitute full compensation for furnishing and installation of all materials, plant, tools, labor costs, and other associated incidentals necessary to complete the construction of the new 3 Bay Fire Station #2 facility in accordance with the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings to a point 5 feet outside the building lines. Bid Item includes construction of an exterior wall mock-up required by the RFP.

3. Payment under Bid Item No. 3 "Construct Site Work, Improvements & Utilities" shall constitute full compensation for furnishing and installation of all materials, plant, tools, labor costs, and other associated incidentals necessary to complete the construction of the work beyond the 5 foot building lines of the facility in accordance with the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings including but not limited to; clearing, grubbing, and grading the site, demolition of existing site improvements and utilities, site improvements, hauling spreading and disposal of any cut or fill material, the installation of all exterior utilities (except as listed in bid items 3, 4 and 5), sidewalks and pavements, stormwater structures and management facilities, and landscaping. The design-build Contractor shall be responsible for saw cutting and patching of pavements, sidewalks and restoration

of any damaged landscaping related to the utility systems installation or demolition as part of the Base Bid costs.

4. Payment under Bid Item No. 4 "GCEC (Privatized Electrical Utility) Construction and Inspection Fee" shall constitute full compensation for a set inspection payment of **$140.000** to GCEC for an inspection fee to inspect the Contractor provided and installed exterior underground secondary power connection to the GCEC provided transformer and related work as defined in the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings. GCEC to provide final closure of contractor-provided fuse jacks. This Payment shall further constitute full compensation for a set payment of **$180,000.000** to GCEC to provide parking lot lighting and related underground electrical work. Contractor to coordinate with GCEC to manage the schedule of the inspection and completion of this work to be completed within the required Construction Completion date.

5. Payment under Bid Item No. 5 "GCEC (Privatized Water) Construction and Inspection Fee" shall constitute full compensation for a set payment of **$78.60** to GCEC (Privatized Water Utility Company) for the connection fee and **a $5,000.00** inspection fee for the Contractor provided and installed exterior domestic water components to the 5 foot line as well as all physical connections and tie-ins to the existing water system in accordance with the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings, including but not limited to trenching, dewatering, filling and compaction for installation of the water components. Contractor to coordinate with GCEC to schedule the inspection of this work to be completed within the required Construction Completion date.

6 Payment under Bid Item No. 6 "TECO (Privatized Natural Gas System Utility Sitework)" shall constitute full compensation for a set payment of **$18,000** to TECO that will furnish and install all materials, plant, tools, labor costs, and other associated incidentals necessary for the exterior natural gas service work up to 5 feet of the building including the gas line, gas regulator and gas meter in accordance with the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings, including but not limited to trenching, dewatering, filling and compaction for installation of the gas line service components. Contractor to coordinate with TECO to schedule the installation of this work to be completed within the required Construction Completion date.

7. Payment under Bid Item No. 7 "Soil Characterization and Removal" shall constitute full compensation for furnishing all materials, plant, tools, labor costs, testing, expenses, and other associated incidentals associated with the characterization, removal and replacement of any soils contaminated above an industrial level (including handling, hauling and legal disposal of up to 4,000 CY of existing site soils), all performed in accordance with design-build Request for Proposal (RFP) solicitation documents, criteria, and requirements. Work shall include retesting, and purchase, handling, hauling, spreading and compacting of tested clean fill from off base. See section 01 10 10, paragraph 3.4 and 18 and Appendix F; Environmental Impact Analysis Form 813 and Miscellaneous Environmental Documentation, for extent of work.

<u>BID OPTION NO. 1:</u>

8. Payment under Bid Item No. 8 (Bid Option No. 1) "Procure and Install Furniture, Fixtures & Equipment (FF&E) Package" shall constitute full compensation for the work associated with the procurement and installation of the Furniture, Fixtures &

Equipment (FF&E) Package in accordance with requirements of the Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings and the FF&E included in Appendix C of the design-build solicitation. All associated design is to be provided in the Base Bid, Bid Item No. 1.

BIDDING SCHEDULE NO. 2 – 2 BAY FIRE STATION #2

BASE BID:

1. Payment under Bid Item No. 1 "Design of New Fire Station #2 and Supporting Sitework". This bid item removes the center Apparatus Bay (Room 118) shown on the drawings to create a new 2 Bay Fire Station. Bid Item shall constitute full compensation for furnishing all materials, plant, tools, labor costs, testing, expenses, and other associated incidentals associated with the design and preparation of design review documents, permitting with related fees and documents, and construction documents for the facility and supporting sitework for base bid including, but not limited to following design and engineering; architectural, interior design, civil, site environmental remediation design, landscape design, structural, mechanical, fire protection, electrical, cathodic protection, and communications/security systems, all performed in accordance with design-build Request for Proposal (RFP) solicitation documents, criteria, and requirements. This job fee shall include all meetings and reports required during the design phase, construction phase involvement by the designers of record and their supporting team members, as well as surveying and geotechnical investigations and reports.

2. Payment under Bid Item No. 2 "Construct Fire Station #2 Building". This bid item removes the center Apparatus Bay (Room 118) shown on the drawings to create a new 2 Bay Fire Station. Bid Item shall constitute full compensation for furnishing and installation of all materials, plant, tools, labor costs, and other associated incidentals necessary to complete the construction of the new 2 Bay Fire Station #2 facility in accordance with the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings to a point 5 feet outside the building lines. Bid Item includes construction of an exterior wall mock-up required by the RFP.

3. Payment under Bid Item No. 3 "Construct Site Work, Improvements & Utilities". This bid item removes the center Apparatus Bay (Room 118) shown on the drawings to create a new 2 Bay Fire Station. Bid Item shall constitute full compensation for furnishing and installation of all materials, plant, tools, labor costs, and other associated incidentals necessary to complete the construction of the work beyond the 5 foot building lines of the 2 Bay Fire Station in accordance with the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings including but not limited to; clearing, grubbing, and grading the site, demolition of existing site improvements and utilities, site improvements, hauling spreading and disposal of any cut or fill material, the installation of all exterior utilities (except as listed in bid items 3, 4 and 5), sidewalks and pavements, stormwater structures and management facilities, and landscaping. The design-build Contractor shall be responsible for saw cutting and patching of pavements, sidewalks and restoration of any damaged landscaping related to the utility systems installation or demolition as part of the Base Bid costs. The bid item includes additional pavement required by the overall site plan to pave the surrounding area up to the new 2 bay fire station building limits.

4. Payment under Bid Item No. 4 "GCEC (Privatized Electrical Utility) Construction and Inspection Fee" shall constitute full compensation for a set inspection payment of **$140.000** to GCEC for an inspection fee to inspect the Contractor provided and installed exterior underground secondary power connection to the GCEC provided transformer and related work as defined in the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings. GCEC to provide final closure of contractor-provided fuse jacks. This Payment shall further constitute full compensation for a set payment of **$180,000.000** to GCEC to provide parking lot lighting and related underground electrical work. Contractor to coordinate with GCEC to manage the schedule of the inspection and completion of this work to be completed within the required Construction Completion date.

5. Payment under Bid Item No. 5 "GCEC (Privatized Water) Construction and Inspection Fee" shall constitute full compensation for a set payment of **$78.60** to GCEC (Privatized Water Utility Company) for the connection fee and **a $5,000.00** inspection fee for the Contractor provided and installed exterior domestic water components to the 5 foot line as well as all physical connections and tie-ins to the existing water system in accordance with the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings, including but not limited to trenching, dewatering, filling and compaction for installation of the water components. Contractor to coordinate with GCEC to schedule the inspection of this work to be completed within the required Construction Completion date.

6 Payment under Bid Item No. 6 "TECO (Privatized Natural Gas System Utility Sitework)" shall constitute full compensation for a set payment of **$18,000** to TECO that will furnish and install all materials, plant, tools, labor costs, and other associated incidentals necessary for the exterior natural gas service work up to 5 feet of the building including the gas line, gas regulator and gas meter in accordance with the design-build Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria drawings, including but not limited to trenching, dewatering, filling and compaction for installation of the gas line service components. Contractor to coordinate with TECO to schedule the installation of this work to be completed within the required Construction Completion date.

7. Payment under Bid Item No. 7 "Soil Characterization and Removal" shall constitute full compensation for furnishing all materials, plant, tools, labor costs, testing, expenses, and other associated incidentals associated with the characterization, removal and replacement of any soils contaminated above an industrial level (including handling, hauling and legal disposal of up to 4,000 CY of existing site soils), all performed in accordance with design-build Request for Proposal (RFP) solicitation documents, criteria, and requirements. Work shall include retesting, and purchase, handling, hauling, spreading and compacting of tested clean fill from off base. See section 01 10 10, paragraph 3.4 and 18, and Appendix F; Environmental Impact Analysis Form 813 and Miscellaneous Environmental Documentation, for extent of work.

BID OPTION NO. 1:

8. Payment under Bid Item No. 8 (Bid Option No. 1) "Procure and Install Furniture, Fixtures & Equipment (FF&E) Package" shall constitute full compensation for the work associated with the procurement and installation of the Furniture, Fixtures & Equipment (FF&E) Package in accordance with requirements of the Request for Proposal (RFP) solicitation documents, criteria, requirements and criteria

drawings and the FF&E included in Appendix C of the design-build solicitation. All associated design is to be provided in the Base Bid, Bid Item No. 1.

END OF EXPLANATION OF BID ITEMS

SECTION 01 00 00

ADDITIONAL SPECIAL CONTRACT REQUIREMENTS
TYNDALL AFB

PART 1 GENERAL

1.1 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK

1) Commence design under this portion of the contract within 8 calendar days after the date the Contractor receives the notice to proceed.

2) The entire design and construction of the facility shall be completed and ready for use not later than the calendar days indicated in the RFP Letter, after the receipt of the notice to proceed. This time stated for completion shall include final cleanup of the premises. Provisions stipulated for conducting tests on heating and air conditioning systems and planting and maintenance of grass are excluded from the completion time.

3) The time required for the Government to review the design submittals, attend review conferences, and the Contractor to incorporate review comments as specified in specification Section 01 10 12 entitled Design After Award, paragraph: "Design Schedule", will be included in the calendar days, indicated in the RFP Letter.

1.2 WORK SITE AND MULTIPLE CONTRACTORS

The Contractor is hereby made aware that multiple contractors may be working at an adjacent work site to this contract. The Prime Contractor on this contract shall work with the other Contractors in the work site vicinity to avoid conflicting construction zones, and scheduling in the same area. He shall also coordinate the activities for his entire work site with other Contractors in the vicinity. The Prime Contractor is responsible for directing the activities of his employees. Also, the Prime Contractor is responsible for the health and safety of his workers at the work site.

1.3 LIQUIDATED DAMAGES--CONSTRUCTION

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of **$723.00** for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

1.4 FIRE ALARM/MASS NOTIFICATION SYSTEMS

The construction contractor shall hire a registered fire protection engineer to design/stamp all fire protection systems (fire piping systems and FA/MNS) and to inspect them. The registered fire protection engineer shall be a first tier subcontractor and report directly to the prime contractor. Wet pipe and FA/MNS Inspection shall include: installer shop drawing reviews, hydraulic calculation reviews, material submittal reviews,

participation during preparatory inspections, participation at initial inspections, two or three visits (e.g. 35%, 60%, 90%) during on-going inspection, participation in the contractor's system check-out and participation during final inspection with USACE and the User. The construction contractor's registered fire protection engineer shall provide a letter certifying that the project meets all UFCs, fire codes, and fire protection regulations prior to beneficial occupancy.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Work Clearance Request; G,CD

Hazard Analysis; G,SO.

Area use Plan; G,CD.

Request for Interruption of Utility Services; G,CD.

Request for Road Closures; G,CD.

FAA Form 7460-1 for Construction Period; G,CD.

Request Use of Cranes; G,CD

DD Form 1354; G,CD.

AF Forms 81, 82, and 83; G,CD.

SD-02 Drawings

Protective Fence; G,CD

SD-07 Certificates

Asbestos and Lead Based Paint Certification Letter; G,CD

1.6 PROJECT SPECIFIC CONSTRUCTION STRATEGIES AND PHASING REQUIREMENTS

Haul Routes, Contractor Staging Area, and Material Stockpile Areas: Contractor Haul Route, Staging Area, and Material Stockpile Areas shall be as indicated on the drawings.

a) Project Phasing: Project Phasing requirements shall be as indicated in the specifications and the drawings.

1.7 CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS

a) The Contractor will be furnished one CD-ROM containing a reproducible copy of the advertised solicitation, including contract clauses, plans and specifications. The work shall conform to the

specifications and the contract drawings listed in the technical provisions.

b) Omissions from the drawings or specifications, the mis-description of details of work which are manifestly necessary to carry out the intent of the drawings and specifications which are customarily performed shall not relieve the Contractor from performing such omitted or mis-described details of the work but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

c) The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Authorized Representative of the Contracting Officer of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby.

d)The drawings and maps for this solicitation are hereby incorporated by reference into these specifications. Any schedules included in the drawings are for the purpose of defining requirements other than quantities.

NOTE: Refer to the folio of drawings for the index of drawings in this solicitation.

1.8 CONTRACTOR PREPARED AS-BUILT DRAWINGS

(a) General: In accordance with SPECIAL CONTRACT REQUIREMENT paragraph: CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS, the Government will furnish the Contractor on CD ROM one electronic set of solicitation drawing files and any amendments for use in preparation of as-built drawings by the Contractor. 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, however minor, 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 alters 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.

(b) Red Line As-Built 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 jobsite 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 Authorized Representative of the Contracting Officer and a responsible representative of the Contractor prior to submittal of each

request for payment. The Authorized Representative of the Contracting Officer's approval of the current status of the as-built drawings shall be a prerequisite to the Authorized Representative of 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. New utilities installed and existing utilities encountered during construction shall be located prior to backfill of the excavation by means of a survey by a surveyor licensed in the State of Florida and their locations added to the as-built drawings.

(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, fire alarm systems, and sprinkler systems that will require extensive redrafting effort in order to create a electronic set will not be required to be incorporated into the electronic set. They will be included as an Appendix to the paper copy set.

(8) As built exterior features and stormwater control elements: The as built location, topography , sizes, and any deviations from the contract documents shall be verified for exterior features and stormwater control features by means of an as built survey by a surveyor licensed in the State of Florida and their locations added to the as-built drawings. The completed survey shall be sealed as accurate by the survey firm.

(c) Submittal of As-Built drawings for review and approval: The Contractor shall participate in monthly review meetings with the Authorized Representative of the Contracting Officer to show the progress made the preceding month and make all required changes. At time of final construction inspection, the Contractor shall submit two (2) copies of the red lined As-Built drawings to the Authorized Representative of the Contracting Officer for his review and approval. The As-Built drawings shall be certified as to their correctness by the signature of an authorized representative of the Contractor. Upon Government approval of the Contractor's redlined copy of the As-Built drawings, the Contractor shall prepare and provide two electronic sets of As-Built drawings by incorporating the red line marked up notations on the construction drawings into the electronic set of solicitation drawings and amendments. In

addition to the electronic sets of as-built drawings which shall be submitted on a CD-ROM, the Contractor shall also submit a full size set and a half-size set of as-built paper drawings. Submittals are to be to the Authorized Representative of the Contracting Officer not later than ten (10) calendar days after project completion date.

(d) Final Drawing Format:

(1) The solicitation drawing files and any amendments will be furnished to the Contractor in electronic format. The solicitation drawing files have been prepared in AutoCAD format. The drawing file indicates the format which the drawing was developed. The Contractor shall utilize AutoCAD 2010 to revise/redraft each solicitation drawing and/or amendment drawing to reflect all changes made during construction as indicated by the red line marked up notations on the construction drawings. Revisions/redrafting shall match the font styles, sizes, and formats; line weights/thicknesses and styles/types; and all other drafting elements used on the solicitation drawing/amendments. All elements must be incorporated into each as-built drawing file; the use of reference files shall not be permitted except for the basic floor plan for "A" drawings or building and roadway features for "C" drawings.

(2) All revisions made to the solicitation drawings and/or amendment drawings to reflect changes made during construction shall be flagged and shall have the revision block completed as follows. The entry in the description column of the revision block shall read "AS-BUILT". The date of the revision and one approving initial from a responsible person within the Contractor's Firm shall also be included in the revision block. Above the drawing title block the drawing will be labeled in bold letters "AS-BUILT". The flagged changes and revision block format shall be in accordance with the examples shown in the Mobile District Design Manual located on the Internet at

http://www.sam.usace.army.mil/Missions/MilitaryMissions/Engineering/EngineeringDesignManual.aspx.

The Contractor shall also furnish a revised index of drawings to match the actual design drawings. The drawing title blocks shall be in a uniform format to match the requirements as specified in the Design Manual.

(3) At no time shall any data originally included on the electronic drawings be deleted from the drawings. All drawings elements that are unnecessary, modified, revised, or not required for any reason shall be moved to a separate layer titled "deleted as built"

(4)The two electronic sets of as-built drawing files shall be submitted in AutoCAD 2010 format.

(5) The hard copy set of as-built drawings shall be submitted unbound on paper. The drawings shall be the full size and half-size.

(e) Payment: No separate payment will be made for the as-built drawings required under this contract, and all costs in connection there-with will be considered a subsidiary obligation of the Contract.

1.9 ELECTRONIC COPY OF OPERATIONS/MAINTENANCE DATA AND SHOP DRAWINGS

All Operations and Maintenance (O&M) Data and Shop Drawings required for submission in the Technical Specifications shall be printed or scanned to

Portable Document Format (PDF) files, and copied to CD Rom discs for submission to the Government. Separate CD-Rom sets shall be provided for Operations and Maintenance (O&M) Data and Shop Drawings. The CD Rom sets shall be electronically bookmarked, and arranged in numerical order to coincide with the Unified Guide Specification (UFGS) numbering system. All information including drawings, manufacturer's data, catalog cut sheets, and calculations output from computer program software shall be printed or scanned to be clearly legible, and capable of being reproduced using a standard desktop or office printer. Manufacturer's data, catalog cut sheets, and calculations output from computer program software shall be configured to print to 8 ½" x 11" paper. Scaled drawings shall be configured to print half-size to 11" x 17". The scale for drawings generated from floor plans shall be no less than 1/8" per foot (1/16" per foot when printed half-size).

1.10 PHYSICAL DATA

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor

a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys.

b) Weather Conditions. The location is subject to atmospheric temperature ranging from plus -13.89 degrees to plus 39.4 degrees Celsius (4 degrees to plus 105 degrees Fahrenheit) as determined from the U. S. Weather Bureau Station at Panama City, Florida. The mean annual precipitation at Panama City, Florida is 149.5 cm (58.42 inches) and the mean monthly precipitation varies from a low of 7.9 cm (3.22 inches) in May to a high of 20.4 cm (8.32 inches) in July.

c) Transportation Facilities.

(1) Railroads. Tyndall Air Force Base is served by the Bay Line Railroad Company from a siding located at Springfield, Florida. The Contractor shall investigate the availability of sidings, and shall make all arrangements for use of any sidings for the delivery of any materials and equipment to be used on the work

(2) Highways. U. S. Highway No. 98 serves Tyndall Air Force Base. The Contractor shall make his own investigation of available roads for transportation, load limits for bridges and roads, and other road conditions affecting the transportation of materials and equipment to the site.

1.11 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

a) 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 Authorized Representative of 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, that is, more severe than the adverse weather anticipated for the project location during any given month.

(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 and affect critical path activities.

b) 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	4	5	3	3	5	7	7	5	3	4	4

c) Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally schedule work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day.

d) 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 paragraph b), above, the Authorized Representative of 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)".

1.12 COORDINATION CONFERENCES

Routine coordination conferences will be scheduled by the Authorized Representative of the Contracting Officer throughout the life of this contract. Coordination conferences will be held to discuss contract administration, Contractor quality control, phasing, scheduling, and other aspects relating to this construction. The Using Agency, Corps of Engineers and the Contractor will be represented at each of these meetings. Similar information concerning replacement personnel shall be forwarded to the Authorized Representative of the Contracting Officer, should any replacement be required at any time during the life of this contract. Coordination conferences will be scheduled to occur on a weekly basis. The Contractor shall develop the Meeting Minutes for each Coordination conference. A copy of the meeting minutes shall be provided to the Corps and all attendees via e-mail no later than three (3) working days after each meeting. The Contractor shall develop and maintain a list of action items that arise during construction or at each Coordination Conference. The Action Items list shall describe each Issue/Action Item and state what organization/person is tasked with its resolution. Blanks, or cells, shall be provided for dates when the Issue/Action Item was first raised, the due date for its resolution, and the date of actual resolution.

1.13 CONSTRUCTION PERMITS

Local permitting procedure is in effect 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 10 (ten) working days in advance of the proposed performance date. Obtaining approval requires routing through the Tyndall AFB entities identified on the form. In addition Tyndall AFB utilities have been privatized and the use of the Sunshine State One Call system is required for work clearance by the commercial utility companies. It is the responsibility of the construction contractor to perform all routing, contacting, and coordinating for approval. Work will not begin until approval has been granted. Forms will be made available to the Contractor at the preconstruction conference.

1.14 PERMITS AND RESPONSIBILITIES

The Contractor shall obtain all required permits/licenses related to the construction of this project.

1.15 WETLAND PROTECTION

The construction contractor shall flag and protect all wetlands prior to initiating construction in accordance with the Contractor's construction permits. In addition, the Contractor shall erect silt or snow fence screens around wetlands before construction begins and shall maintain these until the project is finished and turf establishment at the site is complete and stabilized.

1.16 ACCIDENT PREVENTION PLAN

An Accident Prevention Plan, as described in Section 1, Article 01.A.11 of the Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, is required for this contract.

1.17 HAZARD ANALYSIS

A Hazard Analysis Plan, as described in Section 1, Article 01.A.05 of the Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, latest edition, is required for this contract.

1.18 CONTRACTOR'S AREA USE PLAN

The Contractor shall submit an Area Use Plan to the Authorized Representative of the Contracting Officer, for approval, within thirty (30) days after receipt of Notice to Proceed. The Area Use Plan shall show the following:

a) Location of Contractor, sheds and trailers.

b) Location of all Contractor storage areas.

c) Location of Contractor staging areas.

d) Temporary utility tie-ins.

e) Location of Contractor security fencing.

f) Location of project sign.

g) Required telephone service and locations.

1.19 AIR FORCE PROJECT SIGN

The Contractor shall furnish and install a project sign at the location designated by the Authorized Representative of the Contracting Officer within 30 days after notice to proceed. The sign shall be constructed with a face sheet of 19 mm (3/4-inches) thick, grade A-C, exterior plywood mounted on a substantial framework of treated wood, sized and detailed as shown on Figure 4E, Erection Details, bound herein. Lettering, color, and paint shall conform to the details shown in Figure 4f, Construction Sign, and Figure 5d, Safety Performance Sign, bound herein. The sign shall receive one coat of primer paint followed by 2 coats of gloss exterior enamel. Lettering shall be with gloss exterior enamel. The HQ USAF Engineering and Services Directorate Emblem shall be provided by the Contractor, and shall be acquired through the Federal Industries (ENCOR), the Fort Leavenworth sign shop, or commercial sources. The Contractor shall coordinate emblem acquisition with the Base Civil Engineer. The Contractor shall maintain the sign in a "like new" condition throughout the life of the project, repainting and replacing members as necessary to accomplish this requirement. Upon completion of the work under this contract, the project sign shall be removed from the job site and shall remain the property of the Contractor. No direct payment will be made for the sign nor for maintenance of the sign.

1.20 BULLETIN BOARD

Immediately upon beginning of work under this contract, the Contractor shall provide at the job site a weatherproof glass-covered bulletin board for displaying the fair employment poster, wage rates, and safety bulletins and posters per EM 385-1-1 requirements. Emergency telephone numbers and reporting instructions for ambulance, physician, hospital, fire and police shall be posted. The bulletin board shall be located in a conspicuous place easily accessible to all and legible copies of the aforementioned data shall be displayed until work under the contract is completed. No direct payment will be made for this item of work or maintenance thereof.

1.21 CONSTRUCTION AREA FENCING

The contractor is required to construct temporary construction security fencing around material stockpile and staging areas. The fence design, including the location of fencing and gates, shall be submitted to the Authorized Representative of the Contracting Officer for approval. Fence shall be, as a minimum 6-ft chain link fabric on metal post spaced not more than 10-ft center to center with brown tennis court screen covering it. The temporary construction fence must be installed prior to initiating other work. The final installation of the security fence shall be approved by the Authorized Representative of the Contracting Officer.

1.22 CONSTRUCTION MATERIALS

All construction materials shall remain in the designated staging area until ready for use. Storage of materials in areas other that the designated area will not be allowed.

1.23 INTERRUPTION OF UTILITY SERVICES

Planned interruptions of utility services (electrical power, water, natural gas, etc.) shall be detailed and coordinated by the Contractor. Outages of privatized commercial utilities require coordination with the commercial supplier in addition to coordination with Tyndall AFB. Requests for interruptions shall be submitted in writing by the Contractor to the Authorized Representative of the Contracting Officer at least 10 (ten) working days before the planned outage.

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. Interruptions will be granted Monday through Friday for the following times: 7:15 A.M. until 11:00 A.M. and 12:30 P.M. until 4:00 P.M. If weekend (Saturday and Sunday) outages are required or are preferred, they shall be coordinated as specified above.

1.24 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 Authorized Representative of the Contracting Officer at least 30 (thirty) 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.

1.25 DAMAGE TO EXISTING ROADWAYS

The existing roads at Tyndall AFB, FL are asphalt construction suitable for Category IV type traffic. The construction contractor shall limit construction loads to these limits to avoid damaging the existing pavement structures. Prior to starting construction, the construction contractor shall make a joint inspection of existing roads with Authorized Representative of the Contracting Officer and document the condition of these roads in a report and a video tape. Damage to existing roads and curbs caused by contractor equipment during construction shall be repaired by the construction contractor at the conclusion of construction.

1.26 CONSTRUCTION DEBRIS DISPOSALS

Concrete rubble shall be disposed of at the approved disposal area if shown on the contract drawings. All other construction debris shall be disposed of at an approved disposal site off Government controlled lands including concrete debris if not otherwise designated.

1.27 ASBESTOS MATERIALS AND LEAD BASED PAINTS

The Contractor shall not use materials containing Asbestos or Lead Based Paints in the construction of this facility.

Upon completion of the construction, the Contractor shall submit two copies of a Certified Letter to the Authorized Representative of the Contracting Officer (ARCO) stating that no lead based paints or materials containing asbestos were used in the construction of the new facilities. One copy of the letter will be filed with project documents in the Resident Engineer's Office. The ARCO will deliver the remaining copy to the Base Environmental Office.

1.28 AIR FORCE HAZARDOUS MATERIAL PROGRAM/HAZARDOUS OR TOXIC MATERIAL SPILLS

Any fuel, oil, hydraulic fluid, or other hazardous or toxic material spill must be reported to 325 CES/CEV at (850)283-(to be provided by ARCO at time of construction) regardless of the amount.

The contractor shall submit to the ARCO, a TAFB IMT 81 (HAZMAT Questionnaire) and TAFB Form IMT 82 (Chemical Inventory) 7-10 days upon issuance of the notice to proceed, **prior** to bringing chemicals on Tyndall AFB, and prior to commencement of work on the site for each subcontractor performing construction activities on the project site. Copies of manufacturer-specific Material Safety Data Sheets must be attached to TAFB Form IMT 82. After submission to the 325 CES/CEV and processing by 325 CES/CEV, the ARCO will be notified of the reportable chemicals and of any special instructions via a memo which will be forwarded to the contractor. The Contractor is required to submit TAFB Form IMT 83 (Reporting Entry) provide monthly updates of usage, and final amounts at the end of the project or as indicated by CEV on the memo. CEV must be notified if anything changes from the original submittal (i.e. new chemical is added, size of container changes or if the manufacturer changes). A completion letter is forwarded to the ARCO upon submittal of all hazmat paperwork. See Attachment for Hazardous Material Program Forms.

1.29 SALVAGEABLE MATERIALS

All fluorescent, metal halide, mercury, or high pressure sodium lighting bulbs or tubes, fluorescent ballasts, and mercury switches/thermostats identified for disposal shall be disposed of off Government property in accordance with all local, state and federal laws. The signed waste manifest shall be turned in to 325 CES/CEV through the Corps of Engineers to document the disposal. Metals that can be separated from other construction debris shall be turned in to 325 CES/CEV for recycling. The contractor shall call 850-283-(to be provided by ARCO at time of construction) for a turn-in appointment (normally Tuesdays and Thursdays). A cardboard cart will be provided by the Government at each project site. Cardboard packing and boxes shall be placed in this cart. Refrigerant types and quantities collected from existing units prior to disposal and installed in new units shall be tracked on a waste manifest that shall be signed and turned in 325 CES/CEV through the Corps of Engineers to properly document.

1.30 BURIED PIPES

The Contractor shall provide a tracer wire on the top of all non-metallic piping or electrical conduit buried 150 mm (6-inches) below finished grade or deeper. The tracer wire shall be magnetic detectable conductor,

brightly colored plastic covering, imprinted with the type of service in large letters.

1.31 BASE WATERING POLICY

The Contractor shall be required to maintain newly sodded and seeded areas until the grasses are established. In fulfilling this requirement, the Contractor shall comply with the Base Watering policy which allows watering between the hours 0600 to 1000 hours and from 1800 to 2200 hours. The water must not be allowed to pond or run off the area. If sufficient water is available from a nearby ditch or other on-site source, the Contractor shall use a sump pump to irrigate. There is no waterline adjacent to the Runway or Taxiways which can be tapped for use during dust control procedures or grass establishment. The Contractor shall truck water from the Contractor Staging Area for this purpose.

1.32 RADIO TRANSMISSIONS

To avoid conflict with transmission frequencies currently in use at Tyndall AFB, FL, the Contractor shall submit a written request ten (10) work days prior to requirement for use of each radio device to be used at the job site. The request shall contain: (1) a list of all radios to be used with serial number, (2) frequencies to be used, (3) power output, and (4) a copy of the FCC license for each device. The Authorized Representative of the Contracting Officer reserves the right to order the Contractor not to use radios in times of sensitive base operations. The Contractor shall provide to the Authorized Representative of the Contracting Officer a point of contact to be notified when all radio transmissions must cease due to sensitive base operations and when radio operations can resume. Radios shall not be used until the Contractor receives written approval from the Authorized Representative of the Contracting Officer.

1.33 CELLULAR TELEPHONES

While working in areas on the flightline or within the 305 Meter (1000 ft) Runway Lateral Clear Zone the Contractor shall furnish a cellular phone for communication with his personnel while they are in these areas. The telephone number(s) and Points of Contact shall be furnished to the Authorized Representative of the Contracting Officer for use by the air traffic control tower.

1.34 REQUIREMENTS FOR PROJECTS WITHIN AIRFIELD CLEARANCE ZONES

For projects within Airfield Clearance Zones, FAA Form 7460-1 shall be completed by the Contractor covering the duration of the project's construction, and filed with the FAA. A copy of Form 7460-1 shall also be submitted to the Authorized Representative of the Contracting Officer. The weblink to submit FAA Form 7460-1 is provided below.

An Airfield waiver may also be required depending on construction activities. The Airfield waiver shall be accomplished by the Government and may take as much as 30 days for final approval.

1.35 REQUIREMENTS FOR TEMPORARY CRANES

All cranes used by the Contractor for construction purposes require written acceptance for their use by the Authorized Representative of 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 total operating height, mode of transportation and delivery to the project site, period of use, GPS coordinates of project location, 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 Authorized Representative of the Contracting Officer. When not in operation, crane booms shall be in the lowered position. Contractor is responsible for obtaining all necessary FAA permits for erection of temporary structures.

The FAA website to submit the notices of cranes and construction:

https://oeaaa.faa.gov/oeaaa/external/portal.jsp.

1.36 SAFETY MARKINGS ON CRANE BOOMS

All cranes shall have a red strobe light and two flags attached to the end of the boom. The flags shall be 46 cm (18-inch) 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.

1.37 AIRFIELD SAFETY PRECAUTIONS

a. Definitions. As used in this clause--

(2) "Landing Areas" means--

(i) The primary surfaces comprising the surface of the runway, runway shoulders, and lateral safety zones. The length of each primary surface is the same as the runway length. The width of each primary surface is 610 Meters (2000-ft), 305 Meters (1000 ft) on each side of the runway centerline;

(ii) The "clear zone" beyond the ends of each runway, i.e.; the extension of the primary surface for a distance of 305 Meters (1000 ft) beyond each end of each runway;

(iii) All taxiways, plus the lateral clearance zones along each side for the length of the taxiways (the outer edge of each lateral clearance zone is laterally 76 Meters (250 ft) from the far or opposite edge of the taxiway, e.g., a 23 Meter (75-ft) wide taxiway would have a combined width of taxiway and lateral clearance zones of 130 Meters (425 ft); and

(iv) All aircraft parking aprons, plus the area 38 Meters (125 ft) in width extending beyond each edge all around the aprons.

(3) "Safety precautions areas" means those portions of approach--departure clearance zones and transitional zones where placement of objects incident to contract performance might result in vertical projections at or above the approach-departure clearance, or the transitional surface.

(i) The "approach-departure clearance surface" is an extension of the

primary surface and the clear zone at each end of each runway, for a distance of 15.24 km (50,000 ft), first along an inclined (glide angle) and then along a horizontal plane, both flaring symmetrically about the runway centerline extended.

(a) The inclined plane (glide angle) begins in the clear zone 61 Meters (200 Ft) past the end of the runway (and primary surface) at the same elevation as the end of the runway. It continues upward at a slope of 50:1 (1 unit vertically for each 50 units horizontally) to an elevation of 152 Meters (500 ft) above the established airfield elevation; at that point the plane becomes horizontal, continuing at that same uniform elevation to a point 15.24 km (50,000 ft) longitudinally from the beginning of the inclined plane (glide angle) and ending there.

(b) The width of the surface at the beginning of the inclined plane (glide angle) is the same as the width of the clear zone; It then flares uniformly, reaching the maximum width of 4.9 km (16,000 ft) at the end.

(ii) The "approach-departure clearance zone" is the ground area under the approach-departure clearance surface.

(iii) The "transitional surface" is a sideways extension of all primary surfaces, clear zones, and approach-departure clearance surfaces along inclined planes.

(a) The inclined plane in each case begins at the edge of the surface.

(b) The slope of the inclined plane is 7:1 (one unit vertically for each 7 unit horizontally), and it continues to the point of intersection with the--

1. Inner horizontal surface (which is the horizontal plane 46 Meters (150 ft) above the established airfield elevation); or

2. Outer horizontal surface (which is the horizontal plane 152 Meters (500 ft) above the established airfield elevation), whichever is applicable.

(iv) The "transitional zone" is the ground area under the transitional surface. (It adjoins the primary surface, clear zone, and approach--departure clearance zone.)

b. General.

(4) The Contractor shall comply with the requirements of this clause while--

(i) Operating all ground equipment (mobile or stationary);

(ii) Placing all materials; and

(iii) Performing all work, upon and around all airfields.

(5) The requirements of this clause are in addition to any other safety requirements of this contract.

c. The Contractor shall--

(6) Report to the Authorized Representative of the Contracting Officer before initiating any work;

(7) Notify the Authorized Representative of the Contracting Officer of

proposed changes to locations and operations;

(8) Not permit either its equipment or personnel to use any runway for purposes other than aircraft operation without permission of the Authorized Representative of the Contracting Officer, unless the runway is--

(i) Closed by order of the Authorized Representative of the Contracting Officer; and

(ii) Marked as provided in paragraph (d)(2) of this clause;

(9) Keep all paved surfaces, such as runways, taxiways, and hardstands, clean at all times and, specifically, free from small stones which might damage aircraft propellers or jet aircraft;

(10) Operate mobile equipment according to the safety provisions of this clause, while actually performing work on the airfield. At all other times, the Contractor shall remove all mobile equipment to locations--

(i) Approved by the Authorized Representative of the Contracting Officer;

(ii) At a distance of at least 228 Meters (750 ft) from the runway centerline, plus any additional distance; and

(iii) Necessary to ensure compliance with the other provisions of this clause; and

(11) Not open a trench unless material is on hand and ready for placing in the trench. As soon as practicable after material has been placed and work approved, the Contractor shall backfill and compact trenches as required by the contract. Meanwhile, all hazardous conditions shall be marked and lighted in accordance with the other provisions of this clause.

d. Landing areas.

The Contractor shall--

(12) Place nothing upon the landing areas without the authorization of the Authorized Representative of the Contracting Officer;

(13) Outline those landing areas hazardous to aircraft, using (unless otherwise authorized by the Authorized Representative of the Contracting Officer) red flags by day, and electric, battery-operated low-intensity red flasher lights by night;

(14) Obtain, at an airfield where flying is controlled, additional permission from the control tower operator every time before entering any landing area, unless the landing area is marked as hazardous in accordance with paragraph (d)(2) of this clause;

(15) Identify all vehicles it operates in landing areas by means of a flag on a staff attached to, and flying above, the vehicle. The flag shall be 0.9 meters (3 ft) square, and consist of a checkered pattern of international orange and white squares of 0.3 Meters (1 ft) on each side (except that the flag may vary up to ten percent from each of these dimensions);

(16) Mark all other equipment and materials in the landing areas, using the same marking devices as in paragraph (d)(2) of this clause; and

(17) Perform work so as to leave that portion of the landing area which is available to aircraft free from hazards, holes, piles of material, and projecting shoulders that might damage an airplane tire.

e. Safety precaution areas.

The Contractor shall--

(18) Place nothing upon the safety precaution areas without authorization of the Authorized Representative of the Contracting Officer;

(19) Mark all equipment and materials in safety precaution areas, using (unless otherwise authorized by the Authorized Representative of the Contracting Officer) red flags by day, and electric, battery-operated, low-intensity red flasher lights by night; and

(20) Provide all objects placed in safety precaution areas with a red light or red lantern at night, if the objects project above the approach-departure clearance surface or above the transitional surface.

(21) While working on or adjacent to active Runways and Taxiways, the Contractor shall provide Road Sweepers to clean FOD from affected areas.

1.38 FOREIGN OBJECT DEBRIS (FOD) PROTECTIVE FENCE

The Contractor should be aware of the importance of restraining and policing loose materials in the vicinity of the airfield and runway takeoff/landing areas. The Contractor shall institute a Foreign Object Elimination (FOE) program during construction and post-construction in order to remove sources of foreign object damage (FOD) and to prevent FOD and injury to aircraft and equipment from blown material. The Contractor shall design and construct a FOD fence in such a manner as to meticulously contain debris, trash, materials and foreign objects from being blown onto the active areas of the airfield and flight lines.

a. The fence design shall be submitted to the Authorized Representative of the Contracting Officer and the final installation approved by the Authorized Representative of the Contracting Officer.

b. Approval by the Authorized Representative of the Contracting Officer shall not relieve the Contractor of the responsibility of the proper function of the fence. The fence shall encompass the areas as shown on the drawings. No work shall commence until the FOD fence has been constructed, properly installed in place, and approved by the Authorized Representative of the Contracting Officer.

c. Loose or light material shall not be stored or left in the construction areas, unless it is safely secured. Tools, materials, and equipment subject to displacement shall be adequately secured. Containers provided for storing or carrying rivets, bolts, drift pins, nails, and other fasteners shall be secured against accidental displacement. The Contractor shall provide sufficient personnel and equipment to insure these safety requirements are met. The Contractor shall inspect the construction areas daily during work operations for adequate housekeeping. The Contractor shall record unsatisfactory findings on a daily inspection report. Items left over from the work operations such as loose bolts, screws, nails, fasteners, soft drink and food cans, and other such debris shall be

collected, removed from the areas and properly disposed of daily. The daily and final inspection reports shall be submitted to the Authorized Representative of the Contracting Officer.

d. The Contractor shall be responsible for the upkeep, proper maintenance and condition of the fence during the entire contract period.

1.39 EQUIPMENT LAYOUT DRAWINGS

The Contractor shall submit "layout drawings" in plan and necessary elevation, of all mechanical, electrical, heating, and ventilating equipment space(s) showing the proposed equipment, ductwork, piping, conduits, maintenance distance requirements, etc., with clearances, for approval of the Contracting Officer, whether or not such layout drawings are specified under the various technical sections of the specifications. In spaces having more than one type of equipment, the layout drawings shall indicate the composite arrangement of all types of equipment and all associated work with all clearances. The layouts of equipment and associated work shall provide adequate and acceptable clearances for entry, servicing, and maintenance. The submittal and approval of equipment layout drawings shall conform to the requirements as specified for shop drawings. Should the Contractor propose to furnish any equipment or standard products requiring allocations of space, or electrical, mechanical, or piping connections thereto, or supports different from those shown or indicated on the plans or in the specifications, he shall prepare and submit full detail drawings to the Contracting Officer for approval showing all changes. The approved detailed drawings shall become a part of the contract and any changes in the construction resulting from revisions in the details and dimensions on the drawings which are required by the substitution of alternate equipment and/or products shall be made at the expense of the Contractor.

1.40 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in the quantity as required by the submittal section covering the item but a minimum of four copies shall be provided. Each certificate shall be signed by an official authorized to certify on behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

1.41 INSTALLED PROPERTY

(a) Major Equipment. The Contractor shall maintain a list of all installed property furnished under this contract. This list shall include but not be limited to each piece of equipment which has a serial number. This list shall include all information usually listed on manufacturer's name plate, so as to positively identify the piece of property. This list shall also include the cost of each piece of installed property (less installation costs) F.O.B. construction site. The above referenced list shall be maintained in QCS as equipment is purchased. The list shall be available in QCS to Contracting Officer not later than thirty calendar days

prior to completion of any segment of the contract work which has an incremental completion date.

(b) Other Equipment. The Contractor will be required to furnish a brochure, catalog cut, parts list, manufacturer's data sheet or other publication (including the manufacturer's name and address) which will show detailed parts data on all other equipment, such as hardware, plumbing and lighting fixtures, etc., subject to repair and maintenance procedures. The data shall be furnished as required by the contract submittal specification section or at a minimum four (4) copies to the Contracting Officer not later than thirty calendar days prior to completion of any segment of the contract work which has an incremental completion date.

(NOTE TO SPECIFICATION ENGINEER: DELETE THIS CLAUSE WHEN USING THE TECHNICAL SPECIFICATION SECTION 01781 OR SECTION 01 78 23 ENTITLED OPERATION & MAINTENANCE DATA)

1.42 EQUIPMENT OPERATING, MAINTENANCE, AND REPAIR MANUALS

(a) The manuals shall be submitted for approval within ninety (90) days after approval of the submittal for the items proposed for procurement unless stated otherwise in the technical specifications. Each manual shall include the following:

(1) Hard Cover Binders. The manuals shall be bound in a 3-ring binder with a hard cover. The following identification shall be inscribed on the cover: the words "EQUIPMENT OPERATING, MAINTENANCE, AND REPAIR MANUAL" and the building name and number, location, and indication of utility or system covered. Manuals shall be approximately 8 ½ by 11 inches with large sheets folded in, and capable of being easily pulled out for reference.

(2) Warning Page. A warning page shall be provided to warn of potential dangers (if they exist), such as high voltage, toxic chemicals, flammable liquids, explosive materials, carcinogens, or high pressures. The warning page shall be placed inside the front cover, in front of the title page.

(3) Title Page. The title page shall show the name, address and phone number of the Contractor, the contract number and the date of publication.

(4) Table of Contents. Provide in accordance with commercial standard practice.

(b) General: Manuals shall include, in separate sections, the following information for each item of equipment and system:

(1) Performance sheets and graphs showing capacity data, efficiencies, electrical characteristics, pressure drops, and flow rates. Marked-up catalogs, or catalog pages do not satisfy this requirement. Performance information shall be presented as concisely as possible and contain only data pertaining to equipment actually installed.

(2) Catalog cuts showing application information.

(3) Installation information showing minimum acceptable

requirements.

(4) Operation and maintenance requirements. Include adequate illustrative material to identify and locate operating controls, indicating devices and locations of areas or items requiring maintenance.

(a) Describe, in detail, starting and stopping procedures for components, adjustments required to obtain optimum equipment performance, and corrective actions for malfunctions.

(b) Maintenance instructions describing the nature and frequency of routine maintenance and procedures to be followed. Indicate any special tools, materials, and test equipment that may be required.

(5) Repair information including diagrams and schematics, guidance for diagnosing problems, and detailed instructions for making the repairs. Provide troubleshooting information that includes a statement of the indication or symptom of trouble and the sequential instructions necessary. Include test hookups to determine the cause, special tools and test equipment, and methods for returning the equipment to operating conditions. Information may be in chart form or in tabular format with appropriate headings.

(6) Parts list and names and addresses of the two closest parts supply agencies.

(7) Names and addresses of the local manufacturers representatives and the parent company.

(c) Separate manuals shall be provided for each system required by this contract. The systems are defined as follows:

(1) Facility Heating Systems. Information shall be provided on the following equipment: boilers, water treatment, chemical feed pumps and tanks, converters, heat exchanger, pumps, unit heaters, fin-tube radiation, air handling units (both heating only and heating and cooling), and valves (associated with heating systems).

(2) Air-Conditioning Systems. Provide information on chillers, packaged air-conditioning equipment, towers, water treatment, pumps and tanks, air-cooled condensers, pumps, compressors, air handling units, and valves (associated with air-conditioning systems).

(3) Temperature Control and HVAC Distribution Systems.

(a) Provide the information described for the following equipment: valves, fans, air handling units, pumps, boilers, converters and heat exchangers, chillers, water cooled condensers, air-cooled condensers, cooling towers, fin-tube radiation, and radiant heating systems.

(b) Provide all information described for the following equipment: control air compressors, control components (sensors, controllers, adapters, and actuators), and the water and air flow measuring equipment.

(4) Central Heating Plants. Provide the information described for the following equipment: boilers, converters, heat exchanger, pumps, fans, steam traps, pollution control equipment, chemical feed equipment, control systems, fuel handling equipment de-aerators, tanks (flash, expansion, return water, etc), water softeners, valves and fuel-oil storage tanks.

(5) District Heating Distribution Systems. Provide the information described for the following equipment: valves, fans, pumps, converters and heat exchanger, steam traps, tanks (expansion, flash, etc), and piping systems.

(6) Exterior Electrical Systems. Information shall be provided on the following equipment: power transformers, relays, closers, breakers, regulators, converters, meters and capacitor bank controls.

(7) Interior Electrical Systems. Information shall be provided on the following equipment: relays, motor control centers, switchgear, solid state circuit breakers, motor controller, regulators, converters, filters, meters and EPS lighting systems.

(a) Wiring diagrams and troubleshooting flow chart on control systems.

(b) Special grounding systems.

(8) Energy Management and Control System. The maintenance manual shall include descriptions of maintenance for all equipment, including inspection, periodic preventative maintenance, fault diagnosis, and repair or replacement of defective components.

(9) Potable Water Treatment Systems. The identified information shall be provided on the following equipment: tanks, unit process equipment, pumps, motors, control and monitoring instrumentation, laboratory test equipment, chemical feeders, valves, switching gear, and automatic controls.

(10) Wastewater Treatment Systems. The identified information shall be provided on the following equipment: tanks, unit process equipment, pumps, motors, control and monitoring instrumentation, laboratory test equipment, chemical feeders, valves, scrapers, skimmers, comminutors, blowers, switching gear, and automatic controls.

(11) Fire Protection Systems. Information shall be provided on the following equipment: alarm valves, manual valves, regulators, storage tanks, piping materials, sprinkler heads, nozzles, pumps, and pump drivers.

(12) Fire Detection Systems. The maintenance manual shall include description of maintenance for all detectors, control panels, batteries, transmitters, audible and visual alarm signaling devices and any other auxiliary detection or alarm equipment associated with fire detection and alarm system. The manual shall include inspection, test, periodic maintenance, fault diagnosis, and repair or replacement of defective components.

(13) Plumbing Systems. Information shall be provided on the following equipment: water heaters, valves, pressure regulators, backflow preventors, piping materials, and plumbing fixtures.

(14) Liquid Fuels Systems. Information shall be provided on the following equipment: tanks, automatic valves, manual valves, filter separators, pumps, mechanical loading arms, nozzles, meters, electronic controls, electrical switch gear, and fluidics controls.

(15) Cathodic Protection Systems. Information shall be provided on the following material and equipment: rectifiers, meters anodes, anode backfill, anode lead wire, insulation material and wire size, automatic controls (if any), rheostats, switches, fuses and circuit breakers, type and size of rectifying elements, type of oil in oil-immersed rectifiers, and rating of shunts.

(16) Generator Installations. Information shall be provided on the following equipment: generator sets, automatic transfer panels, governors, exciters, regulators, starting systems, switchgear, and protective devices.

(17) Miscellaneous systems. Information shall be provided on the following: communication and ADP systems, security and intrusion alarm, elevators, motorized doors, kitchen equipment, material handling, active solar, photovoltaic, and other similar type special systems not otherwise specified.

(d) Payment for the equipment or system will be limited to 80% of the cost of the equipment or system and installation until the operating and maintenance manuals are approved.

1.43 LAYOUT OF WORK

The Contractor shall lay out his work from the Government-established base lines, ranges, and gages indicated on the drawings and shall be responsible for all measurements in connection therewith. The Contractor shall furnish, at his own expense, all stakes, templates, platforms, equipment, range markers and labor as may be required in laying out any part of the work from the ranges and gages established by the Government. The Contractor will be held responsible for the execution of the work to such lines and grades established by the contract documents. It shall be the responsibility of the Contractor to maintain and preserve all stakes, monuments, and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through his negligence prior to their authorized removal, they may be replaced by the Contracting Officer at his discretion. The expense of replacement will be deducted from any amounts due, or to become due, the Contractor.

1.44 TEMPORARY ELECTRICAL SERVICE

All temporary electrical service on the project, and within all temporary and permanent structures shall be installed and maintained in compliance with the provisions of EM 385-1-1, latest edition, Corps of Engineers Safety and Health Requirements, and APPENDIX T of Mobile District Regulation 385-1-1, Electrical Service Requirements for Construction and Maintenance Operations. Copies of these publications are available for inspection in the District Office by Prospective bidders, and will be furnished to the successful bidder.

1.45 SCHEDULE OF AVAILABLE UTILITIES

In accordance with Section 00700 of the parent MATOC contract, paragraph entitled "Availability and Use of Utility Services", the Government will make available at no cost to the Contractor, electricity and water from existing distribution lines, outlets and supplies. It shall be the Contractor's responsibility to install and maintain all necessary temporary connections and distribution lines for his own use. Any other required utilities shall be furnished by the Contractor.

1.46 BASE ACCESS PROCEDURES

The 325 Security Forces Squadron (325 SFS) has implemented the following procedures. Contractors and subcontractors must comply with the following requirements to gain access to Tyndall Air Force Base:

(a) Temporary Access. For Contractor personnel needing minimal time of access, i.e., commercial deliveries, the vehicle will process through the Cleveland Gate where the vehicle will be checked thoroughly of all contents. Escort by contractor personnel with escort authority may be required for non-typical deliveries. If a commercial vehicle departs the Base for any reason, the vehicle must process through the Cleveland Gate.

(b) Temporary Passes. Temporary Base access is for personnel needing minimal time of access for one to three days. Temporary Passes may be attained at the Base Visitors' Center. Authorized contractor sponsor, proper photo ID, vehicle registration, and proof of vehicle insurance are required. Subjects must be with Escort at all times.

(c) Employee ID Badge. Contractor personnel requiring regular access are required to have a Contractor ID. These can be issued for a period of time up to six months. Applications for badges beyond six months will be approved on case-by-case basis by the USACE Resident Office. The ID Badge procedures are noted below:

(1) Each applicant is required to have proper identification to complete attached Contractors/Subcontractors Background Affidavit. Thoroughly check credentials of prospective employees in advance before submitting the Affidavits for a background check.

(2) Once the Affidavit has been completed and signed by the individual, ensure prime contractor contact information has been entered at the bottom of the back page of the Affidavit. Include the name of company, the point of contact in office who is responsible for processing the new employee, and office phone number. Then attach a cover letter with list of employees.

(3) The list with the original Affidavits will then be hand-carried to the Investigative Services Section at Security Forces Squadron (SFS) for processing. Do not fax or scan copies.

(4) The Affidavit must be submitted a minimum of five (5) business days before employee requires the Base pass. Planning ahead will ensure there are no delays in getting the employee ID Badge when needed. **The employee shall not be allowed on Tyndall AFB until the background check is completed and approved**.

(5) Upon completion and approval of the background check, 325 SFS will have entered the approval/non-approval status the Air Force Security Database. When the individual has received an approved security background check, a DD Form 1172 is required for completion of the ID Badge process. The company will take the signed DD Form 1172 with proper employee identification to the USACE Resident Office for signature. After obtaining this signature, proceed to the Visitor's Center. The Pass & ID Office at the Visitors' Center will verify the background check has been cleared and issue the ID.

(6) It is the responsibility of the hiring contractor to collect badges of all personnel once employment has been completed and/or terminated at Tyndall Air Force Base. Return collected badges to the Tyndall Resident Office so that we can turn them over to Security Forces. Security Forces will clear the personnel from their database.

1.47 SUBMISSION OF FINAL DD FORM 1354 - TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

Using the blank DD Form 1354 provided at the end of this section, the Contractor shall submit an Interim DD Form 1354 with the Final Design to the Authorized Representative of the Contracting Officer prior to final approval of design. Using this Interim DD Form 1354, the Contractor shall submit the Final DD Form 1354 for the project no later than thirty (30) days prior to the Beneficial Occupancy Date (BOD). Category code numbers shall be provided by the Authorized Representative of the Contracting Officer and selection of the appropriate category codes for use in the Real Property list coordinated with the Authorized Representative of the Contracting Officer. Using the approved draft DD Form 1354 and any comments provided from review of the draft DD Form 1354, an interim 1354 shall be provided at the final inspection. Additional category codes shall

be provided by the Authorized Representative of the Contracting Officer as required.

1.48 ADDITIONAL ENVIRONMENTAL REQUIREMENTS

Acceptable environmental conditions shall be established prior to installation of any temperature or humidity sensitive finishes, such as but not limited to drywall, paint, casework, carpet and tile, acoustical ceiling tile, etc. Acceptable environmental conditions shall be established at least 24 hours prior to the start of finish installation. Monitor, document, and maintain environmental conditions daily, or more frequently as needed, throughout the remainder of construction to ensure that there is no damage to installed work due to unacceptable temperature or humidity levels. Where requirements vary for different finishes the most stringent shall be maintained. Minimum standards shall be maintained to ensure that mold growth does not occur. Finishes damaged due to unacceptable temperature or humidity levels shall be replaced in their entirety at no additional cost to the Government.

1.49 RED ZONE MEETINGS

The Red Zone meetings (see Appendix TBD) will begin at 80% actual project completion or 60 days prior to scheduled beneficial occupancy date (BOD), whichever comes first. The Red Zone meetings will be chaired by the US Army Corps of Engineers with meeting minutes and distribution of meeting minutes also the USACE's responsibility. The Government will request attendance of all key Government personnel and contractor shall be responsible for arranging attendance of all key contractor personnel including subcontractors and suppliers. During the meeting all tasks required for the successful completion, turnover, and user move in for the project will be identified, completion dates established, and tracked through completion.

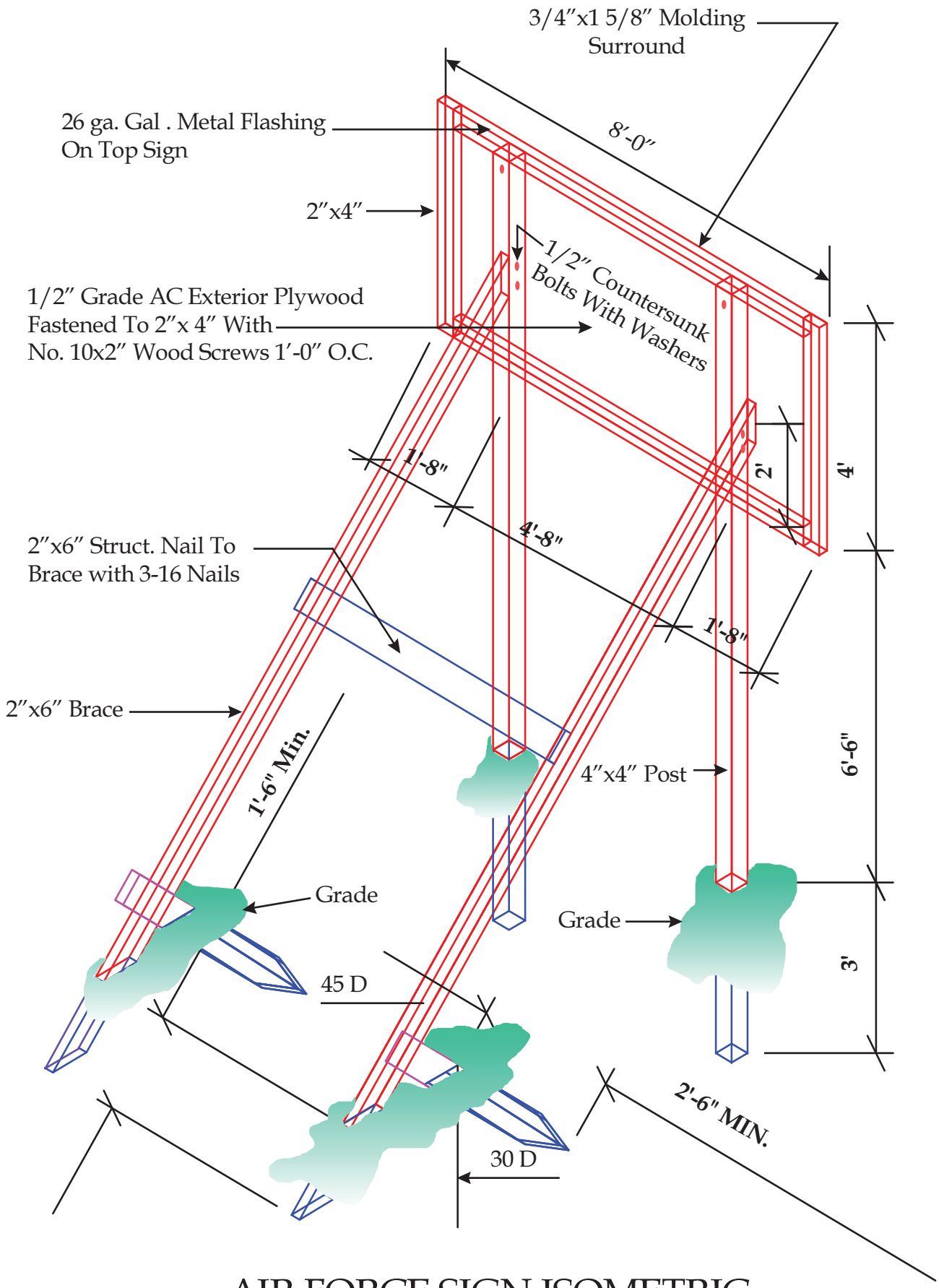
1.50 RATES OF WAGES

Pages of wage rates follow.

PART 2 PRODUCTS

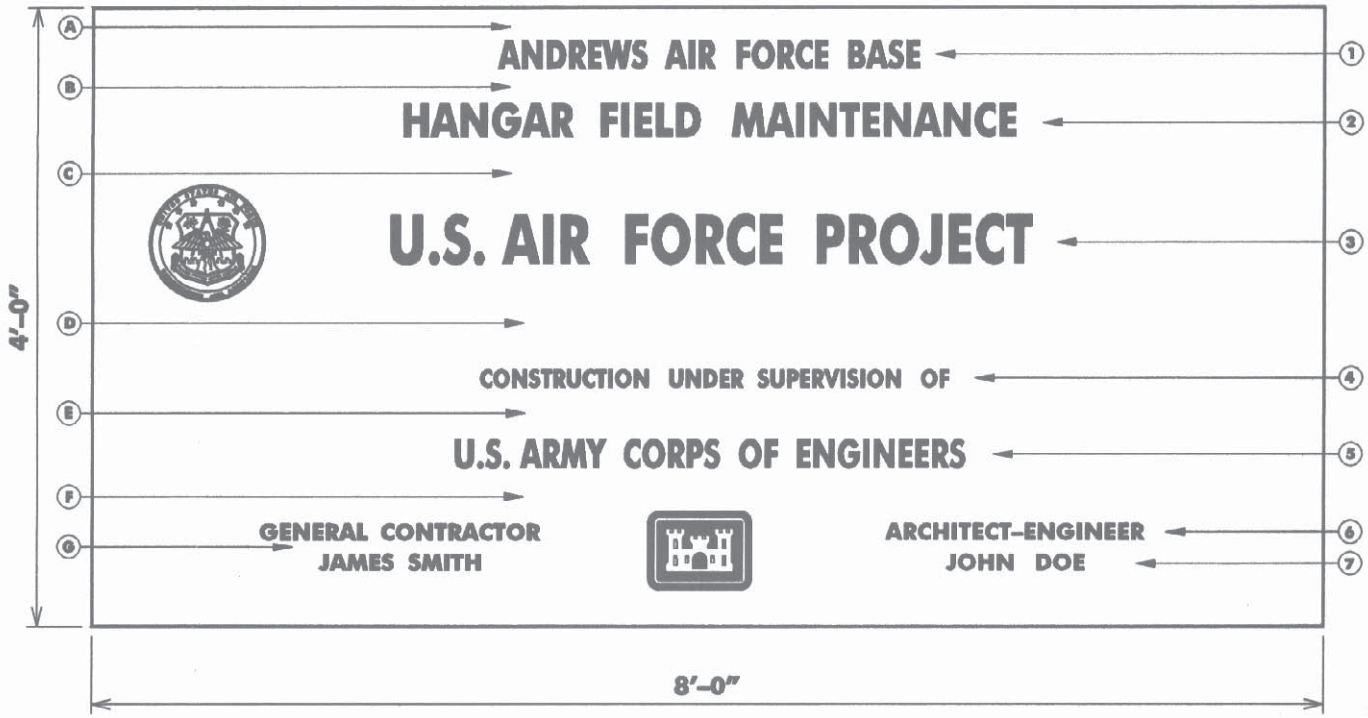
PART 3 EXECUTION

-- End of Section --



AIR FORCE SIGN ISOMETRIC ERECTION DETAILS

Fig 4e



SAMPLE CONSTRUCTION SIGN FOR MILCON PROJECTS

SCHEDULE

SPACE	HEIGHT	LINE	DESCRIPTION	LETTER HEIGHT	STROKE
A	2 1/2"	1	LOCATION	2 3/8"	1/2"
B	2 5/8"	2	PROJECT NOMENCLATURE	2 3/4"	1/2"
C	5 3/4"	3	U.S. AIR FORCE PROJECT	4"	1/2"
D	8"	4	CONSTRUCTION UNDER SUPERVISION OF	1 1/2"	1/2"
E	4"	5	CONSTRUCTION AGENCY	2 3/8"	1/2"
F	4"	6	GENERAL CONTRACTOR	1 3/8"	3/16"
G	1"	7	GENERAL CONTRACTOR	1 3/8"	3/16"

Colors (Fed. Std. 595a)

Background, brown, gloss - 10080
Lettering, white, gloss - 17875
Castle, red
AF emblem, colors as required (8" dia.)

(1) Apply 1 coat primer followed by 2 coats brown. Check with BCE to verify 10080 correct color.

Note:

Use this sign at Columbus and Tyndall AFB.

CONSTRUCTION SIGN
(A-E DESIGN)

Fig. 4f

Each contrrator's safety record is to be posted on Corps managed or supervised construction projects and mounted with the construction project identification sign.

The graphic format, color, size and type-faces used on the sign are to be reproduced exactly as specified below. The title with First Aid logo in the top section of the sign and the performance record captions are standard for all signs of the type. Legend Groups 2 and 3 below identify the project and the contractor and are to be placed on the sign as shown.

Safety record numbers are mounted on individual metal plates and are screwmounted to the background to allow for daily revisions to posted safety performance record.

Legend Group 1: Standard two-line title "Safety is a Job requirement" with (8 od.) Safety Green First Aid logo.
Color: to match PMS 347
Typeface: 3" Helvetica Bold
Color: Black

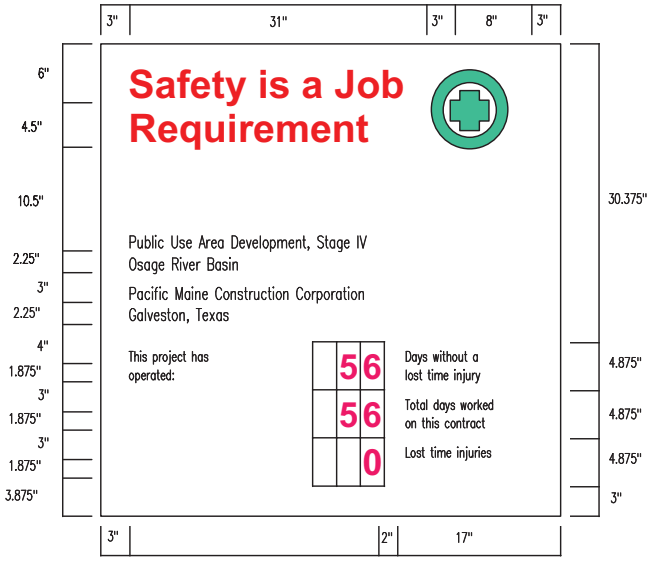
Legend Group 2: One to two-line project title legend describes the work being done under this contract and name of host project.
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

Legend Group 3: One to two-line identifation: name of prime contractor and city, state address.
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

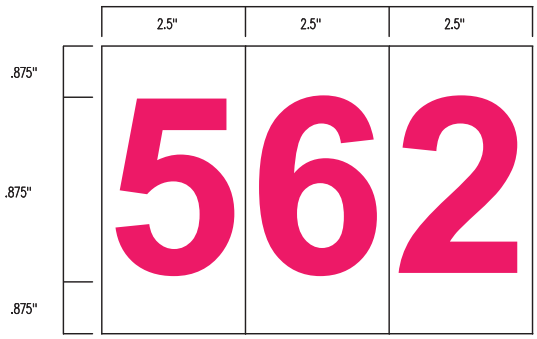
Legend Group 4: Standard safety record capitons as shown.
Color: Black
Typeface: 12.5" Helvetica Regular

Replaceable numbers are to be mounted on white .060 aluminum plates and screw-mounted to background.
Color: Black
Typeface: 3" Helvetica Regular
Plate size: 2.5" x .5"

All typography is flush left and rag right. Upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards.



Sign Type	Legend Size	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-02	various	4"x4"	4"x4"	HDO-3	48"	WH/BK-GR



SAFETY PERFORMANCE SIGN

Fig. 5d

CONTRACTOR/SUBCONTRACTOR BACKGROUND AFFIDAVIT

THIS FORM IS SUBJECT TO THE PRIVACY ACT OF 1974

INSTRUCTIONS

Submit one copy to 325 SFS. This data will be used to screen individuals who have or are seeking access to US Air Force installations or facilities controlled by the US Air Force. Please answer each question, access will be denied if this questionnaire is incomplete.

1. NAME (Last, First, Middle)	2. SEX	3. SSN	4. DATE OF BIRTH (YYYYMMDD)

5. SCARS/MARKS.TATTOOS	6. HAIR COLOR	7. EYE COLOR	8. HEIGHT	9. WEIGHT

10. ALIAS/NICKNAME	11. DRIVER LICENSE #	12. STATE

13. CURRENT ADDRESS	14. CITY	15. STATE	16. ZIP CODE	17. HOME PHONE

PLACE OF BIRTH

18. CITY	19. STATE	21. COUNTRY

22. CITIZENSHIP	23. RESIDENT ALIEN # or IMMIGRATION DOCUMENT # and DESCRIPTION

PLEASE ANSWER THE FOLLOWING QUESTIONS

	YES	NO
Have you ever been barred from any military installation or facility?		
Have you been incarcerated for 12 months or longer within the past 5 years?		
Have you been convicted of a violent felony in the past 10 years? i.e murder, aggravated assault, armed robbery, or rape		
Have you been convicted of felony drug possession, drug possession with intent to sell or drug distribution within the past 10 years?		
Have you been convicted of a firearms or explosives violation within the past 5 years?		
Have you been convicted of espionage, sabotage, treason, or terrorism?		
Are you currently wanted by federal or civil law enforcement agencies?		
Are you a registered sexual offender or predator?		

IF YOU ANSWERED YES TO ANY OF THE ABOVE QUESTIONS PLEASE PROVIDE AN EXPLANATION

NOTE TO APPLICANT: ATTESTATION

I attest to the fact that I have been briefed by my employer and understand the purpose for the contractor background check. I understand the information on this form is being collected in accordance with 50 U.S.C., Section 797, and DoDD 5200.8 federal laws permitting the Installation Commander to limit access to the installation for security reason and that this data will be used to screen DoD contractor employees who have or are seeking access to United States Air Force installations. I have voluntarily completed this form and shall provide the Air Force a specimen of my fingerprints, if/when requested. I understand that by signing this application, I acknowledge that I have been made aware of and have reviewed the list of Tyndall AFB disqualifying factors. I hereby give my consent and authorization for the Air Force to conduct any additional background screenings deemed necessary over the next 24 months, unless otherwise directed by 325 CONS or 325 SFS, to include comparing/checking my fingerprints against local state and federal criminal databases. The information I have provided on this application is true, complete, and correct to the best of my knowledge, and is provided in good faith. I understand that a knowing and willfully false statement provided on this application can be punished by fine or imprisonment or both (18 U.S.C. Section 1001).

Applicant Signature:_____ Date:_____

Company Name:_____ Approving Official/Security Manager: _____
Organization/Phone #

PRIVACY ACT STATEMENT

AUTHORITY: Section 3101 Title 44, United States Code, AFI 33-32, 552A

PRINCIPAL PURPOSE(S): The purpose for requesting personal information is to assist security personal in documenting contractor employee suitability for access to United States Air Force installations. The Social Security Number (SSN) and Date of Birth (DOB) are necessary to identify the person and records. This information may be used to determine suitability of person desiring access to the installation as well as for lawful purposes including law enforcement and litigation.

INTENDED USE: For all contractors and subcontractors who are not authorized a Common Access Card (CAC) and require regular access to the installation in performance of their official duties.

AGENCY DISCLOSURE

The public reporting burden for this collection of information is estimated to take 3 to 5 business days per response, including the timeframe for reviewing instructions, searching exiting data sources, gathering and maintaining data needed, and completing and reviewing the collected information.

PASS AND REGISTRATION USE ONLY

Approval/Disapproval Reason

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CONTRACTOR'S HAZARDOUS MATERIAL QUESTIONNAIRE

DATE

1. CONTRACTOR COMPANY NAME AND ADDRESS	a. CONTRACTOR NAME	b. DUTY PHONE	c. FAX NUMBER
	2. CONTRACT NUMBER	3. CONTRACTING OFFICER	

4. DATE, TIME, AND LOCATION OF PRE-PERFORMANCE CONFERENCE MEETING	5. PROJECT DESCRIPTION

6. QUALITY ASSURANCE EVALUATOR (QAE)/PROJECT MGR/INSPECTOR AND DUTY PHONE	7. PROJECTED CONTRACT PERIOD START DATE: _____ END DATE: _____

8. WILL CONTRACTOR BE USING ANY CHEMICALS DURING THIS CONTRACT?

a. IF THE ANSWER IS NO TO THE ABOVE QUESTION, PLEASE SIGN AND DATE BELOW.

CONTRACTOR NAME *(Print)*	CONTRACTOR SIGNATURE	DATE

b. IF CHEMICALS WILL BE USED DURING THIS CONTRACT, PLEASE SIGN AND DATE BELOW AND COMPLETE ITEM 9. PROVIDE 325 CES/CEV AN INVENTORY (SHORT-TERM CONTRACTOR HAZARDOUS MATERIAL INVENTORY, TYNDALL AFB IMT 82) AND COPIES OF ALL MATERIAL SAFETY DATA SHEETS (MSDS) 7-10 DAYS PRIOR TO CONTRACT START DATE. THE QAE OR EQUIVALENT FUNCTIONAL WILL PROVIDE THE HAZARDOUS MATERIALS MANAGEMENT OFFICE (HAZMO), BLDG. 421, SUITE 104. A CHEMICAL USAGE REPORT (SEE CONTRACTOR'S ENVIRONMENTAL REPORTING ENTRY IMT, TYDNALL AFB IMT 83) DURING THE CONTRACT PERIOD AS ANNOTATED ON BLOCK 27 OF THE MATERIAL INVENTORY.

CONTRACTOR NAME *(Print)*	CONTRACTOR SIGNATURE	DATE

9. WILL THE CONTRACTOR BE GENERATING A POTENTIAL WASTE OR HAZARDOUS WASTE DURING THE CONTRACT PERIOD?

☐ YES ☐ NO

IF YES, PLEASE CONTACT THE BASE HAZARDOUS WASTE MANAGER AT (850) 283-4780 FOR PROPER REPORTING AND DISPOSAL PROCEDURES.

NOTE: POINT OF CONTACT INFORMATION FOR THE HAZMO IS (850) 283-8997, FAX: (850) 283-2695

10. REMARKS *(If Required)*

SHORT-TERM CONTRACTOR HAZARDOUS MATERIAL INVENTORY [1]

1. PRIME CONTRACTOR	2. E-MAIL ADDRESS	3. DUTY PHONE	4. FAX NUMBER	5. DATE
	6. PRIME COR/POC	7. DUTY PHONE	8. FAX NUMBER	9. CONTRACT NUMBER
10. CONTRACTOR POC	11. WORKPLACE/BLDG NUMBER	12. SUB-CONTRACTOR		13. DELIVERY ORDER
14. CONTRACTING OFFICER	15. CONTRACTING OFFICER SIGNATURE	16. DUTY PHONE	17. FAX NUMBER	18. DATE
19. OFFICE REQUESTING CONTRACT	20. SIGNATURE	21. DUTY PHONE	22. FAX NUMBER	23. DATE
24. EXPECTED START DATE	25. EXPECTED END DATE	26. PROJECT/TASK DESCRIPTION		

PRODUCT NAME/PART NUMBER	MATERIAL MANUFACTURER [2]	STOCK NUMBER [3]	PHYSICAL FORM (S, L, G)	AMOUNT @ UNIT OF ISSUE [4]	CONTAINER TYPE	MAX AMOUNT ONSITE AT ANY TIME [5]	ANTICIPATED AMOUNT USED FOR PROJECT [6]	PROCESS TYPE [7]	REMARKS/NOTES [8]

FOOTNOTES:

1. This IMT is used for initial approval of hazardous materials and to report subsequent usage. Include all materials, which contain an EHS, TRI, CERCLA hazardous substance, toxic chemical, generates a hazardous waste after use, and/or requires a Material Safety Data Sheet.
2. Attach copy of MSDS (vendor specific) for each item on this inventory.
3. Identify National Stock Number if known. If unknown, leave blank, and HAZMO will complete.
4. Identify amount in container @ the units item is measured in, i.e., gallons, ounces, pounds, etc.
5. Identify maximum amount present (stored and used) at any one time on Tyndall Air Force Base.
6. Report actual quantities used at the end of the project if project ends within a 3-month period. If project extends beyond three (3) months, report monthly and/or when directed on reporting schedule on reverse (Block 27).
7. See Table 1 - Process Types for appropriate codes.
8. Use the Remarks/Note section to indicate specific product information, e.g., weight of each component in a kit, mix rations, disposal information, etc). Government will also use the section to indicate authorization status.

SHORT-TERM CONTRACTOR HAZARDOUS MATERIAL INVENTORY [1] -- CONTINUATION

PRODUCT NAME/PART NUMBER	MATERIAL MANUFACTURER [2]	STOCK NUMBER [3]	PHYSICAL FORM (S, L, G)	AMOUNT @ UNIT OF ISSUE [4]	CONTAINER TYPE	MAX AMOUNT ONSITE AT ANY TIME [5]	ANTICIPATED AMOUNT USED FOR PROJECT [6]	PROCESS TYPE [7]	REMARKS/NOTES [8]

27. USAGE REPORTING SCHEDULE

☐ WEEKLY ☐ MONTHLY

COMMENTS:

TABLE 1 - PROCESS TYPES

CODE	PROCESS DESCRIPTION	CODE	PROCESS DESCRIPTION
A	ASBESTOS REMOVAL AND DISPOSAL	R	FIBERGLASS OR COMPOSITE APPLICATIONS
B	ASPHALT PAVING	S	RENOVATION, SPECIFY PROCESS
C	ABRASIVE BLASTING; SPECIFY SUBSTRATE, BLAST MEDIA AND SURFACE AREA CLEANED	T	STATIONARY INTERNAL COMBUSTION ENGINES, GASOLINE; SPECIFY SIZE, GALLONS OF FUEL BURNED, AND HOURS OF OPERATION
D	ADHESIVES	U	STATIONARY INTERNAL COMBUSTION ENGINES, DIESEL; SPECIFY SIZE, GALLONS OF FUEL BURNED, AND HOURS OF OPERATION
E	BRAZING	V	SANDING, SPECIFY SUBSTRATE AND SURFACE AREA SANDED
F	CHEMICAL OR PHYSICAL ANALYSIS	W	SURFACE COATING, BRUSH OR ROLLER APPLICATIONS
G	CUTTING, OXY-FUEL; SPECIFY SUBSTRATE	X	SURFACE COATING, SPRAY APPLICATIONS IN FILTERED ENCLOSURES
H	CUTTING, PLASMA ARC; SPECIFY SUBSTRATE	Y	SURFACE COATING, HVLP SPRAY APPLICATIONS IN FILTERED ENCLOSURES
I	CUTTING, MECHANICAL PROCESS, SPECIFY SUBSTRATE	Z	SURFACE COATING, AIRLESS SPRAY APPLICATIONS IN FILTERED ENCLOSURES
J	CONSTRUCTION, SPECIFY PROCESS	AA	SURFACE COATING, ELECTROSTATIC SPRAY APPLICATIONS IN FILTERED ENCLOSURES
K	DEMOLITION, SPECIFY PROCESS	BB	SURFACE COATING, THERMAL SPRAY APPLICATIONS IN FILTERED ENCLOSURES
L	DEGREASING OPERATIONS USING SOLVENTS	CC	SURFACE COATING, SPRAY APPLICATIONS OUTDOORS
M	FUEL COMBUSTION	DD	SURFACE COATING, HVLP SPRAY APPLICATIONS OUTDOORS
N	GRINDING, SPECIFY SUBSTRATE AND SURFACE AREA	EE	SURFACE COATING, AIRLESS SPRAY APPLICATIONS
O	INDUSTRIAL BOILER OPERATIONS	FF	WELDING, OXY-FUEL; SPECIFY SUBSTRATE AND FILLER MATERIAL
P	NATURAL GAS COMBUSTION	GG	WELDING, ELECTRIC ARC; SPECIFY SUBSTRATE AND FILLER MATERIAL
Q	PAINT STRIPPING, CHEMICAL	HH	SOLDERING, SPECIFY SUBSTRATE AND FILLER MATERIAL

28. ENVIRONMENTAL REVIEW	DATE	29. BIOENVIRONMENTAL ENGINEERING REVIEW	DATE	30. SAFETY REVIEW	DATE

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CONTRACTOR ENVIRONMENTAL REPORTING ENTRY IMT

NOTES: *HAZMAT Storage Location: _____. Provide monthly report to HAZMO, Bldg 421, Suite 104, (850) 283-8997 (Voice) and (850) 283-2695 (Fax).*

1. CONTRACTOR NUMBER	2. CONTRACTOR NAME		3. **325 CES/CEV** **119 ALABAMA AVENUE** **TYNDALL AFB FL 32403**	4. MONTH/ENDING *(MM/YYYY)*	
5. PRODUCT NAME AND PART NUMBER	6. MANUFACTURER	7. AMOUNT BROUGHT ON BASE	8. APPLICATION METHOD *(Brush, Roller, Spray, Other)*	9. QUANTITY USED	10. BALANCE
11. CONTRACTOR SIGNATURE AND PHONE NO.	12. DATE SIGNED				

(See reverse side of IMT for instructions)

CONTRACTOR ENVIRONMENTAL REPORTING ENTRY IMT -- CONTINUATION

INSTRUCTIONS

1. **Contractor Number**

2. **Contractor Name**

3. **325 CES/CEV**
   119 Alabama Avenue
   Tyndall AFB, FL 32403
   (Static)

4. **Date of reporting month**

5. **Product Name and Part Number being reported (i. e., additive, latex gloss paint, walnut wood stain)**

6. **Manufacturer of product**

7. **Amount of material brought on base**

8. **Application Method: How product will be applied to process?**

9. **Total quantity used in the reporting month**

10. **Balance of product left within your inventory**

11. **Contractor's signature and phone number**

12. **Date contractor signed the report**

The Federal Government has targeted the chemicals listed below for reductions in use. This includes DOD contractor use. Please avoid use of these items plus any confirmed human carcinogens, sensitizers, teratogens, mutagens, or extremely toxic materials when possible.

Benzene, Cadmium (and compounds), Carbon Tetrachloride, Chloroform, Chromium (and compounds). Cyanides, Dichloromethane or Methylene Chloride, Lead (and compounds) Mercury (and compounds), Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Nickel (and compounds) Toluene, Tnonicroethane, Tnchloroethylene, Xylene, Tetrachlorcethylene or Terchicroethylene.

REMARKS/COMMENTS

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TRANSFER AND ACCEPTANCE OF DoD REAL PROPERTY

Form Approved
OMB No. 0704-0188

PAGE OF PAGES

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.

1. FROM *(Organization Name)*	2. DATE PREPARED *(YYYYMMDD)*	3. PROJECT/JOB NUMBER	4. SERIAL NUMBER
5. TO *(Organization - Installation Code and Name)*	6. RPSUID/SITENAME/ INSTCODE/INSTNAME	7. CONTRACT NUMBER(S)	7a. PLACED-IN-SERVICE DATE *(YYYYMMDD)*

8. TRANSACTION DETAILS

a. METHOD *(X all that apply)*
- ☐ ACQUISITION BY CONSTRUCTION
- ☐ TRANSFER BETWEEN SERVICES
- ☐ CAPITAL IMPROVEMENT
- ☐ INVENTORY ADJUSTMENT

b. WHEN/EVENT *(X one)*
- ☐ TOTAL ASSET PLACED-IN-SERVICE
- ☐ PARTIAL ASSET PLACED-IN-SERVICE

c. TYPE *(X one)*
☐ DRAFT ☐ FINAL ☐ INTERIM

9. ITEM NO.	10a. FACILITY NO.	10b. RPUID	11. CATEGORY CODE	12. CATCODE DESCRIPTION	13. TYPE CODE	14. SUST. CODE	AREA 15. PRIMARY UM	AREA 16. PRIMARY UM QUANTITY	OTHER 17. SECONDARY UM	OTHER 18. SECONDARY UM QUANTITY	19. COST	20. FUND SOURCE	21. FUND ORG	22. INTER-EST CODE	23. ITEM REMARKS

24. STATEMENT OF COMPLETION. The facilities listed hereon are in accordance with maps, drawings, and specifications and change orders approved by the authorized representative of the using agency except for the deficiencies listed on the reverse side.

a. TRANSFERRED BY *(Typed Name and Signature)*

b. DATE SIGNED *(YYYYMMDD)*

c. TITLE *(Area Engr./Base Engr./DPW/Construction Agent)*

25a. ACCEPTED BY *(Typed Name and Signature)*

b. DATE SIGNED *(YYYYMMDD)*

c. TITLE *(DPW/RPAO)*

26. PROPERTY VOUCHER NUMBER

27. CONSTRUCTION DEFICIENCIES *(Attach blank sheet for continuations)*	28. PROJECT REMARKS *(Attach blank sheet for continuations)*

INSTRUCTIONS

GENERAL. This form has been designed and issued for use in connection with the transfer of military real property between the military departments and to or from other government agencies. It supersedes ENG Forms 290 and 290B (formerly used by the Army and Air Force) and NAVDOCKS Form 2317 (formerly used by the Navy).

Existing instructions issued by the military departments relative to the preparation of DD Form 1354 are applicable to this revised form to the extent that the various items and columns on the superseded forms have been retained. The military departments may promulgate additional instructions, as appropriate.

For detailed instructions on how to fill out this form, please refer to Unified Facilities Criteria (UFC) 1-300-08, dated 16 April 2009 or later.

SPECIFIC DATA ITEMS.

1. From. Name of the transferring agency.

2. Date Prepared. Date of actual preparation. Enter all dates in YYYYMMDD format (Example: March 31, 2010 = 20100331).

3. Project/Job Number. Project number on a DD Form 1391 or Individual Job Order Number.

4. Serial Number. Sequential serial number assigned by the preparing organization (e.g., 2010-0001).

5. To. Name and address of the receiving installation, activity, and Service of the Real Property Accountable Officer (RPAO).

6. RPSUID/SITENAME/INSTCODE/INSTNAME. Site Unique Identifier and name or installation code and name where the constructed facility is located.

7. Contract Number(s). Contract number(s) for this project.

7a. Placed-In-Service Date. RPA Placed In Service Date. This is the date the asset is actually placed-in-service.

8. Transaction Details.
a. Method of Transaction. Mark (X) as many boxes as apply.
b. When/Event. When or event causing preparation of DD Form 1354. X only one box.
c. Type. Draft, interim, or final DD Form 1354. X only one box.

9. Item Number. Use a separate item number for each facility, no item number for additional usages.

10a. Facility Number. Assigned in accordance with the Installation/Base Master Numbering Plan.

10b. RPUID. Identified in Real Property Inventory.

11. Category Code. The category code describes the facility usage.

12. Catcode Description. The category code name which describes the facility usage.

13. Type. Type of construction: P for Permanent; S for Semi- permanent; T for Temporary.

14. Sustainability Code. Reports whether or not an asset meets the sustainability goals set forth in Section 2(f)(ii) of Executive Order 13423.

15. Area: UM 1. Area unit of measure; use the unit of measure associated with the category code selected in 11.

16. Total Quantity UM 1. The total area for the measure identified in Item 14. Use negative numbers for demolition.

17. Other: UM 2. Unit of Measure 2 is the capacity or other measurement unit (e.g., LF, MB, EA, etc.).

18. Total Quantity UM 2. The total capacity/other for the measure identified in Item 17.

19. Cost. Cost for each facility; for capital improvements to existing facilities, show amount of increase only. If there is no increase for the capital improvement, enter N/A.

20. Fund Source. Enter the Fund Source Code for this item.

21. Funding Organization. Enter the code for the organization responsible for acquiring this facility.

22. Interest Code. Enter the code that reflects government interest or ownership in the facility.

23. Item Remarks. Remarks pertaining only to the item number identified in Item 9; show cost sharing.

24. Statement of Completion. Typed name, signature, title, and date of signature by the responsible transferring individual or agent.

25. Accepted By. Typed name, signature, title, and date of signature by the RPAO or accepting official.

26. Property Voucher Number. Next sequential number assigned by the RPAO in voucher register.

27. Construction Deficiencies. List construction deficiencies in project during contractor turnover inspection.

28. Project Remarks. Project level remarks and continuation of blocks.

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CONSTRUCTION DATA WORKSHEET DD FORM 1354

The Contractor is required, prior to the Final Inspection, to submit a completed copy of the following Construction Data Worksheet (CDS) along with an As-Built copy of the building floorplan(s). The CDS is used by the Air Force to inventory and capitalize new work. The Construction Representative will review the CDS, ensure that it is complete, and forward it to the Real Estate Office within 15 working days of the Final Inspection. This checklist includes only the basic general construction category codes. More detailed category code listing information is available through the Real Property Office, 884-6860.

I. **TITLE OF PROJECT:**_____

_____

PROJECT No. _____ Work Order No. _____
Drawing No. _____ Contract No. _____
Facility No. _____ Completion Date _____

II. **GENERAL DATA:** (for construction to existing facilities, only provide data for the new addition).

A. Outside Dimensions:
Main Buildings _____ Wings _____
Offsets _____ Total SF _____

B. Number of Floors: _____

C. Construction Material:
Foundation _____ Floors _____
Outside Walls _____ Roof _____

III. **UTILITIES/RELATED FACILITIES** - Addition

Cat Code	Nomenclature	UM	Amount	Cost	Descript
132-133	Pad, Equip	EA			
132-134	Ant Support Structure	EA			
135-583	Tel Duct Facility	LF			
135-586	Tel Pole Facility	LF			
812-223	Prim Dist Line OH	LF			
	Transformers	KVA			
812-224	See Dist Line OH	LF			
812-225	Prim Dist Line UG	LF			
812-226	Sec Dist Line UG	LF			
812-926	Exterior Area Lighting	EA			
	(Street or Parking area Lights)				
812-928	Traffic Lights	EA			
831-157	Industrial Waste Fuel				
	Spill Collection (Oil Fuel)	KG			
831-169	Sewage Septic Tank	KG			
	(Facility It Supports)				
832-266	Sanitary Sewer Main	LF			
832-267	Sanitary Sewer Pump Station	SF			
841-166	Water Well	KG			
824-245	Water Distribution Main	LF			
842-246	Water Hydrants	EA			
843-314	Fire Protection Water Main	LF			

Cat Code	Nomenclature	UM	Amount	Cost	Descript
843-315	Fire Hydrants	EA			
844-368	Water Supply Non-Potable	KG			
851-143	Curbs & Gutters	LF			
851-145	Driveway (type material - concrete, asphalt, other) (Trans. betw Road &Parking Lot)	SY			
851-147	Road (type material - concrete, asphalt, other)	SY			
852-261	Vehical Parking (Ops)	SY			
852-262	Vehicle Parking (Non Org) (Govt. Vehicle Specs)	SY			
871-183	Storm Drain Disposal	LF			
872-245	Fence Boundary	LF			
872-247	Fence Security	LF			
872-248	Fence Interior	LF			
852-289	Sidewalk (type material - concrete, asphalt, other)	SY			
890-187	Utility Vault (4 or more transformers)	SF			
890-134	Compressor Air Plt	HP			
890-154	Load & Unload G-Crane	EA			
890-171	Misc. Storage Tank	BL			
891-181	Utility Line Duct	LF			

IV. **SYSTEMS** - Addition

890-269	Cathodic Protection System	EA			

A. FIRE PROTECTION:

Cat Code	Nomenclature	UM	Amount	Cost	Descript
880-211	Closed Head Auto Sprinkler	SF			
		HD			
880-212	Open Head Deluge System	SF			
		HD			
880-221	Auto Fire Detection System	SF			
	(include pull station)	EA			
880-222	Manual Fire Alarm System (Int)	EA			
880-223	Manual Fire Alarm System (Ext)	BX			
880-232	Foam Fire System	EA			
880-233	Other Fire System (includes Wet Chemical Systems in range hoods)	EA			

B. SECURITY SYSTEM:

Cat Code	Nomenclature	UM	Amount	Cost	Descript
872-841	Security Alarm System	EA			

C. ENERGY MONITORING AND CONTROL SYSTEM:

Cat Code	Nomenclature	UM	Amount	Cost	Descript

890-272	EMCS Field Equipment	EA	_____	_____	_____

V. **PLANTS:**

Cat Code	Nomenclature	UM	Amount	Cost	Descript
811-147	Electric Emergency Power		_____	_____	_____
	Generator	KW	_____	_____	_____
	Storage Tank for Heating	GA	_____	_____	_____
	Or Generator Fuel (Type Fuel)		_____	_____	_____
	Storage Tank for Heating	GA	_____	_____	_____
821-113	Htg Fir Cen Pit	MB	_____	_____	_____
821-115	Heating Plt 750/3500 MB	MB	_____	_____	_____
821-116	Heating Plt over 3500 MB	MB	_____	_____	_____
	Storage Tank for Heating	GA	_____	_____	_____
890-121	A/C Pit 5 to 25 TN	TN	_____	_____	_____
826-122	A/C Pit 25 to 100 TN	TN	_____	_____	_____
826-123	A/C Pit Over 100 TN	TN	_____	_____	_____
890-125	A/C Pit less than 5 TN	TN	_____	_____	_____
890-126	A/C Window Units	TN	_____	_____	_____

VI. **DEMOLITION COSTS:** $_____

VII. **NARRATIVE** (Provide a brief narrative of what was accomplished, including items removed - A/C Units, Fire Suppression Systems, Roads, Sidewalks, etc.)

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

TOTAL COST OF PROJECT $_____

I certify that the information provided is complete and accurate to the best of my knowledge.

_____	_____
CONTRACTOR	CONTRACTING OFFICER'S REPRESENTATIVE
_____	_____
DATE	DATE

General Decision Number: FL190005 01/04/2019 FL5

Superseded General Decision Number: FL20180005

State: Florida

Construction Type: Building

Counties: Bay and Gulf Counties in Florida.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

ELEV0124-002 01/01/2018

	Rates	Fringes
ELEVATOR MECHANIC.....	$ 40.25	32.645

FOOTNOTE:
A. Employer contributions 8% of regular hourly rate to vacation pay credit for employee who has worked in business more than 5 years; Employer contributions 6% of regular hourly rate to vacation pay credit for employee who has worked in business less than 5 years.

Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; The Friday after

Thanksgiving Day; and Christmas Day.

ENGI0487-021 07/01/2016

	Rates	Fringes
OPERATOR: Crane		
All Cranes 160 Ton Capacity and Over	$ 33.05	9.20
All Cranes Over 15 Ton Capacity	$ 32.05	9.20
OPERATOR: Forklift	$ 23.25	9.20
OPERATOR: Mechanic	$ 32.05	9.20
OPERATOR: Oiler	$ 23.50	9.20

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* IRON0402-001 10/01/2018

	Rates	Fringes
IRONWORKER, ORNAMENTAL	$ 23.69	12.70

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* PLUM0234-012 09/01/2018

	Rates	Fringes
PIPEFITTER (Includes HVAC Unit Installation)	$ 29.84	14.25

SUFL2014-043 08/16/2016

	Rates	Fringes
CARPENTER	$ 16.00	0.00
CEMENT MASON/CONCRETE FINISHER	$ 14.61	0.00
ELECTRICIAN	$ 17.39	2.57
INSULATOR: Mechanical (Duct, Pipe and Mechanical System Insulation)	$ 20.78	10.89
IRONWORKER, REINFORCING	$ 22.81	11.58
IRONWORKER, STRUCTURAL	$ 23.79	8.74
LABORER: Common or General	$ 11.05	0.00
LABORER: Mason Tender - Cement/Concrete	$ 11.69	0.00
LABORER: Pipelayer	$ 13.56	1.34
OPERATOR: Backhoe/Excavator/Trackhoe	$ 22.07	8.80
OPERATOR: Bulldozer	$ 15.40	1.90
OPERATOR: Grader/Blade	$ 18.97	0.00

OPERATOR: Loader.....$ 14.83 1.84

OPERATOR: Roller.....$ 14.43 4.78

PAINTER: Brush, Roller and
Spray.....$ 14.54 2.01

PLUMBER.....$ 19.40 0.36

ROOFER.....$ 16.99 0.00

SHEET METAL WORKER, Includes
HVAC Duct Installation.....$ 20.05 0.00

TILE SETTER.....$ 18.01 0.00

TRUCK DRIVER: Dump Truck.....$ 13.22 2.12

TRUCK DRIVER: Lowboy Truck.....$ 14.24 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicat

General Decision Number: FL190105 01/04/2019 FL105

Superseded General Decision Number: FL20180148

State: Florida

Construction Type: Heavy

County: Bay County in Florida.

HEAVY CONSTRUCTION PROJECTS (Inlcuding Sewer and Water Lines)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

ENGI0653-012 10/01/2012

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Cranes 100 Tons & Over (Conventional & Hydraulic) & Tower Cranes	$ 26.30	11.13
Cranes Under 100 Tons	$ 25.30	11.13
Oiler	$ 23.85	11.13

Cranes with 350 feet or more boom and/or 400 ton capacity - additional $1.10 per hour.

Cranes with 500 feet boom and/or 600 ton capacity - additional $1.45 per hour.

IRON0798-008 10/01/2017

	Rates	Fringes
IRONWORKER, STRUCTURAL	$ 26.20	13.97

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* PAIN0164-006 08/01/2018

	Rates	Fringes
PAINTER: Brush, Roller and Spray	$ 20.21	10.73

SUFL2009-144 06/24/2009

	Rates	Fringes
CARPENTER	$ 15.36	0.00
CEMENT MASON/CONCRETE FINISHER	$ 14.77	3.50
ELECTRICIAN	$ 17.25	3.02
LABORER: Common or General	$ 9.13	1.02
LABORER: Landscape	$ 7.25	0.00
LABORER: Pipelayer	$ 11.51	2.94
LABORER: Power Tool Operator (Hand Held Drills/Saws, Jackhammer and Power Saws Only)	$ 10.63	2.20
OPERATOR: Asphalt Paver	$ 11.59	0.00
OPERATOR: Backhoe Loader Combo	$ 16.10	2.44
OPERATOR: Backhoe/Excavator	$ 13.11	1.51
OPERATOR: Bulldozer	$ 15.00	4.98
OPERATOR: Grader/Blade	$ 16.00	2.84
OPERATOR: Loader	$ 13.89	2.07
OPERATOR: Mechanic	$ 14.32	0.00
OPERATOR: Roller	$ 10.76	0.00
OPERATOR: Scraper	$ 11.00	1.74
OPERATOR: Trackhoe	$ 20.92	5.50
OPERATOR: Tractor	$ 10.54	0.00
TRUCK DRIVER, Includes Dump		

Truck.....$ 8.52 0.25

TRUCK DRIVER: Lowboy Truck.....$ 12.73 0.00

TRUCK DRIVER: Off the Road
Truck.....$ 12.21 1.97

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number,

005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

SECTION 01 10 10

DESIGN REQUIREMENTS

1. SCOPE SUMMARY

1.1. General

The Contractor shall design and construct Fire Station #2 at Tyndall Air Force Base, Florida to result in a complete and usable of building located at the indicated site based on the Design Requirements contained within this solicitation.

1.2. Requirements

This project is required to provide a properly sized and configured 2 bay (with a third bay option) satellite fire station for Structural apparatus and EMS vehicle response. Apparatus, support, living quarters and administrative areas appropriately designed and furnished are essential to the successful accomplishment of the increasingly complicated and important jobs these people are training for and must perform.

The actual building size (area) will not be less than 13,265 gross square feet as shown in the criteria drawings, and of the size and configuration required to meet all RFP criteria and requirements as well as the Contractor's final building design solution for the systems and components installed with required clearances but will not be more than 17,760 gross square feet (maximum) as limited by the DD1391. Gross Building Area is to be as defined by UFC 3-101-01 Calculation of Gross Building Area.

The architectural design of the building shall be of an aesthetic nature and quality befitting a modern Fire Station facility and designed in accordance with Tyndall Installation Facility Standard.

This single-story facility will consist of: two drive through apparatus bays (with a third bay option), with associated disinfection, storage and shop spaces; Ten bedroom and shared bathroom modules; A dayroom, kitchen, domestic laundry, Janitor and house zone storage; Fitness, training, storage, a public restroom and lobby (configured to accept a future reception workstation) and finally, offices areas. The complete facility shall be 13,265 gross square foot area. The Contractor shall also construct the POV parking areas, sidewalks, and utilities, including fire hydrants, irrigation, detention pond, dumpster area, to serve the Fire Station #2 in accordance with the design requirements provided herein.

1.3. Base Bid and Bid Option Scope Summary

1.3.1. Base Bid. The Base Bid includes the design and construction of the Fire Station #2, and all associated site work including, but not limited to; clearing, grubbing, fill material, site grading, site soil testing, characterization, contaminated soils removal and legal disposal (up to 4,000 CY), site walkways, utility systems, fire access, dumpster enclosure, communications and data systems, pavements, and sod and landscaping as shown on the RFP criteria drawings and as further defined in the RFP documents.

1.3.2. Bid Option No. 1 Furniture, Fixture and Equipment (FF&E) Package: includes the procurement and installation of the Furniture, Fixture and Equipment (FF&E) and as further defined in this RFP.

Bid Option No. 2. Third central vehicle apparatus bay to be constructed at Apparatus Bay room 118, including, but not limited to; foundation, slab on grade, finishes, exterior wall construction, overhead doors, translucent wall panel system, all associated mechanical, electrical and Plumbing, Communications and Fire Protection requirements within the bay and the roof along with all flashing, trim and gutters and downspouts, as shown on the RFP criteria drawings and as further defined in the RFP documents. Third central vehicle apparatus bay sitework and improvements including, but not limited to; clearing, grubbing, fill material, site grading, utility systems, communications and data systems, pavements, and sod and landscaping, as shown on the RFP criteria drawings and as further defined in the RFP documents.

1.4. Mock-Up Exterior Wall and Roof

Contractor will provide and construct a complete mock-up of an exterior wall and roof segment with all exterior wall and roof materials including, High Wind Hurricane Zone structural connections, glazing and all wall flashing and air barrier systems for approval by the Contracting Officer’s Representative prior to installation of similar components and systems in any of the other building areas. The approved mock-up can be part of the final construction.

2. DESIGN CRITERIA AND REQUIREMENTS

2.1. Information Provided

Information provided is intended to guide the design by establishing existing conditions, and desired character, appearance and function of the new construction for the Fire Station #2 Criteria drawings included in the solicitation include a site survey, conceptual site plan(s), conceptual floor plan, conceptual elevations and building sections. The site, floor plans and elevations have been coordinated with and approved by the using agency. Minor modifications will be allowed in the elevations, floor plans and site plans consistent with meeting required space and functional criteria. Requests for changes to the Elevations, floor plan and site plans shall be submitted to the Contracting Officer's Representative 45 days prior to the 50% submittal.

2.2. Construction Documents

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 as required in SECTION 01 10 12 DESIGN AFTER AWARD. The project shall be designed and constructed in accordance with the criteria contained herein and using industry standard materials and efficient practices. The building 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. The design and construction of this facility shall conform to the RFP. Contractor is responsible for a code compliant designed and built facility. The contract design build facility shall comply with specifications, conceptual drawings, and design requirements issued in this solicitation.

2.3. Order of Precedence for Criteria and Requirements

Where the various elements of the RFP are in conflict, the following priority shall be used to establish precedence, unless specifically noted otherwise:

1. RFP Section 01 10 10 - DESIGN REQUIREMENTS
2. RFP Criteria Drawings
3. RFP Appendices
4. UFC 4-730-10 Fire Station
5. AFCEC Dynamic Prototype for Fire Station – Satellite (12-01-2013)

In the event of conflict between this RFP and listed criteria, the RFP will govern, with the exception of life safety or building code conditions.
In case of a conflict in requirements of this RFP that is not life safety or building code related, the most stringent requirements or most beneficial to the government relative to the intended purpose, scope and use shall govern.
The Design Build Contractor shall bring all such conflicts to the immediate attention of the COR.

2.4. RFP Appendices

The following Appendices are included and shall be used in completing the design and construction of the project.

APPENDIX A	RFP CRITERIA DRAWINGS
APPENDIX B	STRUCTURAL INTERIOR DESIGN (SID) PACKAGE
APPENDIX C	FIXTURES FURNITURE & EQUIPMENT (FF&E) PACKAGE:
APPENDIX D	Tyndall Hydrant Flow Beacon Beach Road
APPENDIX E	GEOTECH BORINGS (from adjacent CATM project site. site conditions similar)
APPENDIX F	ENVIRONMENTAL IMPACT ANALYSIS FORM 813 AND MISCELLANEOUS ENVIRONMENTAL DOCUMENTATION
APPENDIX G	AF SUST SCORESHEET
APPENDIX H	Gulf Coast Electric Preliminary Site Electric Design

2.5. General Federal and DoD Criteria

Except as otherwise noted, the project shall be designed and constructed in accordance with applicable criteria, references, and publications listed below. The criteria listing below includes partial listings and title reference of criteria publication series (i.e.: TMs, ETLs, UFCs, etc.) and is not all-inclusive and is the responsibility of the Contractor and Designers of Record to review all for application to this contract. These criteria documents can be obtained from the following Internet address: http://www.wbdg.org and other publicly accessed internet sources. Use most current version available at time of the solicitation date. It is the responsibility of the Contractor and design A/E to obtain these documents.

1. Mobile District Design Manual, dated March 2007 (DESMAN 2007). Except as noted otherwise, this project shall be designed in accordance with the applicable references and publications listed in the Design Manual. The Design Manual may be found at: http://www.sam.usace.army.mil/Missions/Military-Missions/Engineering/Design-Guides/Mobile-District-Design-Guides/

2. FAR Case No. 92-54 requires the Solicitation Package for all construction projects to reflect the government's preference for "acquisition of environmentally sound and energy efficient products and services, and an affirmative procurement program favoring items containing the maximum practicable content of recovered materials".

3. Federal Green Construction Guide for Specifiers. This guide can be found at: http://www.wbdg.org/design/greenspec.php

4. HPSB Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (HPSB Guiding Principles), "High Performance and Sustainable Buildings Guidance" (Updated December 2008)

5. Guiding Principles for Sustainable Federal Buildings and Associated Instructions (February 2016), https://www.whitehouse.gov/sites/default/files/docs/guiding_principles_for_sustainable_federal_buildings_and_associated_instructions_february_2016.pdf

6. Determining Compliance with the Guiding Principles for Sustainable Federal Buildings (February 2016): https://www.whitehouse.gov/sites/default/files/docs/determining_compliance_with_the_guiding_principles_for_sustainable_federal_buildings_february_2016.pdf

7. E.O.13423 Strengthening Federal Environmental, Energy & Transportation Management (Jan 2007)

8. E.O.13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 2009)

9. EPAct2005 - Energy Policy Act of 2005

10. EISA 2007 - Energy Independence Security Act of 2007

11. International Building Code (IBC)

12. National Fire Protection Association (NFPA) Codes and Standards

13. Technical Manuals (TMs)

14. MIL-HDBK-1190, applicable Engineering Technical Letters (ETLs) and Construction Technical Letters (CTLs)

15. TI-800-01 Technical Instruction - Design Criteria

16. Architectural Barriers Act (ABA) Standards (2015)

17. Unified Facilities Criteria (UFCs) (this is not a complete UFC list):

Core UFC are criteria that provide requirements for the majority of traditional building systems that are prevalent on DoD facility construction projects. Core UFC also identify additional criteria such as, but not limited to; Antiterrorism, High Performance and Sustainable Building requirements mandated by law and policy. Comply with the Core UFC listed here, other applicable UFCs, and other UFCs identified in this RFP as they are applicable or referenced.

a. UFC 1-200-01 DoD Building Code (General Building Requirements)
b. UFC 1-200-02 High Performance and Sustainable Building Requirements
c. UFC 3-101-01 Architecture
d. UFC 3-110-03 Roofing
e. UFC 3-120-10 Interior Design
f. UFC 3-201-01 Civil Engineering
g. UFC 3-201-02 Landscape Architecture
h. UFC 3-210-10 Low Impact Development
i. UFC 3-220-01 Geotechnical Engineering
j. UFC 3-230-01 Water Storage, Distribution, and Transmission
k. UFC 3-240-01 Wastewater Collection
l. UFC 3-301-01 Structural Engineering
m. UFC 3-310-04 Seismic Design for Buildings
n. UFC 3-401-01 Mechanical Engineering
o. UFC 3-410-01 Heating, Ventilating, and Air Conditioning Systems
p. UFC 3-420-01 Plumbing Systems
q. UFC 3-501-01 Electrical Engineering
r. UFC 3-520-01 Interior Electrical Systems
s. UFC 3-530-01 Interior and Exterior Lighting Systems and Controls
t. UFC 3-550-01 Exterior Electrical Power Distribution
u. UFC 3-560-01 Electrical Safety, O&M
v. UFC 3-580-01 Telecommunications Building Cabling Systems Planning & Design
w. UFC 3-600-01 Fire Protection Engineering for Facilities
x. UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings
y. UFC 4-010-06 CYBERSECURITY OF FACILITY-RELATED CONTROL SYSTEMS
z. UFC 4-021-01 Design and O&M: Mass Notification Systems
aa. UFC 4-730- Fire Stations

2.6. Installation (Tyndall AFB) and Air Force Criteria

The design criteria contained within this Request for Proposal including this Specification Section 01 10 10 and additional project requirements provided in

the RFP as appendices is intended to guide the completion of the design and construction by establishing the desired character, appearance, and function of the new construction as well as capture and identify additional requirements. The requirements of the following references are included as design criteria and will be used in completing the design of the project (use most current version available at time of contract award, unless specifically noted).

1. AFCEC Dynamic Prototype for Fire Station – Satellite (12-01-2013) available at https://www.wbdg.org/ffc/af-afcec/prototypes-standard-designs/fire-station.

2. Installation Facilities Standard for Group 2 Facility, Tyndall AFB, Florida

3. Florida Building Code High Wind Hurricane Zone (HWHZ) requirements to meet Miami Dade County wind design and product approval criteria.

4. AF Instructions (AFIs) (not a complete list):

   32-1023 Design and Construction Standards and Exec. Of Facility Construction Projects
   32-1024 Standard Facility Requirements
   32-1063 Electrical Power Systems
   32-1064 Electrical Safe Practices
   32-1065 Grounding Systems
   32-1066 Backflow Prevention Program
   32-1067 Water and Fuel Systems
   32-1068 Heating Systems and Unfired Pressure Vessels

5. AF Technical Letters (AF-ETLs):

6. AFCEC A-GRAM 17-01 Change to AF New Construction and Major Renovation Certification Requirements.

7. Air Force Sustainable Design & Development (SDD) Implementation Guidance, memorandum.

8. Air Force Systems Security Instruction 7700 - Communications and Information - Emission Security

9. Air Force Systems Security Instruction 7702 - Communications and Information - Emission Security

10. Air Force Systems Security Instruction 7703 - Communications and Information - Communications Security: Protected Distribution Systems (PDS)

2.7. Design After Award

2.7.1. 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, design submittals, design analysis basis of design documentation,

sustainability documentation, and other documentation as required in SECTION 01 10 12 DESIGN AFTER AWARD. The project shall be designed and constructed in accordance with the criteria and requirements contained in the RFP and using industry standard materials and efficient practices that meet or exceed RFP criteria and requirements. The building 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. The design and construction of this facility shall conform to the drawings, specifications and requirements issued in this solicitation. In case of a conflict in design requirements, the most stringent requirements or beneficial to the government relative to the intended purpose, scope and use shall govern.

2.7.2. 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, design submittals, design analysis basis of design documentation, sustainability documentation, and other documentation as required in SECTION 01 10 12 DESIGN AFTER AWARD. The project shall be designed and constructed in accordance with the criteria and requirements contained in the RFP and using industry standard materials and efficient practices that meet or exceed RFP criteria and requirements. The building 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. The design and construction of this facility shall conform to the drawings, specifications and requirements issued in this solicitation. In case of a conflict in design requirements, the most stringent requirements or beneficial to the government relative to the intended purpose, scope and use shall govern.

2.7.3. Unified Facility Guide Specifications (UFGS) are referenced in various sections. The referenced specifications shall be edited by the Contractor and provided with design submittals at the various design stages required in Section 01 10 12 to include the necessary information to enable the Contractor to complete the work and to enable the government to determine compliance with the RFP requirements. The referenced specifications are anticipated requirements but based on the final design specifications may need to be deleted and/or added by the Contractor as necessary for work required in the final design and to enable the government to determine compliance with the RFP requirements. AE shall prepare specifications in UFGS format, using SpecsIntact software, for specific products or systems in which UFGS specifications are not available.

2.7.4. Operations and maintenance (O&M) requirements included in the original unedited UFGS specifications may be edited by the respective Designers of Record in the design phase for the specific scope of this project. O&M requirements and submittals in the original UFGS specification shall not be edited out or deleted for the convenience of the Contractor. Submittals, operating procedures, schematics, as-built drawings, manuals, software, and computer hardware required in the UFGS for system operation incorporated in the design phase are critical to operation and maintenance of the new facility on completion.

2.7.5. The intent of this RFP is to describe the requirements for appearance, function, and equipment, materials, and types of construction in sufficient detail to enable design and engineering to be completed by the Contractor.

2.7.6. All design and construction document drawings and specifications shall be prepared to comply with the RFP. The RFP describes the design work that shall not be changed and shall be included in the construction documents. All remaining design work shall be performed by the Contractor based on the design criteria as required by the RFP. No deviations from the criteria will be allowed unless prior approval is obtained from the COR. All questions or problems encountered by the Contractor in the following criteria shall be promptly submitted with recommendations to the Contracting Officer's Representative (COR) for approval.

2.7.7. Section 01 10 10 - DESIGN REQUIREMENTS defines the design and performance requirements. Applicable building codes and standards shall be used as the minimum criteria to develop the construction documents for areas of work not specifically defined. All design and bid item pricing shall incorporate requirements listed in Appendices in addition to specific requirements listed within the specifications.

2.7.8. Section 01 10 12 - DESIGN AFTER AWARD defines the format and submittal requirements in which the Contractor and designers of record shall prepare the design and the construction documents.

2.7.9. Construction documents shall be sufficient to afford a clear understanding of the construction work required and to demonstrate compliance with the RFP. The work shall be organized in a manner that will assure thorough coordination between the various details on the drawings, between the drawings and the specifications, and between the design and engineering disciplines. The Contractor shall perform design quality control reviews to cross-check all work until all conflicts have been reconciled. The US Army Corps of Engineers Mobile District Design Manual, current edition, available on the Internet at http://www.sam.usace.army.mil/Missions/Military-Missions/Engineering/Design-Guides/Mobile-District-Design-Guides/ and shall be used as the basis for format, content, and preparation of construction documents and used in conjunction with Section 01 10 12.

2.8. Design Professional Qualifications and Licensure

The Contractor's Designers of Record shall develop construction documents and technical specifications for all areas of work. The design of landscape, architectural, interior, structural, mechanical, fire protection, electrical, environmental, civil, and other engineering features of the work shall be accomplished, reviewed, and approved by qualified and licensed professional engineers, architects, and interior designers that have active license and are registered to practice in their respective professional fields in a State or possession of the United States, in Puerto Rico, or in the District of Columbia.

2.9. Definitions of Terms

The following frequently used terms are defined hereinafter to establish a common understanding when the term is used in this solicitation.

2.9.1. Net Area (occupiable area): The gross square feet less building infrastructure and support members such as exterior walls, electrical and communications spaces, mechanical spaces, fixed corridors, restrooms, stairwells, janitor closets, vestibules, etc. Covered walks, enclosed walkways, terraces, balconies, and patios shall not be counted as net area. Net area is the physical space, which is available for use by the occupant to support the occupant's mission.

2.9.2. Gross Area: All floor area measured from the outer surface of the exterior wall to the outer surface of the exterior wall. Covered (but not enclosed) entrances and walks shall be counted as one-half of the total square feet. Uncovered walks and entrances shall not be counted.

2.9.3. GFGI: Government Furnished and Government Installed.

2.9.4. GFCI: Government Furnished and Contractor Installed.

3. PROJECT REQUIREMENTS

The following provides a summary of the requirements. Refer to other portions of 01 10 10 and criteria drawings for additional and more specific information and requirements.

3.1. Building Design and Configuration

The Contractor shall design and construct the Fire Station 2 at Tyndall Air Force Base, Florida to result in a complete and usable facility based on the Design Requirements contained within this solicitation.

The primary criteria document to be followed for the facility requirements and configuration is the UFC 4-730- Fire Stations and the AFCEC Dynamic Prototype for Fire Station - Satellite (12-01-2013) available at https://www.wbdg.org/ffc/af-afcec/prototypes-standard-designs/fire-station

Refer to criteria drawings for conceptional building and site layout and other sections of this RFP for additional requirements.

3.1.1. First Floor Functions and Layout

A covered building entrance is oriented Beacon Beach Road and a secondary entrance from the interior dayroom and corridor is oriented towards the adjacent new north access apron and POV parking lot area.

The central core area of the building includes various functions including Apparatus Bays, Support, Living, and Administrative spaces as well as building mechanical and communications areas. Roof Top mechanical vents, and equipment are not preferred at the sloped metal roof areas. Locate equipment inside the

building to the extent practical. Provide a masonry screen wall enclosure to conceal any exterior ground mounted equipment.

3.1.2. Building Construction and Systems

The proposed construction will be non-combustible construction consisting of reinforced concrete block or cast concrete walls concrete slab on grade with under slab vapor barrier, steel roof structure with metal roof deck with insulation and standing seam metal roof system, Exterior walls shall be clad with predominantly brick masonry veneer or metal panel. Supporting building systems include, but are not limited to electrical and electronic systems, telecomm/data, HVAC and plumbing, and fire alarm/MNS and fire suppression systems. Refer to other sections of this RFP for more detailed and additional requirements.

3.2. Sitework Design and Configuration

The proposed Fire Station #2 is to be located at the corner of Beacon Beach Road and Dejarnette Drive. Concrete access drives will connect the bays to Beacon Beach Road and Dejarnette Drive. POV parking is provided at the rear and front of the fire station.

Refer to other sections of this RFP for additional and more detailed requirements.

3.2.1. Location and Configuration

The building footprint is generally aligned with Beacon Beach Road with the main entry oriented towards Beacon Beach Road.

3.2.2. Site Preparations and Improvements

Site clearing and grubbing is required for approximately 2.0 acres. There is no existing building demolition required for the project.

3.2.3. Site Utilities and Stormwater Systems

Site work includes utilities that include, but are not limited to electrical power, telecom, potable water, sanitary sewer, and natural gas systems. Site work includes stormwater collection, conveyance, and management facilities. Power, water, sewer and gas utilities require coordination with base privatization utility authorities (TECO Energy, GCEC) and as defined in this RFP will perform portions of the work including connections and inspections under this contract. Existing sanitary sewer system connectivity for pass-through sewer capacity must be maintained, adjust sewer system to allow the pass-through sewer to be maintained throughout the development process.

3.2.4. Maintain Access to Existing Parking, Roadways and Service Drives

Construction activities shall not limit access to or prevent full usage to existing parking areas, roadways and service drives which shall remain open for use by the TAFB facilities. Notice of any parking lot closures shall be coordinated with the COR.

3.3. Work Restrictions and Temporary Controls

Maintain existing site and building operations, life safety, and access to buildings and site.

Provide necessary temporary barriers and construction, safety and controls, lighting, signage; maintain existing life safety exits, exit access and pathways to the public way.

3.4. Site Environmental Conditions

An existing groundwater monitoring well is located on the southeastern corner of the site. This well shall not be disturbed during construction operations. A fence shall be installed around the existing groundwater monitoring well throughout construction. Contractor shall strip, excavate, sample and test soils for contaminants. Any contaminated soils shall be removed from the site and exposed of per federal and state regulations. Testing shall be conducted on a grid of approximately 50-foot sections or as approved by the contracting officer. Excavated and sampled depth shall start at 6-inches and proceed as necessary until all contaminated soils are removed.

3.5. Staging Area

The construction routes and potential Contractor staging areas are depicted on the criteria drawings.

3.5.1. Project Site Access.

Access to the site is depicted on the criteria drawings.

3.6. Borrow and Spoil Areas

Borrow material is not available. Spoil materials to be disposed-off site and off the Installation (Base) in a legal and regulated manner.

3.7. Government Furnished Government Installed Equipment (GFGI)

3.7.1. The following GFGI designed systems and equipment will be installed in the last 90 days of the construction phase, refer to Joint Occupancy requirements defined in this RFP.

Contractor to coordinate the power and rough-in requirements with the COR for the GFGI systems during the design and construction phases.

Contractor shall provide blocking in walls and support above ceilings to support the GFGI systems.

3.7.2. GFGI Audio/Visual (AV) Systems and Coordination

AV system design and equipment information will be developed by the Government and provided to Contractor for coordination by the Contractor with building design for related supporting elements.

The Contractor shall provide power, pathways, wall and ceiling support and blocking for these systems. The Contractor shall review the GFGI AV Systems

design package being prepared by the Government to coordinate the power, pathways, and blocking requirements with the design-build contract design and construction.

AV rack equipment for pushing images and streaming content to video displays in offices and multi-purpose rooms. The design-build contract provides and installs power, pathways, and blocking. The design-build contract provides 1-NIPR drop to each video display.

3.7.3. GFGI Closed-Circuit Television (CCTV) Systems and Coordination

CCTV system design and equipment information will be developed by the Government and provided to Contractor for coordination by the Contractor with building design for related supporting elements.

The Contractor shall provide power, pathways, wall and ceiling support and blocking for these systems. The Contractor shall review the GFGI CCTV Systems design package being prepared by the Government to coordinate the power, pathways, and blocking requirements with the design-build contract design and construction.

3.8. Furniture, Fixtures & Equipment (FF&E)

The RFP appendix includes a completely developed and designed FF&E package for the design-build Contractor to bid, procure and install (refer to RFP Appendix C). The FF&E package is non-MILCON funded. The criteria drawing floor plans include furniture layouts as a means to explain the room function. Refer to Section 10 STRUCTURAL/COMPREHENSIVE INTERIOR DESIGN of this specification and the FF&E Package included in the RFP Appendix for additional requirements and more detailed information.

Contractor proposed changes to the criteria floor plans that affect the FF&E furniture package and layout shall be identified to the Government during the design phase for approval.

3.9. Sustainable Design and Federal Mandates

Various federal and Air Force mandates for reduction in energy and water usage and sustainable design are required to be applied to the design and construction for this project and requires documentation to be provided to a 3rd party validation. Refer to Section 19 SUSTAINABLE DESIGN AND ENERGY USE REDUCTION of this specification for additional requirements and related compliance documentation.

3.10. Accessibility

The use of this facility is primarily for able bodied military. Accessibility requirements have been evaluated. All dormitory rooms will be occupied by able bodied military residents; therefore, dormitory rooms and related dormitory use functions are not required to be accessible or meet accessibility standards.

Facility and site design shall provide access by persons fire station that include, but not limited to:

- Designated parking spaces with convenient access to the main entrance
- Accessible site elements and accessible route to building
- Sufficient door widths, appropriate hardware, and controls for ease of opening, and approach clearances
- Proper fixtures and clearances in the public toilets
- Mounting height of drinking fountains and public telephones
- Mounting height of fire alarm pull stations and visual alarms for the hearing impaired

Accessible elements will be designed to meet requirements of meeting Architectural Barriers Act (ABA) Standards (2015).

3.11. Antiterrorism Force Protection (ATFP)

Building and site design to be designed and constructed in accordance with DOD Minimum Antiterrorism Standards for Buildings UFC 4-010-01 and as further defined in this RFP.

3.12. Special Inspections

Contractor to provide special inspections, structural observations and tests as required by Chapter 17 of the IBC (International Building Code) as modified by UFC 3-301-01, UFC 3-600-01 and UFC 1-200-01. The Contractor is required to employ one or more approved agencies to perform inspections during construction on types of work listed under Section 1705 of the IBC (International Building Code). These inspections are in addition to the inspections defined in Section 110 of the IBC. The inspecting agency must provide reports of the special inspections directly to the government.

4. PERMIT REQUIREMENTS

The Contractor shall thoroughly investigate the requirements for permitting of air quality, potable water, wastewater, stormwater discharge, NPDES, dredge and fill, local construction for disruptions of vehicular traffic and base utility systems, and other permits during design. The Contractor shall determine permit requirements as part of the Design Phase.

The Contractor shall list all permits that are to be obtained by the Contractor in Specification Section 01 57 19, Temporary Environmental Controls (edited as required and to be provided in the Design Phase of this project). The permits shall be listed by title, permit number, permitting agency, effective date, and expiration date. Refer to Specification 01 00 00, Additional Special Contract Requirements, for additional information. The Contractor shall be responsible for submitting all applications and paying for all associated fees for environmental permits for the project. All permits shall be delivered through the Contracting Officer's Representative to the Base Civil Engineering Group who will forward them to the appropriate government organizations. All environmental permit applications and construction completion certificates shall be prepared by an engineer registered in the state of Florida. All environmental permit applications and accompanying drawings and calculations shall be furnished using English units. The approved permit application must be provided to the Contracting Officer’s Representative prior to starting construction on any of these activities.

Permits known for the project:

- Florida Department of Environmental Protection (FDEP) drinking water connection permits in accordance with FAC 62-555
- FDEP wastewater connection permits will be required in accordance with FAC 62-604
- FDEP/NFWMD Environmental Resource Permitting in accordance with FAC 62-330
- FDEP/NPDES stormwater construction permit in accordance with FAC 62-621
- Environmental Protection Plan (EPP)

At the Contractor`s expense, the Contractor shall complete all necessary work (as-built surveys, bacteriological tests, application forms, etc.) for all certifications of completions for permitted activities. The Contractor shall complete and submit the construction completion certificate on all permit applications received by the Contractor from local, state and federal agencies within 30 days of completion of the permitted activity. The construction completion certificates shall be provided to the Contracting Officer's Representative. The Contractor shall plan the required permit review times into the construction schedule including a typical 90-day review period.

5. ANTI-TERRORISM FORCE PROTECTION REQUIREMENTS

5.1. Codes and References

a. UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings.
b. UFC 4-021-01, Design and O&M: Mass Notification Systems

5.1.1. Building Use Classification and Level of Protection

The site and facility design shall incorporate all applicable requirements of UFC 4-010-01. The structure shall be classified as an inhabited Facility, located within and further than 50ft from a controlled perimeter, and no identified threat or level of protection. A 33 ft unobstructed space shall be provided and maintained around the perimeter of the facility.

5.2. Site Layout

The Contractor shall incorporate the following Force Protection criteria into the site layout for the new facility:

- Locate public parking areas within view of occupied rooms or facilities.
- Eliminate potential hiding places near the facility.
- Provide a minimum of 33ft unobstructed space around the facility.
- Provide an unobstructed view around the facility.
- Illuminate building exteriors or sites where exposed assets are located.

5.3. Design and Compliance Calculations

Design analysis and supporting calculations shall be prepared and signed by a registered professional engineer demonstrating that the building design meets or exceeds all the requirements of UFC 4-023-03.

5.4. Mass Notification System (MNS)

Provide a mass notification system (MNS) for the facility meeting UFC 4-021-01 Design and O&M: Mass Notification Systems criteria. Local operator consoles (LOC) will be provided on each floor, and located throughout the building such that an occupant does not have to travel more than 200 feet or transverse floors to get to a LOC. A global emergency HVAC shutdown button will be provided inside of, or adjacent to, each LOC.

SITEWORK

5.5. Codes and References

The engineering design requirements and criteria for the Site work section herein, shall be in accordance with the requirements specified within this section and the criteria documents listed. All criteria documents shall be the current edition. Many of these criteria may be found on-line at the Army Corp of Engineers (www.usace.army.mil) or the Whole Building Design Guide (www.wbdg.org).

a. Tyndall AFB IFS,
b. Unaccompanied Housing Design Guide, United States Air Force, January 2006
c. Gulf Coast Electric Cooperative Water Details
d. Architectural Barriers Act (ABA)
e. NFPA 24 Standard for the Installation of Private Fire Service Mains and Their Appurtenances
f. UFC 3-201-01 Civil Engineering
g. UFC 1-200-01 DoD Building Code (General Building Requirements)
h. UFC 1-200-02 High Performance and Sustainable Building Requirements
i. UFC 3-210-10 Low Impact Development
j. UFC 3-220-01 Geotechnical Engineering
k. UFC 3-220-04 FA Backfill for Subsurface Structures
l. UFC 3-220-05 Dewatering and Groundwater Control
m. UFC 3-230-01 Water Storage and Distribution
n. UFC 3-240-01 Wastewater Collection
o. UFC 3-250-01 Pavement Design for Roads and Parking Areas
p. UFC 3-250-03 Standard Practice Manual for Flexible Pavements
q. UFC 3-250-04 Standard Practice for Concrete Pavements
r. UFC 3-250-08 FA Standard Practice for Sealing Joints and Cracks in Rigid and Flexible Pavements
s. UFC 3-250-11 Soil Stabilization for Pavements
t. UFC 3-600-01 Fire Protection Engineering for Facilities
u. UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings
v. Design Manual, Army Corps of Engineers, Mobile District, March 2007
w. PCASE Computerized Pavement Design, Version 2.09
x. Section 438 of the Energy Independence and Security Act (EISA) of 2007
y. National Pollutant Discharge Elimination System, (NPDES) for Construction Activities

z. AASHTO, A policy on Geometric Design of Highways and Streets, most current version at time of award.
aa. Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), most current version at time of award.
bb. Florida Department of Transportation Standard Specifications for Road and Bridge Construction, most current version at time of award.
cc. Florida Department of Transportation Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, most current version at time of award.

5.6. General Civil Design Requirements

The site work design required for this project shall include but may not necessarily be limited to the items listed within this section. Additional design requirements parameters are included throughout all RFP documents.

5.6.1. Demolition and Removal. The Contractor shall provide layout surveying as necessary to locate the new work items prior to initiating demolition work. Erosion and sediment control Best Management Practices (BMP's) shall be in place and approved by the Contracting Officer's Representative prior to initiating demolition work. The topographic survey drawing provided in the RFP presents existing topographic conditions and locations of existing structures and utilities. The Contractor may utilize the utilities during construction operations as approved and may incorporate the utilities as part of the final project. Existing utilities that interfere with this project shall be relocated or removed. All demolition debris shall be removed from the limits of Tyndall AFB and disposed of in a manner as required by law and Air Force regulations. The Contractor shall be responsible for all disposal permits and regulations requirements. Contractor shall install a construction fence at the limits of construction and adjust the location as necessary during the construction for the project. Demolition shall be conducted in a single phase.

5.6.2. The Contractor shall survey and mark the limits of clearing and grubbing before beginning any site work including clearing and grubbing. The Contractor shall also install silt fence using the proper toed in filter fabric before clearing and grubbing. The Contractor is encouraged to save on-site existing trees and vegetation to the greatest extent possible.

5.6.3. Fire Station #2 Site work: The concept site plan provided in RFP Appendix entitled "RFP CRITERIA DRAWINGS" presents the general layout scheme for the new site work. The Contractor shall design the building site grading, design horizontal and vertical control, rigid pavement, stormwater drainage and retention/detention, sidewalks, utilities, landscaping, miscellaneous building access pavement areas, exterior site lighting and site vegetation.

5.6.4. Demolition shall not impede access for emergency response vehicles or personnel to adjacent facilities. The Fire Prevention authority shall be notified prior to any road closure. The Contractor shall maintain access to all parking areas, sidewalks, service drives utilized by Tyndall AFB traffic and pedestrian users. Provide temporary controls to limit crossing points for pedestrians to cross construction vehicle drives and new roadways in a safe and controlled manner.

5.6.5. The Contractor shall demolish existing site features, as generally shown on the Site drawings. Pavements to be demolished shall be saw cut to a clean even edge. The Contractor shall solid sod all graded and scarred areas. The Contractor shall place a silt fence along the perimeter of the demolition area. Utilities to be demolished shall be coordinated with the privatized utility companies. Existing utilities that are not within the limits of the newly constructed facilities may be abandoned in place but must be filled with low strength concrete. No abandoned utilities shall be within 20 feet of any newly constructed facilities.

5.7. Civil Design Requirements

5.7.1. Project Location. The proposed Fire Station #2 shall be located as generally shown on the RFP concept drawings provided in RFP Appendix entitled "RFP CRITERIA DRAWINGS". The Contractor shall ensure that the new construction meets all the State of Florida, Tyndall AFB, DOD, and Federal codes and regulations.

5.7.1.1. Constraints. The Contractor is advised that the concept site layout and requirements shown on the criteria drawings shall be observed. Any proposed changes shall not violate the intent of the plan, refer to RFP concept drawings. Any proposed changes from the concept site layout shall be submitted for review and approval in accordance with the requirements set forth in Section 01 10 12 DESIGN AFTER AWARD.

5.7.1.2. Force Protection. Unobstructed space requirements used as the basis for the RFP site plans were determined in accordance with the Department of Defense Unified Facilities Criteria UFC 4-010-01 entitled "Minimum Antiterrorism Standards for Buildings", 12 December 2018. The Contractor shall incorporate Force Protection criteria based on a "Billeting" classification. Fire Protection access and activities shall not be impeded by Force Protection structures or systems. Refer to Section 01 10 10-5, Anti-Terrorism Force Protection Requirements, for additional requirements.

5.7.1.3. Contractor Staging and Haul Routes. The Contractor Staging Areas and Haul Routes shall be as shown on the plans provided in the RFP. Contractor shall provide a temporary traffic control plan for approval of the Contracting Officer and Base Engineer prior to starting any construction activities. The temporary traffic control plan shall comply with FDOT maintenance of traffic design criteria, specifications, and the latest version of the FDOT 600-series applicable indexes. Construction sites shall be kept neat and free of trash. Construction sites shall be surrounded by a 7-foot high FE-5 chain link fence. It shall separate construction traffic from daily personnel traffic. The construction fence shall not be required to shield the view of construction. All gates in the construction fence shall be numbered and coordinated with the Tyndall AFB Fire Department. Copies of keys to all padlocked gates shall be provided to the Tyndall AFB Fire Department. Emergency vehicle access shall be provided through and within the project site at all times.

5.7.1.4. Contractors Use of Site. The Contractor shall coordinate with the contracting officer for the laydown area, offices, parking and storage facilities. Any damage to existing improvements adjacent to, along haul route or on the project site due to construction activity under this contract shall be replaced/repaired at the Contractor's expense. All Contractor POV parking

areas shall be coordinated and approved in advance by the Contracting Officer's Representative.

5.7.1.5. Borrow Areas. Borrow materials are the Contractor’s responsibility and the source will be determined by the contractor at the time of need. All borrowed materials shall be obtained from approved private sources located off Government controlled lands and shall meet the environmental standards required by the base.

5.8. New Site Design and Construction

5.8.1. The concept site geometry plan presents the general geometric layout for the site work. The Contractor shall design the drainage, sidewalks, landscaping, site grading, privately owned vehicle (POV) parking, Emergency Vehicle Access pavement areas and utilities including fire hydrants and area lighting.

Parking Areas and Emergency Access Drive Aisle. All asphalt and concrete pavements structures design shall comply with criteria in UFC 3-250-01, Pavement Design for Roads, Streets, and Parking Areas. The design software is located at www.pcase.com. Both asphalt and concrete pavement structures shall be placed over a graded crushed aggregate base course. The minimum asphalt thickness shall be 2-inches, and the minimum thickness for concrete shall be 4-inches for pedestrian sidewalks and 7-inches for all other concrete pavements. All pavements shall be designed for a pavement life of twenty-five (25) years. All concrete pavements shall have a joint layout plan and shall be based on the Army Corp of Engineers, Mobile District Design Manual. The concrete pavement layout shall be based on UFC 3-250-01, Pavement Design for Roads and Parking Areas. Parking areas shall be provided in the parking layout as generally indicated in the drawings.

A total of 19 privately owned vehicle (POV) parking spaces, and one (1) accessible parking stalls for cars and vans are required in the new parking area adjacent to the new facility.

5.8.1.1. Parking areas shall be provided in the parking layout as generally indicated in the RFP criteria drawings. The layout design of parking lots shall conform to UFC 3-201-01, Chapter 2, Site Development. The Contractor shall ensure that the layout for the entire site, parking lots, and access drives shall accommodate emergency and firefighting vehicles, and are in accordance with NFPA 1 Fire Code. The Contractor shall ensure that all radii and widths of parking lots, access drives, and channelized turn lanes shall accommodate emergency and firefighting vehicles. All signs and markings shall conform to the FDOT Standard Drawings and the current (MUTCD) for Streets and Highways. New connections to existing asphalt or concrete pavements shall be accomplished by full depth double saw cutting the adjacent existing pavement. Minimum access drive pavement width shall be 24 feet from the edge of pavement to the edge of the pavement unless noted otherwise. The Contractor shall consider the types of vehicles traversing and parking on these facilities and shall incorporate their requirements in the site design. Vehicles shall include but not be limited to passenger cars, emergency vehicles, garbage trucks, fire crash rescue vehicles, military vehicles, delivery service (Single-Unit (SU) truck), Tyndall Fire Department Truck P-26 Tanker (gross vehicle weight is 32,727 pounds) and other utility vehicles. The P-26 Tanker fire crash rescue vehicle should be considered

during the design of the access drives, parking areas, and pavement designs. The Contractor shall provide traffic control signs and pavement markings per the FDOT Standard Drawings and MUTCD requirements.

5.8.1.2. There is no requirement for emergency access drives for the proposed Fire Station #2.

5.8.1.3. Parking areas shall be painted striped, have lighting and be adequately drained. Accessible parking stalls, sidewalks, and ramps will be provided in accordance with the Americans with Disabilities Act and the Architectural Barriers Act (ADA and ABA) Guidelines, latest edition. The parking spaces shall be installed at 90 degrees to path of travel. Standard parking stalls shall be 9-feet wide and 18.5-feet long per the current edition Better Military Traffic Engineering, SDDCTEA Pamphlet 55-17 section 17.2.5. Accessible parking stalls shall be 12-feet wide and 18-feet long. Marking stripes shall be six (6) inches wide per FDOT Standard Drawings. See Section 01 10 10-15, Electrical Requirements, for lighting requirements.

5.8.1.4. Parking lot drainage for concrete pavements shall be designed to provide adequate sheet flow drainage to a pipe collection system or drainage swale. The slopes of the surface shall be held to the minimum required for drainage and to prevent ponding but shall not be less than 0.5%. For safety, the maximum slope for parking is 5% along the aisles through the parking area and 2% for the transverse slope. The Contractor shall construct the new pipe collection drainage system such that parking areas and paved areas adjacent to the new facility drain adequately with stormwater flowing away from the new facility to the surrounding stormwater management facilities (SWMFs). The Contractor shall develop a storm drain/grading plan that will incorporate/include the off-site stormwater runoff. Side slopes shall not be less than 4 Horizontal to 1 Vertical.

The Contractor is responsible for all drainage design calculations to determine the final depth of the stormwater management facility (SWMF) required. Additional measures to capture and treat stormwater from the site, access roadways and parking may be implemented and are dependent on the Contractor’s final drainage design.

5.8.2. New Concrete Sidewalks, Ramps, and Landings. Sidewalks, ramps, landings, and curb cuts shall be sized in accordance with criteria outlined in the Architectural Barriers Act (ABA) and shall be provided as indicated on the RFP concept site layout and first-floor plan. Sidewalk widths shall be the 6-feet minimum to meet pedestrian traffic flow from the parking areas. All building egresses shall have concrete sidewalks connected to them and those new sidewalks shall tie into the new Emergency Vehicle Access. Sidewalks may be widened as necessary to meet building entrance and exit ways. Sidewalks shall be constructed of concrete with a minimum compressive strength of 3500 psi and a minimum thickness of 4 inches unless the sidewalks are serving as emergency or maintenance vehicle access. If this is the case the sidewalks shall be designed as access roads. Joints shall be provided in the concrete sidewalk to eliminate random cracking. Transverse contraction joints shall be spaced at a distance equal to the sidewalk width or 6 feet on centers, whichever is less and shall be continuous across the slab. Longitudinal contraction joints shall be constructed along the centerline of all sidewalks 10 feet or more in width. Expansion joints shall be placed at 30 feet on center and at the intersection of walks, structures, non-flexible objects and curbs. Cross slope on sidewalks

shall be 2%. The new concrete sidewalks shall not cross drainage swales unless the Contractor has ensured that the stormwater shall flow underneath the concrete sidewalk by a new storm drain pipe and new concrete sloped paved headwalls. The concrete sidewalk surface shall match the decorative sidewalk patterns as indicated on the drawings to match existing.

5.8.3. Mechanical Equipment Pads. Mechanical equipment pads shall be located as needed for mechanical equipment. All equipment pads shall have a minimum 1.0-foot clearance on all sides.

5.8.4. Dumpster: Solid waste and recycle dumpsters with enclosures sufficient to accommodate the new fire station will be required and placed generally as shown on the RFP documents. The Contractor shall provide pedestrian access to the trash dumpster from the new fire station.

5.8.5. Site Furnishings. Refer to architectural sections.

5.9. Storm Drainage

5.9.1. The site storm drainage system shall be designed to retain a 25-year return storm frequency event. No ponding on sidewalks or pavements shall occur for the 25-year event. All runoff onto the site from adjacent properties shall be included in the storm drainage calculations. Storm drainage system design shall be checked for a 100-year return event to ensure no flooding of the new facility finished floor. Storm drainage design shall be in accordance with the current edition of the Tyndall AFB IFS, Florida Administrative Code (FAC) 62-330, UFC 3-201-01, Civil Engineering and the Army Corp of Engineers, Mobile District Design Manual.

5.9.1.1. It is the responsibility of the Contractor to provide the breakdown of pervious and impervious areas pre and post construction and submit the Environmental Resource Permit (ERP) including all calculations to the Base Civil Engineering.

5.9.2. The storm drainage shall consist of swales, storm drainage structures, bio-retention ponds, and piping. The structures shall include concrete drop inlets, concrete Mitered End Sections (MES) and outlet control structures, as necessary. All storm drainage structures located in traffic areas shall be rated to withstand heavy vehicle loading. All grading shall be completed such that parking areas and areas adjacent to the new building drain adequately with stormwater flowing away from the building. All side slopes shall not be steeper than 4-feet horizontal to 1-foot vertical. Minimum pipe velocities shall be 2.5 ft/sec and the maximum shall be 5.0 ft/sec with outlet erosion protection. The minimum pipe size for an open pipe system shall be 18-inches and 12-inch for a closed system. Sufficient inlets shall be provided to control drainage spread. The maximum interval for inlets shall be 300 feet for conduits smaller than 30-inches. There shall be no ponding at flumes/inlets for a 25-year storm.

5.9.3. The allowable pipe types shall include concrete pipe, Type III or IV, as required, Polyvinyl chloride (PVC) dual wall smooth interior heat fused corrugated pipe, or double wall (corrugated exterior, smooth interior) high-density polyethylene (HDPE). Only concrete pipe, Type III or IV, will be allowed under paved areas. Pipe joints shall be soil tight with gaskets.

5.9.4. Concrete inlets/catch basins shall be poured-in-place or precast concrete. Metal grates or manholes shall be cast iron. Basins shall have 3-inch weepholes cast into the walls. The exterior of the weep holes shall receive a 1/4-inch wire mesh with a 12-inch width belt of crushed rock, ASTM A357. Precast manhole or inlet rings shall connect with industry standard gaskets. Storm drainpipes shall be grouted into the concrete structures to provide a soil tight connection.

5.9.5. Catch Basins, Grates, and Inlets. Locate stormwater inlets so that no collection swales flow across a street or sidewalk to reach a storm sewer other than where gutters are used. Side opening catch basins are preferable. Where grating is to be used, it shall be of "Bicycle Tire Proof" design.

5.9.6. All new facility gutters and downspouts shall be controlled to allow water to be directed away from the building. Downspout boots shall be used to connect downspouts into the proposed storm sewer system. Splash blocks are not permitted on site.

5.9.7. The drainage design documents shall include erosion and sediment control features as necessary to minimize site erosion and to prevent silt-laden stormwater from leaving the site. The Contractor shall follow all current Best Management Practices (BMP) during construction and shall implement the use of silt fences and sediment traps as necessary.

5.9.8. PERMITS. The Contractor shall obtain all required permits including a Florida Department of Environmental Protection (FDEP) water main extension permit, wastewater collection system permit, Notice of Intent (NOI) to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, and environmental resource permit (ERP) for work on the base prior to any land disturbing activities or utility connections as prescribed by the respective permit. Refer to Section 01 10 10-4, Permit Requirements for additional information.

5.9.8.1. The Contractor shall clearly define the requirements for National Pollutant Discharge Elimination Systems Permit (NPDES) Notice of Intent (NOI) for this project. Site plans shall incorporate designs that control runoff and erosion. Site plans shall conform to the applicable requirements of an NPDES stormwater permit. Information regarding such may be found at http://www.dep.state.fl.us/water/stormwater/npdes/construction3.htm. No site work will commence until the NOI has been submitted and accepted by the State.

5.9.8.2. The Contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with and meet the intent of the latest version of the National Pollutant Discharge Elimination Systems Permit (NPDES) for EPA Region IV, the Chapter 6 of the Florida Land Development Manual, and Section 01 10 10-4, Permit Requirements. The Contractor shall implement, maintain, and update the SWPPP, as required, throughout the project until a Notice of Termination for permit coverage is submitted upon final stabilization of the project site. The Contractor shall maintain a copy of the SWPPP on-site at all times during construction and shall make the plan and all supporting documents and reports available for inspection upon request by the Government and/or Regulatory Agency.

5.9.8.3. Upon completion and acceptance of the SWPPP, the Contractor shall prepare an NPDES Notice of Intent (NOI) application form in accordance with the

requirements of the NPDES Permit for EPA Region IV and the state of Florida, which administers the program. This NOI shall be submitted to the Environmental Flight for transmittal to the Florida Department of Environmental Protection 30 days prior to construction commencement. The Contractor must include with the NOI the appropriate processing fee(s) payable to the Department of Environmental Protection. Information regarding such may be found at http://www.dep.state.fl.us/water/stormwater/npdes/index.htm .

This NOI must be transmitted with the Air Force NOI for this project. A copy of the NOI and a brief description of the project shall be posted at the construction site in a prominent place for public viewing. No site work shall commence until the NOI has been submitted and accepted by the State.

5.9.8.4. Upon satisfactory completion of final stabilization of the project site and acceptance by the Government, the Contractor shall submit a Notice of Termination (NOT) of permit coverage for the project.

5.10. Government Furnished Information

5.10.1. Topographic Survey. The RFP concept drawings that have been provided indicate the existing conditions and locations of existing utilities. The survey provided shall be used for bidding purposes and for information only. The government provided survey is included in the RFP concept drawings.

5.10.2. It is the Contractors responsibility to perform an independent topographical survey of the project limits prior to starting design and construction work. The Contractor shall perform field topographic, planimetric, and utility surveys, office computations, and 3D digital mapping for use in developing the construction documents for this project. Specific Requirements for the survey shall include, but not limited to the following:

a) Horizontal and Vertical control for the project shall comply with the current edition of the Tyndall AFB IFS. Horizontal control shall be based on Florida State Plane Coordinate System, NAD83. Vertical control shall be based on NAVD-88. Use English units.

b) Subsurface Utility Investigation shall be at a minimum, **Quality Level A**. Site and Topographical Surveys (includes property lines, utility locations, easements, setbacks, all structures above and below grade, trees, wetlands, environmentally-protected areas, streets, roads, etc.). Provide finish contours as needed and required for completion of design by the Design-Build Contractor. The contractor shall layout horizontal and vertical control in the identified project areas. A minimum of 3 control points shall be provided. The Design-Build Contractor shall verify all site and topographical surveys and other existing conditions prior to beginning any work. In addition, subsurface investigation shall meet BIM Requirements defined in other sections of this RFP.

c) Water - Locate all valves, standpipes, regulators, etc. Locate all fire hydrants. Provide an elevation on top of valve case and top of valve. Provide size of pipe and distance above ground for standpipes. Locate all underground water lines, pipe sizes, and locations.

d) Sanitary Sewer - Locate all manholes and provide top of rim elevation along with an invert elevation of all pipes connected to the manhole.

Identify type, size, and direction of each pipe. Locate all clean-outs. Locate all Sanitary Sewer lines, pipe sizes. Provide distance to and top rim and invert for manholes or sanitary sewer structures at least one structure upstream and downstream for sanitary sewer lines that extend outside the cross-hatched or area identified to be surveyed.

e) Storm Drainage - Locate manholes and all other storm drainage structures such as culverts, headwalls, catch basins, and clean-outs. Provide top of manhole or top of catch basin elevation along with an invert elevation of all pipes connected to a manhole or catch basin and bottom elevation. Identify type, size, and direction of each pipe. Provide type, size, and invert elevation for all culverts. If only one structure on a gravity flow line falls within the survey area shown on the drawing, provide distance and invert data for one structure both upstream and downstream of the site.

f) Electrical and Communication - Locate all power poles, guy wires, vaults, manholes, meters, transformers, electrical boxes, and substations. Obtain type and height of poles, number and size of transformers, number of conductors on each pole, including telephone and cable TV, number of cross arms, number of wires (electrical and communication), direction and low wire elevation at each pole. Provide top of rim or top of vault elevation, top of wire or conduit elevation, direction and bottom elevation of manholes and vaults. Provide size for all electrical vaults and boxes identify the size and number of ducts or cables entering each manhole and their invert elevations.

g) Gas - Locate all valves, meters, and gas line markers. Provide elevation on top of valve case and on top of valve.

h) Telephone - Locate all poles, manholes, boxes, etc. Provide top of rim elevation, top of wire or conduit elevation, direction and bottom of manhole elevation. Obtain type and height of poles, number of crossarms, number of wires and low wire elevation at each pole.

i) Streetlight - Locate all poles and provide type and height of poles. Identify number and type of lights on poles. If connected by wires, show direction and low wire elevation.

j) Fire Alarm - Locate any fire alarm systems (box with number), telephones (box with number), etc. in project.

Caution shall be taken by the contractor around any underground cable or utility to prevent damage. Any damage to existing utility lines shall be repaired or replaced to the satisfaction of the Contracting Officer’s Representative at no additional cost to the government. The Contractor may utilize the utilities during construction operations and may incorporate the utilities as part of the final project. Existing utilities that interfere with this project shall be relocated with the approval of the Contracting Officer at the Contractor’s expense.

5.10.2.1. As-Built Survey. The Contractor shall perform an as-built survey for the site. The as-built survey shall locate all new improvements, including subsurface utilities. The as-built survey shall also include GIS Coordinates

for utilities at all connections, structures, valves, and changes of direction. The as-built survey shall also meet the conditions of any permits. The as-built drawing shall be provided to the Base CE in CADD format and provide signed/sealed originals as necessary for permit closeouts. Refer to RFP Section 01 00 00 for additional as-built requirements.

5.10.3. Standard Details. Some standard site details will be available to the Contractor by Mobile District. Details will require editing as necessary to match the project requirements. The Contractor shall be responsible for creating all details needed for the project, which are not in the Mobile District Standard Design Library or those provided in the RFP. The Library can be accessed through the Mobile District home page.

5.11. Geotechnical Investigation and Design

5.11.1. The Contractor shall be responsible for determination of actual soil conditions present at the site, and design to suit those conditions. It shall be the Contractor's responsibility to investigate the subsurface soil conditions, and groundwater table beneath final structure locations, and complete the design for the facility using contractor-developed data. The pavement designs and stormwater management facilities shall be designed in accordance with the Contractor`s final geotechnical report. The Contractor shall also be responsible for obtaining all required drilling permits. A copy of investigated soil boring logs is included in Appendix F of this document to provide general knowledge regarding in-situ soil conditions. The soil boring logs documents are provided for "Information Only". The Contractor is responsible to provide additional soil borings and a final geotechnical report covering geotechnical parameters necessary for design of the building, roadway, parking lot, pavement HMA typical sections, and stormwater management facilities (include soils test analysis, permeability, CBR, site preparation requirements, and foundation requirements) as specific site design elements/features included as part of the RFP concept drawings.

The requirements set in the Mobile District Design Manual shall be followed for the geotechnical investigation and report. Refer to section 6.4 in the design manual.

5.12. Soil Treatment

Just prior to placing concrete slab on grade and just prior to backfilling around concrete or masonry foundations for structures, soil treatment for termites shall be applied. All pesticide applications shall be made by state licensed and certified pest control personnel and in strict accordance with manufacturer's label instructions. The Contractor shall formulate, treat, store and dispose of the pesticides in accordance with manufacturer's instructions, and both state and Federal regulations.

5.13. Gas Distribution System

The Contractor shall coordinate connection requirements with TECO Energy. TECO Energy will install all gas piping and meters to within five (5)-feet of the building. The Total Base Bid shall include the gas system site utility installation, payment, and coordination with TECO Energy for gas line installation, meter and associated fees (refer to quote cost included on bid schedule). The contractor shall be responsible for saw cutting and patching of

pavements and sidewalks as required for installation of the gas main and shall repair any areas damaged by the system installation activities, including but not limited to sod, landscaping, pavement damage, pavers and/or concrete removal and replacement.

5.14. Specifications

The Unified Guide Specifications shall be used in this design. The following Specifications shall be included:

01 57 19, Temporary Environmental Controls
02 41 00, Demolition and Deconstruction
02 82 16.00 20, Engineering Controls of Asbestos Containing Materials
02 83 13.00 20, Lead in Construction
02 84 16, Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury
31 00 00, Earthwork
31 11 00, Clearing and Grubbing
31 31 16.19, Chemical Termite Control
32 11 20, Aggregate and/or Graded-Crushed Aggregate Base Course
32 12 13, Bituminous Tack and Prime Coats
32 12 16, Hot-Mix Asphalt (HMA) for Roads
32 13 13.06, Portland cement Concrete Pavements for Roads and Site Facilities
32 13 73, Compression Joint Seals for Concrete Pavements
32 16 19, Concrete Curbs, Gutters and Sidewalks
32 17 23, Pavement Markings
32 31 13, Chain Link Fences and Gates
32 92 23, Sodding
32 93 00, Exterior Plants
33 11 00, Water Utility Distribution Piping
32 11 23, Natural Gas and Liquid Petroleum Piping
33 30 00, Sanitary Sewers
33 40 00, Storm Drainage Utilities

6. LANDSCAPE ARCHITECTURAL FEATURES

6.1. Landscaping Plan

The Contractor shall provide the design for a complete landscaping plan. The plan shall include the design and location of all plant materials and lawn areas, installation notes, planting details, plant schedule and narratives. The RFP Landscape Plan shall be used as a design guide for the preparation of the detailed landscape plan.

6.1.1. A landscape plan prepared by a Registered Landscape Architect will be required to develop the landscaped area around the proposed Fire Station.

6.1.2. The landscaping shall be developed in accordance with approved plant species outlined in the Tyndall AFB IFS and coordinated with applicable requirements for compliance with Anti-Terrorism/Force Protection criteria.

6.1.3. Provide complete landscaping consisting of trees, shrubs, groundcover, and turf as required to provide a quality, cost-effective, functional, and visually appealing landscaping that will visually enhance and

provide a consistent appearance with the existing landscaping at the base while complying with all applicable requirements. Site security and AT/FP consideration should be prominent in the design.

6.1.4. Landscape plantings shall be native/locally adaptive species of trees, shrubs, and groundcovers requiring minimal water and maintenance. Plant materials shall be selected on the basis of plant hardiness, climate, soil characteristics, low maintenance, and high quality. All selected plant material must be tolerable of the site's sandy soil conditions and compatible with existing plant material. Landscaping shall utilize Xeriscape concepts of planting adaptive species requiring low to moderate water consumption. Selected plant materials shall be self-sustaining and capable of surviving on natural rainfall quantities after a one (1) year establishment period.

6.1.5. Low evergreen groundcover, not to exceed 6-inches in height, is to be utilized within the AT/FP unobstructed space. Small multi-stem flowering trees, large trees, and medium trees having sufficient ground clearance of a minimum of 4-feet above grade to ensure visibility within this setback can be utilized.

6.1.6. Detailed landscape plantings consisting of low evergreen groundcover, palms, and small trees shall be concentrated at the building entrances and exits to visually enhance pedestrian entryways. The equipment yard shall be screened from view by the use of evergreen shrubs or small trees. Landscaping shall be specified in Section 32 93 00, Exterior Plants.

6.1.7. Large trees recommended include Southern Magnolia and Live Oak, and shall be installed at a minimum size of 10-feet to 12-feet, 3-inch to 3-1/2-inch caliper, 45-gallon container or B&B. Medium trees recommended include East Palatka Holly, Southern Red Cedar, Savannah Holly, Natchez Crape Myrtle, and Sweet Bay Magnolia and shall be installed at a minimum size of 8-feet to 10-feet, 2 inch to 2-1/2 caliper, 30 gallon contain or B&B . Sabal Palm, 15'-20' in clear trunk height, full head, bare root may also be used in the landscape. Balled and Burlapped trees (B&B) shall be grown in and acclimated to the local geographic area for a period of six (6) months prior to planting. Small shrubs recommended include Dwarf Yaupon Holly, Dwarf Indian Hawthorn, Flax Lily, Saw Palmetto, Muhly grass, and Fakahatchee grass and shall be minimum 18-inches to 24-inches in height, 3-gallon containers. Groundcover plants shall be 4-inches to 6-inches maximum in height and be 1-gallon containers planted a maximum of 24" o.c. Daylily, Rosemary, Twin Flower, and Liriope are recommended, but do not use Asian Jasmine.

6.1.8. Provide a minimum of 6 large trees, 14 medium trees, 3 palms, 115 small shrubs, and 200 groundcover plants within the project boundary of the Base Bid.

6.1.9. All plant beds not bordered by pavement, walks, and curbs shall be edged with concrete or brick.

6.1.10. Install weed barrier fabric in all planting beds.

6.1.11. Mulch all planting beds with 4-inches of Base approved inorganic white gravel to match existing gravel mulch on Base. Mulch trees planted in lawn areas with a minimum 5-feet diameter mulch bed around the base of the tree and separate tree from the lawn area by steel edging 5-feet in diameter.

6.1.12. Landscaping installed shall be guaranteed for a period of one (1) full year after the final acceptance date of the project. The contractor shall provide complete landscape maintenance including routine mowing, pruning, watering, weeding, and fertilizer for a period of 365 days. Maintenance shall be specified in Section 32 05 33, Landscape Establishment.

6.2. Irrigation

No permanent irrigation system will be provided. The Contractor will be responsible for providing a temporary watering system to adequately irrigate all proposed landscape plantings and sodding for a period of one (1) full year after the date of final acceptance. The watering method may include a water truck, watering bags or other methods approved by the Contracting Officer.

6.3. Sodding

6.3.1. The Contractor shall fully sod with Argentine Bahia grass all disturbed and lawn areas within the project limits of work not landscaped.

6.3.2. Prior to sodding, loosen existing soil to a minimum depth of 4-inches. Top 4-inches shall be mixed with soil amendments including 2-inches topsoil.

6.3.3. Provide 2-inch offsite topsoil for all sodded areas. Amend existing soil by applying agricultural lime at a rate of 50-pounds per 1,000 square feet and 12-12-12 commercial fertilizer at the rate of 1½-pounds per 1,000 square feet. Sodding shall be specified in Section32 92 23, Sodding.

6.4. Specifications

As a minimum, the Contractor shall edit and submit the following UFGS as defined in Section 01 10 12, Design After Award:

32 05 33, Landscape Establishment
32 92 23, Sodding
32 93 00, Exterior Plants

7. WATER & WASTEWATER

7.1. Codes and References

The engineering design requirements and criteria for the Water & Wastewater section herein, shall be in accordance with the requirements specified within this section and the criteria documents listed. All criteria documents shall be the current edition. The design of all water system shall be in accordance with the current GCEC design requirements. Any requirements included as part of the RFP concept drawings conflict with GCEC standards, GCEC standards shall govern. Applicable Criteria:

a. Tyndall AFP IFS,
b. Gulf Coast Electric Cooperative Water Details
c. UFC 3-230-01, Water Storage and Distribution
d. UFC 3-240-01, Wastewater Collection
e. UFC 3-600-01, Fire Protection Engineering for Facilities
f. NFPA 24 Installation of Private Fire Service Mains and Their Appurtenances

g. Recommended Standards for Wastewater Facilities (Ten States Standards)
h. Chapter 62-555 FAC General Permit of Construction of Water Main Extension for Public Water System
i. Chapter 62-600 of the Florida Administrative Code, Public Drinking Water Distribution System and Domestic Wastewater Facilities
j. Chapter 62-604 FAC Collection Systems and Transmission Facilities of the Florida Administrative Code, Domestic Wastewater Facilities and the Wastewater Permit checklist
k. US Army Corps of Engineers Mobile District Design Manual,
l. Manual of Practice No. FD-4 Design of Wastewater and Stormwater Pumping Stations.
m. Manual of Practice No. FD-5 Gravity Sanitary Sewer Design and Construction.

7.2. Water and Wastewater:

The Contractor shall design and construct new utility services to provide water supply, including fire protection requirements, and sanitary sewage conveyance for the new facilities. The water and sewage systems shall be designed and constructed in accordance with the criteria contained herein. Coordination of all utility work on the project is the responsibility of the Contractor. The Contractor shall coordinate construction sequencing of utility installation with the Contracting Officer and adjacent contractors to insure the systems are tested and flushed properly before being connected to the existing system. Placement of buried utility mains under new buildings is not allowed. The Contractor's design shall limit installation beneath the pavement. Water main alignments shall follow existing streets or utility corridors. The Contractor shall confirm the exact location of existing utilities and new utilities being installed. The contractor shall be responsible for saw cutting and patching of pavements and sidewalks as required for installation of the water and wastewater system and shall repair any areas damaged by the system installation activities, including but not limited to sod, landscaping, pavement damage, pavers and/or concrete removal and replacement.

7.2.1. Open Cuts. There shall be no open cuts on major streets. All utility crossing shall be bored and jacked. Only minor streets and drives may be open cut, with prior approval of the COR. The Contractor shall notify the Government 7 days in advance of any such open cut.

7.3. Wastewater:

The wastewater collection and conveyance system shall be designed in accordance with the Water Pollution Control Federation Manual of Practice No. FD-5, Gravity Sanitary Sewer Design and Construction. In addition, the designer shall comply with state and local regulations that apply, such as Chapter 62-600 FAC Domestic Wastewater Facilities and 62-604 FAC Collection Systems and Transmission Facilities of the Florida Administrative Code, Domestic Wastewater Facilities and the Wastewater Permit checklist. The Contractor shall provide a minimum of one lateral per building with a double cleanout provided at the entrance of the lateral to the building. New sanitary sewer lines shall be laid on adequate slopes in order to obtain the proper cleansing velocities. Requirements for minimum pipe sizes, minimum

slopes, and flow velocities shall be taken from the latest edition of Recommended Standards for Wastewater Facilities (Ten States Standards), the Water Pollution Control Federation Manual of Practice No. FD-4, Design of Wastewater and Stormwater Pumping Stations and No. FD-5, Gravity Sanitary Sewer Design and Construction.

7.3.1. Existing Wastewater: Any flow through existing sanitary sewer systems that provide discharge must remain or be connected to the existing system with minimum or no disruption of the existing flow. The Contractor is responsible for coordinating with the Contracting Officer. The Contractor shall reconstruct the sanitary system as shown generally on the RFP concept drawings. The Contractor shall keep the sewer system operational at all times, except when connections are required. All service interruptions shall be kept to a minimum. The Contractor shall coordinate all utility outages a minimum of 14 working days prior to the scheduled event with the Contracting Officer. Any damage to the existing system shall be repaired at the expense of the Contractor.

7.3.2. Wastewater Piping: Sanitary Sewer piping shall be PVC unless intended use dictates otherwise. Lines shall be tested for leakage by low-pressure air testing, infiltration tests, or exfiltration tests in accordance with the requirements set forth in Specification Section 33 30 00 SANITARY SEWERS, to be edited by the Contractor accordingly as necessary. The minimum size gravity sewer lateral shall be 4-inches for building connections and minimum pipe size for all other gravity sewer lines shall be 8-inches.

7.3.3. Sanitary Sewer Manholes: Sanitary Sewer Manholes shall be provided at junctions of gravity sewer mains, and at each change in pipe direction, size or slope. Manholes shall be pre-cast reinforced concrete manhole sections. Manholes should normally not be located in the roadways or parking lots, but in areas that are readily accessible for operation and maintenance purposes. Manhole covers shall match those currently in use at Tyndall AFB in all essential details. Tops of frames and covers shall be set flush with a finished grade in paved areas or 2-inches higher than the finished grade in unpaved areas. Frames and covers in vehicle use areas, including emergency vehicle accesses, shall meet anticipated vehicle loadings.

7.3.4. Connections to Manholes: Connections to existing sanitary sewer manholes shall be by coring manhole and field installing a flex-boot connector. The Contractor shall ensure no debris enters the systems, and that all new connections are watertight and protected from groundwater intrusion.

7.3.5. Pump Stations: A new pump station shall be provided to connect the Fire Station to the existing 16” force main running along Beacon Beach Drive. The proposed pump station shall be designed for flows from the proposed Fire Station and proposed CATM range south of Beacon Beach Road. Anticipated total flow is 72 GPM.

7.3.6. Sewer Permits. This project will require a permit for the construction of the gravity sanitary sewer system. The Contractor shall abide by the permit rules, conditions and regulations per the Florida Administrative Code.

7.4. Water Supply

New domestic and fire water supply is required for the new facility. The Contractor shall provide water service lines, water distribution lines and connection to the existing 8-inch water mains which shall be designed and constructed in accordance with the criteria contained herein. The design of the water distribution mains and service lines shall provide an adequate quantity of water at sufficient pressure for domestic and fire suppression use. The Government anticipates that the Contractor shall connect the new water main to the existing water distribution and anticipates sufficient quantity is available for domestic use and fire protection.

The assumed pressure and flow rate required for the building fire protection system is 600 gpm at approximately 55 psi at the building 5-foot line, plus a 250 gpm exterior hose stream allowance. This estimated pressure assumes 8-inch piping to the building. Fire protection water supply and distribution in the facility shall be designed in accordance with UFC 3-600-01 and NFPA 24. A written certification letter shall be submitted with the 100% plans and specifications in accordance with UFC 3-600-01, section 1-7.3. Refer to the preliminary fire hydrant flow test in the appendices.

The water supply will be presumed available at the connection to Base-wide water distribution system.

7.4.1. Existing Water: New domestic and fire suppression water supply shall be provided via new water lines connecting to the existing main running along Beacon Beach Road. A new water meter shall be installed on the domestic water line inside the building inside the mechanical room. A Post Indicator Valve shall be located outside on the fire suppression water line to control all sources of fire suppression sprinkler system water supply into the building.

7.4.2. Water Supply Mains, Service Lines, and Appurtenances: The water supply utility service, mains, and appurtenances shall be designed and installed in accordance with the Gulf Coast Electric Cooperative Standards, International Plumbing Code, NFPA 24 Private Fire Service Mains and Their Appurtenances, applicable AWWA standards, and manufacturer's recommended procedures, NFPA 20, Standard for the Installation of Stationary Pumps for Fire Protection, and UFC 3-600-01, Fire Protection Engineering for Facilities. In addition, the designer shall comply with state and local regulations that apply, such as Chapter 62-555 of the Florida Administrative Code, Permitting and Construction of Public Water Systems. Building service lines shall be sized to meet peak demands with no more than 5 psi total major and minor pressure losses between the distribution line and the building. Control valves shall be provided near the points of connection to the distribution lines. The design shall not create pipeline dead ends or areas where stagnant water could develop.

7.4.3. Piping: Piping for water service and distribution lines shall be polyvinyl chloride (PVC) except where use dictates otherwise. All water piping 4 inches in diameter or greater shall be push-on joint PVC. Piping less than 4 inches in diameter shall be solvent-weld PVC. Thrust restraint shall be provided for all pressurized water lines 4” in diameter and greater. Refer to Specification Section 33 11 00 WATER UTILITY DISTRIBUTION PIPING, as edited by the Contractor, for additional water distribution system requirements.

7.4.4. Hydrant Flow Tests: New hydrant flow tests shall be conducted in accordance with NFPA 291 Recommended Practice for Fire Flow Testing and Marking of Hydrants. The Contractor shall flow an adequate number of hydrants to

minimize hydraulic inefficiencies during the flow. Raw data and results of the fire flow testing shall be included in the design analysis report with calculations to support water line sizing. Fire flow results shall be indicated graphically. As soon as the test is completed, a flow report shall be provided to the COR. As necessary, re-tests may be required. The worst-case data shall be used for design unless the retest indicates that one of the other results appears improbable. From this data and the specific fire protection requirements, the Contractor shall determine the need for additional water supply components such as fire pumps and/or water storage tanks.

7.4.5. Meters: Potable domestic water service lines shall be equipped with suitable meters. The water meter will be located inside the building mechanical room. Contractor shall be responsible for all installation and connection and meter fees.

7.4.6. Valves: Curb stops or valves shall be installed near the point of connection to the main and on both the inlet and outlet sides of the water meter and backflow preventer. All service stops and valves shall be provided with service boxes. Valve connections shall be as required for the piping in which they are installed. Flanges shall not be buried. All valves shall be resilient-seat gate valves or approved equal.

7.4.7. Post Indicator Valves: All exterior post indicator valves shall be locked by CE with a frangible locking mechanism and shall not be electronically supervised. All post indicator valves shall be in accordance with GCEC requirements.

7.4.8. Backflow Preventer: A backflow preventer will be provided on fire protection water service lines, and on potable water lines in accordance with Rule 62-555.360, Florida Administrative Code, and GCEC requirements. Backflow preventers shall be screened from public view. All exterior backflow preventer control valves shall be locked by CE and shall not be electronically supervised. Reduced pressure principle assemblies and double check valve assemblies shall be tested, approved, and listed in accordance with FCCHR-01. All backflow preventers shall be on the list of approved devices published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California.

7.5. Fire Protection Water

The Contractor shall provide water service for fire protection of capacity as determined by the DBFPE (Design Build Fire Protection Engineer) in accordance with UFC 3-230-01, Water Storage and Distribution, with Change 1, 1 October 2018. Refer to RFP Section 01 10 10-15, Fire Suppression, for additional requirements.

7.5.1. Fire Hydrants: The Contractor shall provide fire hydrants to meet the hose stream and location requirements required by UFC 3-600-01. Fire hydrants shall be manufactured in accordance with GCEC requirements and be compatible with existing equipment in use at Tyndall AFB. Hydrants shall be painted in accordance with the current edition Tyndall AFP IFS. Fire hydrants shall be added to meet the requirement that a fire hydrant is within 100 feet of each fire department connection and that all parts of the building are within 350 feet of a fire hydrant. The fire department pumper connection must be accessible from the parking lot roads or the emergency vehicle access drives outside the facility.

7.5.2. Fire Protection System: The fire mains shall be designed to supply the quantity of water at sufficient pressures for the fire protection system required by the Section 01 10 10-15, FIRE PROTECTION, of this document.

7.5.3. Fire Pump: It is anticipated that no fire booster pump will be required for the project. Refer to the preliminary fire hydrant flow test in the appendices.

7.6. Water and Sewer Permits

During design, the Contractor shall contact FDEP state regulators to determine if permits are required. This project requires a water distribution permit per Chapter 62, F.A.C. The Contractor shall contact FDEP to determine the permit requirements. The Contractor shall abide by the permit rules, conditions, and regulations per the Florida Administrative Code. This project will require a sewer collection permit per Chapter 62, F.A.C. The Contractor shall abide by the permit rules, conditions, and regulations per the Florida Administrative Code. If changes are made by the Contractor during design, the Contractor shall contact FDEP to determine the permit requirements. The Contractor shall abide by the permit rules, conditions and regulations per the Florida Administrative Code and ASUS requirements. Refer to Section 01 00 00- Additional Special Contract Requirements for additional required permit information.

7.7. Specifications

The Unified Facility Guide Specifications shall be used in this design. Where UFGS do not cover certain items, industry specs shall be used. As a minimum, the Contractor shall edit and submit the following UFGS as defined in Section 01 10 12, Design After Award:

33 11 00,	Water Utility Distribution Piping
33 30 00,	Sanitary Sewers
33 32 16,	Packaged Utility Wastewater Pumping Stations
33 31 20.00 10,	Sanitary Sewer Force Main Piping

8. ROOM DESCRIPTIONS AND FUNCTIONAL REQUIREMENTS

8.1. General

This section is included to aid the Contractor in understanding the requirements all the functional areas, spaces and rooms within the new building. To aid in the design, the net square footage totals shown on the criteria drawings, and general functional requirements given below shall be fully coordinated.

Refer to criteria drawings for additional requirements that supplement the information provided in the Functional Area/Room Summary and Requirements below. Refer to other portions of this RFP for additional requirements and criteria that apply to these functions.

Refer to Specific Considerations and Facility Design sections of the AFMAN 32-1084 – FACILITY REQUIREMETNS provided in the appendix of this RFP for additional requirements for each functional area, room and use.

All materials and equipment are Contractor Furnished and Contractor Installed (CF/CI) unless otherwise indicated. General types of furnishings and equipment for each room are shown in the criteria drawings to assist in establishing anticipated individual room areas. Refer to FF&E (CID) Packages included in RFP Appendix for specific and additional furniture and equipment information.

8.2. Functional Area/Room Summary

Construct Fire Station #2

TAFB FS2			
NAME	**AREA (SF)**		
MAINTENANCE & APPARATUS AREA			
APPARATUS BAYS			
APPARATUS BAY APPARATUS BAY (CENTRAL BAY – BID OPTION NO.2)	2708 (1240)		
AGENT STORAGE			
AGENT STORAGE (ARFF)	52		
AGENT STORAGE (STRUCTURAL)	0		
APPARATUS SUPPORT			
EMS STORAGE	100		
EQUIP WASH	168		
FIRE EXTINGUISHER INSPECTION	0		
HOSE RACK	51		
INFECTIOUS CONTROL	192		
NON-FLIGHTLINE FIRE EXTINGUISHER MAINTENANCE AND STORAGE	0		
PPE STORAGE	180		
PROTECTIVE CLOTHING LAUNDRY	0		
WORK ROOM	155		
SUBTOTAL MAINTENANCE & APPARATUS AREA	**3606**		

DAY ROOM & RESIDENTIAL AREA			
DAY			
DAYROOM	863		
HOTELING STATIONS	0		
PATIO	94		
PANTRY	60		
DORM ROOMS			
DORM ROOMS	1068		
RESTROOMS			
RESTROOMS	417		
LAUNDRY			
LAUNDRY	94		
FITNESS			
FITNESS	625		
RECREATION			
RECREATION	0		
SUBTOTAL DAY ROOM & RESIDENTIAL AREA	**3221**		
TRAINING & ADMINISTRATIVE AREA			
LOBBY			
LOBBY	318		
VESTIBULE	70		
ADMIN AND OFFICES			
PUBLIC RESTROOM	80		
ADMIN AND TRAINING BREAK	0		
BATTALION CHIEF OFFICE	123		
SHIFT SUPERVISOR OFFICE	124		
STORAGE	97		
TRAINING AND TESTING			

COMPUTER TRAINING/TESTING	151		
DEPARTMENT TRAINING	463		
TRAINING STORAGE/LIBRARY	94		
SUBTOTAL TRAINING & ADMINISTRATIVE AREA	**1520**		
INFRASTRUCTURE AREA			
FACILITY MAINTENANCE			
JANITOR	28		
MECHANICAL / ELECTRICAL			
FIRE RISER	44		
MECH	446		
ELEC	200		
TELECOMM / IT			
BASE IT/COMM	100		
VENDING			
VENDING / RECYCLING	0		
SUBTOTAL INFRASTRUCTURE AREA	**818**		
NON-FUNCTION AREA			
CIRCULATION			
CORRIDOR	1399		
ENTRIES			
COVERED EXTERIOR ENTRIES	0		
WALLS			
PARTITIONS & WALLS	1556		
SUBTOTAL NON-FUNCTION AREA	**2955**		
TOTAL FIRE STATION GROSS AREA	**12120**		

8.3. Functional Area/Room Requirements

Room requirements below include items provided as a means to define the space usage and requirements for room design and layout. Refer to RFP Section 01 10 10-10 STRUCTURAL INTERIOR DESIGN (SID) AND FURNITURE FIXTURE EQUIPMENT (FFE) REQUIREMENTS for a complete list of FF&E items to be provided as part of the FF&E package(s).

Room Name:	Typical Dormitory Module
Use/Description:	Firefighter dormitory module
Quantity & Area	Firefighters - 8 Dormitory Modules (108 sf ea.) Supervisor/Chief - 2 Dormitory Modules (102 sf ea.) Total per Building - 10 Dormitory Modules

	Module area and spaces within module as required by UFC 4-730-10 Fire Stations, as shown in criteria drawings, and per functional requirements.
Functional Requirements:	Bedroom Area: Provide space for (1) single FULL XL beds with nightstand, (1) desk with a pedestal desk below and hutch above with (1) desk chair, and (2) single door storage wardrobes. Station alerting system speaker and lighting (wall mounted). Bedroom Door Hardware – The bedroom door is to have latch with privacy lock and key access, hinges, perimeter sound seals and stop. Bathroom: provide one lavatory area per 2 bedroom(s). Provide 31” high x 30” wide minimum base cabinet with doors below, solid surface countertop with integral sink and backsplash. Provide semi-recessed mounted medicine cabinet with full glass mirror door and shelf (min 648 cubic inches 18”h x 12”w x 3”d), and a wall mounted vanity light above. Provide one toilet and one shower unit, minimum 25 sf area. Toilet to be flush valve type. Provide 2 door(s) with latch with privacy lock. Provide two towel bars, one toilet tissue dispenser, and a wall mounted wood storage cabinet with adjustable shelf and integral towel bar above the toilet. Provide tub/shower with solid surface wall panels, solid surface corner shampoo shelf, solid surface corner soap shelf, vinyl shower curtain, stainless steel rings and heavy-duty rod. Glass fiber reinforced showers are not allowed. Provide adjustable height shower head; consider hand held connected to a flexible hose that fits into an adjustable height holder mounted on a vertical rod.
Special Requirements:	Provide full length mirror on door to restroom (FFE). TVs will be provided with CATV recessed, high wall data outlet at TV location. Switched ceiling fan, no light at fixture. Switched receptacles at lamp table location. Combo black-out roller blinds (Supervisor and Chief dormitory modules only). Toilet to have switched overhead exhaust fan. STC rating-50

	Refer to other sections of this RFP for additional requirements.

Room Name:	Dayroom
Use/Description:	Eatery, recovery, food preparation
Quantity & Area	1 required, adjacent to kitchen and exterior patio, approximate area and configuration as shown in criteria drawings
Functional Requirements:	Provide covered entry at exterior patio with storefront double doors and full sidelights and a roof design and configuration that integrates into the building design and roof massing as shown on the criteria drawings. Station alerting system speaker and lighting (wall mounted).
Special Requirements:	(2) Switched ceiling fans, no light at fixtures. Provide dimmable lighting. TVs will be provided with CATV recessed, high wall data outlet at TV location. STC rating-50 Refer to other sections of this RFP for additional requirements.

Room Name:	Kitchen
Use/Description:	Kitchen & Pantry
1 Quantity & Area	1 required, adjacent to dayroom and pantry approximate area and configuration as shown in criteria drawings
Functional Requirements:	Provide residential microwave vented range hood. Provide 24 linear feet of solid surface countertop, see criteria drawings for finishes. Provide 18 linear feet of base cabinetry, 16 linear feet of wall cabinetry all with adjustable shelving, 6 drawers, plastic laminate finish Provide 3/4HP garbage disposal at sink. Cased opening to pantry adjacent. Provide 66 linear feet metal heavy duty shelving 12” mounted at 3 levels.
Special Requirements:	Provide dimmable lighting.

	TVs will be provided with CATV recessed, high wall data outlet at TV location. Provide under cabinet lighting. Provide number of duplex as required for equipment, 4+ counter height duplex, 2 duplex on island. Door Hardware – Access controls, latch with privacy lock and key override, hinges. STC rating-50 Refer to other sections of this RFP for additional requirements.

Room Name:	Exterior Patio
Use/Description:	Outdoor patio
Quantity & Area	1 required, adjacent to dayroom and pantry approximate area and configuration as shown in criteria drawings
Functional Requirements:	Patio Pavement: pavement design as shown in criteria drawings to be integrated into the covered entry. Ceiling: 10’ minimum
Special Requirements:	Laminated wood pergola with steel bracing, mounting plates attached to north façade of building and atop patio masonry screen wall. Refer to other sections of this RFP for additional requirements.

Room Name:	2 Vehicle Bays
Use/Description:	Housing of fire protection vehicles
Quantity & Area	1 required, adjacent to apparatus support and circulation direct to dorms, approximate area and configuration as shown in criteria drawings
Functional Requirements:	Provide drive-through bays with (4) total 14’Hx14’W insulated overhead doors w/ electric eye and/or automatic reverse device. Manual operation option included. Provide an emergency eye wash fountain and shower. Provide floor trench drains parallel to center line of vehicle, (2) total. All apparatus bay rooms shall drain to approved oil-water separator. Provide space around parked vehicles in accordance with C-1.1 and C-1.4 of UFC 4-730-10. Provide required support utilities (drops) for vehicles such as exhaust, compressed air, hot and cold water, lighting and power.

	Provide a Fire Apparatus Vehicle Exhaust Removal System (FAVERS) in compliance with NFPA 1500, a direct vent system directly to outside. Provide compressed air system on self-retracting lines at each vehicle bay. Provide outlets at 36” a.f.f., self-retracting electric drop cords b/t vehicles. Provide back-up power sized for full unobstructed operation of apparatus bays. Ceiling: min. 14’ high open to structure above.
Special Requirements:	Provide internal and approach drive slopes to allow for approach of fire protection vehicles without bottoming-out or impending driver sightline. STC rating-55 Refer to other sections of this RFP for additional requirements.

Apparatus Bay (Central Bay – Bid Option No. 2)

Room Name:	1 Vehicle Bay
Use/Description:	Housing of fire protection vehicles
Quantity & Area	1 required, adjacent to apparatus support and circulation direct to dorms, approximate area and configuration as shown in criteria drawings
Functional Requirements:	Provide drive-through bays with (2) total 14’Hx14’W insulated overhead doors w/ electric eye and/or automatic reverse device. Manual operation option included. Provide an emergency eye wash fountain and shower. Provide floor trench drains parallel to center line of vehicle, (1) total. All apparatus bay rooms shall drain to approved oil-water separator. Provide space around parked vehicles in accordance with C-1.1 and C-1.4 of UFC 4-730-10. Provide required support utilities (drops) for vehicles such as exhaust, compressed air, hot and cold water, lighting and power. Provide a Fire Apparatus Vehicle Exhaust Removal System (FAVERS) in compliance with NFPA 1500, a direct vent system directly to outside. Provide compressed air system on self-retracting lines at each vehicle bay.

	Provide outlets at 36” a.f.f., self-retracting electric drop cords b/t vehicles. Provide back-up power sized for full unobstructed operation of apparatus bays. Ceiling: min. 14’ high open to structure above.
Special Requirements:	Provide internal and approach drive slopes to allow for approach of fire protection vehicles without bottoming-out or impending driver sightline. STC rating-55 Refer to other sections of this RFP for additional requirements.

Room Name:	Hose Rack
Use/Description:	Area for storage of hoses
Quantity & Area	1 area required, adjacent to apparatus bay(s), refer to criteria drawings for approximate size and location
Functional Requirements:	Provide floor drain and hose bibb. Provide movable racks for roll-up hose storage. Station alerting system speaker (wall mounted). Ceiling: 8’ minimum
Special Requirements:	Refer to other sections of this RFP for additional requirements.

Room Name:	Agent Storage
Use/Description:	Accessible for loading and unloading firefighting agents
Quantity & Area	1 required, size and clearances to meet accessibility criteria
Functional Requirements:	Provide heating where required to prevent agents from freezing. Ceiling: 8’ minimum
Special Requirements:	Refer to other sections of this RFP for additional requirements. STC rating-55

Room Name:	Fire Riser
Use/Description:	Open space
Quantity & Area	1 required, size and clearances to meet accessibility criteria
Functional Requirements:	Ceiling: 8’ minimum
Special Requirements:	Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Equipment Wash
Use/Description:	Wash and maintenance of firefighter's equipment
Quantity & Area	Direct access from outside adjacent to apparatus bay(s), refer to criteria drawings for approximate size and location
Functional Requirements:	Provide (2) floor mop sinks with hose and spray nozzle w/ heavy duty shelving above. Provide 3-compartment sink, stainless steel, drip dryer rack. Provide floor drain, all room drains shall drain to approved oil-water separator. Provide compressed air supply system. Provide one-line with internal two-way communication telephone access. Station alerting system speaker (wall mounted). Ceiling with moisture resistant acoustical ceiling panel system.
Special Requirements:	Refer to other sections of this RFP for additional requirements. STC rating-55

Room Name & Number:	Infectious Control
Use/Description:	Wash and maintenance of firefighter's equipment
Quantity & Area	1 area required adjacent to equipment wash, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide (2) floor mop sinks with hose and spray nozzle w/ heavy duty shelving above. Provide 3-compartment sink, stainless steel, drip dryer rack. Provide floor drain, all room drains shall drain to approved oil-water separator. Provide compressed air supply system. Provide one-line with internal two-way communication telephone access. Station alerting system speaker (wall mounted). Ceiling with moisture resistant acoustical ceiling panel system.
Special Requirements:	Refer to other sections of this RFP for additional requirements. STC rating-55

Room Name & Number:	EMS Storage

Use/Description:	EMT and medical storage
Quantity & Area	1 area required, restricted and controlled to prevent theft and abuse, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide free standing shelving units, (1) lockable cabinet for EMT storage. 6’ wide minimum; acoustical ceiling panel system.
Special Requirements:	Door hardware: provide keyed lockset at access point. Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Work Room
Use/Description:	Maintenance, repair and storage
Quantity & Area	1 area required, refer to criteria drawings for approximate size and location
Functional Requirements:	6’ wide minimum; acoustical ceiling panel system.
Special Requirements:	Refer to other sections of this RFP for additional requirements.

Room Name & Number:	PPE Storage
Use/Description:	Storage for firefighter’s protective gear
Quantity & Area	1 area required, adjacent to apparatus bay and route from Dorm area, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide well ventilated locker with sufficient floor area in front, while the room is kept under constant negative pressure. Station alerting system speaker and lighting (wall mounted). 6’ wide minimum; durable acoustical ceiling panel system.
Special Requirements:	Locker layout should permit free air circulation around and throughout clothing. Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Laundry
Use/Description:	Only for firefighter’s personal clothing, not for PPE gear
Quantity & Area	1 area required, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide (2) stacked washers, (2) stacked dryers and (1) folding table.

	Provide deep laundry sink, stainless steel and drying rack above. Station alerting system speaker (wall mounted). Ceiling with moisture resistant acoustical ceiling panel system.
Special Requirements:	Refer to other sections of this RFP for additional requirements. Provide dryer vent to exterior wall with interior access panel cleanout and in-line exhaust fans as needed. STC rating-50

Room Name & Number:	Storage
Use/Description:	Storage
Quantity & Area	Refer to criteria drawings for approximate size and location
Functional Requirements:	6’ wide minimum.
Special Requirements:	Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Fitness
Use/Description:	Area to promote health and physical fitness
Quantity & Area	1 area required, sized to provide free circulation b/t equipment while in use, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide wall outlets per code, also to accommodate fitness machines. Station alerting system speaker (wall mounted). Provide one-line with internal two-way communication telephone access. TV will be provided with CATV recessed, high wall data outlet at TV location. 8’ ceiling minimum; durable acoustical ceiling panel system.
Special Requirements:	Provide full-wall-height mirror(s) on at least one wall. Provide STC 50 – 55 rated wall assemblies. Refer to other sections of this RFP for additional requirements.

Room Name:	Shift Supervisor Office

Use/Description:	Space for Shift Supervisor to perform administrative functions
Quantity & Area	Area adjacent to apparatus bay, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide (1) desk and (1) desk chair. Provide outlets per code and to accommodate extensive equipment requirements. Provide (2) additional quad outlets at control center console, switch controlling operation of apparatus bay doors. Station alerting system speaker and lighting (wall mounted).
Special Requirements:	TVs will be provided with CATV recessed, high wall data outlet at TV location. STC rating-50 Refer to other sections of this RFP for additional requirements.

Room Name:	Chief Office
Use/Description:	Space for Chief to perform administrative functions
Quantity & Area	Area adjacent to apparatus bay, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide (1) desk and (1) desk chair. Provide outlets per code and to accommodate equipment requirements. Station alerting system speaker and lighting (wall mounted).
Special Requirements:	TVs will be provided with CATV recessed, high wall data outlet at TV location. STC rating-50 Refer to other sections of this RFP for additional requirements.

Room Name:	Public Restroom
Use/Description:	Public Restroom
Quantity & Area	one Module area and spaces within module as required by UFC 4-730-10 Fire Stations, as shown in criteria drawings, and per functional requirements.
Functional Requirements:	Provide one lavatory area. Provide one porcelain wall mounted sink.

	Provide wall mounted above-sink framed glass mirror (min 648 cubic inches 36”h x 24”w), and a wall mounted vanity light above. Provide one toilet. Toilet to be flush valve type. Provide a door with latch with privacy lock. Provide one toilet tissue dispenser.
Special Requirements:	Toilet to have switched overhead exhaust fan. STC rating-55 Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Lobby
Use/Description:	Entrance to facility, gathering / waiting area for visiting public
Quantity & Area	1 area required w/ Chief as resident, adjacent to Administrative area, refer to criteria drawings for approximate size and location
Functional Requirements:	Station alerting system speaker (wall mounted). Provide walk-off mat. Provide reception desk to station one persons with built in file storage. 2-story heighted tower at lobby area for daylighting.
Special Requirements:	Space should be recognizable from outside and well-lit and inviting. Provide airlock (vestibule) and signage. Provide wall graphics. Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Vestibule
Use/Description:	Airlock at entrance of facility
Quantity & Area	Adjacent to Lobby, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide walk-off mat. 2-story heighted tower at lobby area for daylighting.
Special Requirements:	Space should be recognizable from outside and well-lit and inviting. Refer to other sections of this RFP for additional requirements.

Room Name:	Department Training

Use/Description:	Classroom space for continuing education and training of fire station staff
Quantity & Area	1 area required, refer to criteria drawings for approximate size and location
Functional Requirements:	Station alerting system speaker (wall mounted). Provide one-line with internal two-way communication telephone access. Provide data outlets to every desk chair location. Direct power to each work table. Provide desks, desk chairs, overhead retractable screen, overhead projector. Provide dry-erase board. Provide outlets per code and to accommodate equipment requirements. Station alerting system speaker and lighting (wall mounted).
Special Requirements:	TVs will be provided with CATV recessed, high wall data outlet at TV location. Provide STC 50-55 rated wall assemblies. Refer to other sections of this RFP for additional requirements.

Room Name:	Computer Training / Testing
Use/Description:	Area for individual study and testing of firefighters
Quantity & Area	Area adjacent to Department Training, refer to criteria drawings for approximate size and location
Functional Requirements:	Provide individual computer / study carols, private. Provide data outlets to all workstations and equipment. Provide outlets per code and to accommodate equipment requirements.
Special Requirements:	Provide STC 50-55 rated wall assemblies. Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Training Storage / Library
Use/Description:	Storage of audiovisual equipment, media, furnishings, etc.
Quantity & Area	Refer to criteria drawings for approximate size and location
Functional Requirements:	Provide painted solid hardwood heavy duty storage shelving.

Special Requirements:	Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Circulation
Use/Description:	Corridor for circulation and exit access
Quantity & Area	Provided at Dorm, Day and Administrative areas, area (sf) to be determined by code clearances and functional requirements
Functional Requirements:	6’ wide minimum.
Special Requirements:	Refer to other sections of this RFP for additional requirements. STC rating-50

Room Name & Number:	Mechanical Equipment Room
Description:	Mechanical room for HVAC equipment
Quantity & Area	1 required, size and configuration to be determined by equipment provided and code/criteria and maintenance clearances
Functional Requirements:	No ceiling; double door access to exterior with standard lock
Special Requirements:	Floor drain for HVAC equipment. STC rating-55 Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Electrical Room
Description:	Main electrical room
Quantity & Area	1 required, size and configuration to be determined by equipment provided and code/criteria and maintenance clearances
Functional Requirements:	No ceiling; double door access to exterior with standard lock
Special Requirements:	Protect equipment. STC rating-55 Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Base IT / Communications Equipment (Comm Room)
Description:	Main communications room for building
Quantity & Area	1 @ 100 sf minimum
Functional Requirements:	Provide room for communications racks, switches, DDC enclosure, and cable TV entrance, accessed with door from the exterior. Provide door with standard lock (refer to Tyndall standards for specific keyway required). No ceiling required
Special Requirements:	Dedicated 120V duplex over rack.

	Provide stand-alone mechanical unit. Refer to other sections of this RFP for additional requirements.

Room Name & Number:	Janitor Room
Description:	Janitors closet
Quantity & Area	1 @ 28 nsf
Functional Requirements:	Provide janitor closet with mop sink, shelving and space for mop bucket. Provide stainless steel wall mounted mop and broom holder and floor drain. Provide door with standard lock. Ceiling 8’ minimum
Special Requirements:	Provide floor drain; mop sink

9. ARCHITECTURAL

9.1. Codes and References

Facility shall be designed in accordance with all government requirements, regional, and national applicable codes effective at issue date of RFP including, but not limited to:

a. AFMAN 32-1084 – Facility Requirements
b. International Building Code (IBC)
c. State of Florida Building Code – High Velocity Hurricane Zone Requirements
d. National Fire Protection Association (NFPA) Codes and Standards
e. Architectural Barriers Act Accessibility Standard for DoD Facilities (ABA)
f. UFC 1-200-01, DoD Building Code (General Building Requirements)
g. UFC 1-200-02, High Performance and Sustainable Building Requirements
h. UFC 3-101-01, Architecture
i. UFC 3-110-03, Roofing
j. UFC 3-120-10, Interior Design
k. UFC 3-600-01, Fire Protection Engineering for Facilities
l. UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings
m. UFC 4-730-10, Fire Stations
n. AFCEC A-GRAM 17-01 Change to AF New Construction and Major Renovation Certification Requirements
o. Air Force Sustainable Design & Development (SDD) Implementation Guidance, memorandum dated.

9.2. General

The Contractor shall design and construct a Structural Fire Station (#2) at Tyndall Air Force Base, Florida to result in a complete and usable facility based on the Design Requirements contained within this solicitation.

Architectural design shall be in accordance with the criteria drawings, and RFP defined criteria and requirements.

This project is required to provide a properly sized and configured fire station buildings to support Military firefighters' mission to provide fire protection to installation facilities and fire prevention education and training. It is critical the design of this facility accommodates the required equipment, the numerous unique functional requirements and the safety of the firefighting personnel.

The architectural design of the building shall be of an aesthetic nature and quality befitting a modern, residential facility.

The building shall be permanent construction of Type IIB Construction as defined by the International Building Code and in accordance with the UFC 3-600-01 and meet criteria for occupancy classification. This facility must conform to the NFPA 101 Life Safety Code in accordance with the UFC 3-600-01. Provide a fire alarm and mass notification system, smoke detection system, and protect with a fire suppression sprinkler system (refer to other Sections of this specification for additional and more detailed requirements).

9.3. Architectural Theme and Character

The main entry to be oriented towards Beacon Beach and emphasized with a higher tower mass than the primary building central core form to provide a 2-story covered entry design composed of brick / CMU masonry veneer clad exterior walls and a single-door storefront entry system at the vestibule. The exterior facade to be articulated with integrally colored split-face masonry veneer to form a base at the lower third portion of the walls. The upper two-thirds of the façade to be of a complimentary masonry brick veneer. Accent banding of smooth-face CMU masonry veneer courses to be integrated into the façade design that provides visual interest and scale.

The roof design to be multiple slopes, composed of prefinished standing seam metal roof system with prefinished metal fascia, flashing, flush seam soffit panels, gutters and exposed downspouts connected to the underground stormwater piping system. Provide a curved roof at the entry tower. The roof will be a standing seam metal roof design with gutter and downspouts and metal soffit panels.

Exterior colors to conform to Installation Facility Standards for Group 2 and shall aesthetically correspond with adjacent buildings

Government shall have final approval authority for the overall exterior and interior design, materials, finishes and colors for the project.

9.4. Life Safety Code Analysis

A Qualified Fire Protection Engineer (QFPE) shall prepare and submit a code analysis documenting compliance with building and life safety codes and references. Refer to Section 01 10 10-14.2 for QFPE qualifications and additional requirements.

9.5. Building Layout and Configuration

Refer to Section 3.1 BUILDING DESIGN AND CONFIGURATION for overview of design approach that supplements the concept design as shown in the RFP criteria drawings to be further developed in the final design and construction documents by the Contractor.

9.6. Functions and Use

Refer to Section 8, ROOM DESCRIPTIONS AND FUNCTIONAL REQUIREMENTS for requirements of all the functional areas, spaces and rooms within the new building.

9.7. Life Cycle Cost Analysis

Design the building to minimize life cycle cost, energy consumption, and maintenance through the proper selection of mass, forms, materials and construction standards. Perform Building Exterior Shell and Roof LCCA as required by UFC and or the Mobile Design Guide.

9.8. Antiterrorism Force Protection (ATFP)

Building and site design to be designed and constructed in accordance with DOD Minimum Antiterrorism Standards for Buildings UFC 4-010-01 and as further defined in this RFP.

9.9. Accessibility

Refer to 3.11 ACCESSIBILITY of this section for application of accessibility standards and criteria for the building design.

9.10. Building Envelope Design

Exterior envelope design shall follow requirements and criteria of UFC 3-101-01 Chapter 3 Building Envelope Requirements as a minimum. The building envelope must be designed to comply with or exceed ANSI/ASHRAE/IESNA 90.1 2013. The building envelope shall be designed to control the transfer of heat, air, moisture, light/radiation, and noise. Design each control strategy holistically and use an integrated approach. The architect shall review and coordinate with the mechanical engineer for the placement of vapor retarder and air barrier at the airconditioned boundary.

The most important barriers in the building enclosure shall be continuous: rain screen or water deflection layer, insulation or thermal barrier, air barrier, water drainage plane, and the waterproof barrier. Continuity of the barriers shall be traced through all details of the building enclosure. Clearly identify the boundary limits of the building air barriers, and of the zone or zones to be tested for building air tightness on the drawings.

9.10.1. Air Barrier Requirements

9.10.1.1. Design, construct and test the building enclosure with a continuous air barrier to control air leakage in accordance with the requirements of ANSI/ASHRAE/IESNA 90.1 as indicated herein. Clearly identify all air barrier components of each envelope assembly on construction documents and detail the joints, interconnections and penetrations of the air barrier components. Clearly

identify the boundary limits of the building air barriers and of the zone or zones to be tested for building air tightness on the drawings. Include the statement of the calculated six-sided area of the air barrier envelope on the drawings for each test area.

9.10.1.2. Trace a continuous plane of air-tightness throughout the building envelope and make flexible and seal all moving joints. Air barrier requirements shall be verified per the requirements noted below in Inspection and Testing.

9.10.1.3. Seal all penetrations of the air barrier. Unavoidable penetrations of the air barrier (such as electrical boxes, plumbing fixture boxes, and other assemblies that are not airtight) shall be made airtight by sealing the assembly and the interface between the assembly and the air barrier or by extending the air barrier over the assembly. The air barrier must be durable to last the anticipated service life of the assembly. Do not install lighting fixtures with ventilation holes through the air barrier.

9.10.1.4. Provide low-leakage dampers and controls to close all ventilation or make-up air intakes and exhausts, etc when leakage can occur during inactive periods.

9.10.1.5. Compartmentalize and provide 100% exhaust for spaces under negative pressure such as PPE Gear Storage, Infectious Control. Provide make-up air for combustion.

9.10.1.6. Inspection and Testing

Performance Criteria and Substantiation: Submit the qualifications and experience of the testing entity for approval. Demonstrate performance of the continuous air barrier for the opaque building envelope per the following criteria:

ECB 2012-16 Building Air Tightness and Air Barrier Continuity Requirements (1 May 2012) with referenced "U.S. Army Corps of Engineers Air Leakage Test Protocol for Building Envelopes, Version 3, February 21, 2012" (http://www.wbdg.org/references/pa_dod_energy.php), except acceptable air leakage rate shall be as allowed by UFC 3-101-01 for Air Force projects.

UFC 3-101-01; building air barrier system shall be tested in accordance with the requirements of ANSI/ASHRAE/IESNA 90.1 with the following exceptions defined in UFC 3-101-01 (3-6.3) for Air Force projects:

The building air leakage rate shall be determined by testing to 0.2 in. water (50 Pa) and extrapolating the test results to 0.3 in. water (75 Pa). The building air leakage rate shall not exceed 0.25 cfm/ft2 (this follows criteria for Army and Navy project which is more restrictive than allowed for Air Force projects) when test results are extrapolated to 0.3 inches water (75 Pa). Use of 0.2 inches water (50 Pa) test pressure allows for the use of the building HVAC system to provide test pressure.

Detailed inspection and testing requirements and acceptance criteria shall be included in the project specifications.

Notify the Government at least 3 working days before the tests to provide the Government the opportunity to witness the tests. Provide the Government written test results confirming the results of all tests. Determine air leakage pathways using ASTM E1186-03(2009)'Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems'. If test results indicate the building does not meet air leakage criteria, the Contractor shall correct problems and retest. Provide a test report that includes methodologies for testing, equipment, inspection procedures and testing results with comparison to the air leakage criteria for review by the Government and the commissioning authority (CxA).

9.10.1.7. Mock-up

Specifications written by design-build designers shall include requirements for a mockup for air barrier installation to be reviewed for approval by the COTR and commissioning agent (CxA). See ASHRAE 189.1 Appendix B, Best Practices for guidance.

9.11. Exterior Construction

The exterior wall windows, and roof systems and any accessory systems attached to them, as well as any above grade site improvements shall be engineered to meet the Florida Building Code requirements for High Velocity Hurricane Zone (HVHZ) construction. Wind loads commensurate with Miami Dade county requirements will be incorporated into the design of all exterior and structural systems. All exterior products shall have a current Miami-Dade Notice of Acceptance (NOA) for each element. These NOA's shall be supplied as a part of the submittal process.

9.11.1. Exterior Walls

9.11.1.1. General

The exterior walls to be rain screen cavity wall type construction with integrally colored split-face masonry veneer at the base, brick masonry veneer for the majority of the exterior facade and smooth-face masonry veneer accent bands. Cavity wall design to include rain screen veneer cladding, air space drainage cavity, air/moisture barrier, insulation and continuous insulation, and back-up wall substrate as an integrated wall assembly to meet the requirements for energy efficiency, weather protection, air and water infiltration, thermal movement, low maintenance, high durability, and aesthetic appearance.

The exterior facades to be articulated with integrally colored split-face masonry veneer to form a base at the lower third portion of the building. The upper two-thirds of the façade to be brick masonry veneer with integrally colored smooth-face masonry veneer accent bands.

Accent banding of integrally colored smooth-face CMU masonry veneer courses, precast concrete window sills, accent treatment of brick masonry veneer at window heads and to be integrated into the façade design that provides visual interest and scale. Refer to RFP criteria drawings for concept design and intent.

The exact composition, construction and thickness of these wall system components to consider energy conservation and anti-terrorism force protection

criteria. Provide joints in veneer to accommodate thermal movement, expansion and shrinkage of wall materials and construction to avoid cracks in veneer and mortar joints. Follow criteria.

Exterior wall construction assemblies shall meet or exceed the requirements of ASHRAE 90.1 (2013) for energy performance.

9.11.1.2. Integrally Colored Masonry Veneer

Architectural units of modular dimension, nominal 8-inch x 4-inch x 16-inch (other sizes as required to meet designed conditions), have patterned face shell of split-face or smooth-face, integrally colored during manufacture, have water-repellant admixture added during manufacture, and meet ASTM C90 standards. Use only cement that has a low alkali content and of one brand. Veneer to be installed in a stacked bond pattern.

Mortar to be integrally colored and include water-repellant admixture.

Exterior walls shall include control joints and expansion joints for considerations of thermal movement and to prevent cracks.

9.11.1.3. Brick Masonry Veneer

Architectural units of modular dimension, reclaimed economy brick, nominal 4-inch x 4-inch x 4-inch (other sizes as required to meet designed conditions), have cored, kneaded clay-bearing soil, sand and lime, fired or air-dried, integrally colored during manufacture, have water-repellant admixture added during manufacture, and meet ASTM C90 standards. Veneer to be installed in a running bond pattern.

Mortar to be integrally colored and include water-repellant admixture.

Exterior walls shall include control joints and expansion joints for considerations of thermal movement and to prevent cracks.

9.11.1.4. Translucent Wall Panel System

Provide commercially available metal framed, UV-stabilized, shatterproof and energy efficient translucent panels for daylighting applications. Fabricated 2-3/4” panels of glass-fiber reinforced polyester that conform to ASTM D3841 standards.

Provide panels consisting of fiberglass faces laminated and uniform in color to a non-combustible, aluminum I-beam grid core and deflecting no more than 1.9 inches at 30psf in 10 feet in accordance with ASTM E72. Incorporate weepage elements within the perimeter framework of the glazing system. Condensation resistance factor must be at least 45.

Use heat and pressure resin-type laminate adhesive engineered for structural sandwich panel use, passing testing requirements specified by the International Conference of Building Officials’ “Acceptance Criteria for Sandwich Panel Adhesive”.

9.11.1.5. Insulation

Insulation shall be of R-value as required by ASHRAE 90.1 as a minimum and as part of a high performing building envelop to assist in achieving reducing energy usage. Continuous rigid insulation shall be provided in drain cavity outboard of the back-up substrates and be extruded preformed cellular polystyrene meeting ASTM C 578 or other similar closed cell rigid insulation board products that are intended for use in wall cavities with moisture. Rigid insulation in wall cavity for wall systems shall be continuous to prevent thermal bridging. Air and moisture barriers and insulation installed on the interior face of the exterior wall assembly shall be carefully designed to determine dew point location that can result in condensation occurring within the wall assembly that can create in-door air quality problems.

9.11.1.6. Exterior Sheathing

Exterior sheathing utilized as part of the steel stud exterior wall system or other applications shall be a Glass Mat Covered or Reinforced Gypsum Sheathing meeting physical properties of ASTM C 79/C 79M and ASTM C 1177/C 1177M, minimum 1/2-inch-thick, consisting of a noncombustible water-resistant core, with a glass mat surfaces embedded to the gypsum core or reinforcing embedded throughout the gypsum core. Gypsum sheathing board shall be warranted for at least 6 months against delamination due to direct weather exposure. Sheathing shall be installed following manufacturer’s installation instructions and recommendations.

9.11.1.7. Air and Water Barriers

Fluid or sheet applied membrane barrier systems shall be of the type and installed to prevent air and water intrusion into the wall system. Barrier system shall be capable of performing as a continuous vapor-permeable air barrier and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration. Air barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

Barrier system shall be designed and installed continuous, with all joints made airtight. It shall have an air permeability not to exceed 0.004 cfm/sq. ft. under a pressure differential of 0.3 in. water (1.57 psf). It shall be capable of withstanding positive and negative combined design wind, fan and stack pressures on the envelope without damage or displacement and shall transfer the load to the structure. It shall not displace adjacent materials under full load. It shall be durable or maintainable. The barrier shall be joined in an airtight and flexible manner to the barrier material of adjacent systems, allowing for the relative movement of systems due to thermal and moisture variations and creep. Connection shall be made between:

a) Foundation and walls.
b) Walls and windows, louvers or doors.
c) Different wall systems.
d) Wall to roof, wall to soffit, soffit to roof.
e) Wall and roof over unconditioned space.
f) Walls, floor and roof across construction, control and expansion joints.
g) Walls, floors and roof to structural, utility, pipe and duct penetrations.

All penetrations of the air barrier and paths of air infiltration/exfiltration shall be made airtight. Barrier system shall be designed and installed to meet air barrier inspection and test criteria specified in this section. Provide auxiliary materials and flashings recommended by air barrier manufacturer for intended use and compatible with air barrier membrane. Barrier system shall be installed following manufacturer's installation instructions and recommendations.

9.11.1.8. Cavity Drainage and Flashings

At bottom of walls, windows, doors, louvers, and other drainage cavity interruptions provide continuous thru wall flashing with weeps (8 inches below finish floor at bottom of wall conditions). Flashing shall be placed above all horizontal openings to permit drainage of cavity above to the exterior face of the masonry. Sills at windows and louvers to be sloped to permit drainage away from openings. Provide 26-gauge stainless steel drip edge at all thru wall flashing conditions with flashing material installed on top of metal drip edge.

Flashing materials to be 0.015-inch-thick stainless steel or coated-copper flashing; 7-ounce, electrolytic copper sheet, uniformly coated on both sides with acidproof, alkaliproof, elastic bituminous compound, factory apply coating to a weight of not less than 6 ounces/square foot (approximately 3 ounces/square foot on each side).

Provide weep hole ventilators of aluminum or plastic inserts with grill or screen-type openings designed to allow the passage of moisture from cavities and to prevent the entrance or insects. Ventilators shall be 2-inch-high and width to match modular construction with a standard 3/8-inch mortar joint.

Provide mortar net of high-density polyethylene or nylon strands woven into a minimum 90% open mesh, installed on top of through-wall flashing at the inside of the cavity.

9.11.1.9. Veneer Anchors and Ties

Anchors and ties shall be fabricated without drips or crimps and shall be zinc-coated in accordance with ASTM A153/A153M, Class B-2. Steel wire used for anchors and ties shall be fabricated from steel wire conforming to ASTM A1064/A1064M. Wire ties or anchors in exterior walls shall conform to ASTM A641/A641M. Joint reinforcement in interior walls, and in exterior or interior walls exposed to moist environment shall conform to ASTM A641/A641M.

Provide wall ties rectangular-shaped or Z-shaped fabricated of 3/16-inch diameter zinc-coated steel wire. Rectangular wall ties shall be no less than 4 inches wide. Wall ties may also be of a continuous type integral with joint reinforcement for masonry back-ups. Adjustable type wall ties shall consist of two essentially U-shaped elements fabricated of 3/16-inch diameter zinc-coated steel wire. Adjustable ties shall be of the double pintle to eye type and shall allow a maximum of 1/2 inch eccentricity between each element of the tie. Play

between pintle and eye opening shall be not more than 1/16 inch. The pintle and eye elements shall be formed so that both can be in the same planes.

9.11.1.10. Masonry Back-up

Masonry as an exterior wall assembly back-up material shall be minimum 8-inch nominal units meeting ASTM C90. Refer to structural portions of this RFP for additional requirements.

9.11.2. Standing Seam Metal Roof System Assembly

Roofing shall be an architectural standing seam metal roof (SSMR). Panels shall be a minimum 24-gauge (minimum) Galvalume or .040-inch-thick minimum aluminum with concealed fastener and clip systems. Panels shall be installed over a 40 mil (min) self-sealing self-adhered rubberized waterproof membrane underlayment installed over rigid polyisocyanurate insulation (R-30 min), provide cover board as required by manufacturer or other criteria. Panel fasteners and clips systems shall be mechanically fastened through the insulation and into the galvanized steel roof deck. All concealed or exposed fasteners and clips shall be stainless steel (prefinished at exposed conditions).

Sheet Material & Finish Coating: material sheet shall be Galvalume sheet (aluminum-zinc alloy coated steel conforming to ASTM A 792/A 792M, AZ 55 coating) or aluminum sheet (alloy 3105-H14) prefinished with a high-performance coating system. Finish coating system to include a primer and 70 percent polyvinylidene fluoride resin color finish coat on the exposed side. Prime coat shall be not less than 0.2 mil. Color finish coat shall be not less than 0.8 mil. Total color coating system thickness shall be not less than 1.0 mil and with any additional primer and finish coat thickness required to meet warrantee requirements.

The SSMR shall be mechanically fastened through the rigid insulation to the galvanized structural roof deck. The SSMR system shall be the product of a single manufacturer. All roof penetrations, curbs, gutters and flashings shall match SSMR material, color and installed by the roofing contractor. The roofing contractor shall be responsible for fabrication, installation and quality control. The manufacturer shall have its representative inspect the installation of the SSMR system at appropriate intervals during construction.

Furnish the metal roof panel manufacturer's 20-year no dollar limit roof system materials and installation workmanship warranty, including flashing, insulation, components, trim, and accessories necessary for a watertight roof system construction. Make warranty directly to the Government, commencing at time of Government's acceptance of the roof work. Furnish a 20-year finish warranty.

Exposed gutters and downspouts shall be the same material and finish system as the SSMR. Downspouts shall be secured at top and bottom and at a maximum of 5’-0” on center and be held off exterior wall. Gutters, downspouts, fascia and flashings shall be designed to meet SMACNA (current edition) standards as a minimum.

Roof slope shall be as indicated. All exposed roof penetrations, equipment, and sheet metal including flashings, fascia, and trim shall be pre-finished unless

shop painting is required for special shape or soldered custom flashing. Pre-finished sheet metal shall match roof color.

SSMR shall be a concealed fastener system; provide cleats with stainless steel fasteners for attachment of all roof and flashing materials. All concealed or exposed fasteners shall be stainless steel. Provide a slip sheet if required by roof manufacturer. Penetrations shall occur in the center of the roof sheet, not at the seam location. Stacks, where possible, shall be combined into common vents before extending through roof.

Roof underlayment to be 40 mil minimum self-sealing rubberized waterproof membrane (ASTM D 1970) or EPDM underlayment (ASTM D 4637, Type I, non-reinforced, minimum 0.045-inch-thick) installed over rigid polyisocyanurate insulation (R-30 min) or cover board if required. Insulation meeting ASTM C1289 Type II, fibrous felt or glass mat membrane both sides, except minimum compressive strength shall be 20 pounds per square inch (psi), mechanically fastened through the galvanized steel deck.

9.11.3. Roofing Construction

Hold a pre-roofing conference with subcontractors and the Government. Provide a Roof Quality Assurance Plan to include design review and on-site quality control during construction. Comply with UFC 3-110-03. The design of concealed fasteners shall provide for a factor of safety of two times the calculated wind uplift pressure. All exposed flashing shall match the roof material color. All roof mounted equipment and devices shall be prefinished to match the roof color.

The Contractor shall hire an independent roofing consultant to review and approve shop drawings prior to submission of design and construction submittals. This individual or his representative shall also inspect the roof installation on a regular basis for conformance with the contract DOCUMENTS AND APPROVED SHOP DRAWINGS. The inspector shall issue reports with copies to the Contracting Officer’s Representative. The roofing consultant and/or his representative shall be certified by the roofing manufacturer and/or the Roof Consultant Institute.

Roof design inclusive of type, color, accessories, etc must match those provided in the Tyndall AFB IFS as applicable. Roof warranty placards shall be mounted adjacent to roof access ladders, hatches, etc. as applicable.

9.11.4. Exterior Door Assemblies

Doors, frames and hardware shall be tested in accordance with ASTM F 2247. Steel, insulated flush single doors shall be a minimum 3’ x 7’ and steel, insulated, flush double doors 6’ x 7’ unless required otherwise.

9.11.4.1. Steel Flush Doors:

All flush steel exterior doors and frames shall meet SDI/DOOR A250.8, Level 3, physical performance Level A, Model 2 with insulating core construction. All steel door frames shall be welded. Exterior doors shall have top edge closed flush and sealed to prevent water intrusion and a minimum thickness for doors shall be 1-3/4 inches minimum.

Fabricate exterior doors and frames from hot dipped zinc coated steel, alloyed type, that complies with ASTM A924/A924M and ASTM A653/A653M. The coating weight shall meet or exceed the minimum requirements for coatings having 0.4 ounces per square foot, total both sides (A40). Repair damaged zinc-coated surfaces by the application of zinc dust paint. Thoroughly clean and chemically treat to insure maximum paint adhesion. Factory prime as specified in SDI/DOOR A250.8. Door frames not located under protective overhangs shall have drips.

All doors shall include aluminum thresholds and aluminum housed weather seals. Exterior flush doors shall receive a painted finish. All drips to be specified to match the color of the doors.

9.11.4.2. Door Hardware:

Refer to Interior Construction portion of this RFP specification for door hardware requirements.

9.11.5. Exterior Glazed Entrances and Window Assemblies

Provide prefinished aluminum storefront entrances and window systems at locations identified in this RFP and at locations and general configurations shown in the criteria drawings. Exterior window and door systems shall be provided from a manufacturer with a minimum of 10 years' experience, regular engaged in the manufacturing of the types of window and door assemblies required for this project, including testing and engineering documentation.

Storefront entrance doors required at main entry and secondary courtyard entry.

Prefinished aluminum storefront entrance doors and glazing assemblies to have a fluoropolymer finish (Kynar 500 or equal) or clear anodized aluminum finish, insulating laminated low-e tinted glazing to meet all code required structural design and wind loads.

Aluminum storefront doors to be minimum 1-3/4 inch thick; minimum wall thickness, 0.125 inch, except beads and trim, 0.050 inch; full-lite design with medium stiles and rails; Fabricate from extruded aluminum hollow seamless tubes or from a combination of open-shaped members interlocked or welded together; air leakage of weather stripping door shall not exceed 0.5 cubic feet per minute of air per square foot door area when tested in accordance with ASTM E283. Storefront window frames to be extruded aluminum shapes with removable glass stops and glazing beads for frames accommodating fixed glass. Mill joints in frame members to a hairline fit, reinforce, and secure mechanically. Aluminum Alloy for Doors and Frames; ASTM B221M, ASTM B221, Alloy 6063-T5 for extrusions; ASTM B209M, ASTM B209, alloy and temper best suited for aluminum sheets and strips. When tested in accordance with ASTM E283, air infiltration per door leaf must not exceed 0.06 cubic feet per minute per square foot of fixed area at a test pressure of 6.24 pounds per square foot. When tested in accordance with ASTM E331, there must be no water penetration at a pressure of 8 pounds per square foot of fixed area.

Glazed systems (frames and glass) will be Energy Star labeled products as appropriate to climate zone and as applicable to window type, and as required by ASHRAE 90.1 and energy performance standards as defined in this RFP, as a minimum insulating glazing units with tinted glass and low-e coating system.

Exterior window and glazed door assemblies must meet hurricane impact and cyclic testing criteria for large and small missiles; Large Missile Test per ASTM E 1996 and Small Missile Test per ASTM E 1886.

Provide systems complete with framing, mullions, trim, glass, glazing, sealants, insulation, fasteners, anchors, accessories, concealed auxiliary members, and attachment devices for securing the wall to the structure as specified or indicated.

Glazing shall be insulating glass Quality q3 - glazing select or better, conforming to ASTM C 1036.

Perimeter frame sealant shall be silicone sealant meeting ASTM C 920, Type S, Grade NS.

Refer to Interior Construction portion of this RFP specification for storefront door hardware requirements.

9.11.6. Wall Louvers

Prefinished aluminum, fixed blade 45-degree minimum slope drainable wall louvers with insect screens. Wall louvers will meet wind loads as defined in accordance with ASCE 7 and be AMCA certified for expected wind driven rain. Intake louvers shall comply with UFC 4-010-01 standards. Finish color shall match wall surface.

9.11.7. Exterior Painting

Comply with Master Painter Institute (MPI) standards for commercial quality coatings. As a minimum, SSPC PA Method 1 will apply to all surfaces, follow MPI Architectural Painting Specification - recommendations noted are considered to be required. Paint all exposed unfinished surfaces unless otherwise noted including, but not limited to exposed portions of stormwater system, exterior piping systems, handrails, valves, signs and other non-factory finished items. System shall include as a minimum prime coat as recommended by finish coating system manufacturer and two finish coats.

Exposed galvanized steel lintel angles supporting masonry over windows, doors, louvers, and other conditions shall be prepared and painted with a high-performance paint coating system consisting of an epoxy prime coat and two polyurethane finish coats.

9.11.8. Exterior Sealant

For joints in vertical surfaces, provide ASTM C920, Type M, Grade NS, Class 25, Use NT. For joints in horizontal surfaces, provide ASTM C920, Type S or M, Grade P, Class 25, Use T. Provide location(s) and color(s) of sealant as follows:

LOCATION and COLOR

a) Joints and recesses formed where frames and subsills of windows, doors, louvers, and vents adjoin masonry, concrete, or metal frames. Use sealant at both exterior and interior surfaces of exterior wall penetrations. Match adjacent surface color.

b) Masonry joints where shelf angles occur. Match adjacent surface color.
c) Joints in wash surfaces of stonework. Match adjacent surface color.
d) Expansion and control joints. Match adjacent surface color
e) Interior face of expansion joints in exterior concrete or masonry walls where metal expansion joint covers are not required. Match adjacent surface color.
f) Voids where items pass through exterior walls. Match adjacent surface color.
g) Metal reglets, where flashing is inserted into masonry joints, and where flashing is penetrated by coping dowels. Match adjacent surface color.
h) Metal-to-metal joints where sealant is indicated or specified. Match adjacent surface color.
i) Joints between ends of fascias, copings, and adjacent walls. Match adjacent surface color.

9.11.9. Exterior Sidewalks

Exterior sidewalks and paved surfaces shall be slightly lower than the building finish floor elevation at the entry doors to provide a positive water stop while meeting accessibility criteria. Broom finish shall be applied.

9.12. Interior Construction

9.12.1. General

Building system design shall include design for access for removal, repair and maintenance of mechanical equipment, plumbing equipment and systems, fire dampers, so removable panels, access doors, and other solutions to be included in the design.

All joints in exterior walls shall receive foam rod and sealant application. All ceramic or porcelain tile floor grout shall be sealed. Seal masonry jointure of window units, doors, masonry expansion joints, lintel flashing and sill/row lock flashing.

9.12.2. Environmental Conditions for Installation

No wall board or finishes shall be installed prior to construction meeting required interior environmental conditions. This includes gypsum wallboard, cementitious backerboard, and all applied finishes. Acceptable environmental conditions are as follows. Building is completely dried in including: roofing system, wall air/water barrier, exterior windows, louvers and doors. The Contractor is responsible for providing a watertight facility with humidity control with additional systems as required to achieve sustainability indoor air quality criteria. Additionally, temperature and humidity ranges shall be in compliance with manufacturer's directions and technical specifications for specific products.

9.12.3. Blocking

All walls to receive mounted items whether Government or Contractor provided or installed must have galvanized steel or treated wood blocking as structural backup. Grab bars must sustain a pulling force of 350 lbs. exerted in any direction.

The Contractor is responsible for installing all blocking and coordination of the size, extent and location of blocking required for each item and shall coordinate blocking for Government furnished and installed equipment (GF/GI)

with the Contracting Officer to confirm actual equipment weights and dimensions of the specific wall mounted equipment.

9.12.4. Acoustic and Sound Control Requirements

Careful attention to acoustic design is required to ensure a high degree of privacy for living units and study areas. Designers must address isolation of noise from a variety of sources, including:

- Adjacent living units
- Living/bedroom areas and adjacent shared common areas
- Training / testing areas
- Mechanical rooms and systems
- Exterior-generated sound, such as aircraft and automobile noise

Walls between living units, between living areas and shared common areas, between living units and corridors, and exterior walls of living units must have a Sound Transmission Class (STC) rating of at least 50.

Floor and ceiling assemblies between living units, between living areas and shared common areas, between living units and corridors, and between wing corridors must have an STC rating of at least 55 and an Impact Insulation Class (IIC) of at least 60.

Mechanical equipment rooms shall have STC 55 rated walls and STC 50 rated door assemblies.

Walls of private offices and public toilet rooms to extend to the floor or roof deck for acoustical control and all penetrations and perimeter sealed to provide acoustic separation. Private office walls to achieve rating of STC 50 and doors to have perimeter sound gasketing and automatic door bottom (STC rating for door not required).

In addition, consider the impact of vibration in all dormitory design and construction. Telephone, cable television, convenience outlets, and mechanical ducts must not compromise the acoustical integrity of wall, floor, or ceiling assemblies. Avoid back to back outlets in the same wall stud cavity, provide acoustic putty and other solutions to seal outlet boxes in walls, and apply industry practices and design solutions to meet the required STC and IIC criteria. STC and IIC assemblies to be third party laboratory tested assemblies with certified documentation to confirm basis of design assembly meets the stated criteria.

9.12.5. Interior Wall and Partition Construction

Interior walls shall be constructed using galvanized metal studs and gypsum board, and/or CMU masonry as indicated or required. Gypsum board shall be 5/8-inch-thick minimum and meet ASTM C1396/C1396M (provide glass mat faced gypsum wall board meeting ASTM C1658/C1658M-13 for interior sides of exterior walls). Provide Type 'X' for fire rated assemblies and higher density core for STC acoustical rated assemblies. Lobby, multipurpose day rooms, fitness, PPE storage and laundry rooms shall have 5/8-inch-thick abuse resistant gypsum board on walls meeting ASTM C1629/C1629M.

Provide cement backboard for walls with tile and/or walls with plumbing fixtures and shower enclosures with solid surface panels. Provide moisture resistant

gypsum board for janitor rooms walls and ceilings of toilet rooms, dormitory bath/shower, and janitor rooms meeting ASTM C1396/C1396M. Apply gypsum board to framing and furring members in accordance with ASTM C840 or GA 216 and the requirements specified.

All interior metal stud walls and columns shall be finished with gypsum wall board and painted per RFP criteria drawings. Interior gypsum wall and ceiling surfaces shall be finished to ASTM C 840 and GA 214 and GA 216; provide Level 4 finish unless otherwise noted, and Level 3 finish when overlaid by tile. The interior face of the exterior walls will be exposed CMU block to be painted. CMU block surfaces shall be finished with a uniform texture and free of surface imperfections that would impair intended finished appearance.

Metal studs shall have a galvanized coating ASTM A653/A653M, G-60; aluminum coating ASTM A463/A463M, T1-25; or a 55-percent aluminum-zinc coating. Provide support systems and attachments per UFC 3-310-04, "Seismic Design for Buildings" in seismic zones. Installation of metal support framing shall be in accordance with ASTM C754.

9.12.6. Flooring

9.12.6.1 Sealed Concrete Floor Slabs

All concrete floor slabs that do not receive a finish shall be sealed with a low VOC water-based sealer to prevent dusting and for general maintainability. Areas include but not limited to; mechanical rooms, electrical rooms, communication rooms, apparatus support rooms and apparatus bay(s), etc.

9.12.7. Ceilings

Ceiling systems shall be provided in all rooms except for the mechanical, electrical, communications and apparatus bay(s). Ceilings in dormitory modules will be gypsum wall board. Rooms without ceilings shall have the structure and all exposed elements painted (fire sprinkler piping and fire alarm system components to be painted a different color as specified in this RFP, criteria or codes). Provide moisture resistant gypsum board for laundry, equipment wash, infectious control, janitor and toilet room walls and ceilings meeting ASTM C1396/C1396M. Ceilings that are part of a fire rated or sound rated assembly to address penetrations for building elements (IE: Lights, HVAC grilles, etc) as required by the tested assembly. Access panels to be provided in a manner that does not subject the dormitory occupant to privacy concerns when module occupied.

Refer to Section 8, ROOM DESCRIPTIONS AND FUNCTIONAL REQUIREMENTS, Section 10 STRUCTURAL/COMPREHENSIVE INTERIOR DESIGN, RFP criteria drawings and finish schedule for additional ceiling requirements and minimum heights.

9.12.8. Interior Doors

Interior doors shall be solid core wood, minimum 3’ wide x 7’ high x 1 ¾ inch thick, unless otherwise identified or required by code or other criteria, provide pair doors where indicated on criteria drawings or otherwise required. Dormitory module bathroom doors to be 3’-0” wide minimum or wider.

Provide particleboard core, composite core or wood stave, Type II flush doors conforming to WDMA I.S. 1-A with faces of premium grade white oak. Hardwood veneers shall be plain sliced and book matched. Doors shall be factory stained and finished and factory prepared for door hardware.

Provide vertical oriented narrow view glass view panels (approx 4 inches x 24 inches, unless noted otherwise) in doors to private offices.

Doors shall be fire-rated and/or STC rated as required for application. Doors required to have an STC ratings will be a tested assembly that includes door and frame, certified to achieve the STC rating equal to or higher than the partition wall it is installed in, unless noted otherwise.

Door frames shall meet SDI/DOOR A250.8, Level 3, except as otherwise specified. Form frames to sizes and shapes required and with welded corners (knock-down frames are not allowed). Provide steel frames for doors, transoms, cased openings, and interior glazed panels, unless otherwise indicated.

Fabricate interior steel doors and frames from hot dipped zinc coated steel, alloyed type, that complies with ASTM A924/A924M and ASTM A653/A653M. The coating weight shall meet or exceed the minimum requirements for coatings having 0.4 ounces per square foot, total both sides, i.e., A40. Repair damaged zinc-coated surfaces by the application of zinc dust paint. Thoroughly clean and chemically treat to insure maximum paint adhesion. Factory prime as specified in SDI/DOOR A250.8.

9.12.9. Door Finish Hardware

9.12.9.1. Door Hardware General

Exterior and interior door hardware shall be provided for all doors in a satin stainless or chrome finish (BHMA 630 or 626) or unless specially noted otherwise. Exterior hardware shall be stainless steel unless not available then shall be satin chrome. Hardware components and keying shall be provided and shall meet requirements for accessibility, and NFPA requirements for life safety. Use concealed style hardware devices whenever possible. All doors and frames will be reinforced as needed to accommodate hardware. All doors shall have locking hardware to secure door, unless note otherwise.

Exterior door hardware shall be of the type and configuration required to meet AT/FP and hurricane impact criteria as specified in other sections of this RFP.

Provide the services of an Architectural Hardware Consultant (AHC) or equivalent hardware consultant to review and approve the hardware design and construction submittals.

9.12.9.2. Exterior Hardware Minimum Requirements

a. Hinges – provide minimum three per door leaf, BHMA A156.1, 4-1/2 by 4-1/2 inch (minimum), stainless steel, BHMA 630 finish, ball bearing hinges, non-removal pins for security doors.

b. Locksets – BHMA A156.13, Series 1000, Operational Grade 1, Security Grade 2, escutcheons not less than 7 by 2-1/4 inch with a bushing at least 1/4-inch-long, BHMA 630 finish. Provide lever style handles of design.

c. Exit Devices - BHMA A156.3, Grade 1, BHMA 630 finish. Provide adjustable strikes for rim type and concealed vertical rod devices. Provide open back strikes for pairs of doors with mortise and vertical rod devices. Provide touch bars in lieu of conventional crossbars and arms. Provide escutcheons, not less than 7 by 2-1/4 inch.

d. Closers – BHMA A156.4, Series C02000, Grade 1, with PT 4C (unless otherwise noted), BHMA 689 finish. Provide with brackets, arms, mounting devices, fasteners, full size covers, except at storefront mounting, and other features necessary for the particular application. Provide closers on all fire rated, Apparatus bay shops/ storage, dormitory, corridor or acoustic doors.

e. Coordinators – provide for pairs of doors with closers, BHMA 689 finish.

f. Weather Stripping and Thresholds - Provide adjustable weather stripping (1.25 CFM air leakage rate, maximum) and aluminum thresholds at all exterior doors.

g. Soundproofing Gasketing – provide at all sound rated door assemblies as tested.

h. Kick Plates – stainless steel, BHMA 630; provide on following door conditions; stairs.

i. Hardware for storefront doors can be provided by the storefront door manufacturer as required to meet the tested assembly criteria but shall meet the minimum requirements of this section.

9.12.9.3. Interior Hardware Minimum Requirements

a. Hinges – all doors, provide minimum three per door leaf, BHMA A156.1, 4-1/2 by 4-1/2 inch (minimum), non-removal pins for security doors. Provide electrified hinges for doors with electric locking devices if power transfer device is not utilized.

b. Locksets – all doors U.N.O. below, BHMA A156.13, Series 1000, Operational Grade 1, Security Grade 2, escutcheons not less than 7 by 2-1/4 inch with a bushing at least 1/4-inch-long, BHMA 630 finish. Provide lever style handles of design.

c. Stops – BHMA A156.16, provide in accordance. Satin chrome finish.

d. Armor Plates - stainless steel, BHMA 630; provide on following door conditions; Apparatus Bay Shops, Storage, and Infectious control rooms, and apparatus bay doors to interior corridors, mechanical, electrical and pump rooms in central core area, one push side of door where hands typically contact door when opening above the latch or exit device, minimum 12” x 24”.

9.12.9.4. Cores, Cylinders and Keying Requirements

Provide cylinders and cores with seven pin tumblers (small format IC 7 pin cores). Provide cylinders from products of one manufacturer and provide "CORMAX" cores (Tyndall Standard) from the products of one manufacturer. Rim cylinders, mortise cylinders, and knobs of bored locksets have interchangeable cores which are removable by special control keys. Stamp each interchangeable core with a key control symbol in a concealed place on the core. Stamp each key with appropriate key control symbol and "U.S. property – Do not duplicate." Do not place numbers on keys.

Provide an extension of the existing master or grandmaster keying system. Provide construction interchangeable cores.

The Contractor shall coordinate a keying system meeting. The Contractor's Project Manager, Superintendent, Hardware Subcontractor, Contracting Officer, Base Hardware Specialist, Electrical Subcontractor, and the Using Activity shall attend this meeting to establish the keying system for the project. This meeting is intended to verify base limitations, the necessary security, and access control within the facility. The meeting shall produce a marked-up copy of the floor plan together, and any master keying or grand master keying.

a. Keys: Furnish one file key, one duplicate key and three working keys for each key exchange and for each master and grand master keying system.

b. Key Cabinet and Control System: BHMA A 156.5 - Provide key cabinet with 25 percent more key hooks than required for interior and exterior doors.

9.12.9.5. Paint and Painting

All rooms, areas and space surfaces shall be painted and have an orange peel textured coating, unless surface is prefinished or has a writable paint surface. Provide eggshell finish on gypsum board walls and semi-gloss on trim and door frames. Provide commercial grade paint systems meeting MPI standards. Comply with UFC 1-200-02 and sustainability requirements. Paint all exposed surfaces unless otherwise indicated. Coordinate painting and stenciling of fire sprinkler water system within building as indicated in guide specifications. As a minimum, all surfaces are to receive primer as recommended by the finish coating system manufacturer and two finish coats. Masonry walls to have block filler and primer (if required) and two finish coats (semi-gloss).

Comply with the recommendations of UFGS 09 90 00 PAINTS AND COATINGS for materials and preparation of surfaces to be coated. Comply with Master Painter Institute (MPI) standards for commercial quality coatings. As a minimum, SSPC PA Method 1 will apply to all surfaces, follow MPI Architectural Painting Specification - recommendations noted are considered to be required.

Sealants:
Provide interior sealant meeting ASTM C834 (Low VOC) at most conditions. Provide colored silicone sealant at showers and plumbing fixtures meeting ASTM 920. Provide acoustical sealant at STC rated construction and fire caulking at fire rated construction conditions.

LOCATIONS and COLOR:

a. Small voids between walls or partitions and adjacent lockers, casework, shelving, door frames, built-in or surface-mounted equipment and fixtures, and similar items. Match adjacent surface color.

b. Perimeter of frames at doors, windows, and access panels which adjoin exposed interior concrete and masonry surfaces. Match adjacent surface color.

c. Joints of interior masonry walls and partitions which adjoin columns, pilasters, concrete walls, and exterior walls unless otherwise detailed. Match adjacent surface color.

d. Joints between edge members for acoustical tile and adjoining vertical surfaces. Match adjacent surface color.

e. Interior locations, not otherwise indicated or specified, where small voids exist between materials specified to be painted. Match adjacent surface color.

f. Joints between bathtubs and ceramic tile; joints between shower receptors and ceramic tile; joints formed where non-planer tile surfaces meet. Match adjacent surface color.

g. Joints formed between tile floors and tile base cove; joints between tile and dissimilar materials; joints occurring where substrates change. Match adjacent surface color.

h. Behind escutcheon plates at valve pipe penetrations and showerheads in showers. Match adjacent surface color

i. Joints between countertop backsplash and wall. Match adjacent color.

9.12.9.6. Interior Finishes

Selection of interior finishes have been made and are included in the RFP - criteria drawings, and the SID and FFE portions of this RFP. Relative to the material, the selections serve to identify the requirements for quality and characteristics of the finish materials. Any changes or modifications to the material selections included in the RFP must be of equal or better quality to the selections included as part of this RFP and approved by the Government.

See Section 10 STRUCTURAL/FURNITURE, FIXTURE AND EQUIPMENT of this specification for additional information and requirements.

Colors and Finishes: The Design Build Contractor will update the Government provided Structural Interior Design (SID) and Furniture, Fixture & Equipment (FFE) packages included in this RFP. Colors and finishes will not be changed without prior approval of the Government. Refer to Appendix B SID and Appendix C FFE Package of this RFP.

9.12.9.7. Cabinets and Casework

Materials and construction of cabinets and countertops shall be in accordance with Architectural Woodwork Institute (AWI) quality standards "AWI Custom Grade" with factory finished solid hardwood and hardwood plywood veneer, plain sliced book matched white oak for exposed exterior surfaces. Base cabinet design shall

be face frame construction and doors of style and rail design. Cabinet wood finish color to match solid core wood door color.

Wall and base cabinets shall be of the same construction and appearance with solid ends and frame fronts, or with frames all around. Frames shall be not less than 3/4 inch by 1-1/2 inches hardwood. All ends, bottoms, backs, and partitions shall be hardwood plywood. All drawers will include solid wood rails and plywood bottoms. Cabinet doors and drawer fronts shall be solid hardwood and hardwood plywood. Assembly and joints of cabinets shall be as required by AWI for custom grade.

Hardware: Provide cabinet hardware including minimum two self-closing hinges for each door and two side-mounted metal drawer slides for each drawer and pulls for all doors and drawers as follows. All cabinet hardware exposed to view shall be ANSI/BHMA 156.9, Grade 1, and comply with the following requirements:

a. Concealed Euro-Style, back mounted hinges with opening to 165 degrees and a self-closing feature at less than 90 degrees.
b. Drawer slides shall have a static rating capacity of 100 lbs. (444N), full extension.
c. Provide adjustable shelving standards with shelf support hardware for all cabinets.

Countertops: Countertops with integral sinks shall be solid surface material, minimum 3/4-inch-thick, 00 percent pure acrylic polymer, mineral fillers, and pigments. Front edge shall have a 1 ½" edge thickness with beveled edge treatment. The material shall be homogenous, not coated or laminated. Superficial damage to a depth of 0.010 inch shall be repairable by sanding or polishing. Install with factory recommended fasteners, adhesives and sealants. Provide the following performance characteristics:

a. Tensile strength, ASTM D 638: 5800 psi minimum.
b. Hardness, ASTM D 2583: Barcol Impressor 55 minimum.
c. Flammability, ASTM E 84: Class I/A, flame spread 25 maximum; smoke developed 30 maximum.

9.12.9.8. Toilet Room Accessories

Toilet accessories for public toilet rooms shall be ABA compliant and furnished as indicated below. All accessories shall be stainless steel commercial grade quality products.

a. Each toilet stall shall have; double roll toilet tissue dispenser; door mounted coat hooks (standard and ABA height). Handicapped accessible rooms or stalls shall also include wall mounted grab bars.

b. Each lavatory shall be furnished with a wall mounted recessed soap dispenser and stainless-steel framed mirror with shelf.

c. Recessed paper towel dispenser/disposal unit shall be furnished adjacent to each lavatory area.

d. One full length mirror near entry door.

9.12.9.9. Janitor Closets

Provide floor mounted service sink, medium duty steel shelving (16 inches deep x 36 inches wide x 84 inches high with minimum 4 shelves), and storage space for a portable mop bucket, one stainless steel utility rack for holding mop and broom holder. FRP surface splash adjacent janitor sinks - minimum width of sink plus 24 inches and minimum 36 inches high.

9.12.9.10. Comm/Data Cabling Penetrations at Fire Rated and/or Sound rated Walls and Floors

Comm/Data cabling that penetrate through walls and floors shall utilized a re-enterable or re-sealable sealing system to maintain the required fire or sound rating of the wall or floor assembly and to allow cabling to be removed and installed without having to utilize destructive means to remove sealing systems. Cabling for data and communication applications shall be sealed with re-enterable systems or products. Sealing devices shall be pre-manufactured modular devices, containing built-in self-sealing intumescent inserts. Devices shall allow for cable moves, additions or changes without the need to remove or replace any firestop and acoustic materials.

Fire stopping devices must be capable of maintaining the fire resistance rating of the penetrated membrane at 0% to 100% visual fill of penetrants; while maintaining "L" rating of <5 cfm/sf at 0% to 100% visual fill. Each device must be capable of retrofit applications and be available in square and round configurations, with single, double, triple and six-plex bracket systems provided. Firestop devices must also allow for plastic pipe, metallic pipe, and mixed multiple penetrations plastic, metallic, insulated metallic, and cable through a single device.

9.13. Specifications

The following list of specifications is anticipated for this project. The list is not comprehensive and the Contractor shall provide all specifications required to adequately describe the project and all materials to be used and installed. The Contractor shall edit and submit the following UFGS as defined in Section 01 10 12, Design After Award using the latest comparable SpecsIntact version:

01 91 00.00 COMMISSIONING

04 20 00 MASONRY

05 50 13 MISCELLANEOUS METAL FABRICATIONS
05 51 00 METAL STAIRS
05 52 00 METAL RAILINGS

06 10 00 ROUGH CARPENTRY
06 41 16.00 10 LAMINATE CLAD ARCHITECTURAL CASEWORK
06 61 16 SOLID POLYMER (SOLID SURFACING) FABRICATION

07 05 23 PRESSURE TESTING AN AIR BARRIER SYSTEM FOR AIR TIGHTNESS
07 13 53 ELASTOMERIC SHEET WATERPROOFING
07 21 13 BOARD AND BLOCK INSULATION
07 21 16 MINERAL FIBER BLANKET INSULATION
07 22 00 ROOF AND DECK INSULATION
07 22 70 FALL PROTECTION DEVICES AND SYSTEMS

07 27 10.00 10 BUILDING AIR BARRIER SYSTEM
07 27 26 FLUID-APPLIED MEMBRANE AIR BARRIERS
07 41 13 METAL ROOF PANELS
07 60 00 FLASHING AND SHEET METAL
07 84 00 FIRESTOPPING
07 92 00 JOINT SEALANTS

08 11 13 STEEL DOORS AND FRAMES
08 11 16 ALUMINUM DOORS AND FRAMES
08 14 00 WOOD DOORS
08 44 00 CURTAIN WALL AND GLAZED ASSEMBLIES
08 60 45 TRANSLUCENT WALL PANELS
08 71 00 DOOR HARDWARE
08 81 00 GLAZING
08 91 00 METAL (WALL) (AND) (DOOR) LOUVERS

09 06 90 COLOR SCHEDULE
09 22 00 SUPPORTS FOR PLASTER AND GYPSUM BOARD
09 29 00 GYPSUM BOARD
09 90 00 PAINTS AND COATINGS
09 96 00 HIGH-PERFORMANCE COATINGS

10 28 13 TOILET ACCESSORIES

10. STRUCTURAL INTERIOR DESIGN (SID) AND FURNITURE FIXTURE EQUIPMENT(FFE) REQUIREMENTS

10.1. SID

The Structural Interior Design (SID) shall involve the selection and sampling of all applied finishes to complete the building’s interior architectural features. The Furniture Fixture Equipment (FFE) shall involve the selection, specification and sampling of items required to provide a complete and usable interior space. The FFE will be priced as a bid option.

10.2. Design Requirements

The Contractor shall use these criteria and the drawings for the development of the SID interior finishes, materials, and colors. The SID submittals shall run concurrent with the architectural submittals. The Contractor shall update the color boards and the UFGS to reflect any of the Government comments or discontinued manufacturer colors indicated. The SID finishes accepted at the Final design phase (defined in Section 01 10 12) shall be the SID finishes installed during the construction phase of the project.

11.2.1 SID/FFE Room Finish Narrative

The Fire Station #2 shall be finished as in accordance with this narrative. This narrative provides initial guidance only. As the design becomes more defined after award of the contract, the Contractor shall provide a comprehensive room finish and color schedule, signage schedule, edited UFGS 09 06 90 Color Schedule and associated guide specifications to define all aspects of the SID. GFCI shall mean Government Furnished, Contractor Installed, unless noted as GFGI meaning Government Furnished, Government Installed.

10.3. Functional Area/Room Requirements

10.3.1. 1st Floor Functions (Unless Noted Otherwise)

Room Name:	**Dorm: Firefighter Dormitory Quarters (8 Typical Dorm Rooms)**	
Finish Requirement:	Floor: Carpet Tile Base: 4" high rubber cove base Walls: Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.	
Bid Option #1 FFE	(1) Twin XL Bed with lockable under bed storage units. (1) 2-Drawer Nightstand. (2) Single Door Wardrobes, lockable. (1) Single Pedestal Desk with upholstered chair on glides. (1) Small Waste Receptacle. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.	

Room Name:	**Dorm: Shared Restroom with Showers (4 Typical Shared Restrooms)**
Finish Requirement:	Floor: Stained Sealed Concrete Base: Porcelain Tile Base Walls: Epoxy Paint & Porcelain Tile Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1) Wall mounted medicine cabinet with mirror and (1) wall mounted stainless steel shelf. (1) Small Waste Receptacle. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Circulation**
Finish Requirement:	Floor: Stained Sealed Concrete Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and SID Submittal Appendix B
Bid Option #1 FFE	none.

Room Name:	**Day: Dayroom**
Finish Requirement:	Floor: Stained Sealed Concrete Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC

	See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and SID Submittal Appendix B
Bid Option #1 FFE	(6) Lounge Recliners with (6) side tables, one per chair. (1) Small Waste Receptacle. (1) 48”x72” magnetic glass board. (1) freestanding wood media storage credenza & (6) small open shelving units. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Day: Kitchen**
Finish Requirement:	Floor: Stained Sealed Concrete Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and SID Submittal Appendix B
Bid Option #1 FFE	(1)48”x72” Dining Room Table with (8) Dining Chairs. (5) Bar height stools at island Bar Top. (1) Large Waste Receptacle, (1) Large Recycling Receptacle. (1) 36”x48” glassboard and (1) 36”x60” tackboard. All kitchen equipment to be included as FFE not limited to: Commercial Refrigerator, Dishwasher, Range, Microwave, Ice Maker, Garbage Disposal. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Day: Pantry**
Finish Requirement:	Floor: Stained Sealed Concrete Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(6) lockable metal storage shelves with 5 adjustable shelves and solid metal doors. See Order Data Sheets in Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Day: Exterior Patio**
Finish Requirement:	Floor: Broomed finish concrete. Base: None Walls: Building façade finish Ceilings: None See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1)Outdoor Picnic Table. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Day: Circulation**
Finish Requirement:	Floor: Stained Sealed Concrete Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	None

Room Name:	**Apparatus Bay: Vehicle Bays (Additional Circulation for Commercial Vehicle)**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: Epoxy Paint Ceilings: Exposed structure epoxy painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(5) Tank Storage Racks. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Apparatus Bay: Hose Rack**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: Epoxy Paint Ceilings: Exposed structure epoxy painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	none.

Room Name:	**Apparatus Bay: Agent Storage**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: Epoxy Paint Ceilings: Exposed structure epoxy painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	None

Room Name:	**Apparatus Bay: Fire Riser**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: Epoxy Paint Ceilings: Exposed structure epoxy painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.

Bid Option #1 FFE	None

Room Name:	**Apparatus Support: Equipment Wash**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: Epoxy Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1) Workbench table. (1) Small Waste Receptacle. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Apparatus Support: Infectious Control**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: epoxy paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1) Small Waste Receptacle. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Apparatus Support: EMS Storage**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: Epoxy Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(3) Lockable metal storage cabinets with adjustable shelving. (1) Workbench table. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Apparatus Support: Work Room**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: Epoxy Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	Industrial Metal Shelving units. (1) Workbench table, See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Apparatus Support: PPE Storage**
Finish Requirement:	Floor: 5 coat troweled epoxy floor system with color chips and grit Base: 8" high epoxy floor system integral with floor Walls: Epoxy Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(14) Wall mounted metal locked with hangar rod and small lockable storage box, connected by electrical raceway. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Personal Support: Laundry**
Finish Requirement:	Floor: Stained Sealed Concrete Base: 4" high rubber cove base Walls: Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1) Freestanding laundry folding table with drying rack. (2) stackable washer/dryer combination units. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Personal Support: Storage**
Finish Requirement:	Floor: Stained Sealed Concrete Base: None Walls: Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(3) Industrial metal shelving units. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Personal Support: Fitness**
Finish Requirement:	Floor: Interlocking rubber gym tiles Base: 4" high rubber cove base Walls: Paint Ceilings: Exposed structure painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	Fitness equipment to be included as FFE not limited to: Treadmills, upright bicycles, ellipticals, flat benches, squat racks, and weight benches with weights. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Shift Supervisor Office**

Finish Requirement:	Floor: Carpet Tile Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1)U-shaped modular office desk with file storage components and (1) office executive chair. (2) upholstered office guest chairs. (1) small waste receptacle. (1) 36”x48” glass board. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Shift Supervisor Dorm**
Finish Requirement:	Floor: Carpet Tile Base: 4" high rubber cove base Walls: Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1) Twin XL Bed with lockable under bed storage units. (1) 2-Drawer Nightstand. (2) Single Door Wardrobes, lockable. (1) Single Pedestal Desk with upholstered chair on glides. (1) Small Waste Receptacle. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Chief Office**
Finish Requirement:	Floor: Carpet Tile Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1)U-shaped modular office desk with file storage components and (1) office executive chair. (2) upholstered office guest chairs. (1) small waste receptacle. (1) 36”x48” glass board. (4) Fixed wood veneer with laminate finish bookshelves in the adjacent Chief Closet. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Chief Dorm**
Finish Requirement:	Floor: Carpet Tile Base: 4" high rubber cove base Walls: Paint Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1) Twin XL Bed with lockable under bed storage units. (1) 2-Drawer Nightstand. (2) Single Door

	Wardrobes, lockable. (1) Single Pedestal Desk with upholstered chair on glides. (1) Small Waste Receptacle. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Shared Restroom with Showers (1 Typical Shared Restroom)**
Finish Requirement:	Floor: Stained Sealed Concrete Base: Porcelain Tile Base Walls: Epoxy Paint & Porcelain Tile Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1) Wall mounted medicine cabinet with mirror and (1) wall mounted stainless steel shelf. 1) Small Waste Receptacle. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Public Unisex Restroom**
Finish Requirement:	Floor: Stained Sealed Concrete Base: Porcelain Tile Base Walls: Epoxy Paint & Porcelain Tile to 5’-0” AFF Ceilings: Painted gypsum board See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(1) Wall mounted medicine cabinet with mirror. 1) Small Waste Receptacle. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Lobby**
Finish Requirement:	Floor: Stained Sealed Concrete Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(2) Lounge Guest Chairs with (1) side table. (1) Small Waste Receptacle. (2) task chairs at reception desk. (1) l-shaped workstation with lateral file storage components and a transaction countertop. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Vestibule**
Finish Requirement:	Floor: Walk-off Carpet Tile Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.

Bid Option #1 FFE	None.

Room Name:	**Administration: Department Training with Computer Training**
Finish Requirement:	Floor: Carpet Tile Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(4) Fixed top training table equipped with power management with (4) upholstered nesting task chairs. (1) fixed top instructor table with (1) task chair on casters. (8) flip top nesting training table with each table seating 2 persons in upholstered nesting task chairs. (1) Large Waste Receptacle and (1) Large Recycling Receptacle. (1) 48”x72” glass board. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.
Room Name:	**Administration: Training Storage/Library**
Finish Requirement:	Floor: Carpet Tile Base: 4" high rubber cove base Walls: Paint Ceilings: Acoustical Ceiling System, High NRC/CAC See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	(5) Fixed wood veneer with laminate finish bookshelves. See Order Data Sheets Appendix C and Drawings in Appendix A for complete details.

Room Name:	**Administration: Circulation**
Finish Requirement:	Floor: Stained Sealed Concrete Base: 4" high rubber cove base Walls: Paint Ceilings: Exposed structure painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	none

Room Name:	**Building Services: Mechanical**
Finish Requirement:	Floor: sealed concrete Base: 4" high rubber base Walls: Paint Ceilings: Exposed structure painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	None

Room Name:	**Building Services: Electrical**
Finish Requirement:	Floor: sealed concrete Base: 4" high rubber base Walls: Paint

	Ceilings: Exposed structure painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	None

Room Name:	**Building Services: Base IT/COMM**
Finish Requirement:	Floor: sealed concrete Base: 4" high rubber base Walls: Paint Ceilings: Exposed structure painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	None

Room Name:	**Building Services: Janitor**
Finish Requirement:	Floor: sealed concrete Base: 4" high rubber base Walls: Epoxy Paint & Porcelain Tile Ceilings: Exposed structure painted See Finish Schedule and Color Schedule Key on Criteria Drawings I-601 and Appendix B.
Bid Option #1 FFE	None

10.4. Signage and Corner Guards

The Contractor must provide interior signage and corner guards. A signage plan must be submitted at the 100% stage that shows the placement of all interior and exterior signage used in the project including room identification plaques, emergency egress plaques, public area restroom signs and directional information signs. The Contractor may use this same plan to place the Corner Guards with separate identification symbols. Corner guards must be solid plastic with color clear through and extend from top of base to ceiling. Assembly must have a snap on plastic retainer. Surface mounted corner guards must be placed on all outside corners in corridors, day rooms and public spaces. Corner guards must have top and bottom caps to provide a finished appearance. Refer to Criteria Drawings sheet I-801 Signage drawings for specific required details and information. Refer to SID Submittal Appendix B. All signage must meet the requirement of UFC 03-120-01.

10.5. Color Schedule

Product and color are shown as being specific to one manufacturer to establish design intent. An equivalent product and color by another manufacturer may be submitted for approval. Manufacturers and materials specified are not intended to limit the selection of equivalent products and colors from other manufacturers. Acceptance by the COR is required before the substituted product may be used. As the design becomes more defined after award of the contract, the Contractor must provide a comprehensive room finish and color schedule, signage schedule, edited UFGS 09 06 90 Color Schedule and associated guide specifications to define all aspects of the SID. Refer to Criteria Drawings I-101 through I-105; Interior Finish Plans and I-601; the Room Finish Schedule and Color Schedule Key on the drawings. Refer to the SID Submittal Appendix B.

Interior Floor Finishes

10.5.1. Walk-Off Mat. WM-1 must meet the requirements of ASHRAE 189.1; Section 8.3.1.5. Exterior weather resistant mat. Basis of Design; Mohawk Group, First Step II Collection. Color: black

10.5.2. Carpet Tile. CPT-1 and 2 must meet the requirements of ASTM D1335, 8-pound average force with 20 year limited commercial wear warranty.
Product Basis of Design:
CPT 1: Mohawk Group, Shirt II Collection
CPT 2: Mohawk Group, Denim Collection

Refer to SID Appendix B and Finish Schedule and Color Schedule Key on Criteria Drawings I-601.

10.5.3. Interlocking Rubber Gym Tiles. Basis of Design; American Floor Mats, ½" Thick Black.

Refer to SID Appendix B and Finish Schedule and Color Schedule Key on Criteria Drawings I-601.

10.5.4. Concrete Sealer. Basis of Design; White, Hardener Sealer.
Refer to SID Appendix B and Finish Schedule and Color Schedule Key on Criteria Drawings I-601.

10.6. Interior Base Finishes

10.6.1. Resilient Base RB1. Wall base must be formulated from 100% TS rubber. Rubber base 4" high x 1/8" cove base in rolls, job formed corners. Basis of Design; Armstrong, color: 71 Mid Gray

10.6.2. Porcelain Tile Base TB-1. 6" x 12" base bullnose top edge used in restrooms.

In accessible toilet rooms where porcelain wall tile is used, wall tile will start at surface of floor tile with no separate base.

Product Basis of Design Accessible Toilet: AM36 Daltile Ambassador: Jet Setter Dusk, 12"x24"

Refer to SID Appendix B and Finish Schedule and Color Schedule Key on Criteria Drawings I-601.

10.7. Interior Wall Finishes

10.7.1. Paint. Architectural Grade Egg Shell Finish Paint; Walls. Basis of Design; Sherwin Williams, colors as indicated on Room Finish/Color Schedule Key.

10.7.2. Paint. Architectural Grade Semi-Gloss Finish (Exposed Structure and CMU walls). Basis of Design; Sherwin Williams, colors as indicated on Room Finish/Color Schedule Key.

10.7.3. Paint. Architectural Grade Flat Finish White. (Do Not Paint plywood at COMM Rooms). Basis of Design; Sherwin Williams, SW7007 Bright White.

Refer to SID Appendix B and Finish Schedule and Color Schedule Key on Criteria Drawings I-601.

10.7.4. Wallcovering. Commercial Grade Type II vinyl. Flexible Substrates, Finish: Smooth. Basis of Design: MDC Studio, 20 oz/yd. Fabric backed

wallcovering. 54” wide print with minimum 6” image overhang for trimming and finishing. Final image resolution to be 100-200 dpi.

Hanging surfaces to be clean, smooth, dry, undamaged, free of mold, mildew, grease and stains, and structurally intact, finished to a minimum level of 4 prior to installation.

Digital image file at appropriate resolution of graphic to be provided to contractor upon award.

Refer to SID Appendix B and Finish Schedule and Color Schedule Key on Criteria Drawings I-601.

10.8. Interior Ceiling Finishes

10.8.1. Paint. Architectural Grade Semi-Gloss Finish (Exposed Structure). Basis of Design; Sherwin Williams, SW7007 Bright White. Architectural Grade Flat Finish (gypsum board ceilings) Basis of Design: Sherwin Williams, SW7007 Bright White.

10.8.2. Acoustical Ceiling System.

ACT1. Provide Armstrong World Industries, Inc. Dune, High NRC, 15/16" Square Tegular #2822, 24" x 24" x 5/8" thick. Product must have the following acoustical properties: NRC.85, CAC 35, AC 170. Panels must have the following characteristics: Class A Fire Rating, .86 Light Reflectance, Type IV, Form 2, Pattern E; Humigard Plus, Bio Block, Certified Low VOC Emissions, 76% Recycled Content. Acoustical panels must provide resistance to sagging in high humidity conditions up to, but not including standing water and outdoor applications. Panels must contain BioBlock or equal anti-microbial treatment and provide guaranteed resistance against growth of mold/mildew and Gram-positive and Gram-negative odor/stain-causing bacteria for 30 years. Ceiling system must be installed with Armstrong Prelude XL 15/16" Grid to maintain 30-year performance Guarantee and Warranty. Color: Grid and Ceiling Tiles must be White.

10.9. Interior Trim Finishes

10.9.1. Paint. Architectural Grade Semi-Gloss Finish Paint Door Frames, Exit Stairs Handrails, Stringers and Guardrails. Color as indicated in Room Finish/Color Schedule.

10.9.2. Wood Doors: WD-1: Basis of Design; Masonite Door System; Color: Espresso, Plain Sliced and Book Matched Color as indicated in Room Finish/Color Schedule.

10.9.3. Door Frames: Paint. Architectural Grade Semi-Gloss Finish. Basis of Design; Sherwin Williams, Color as indicated in Room Finish/Color Schedule.

10.10. Interior Miscellaneous

Miscellaneous items shall be provided to match the colors listed below.

10.10.1. Interior cabinets: Kitchen Countertops to be Solid Surface: Livingstone Eclipse with Integral Solid Surface Double Bowl Sink: Livingstone Soft White. Restroom Countertops to be Solid Surface: Livingstone Thundercloud with Integral Solid Surface Round Vanity Sink: Livingstone Soft White. Cabinet

laminate faces to be a cherry stained look in the kitchen and public spaces. Cabinet laminate faces to be a darker gray stained look in the restroom areas.

10.10.2. Interior Signage; Adhere to ABA Handicap Accessibility Signage Requirements. Raised Message Color: Black, Signage Face Color: C0 601 Satin Silver, Signage Metal Accent Bar: Black Metal.

10.10.3. Corner Guards; Basis of Design C/S Acrovyn SM-20N, Surface Mounted. 3” x 3” Face Color To match wall paint. Corner Guard shall be Green Guard Gold Certified.

10.10.3.1. Wall Switch Handles and Standard Receptacle Bodies; White

10.10.3.2. Electrical Device Cover Plates: White

10.10.4. Window Treatments: All exterior windows to receive white horizontal mini blinds. Basis of Design; Hunter Douglas 1” Modern Precious Metal Aluminum, color: white

10.10.5. Window Sills: Provide solid surface window sills, color Grey. Refer to SID Appendix B and Finish Schedule and Color Schedule Key on Criteria Drawings I-601.

10.11. Furniture, Fixtures and Equipment (FFE)

A fully developed FFE package presented herein is the furniture and equipment package based on Corps of Engineer Mobile District guidance including two FFE Bid Options. The Contractor's Interior Designer will be responsible for confirming that requirements as shown are still in place. The FFE package, Appendix C, serves as the list of requirements that must be verified. Should major changes be required to the FFE package, reference Mobile District Design Manual Chapter 10 Interior Design for the required format in the development of the FFE package. The Contractor must show a line drawing of the furniture specified for Fire Station #2. Provide critical dimensions on the floor plan to verify the specified furniture and equipment fit within the design. The FFE package must specify items such as desks, workstations, chairs, tables, files, storage cabinets, beds and bedding, window coverings, and equipment and appliances, but is not limited to those items. The FFE plans are found on Sheets I-101 through I-107. The specifications are found in Appendix C and are inclusive of Order Data Sheets and Typical Drawings. Refer to the required Bid Options to determine the items to include in each. The FFE Package has the individual items marked to include in either Bid Option #1. If not marked for either bid option, the item will be included in Bid Option #1.

10.11.1. Procurement and Installation. Procurement and installation of the all moveable furnishings designed under the base price proposal must be purchased by the Contractor and installed within the specified construction contract completion date for the building under Bid Option 1.

10.11.1.1. Supplies/Services to be Obtained. The products required include all furniture and furnishings needed to provide a fully integrated, fully operational, complete and useable facility upon the beneficial completion date of the contract. The services required include all effort associated with ordering, receiving, storing, staging, installing, adjustments/leveling, trash removal/disposal, and touch-ups and/or repair or replacement of damaged

furniture or their components (either in part or whole) and/or repair or replacement of damaged building surfaces.

10.11.1.2. Bid Options. Cost of furnishings may involve State of Florida sales tax. It is the Design Build Contractors responsibility should he/she wish to obtain a waiver of tax liability based on sale to the government. No letter will be given to the Design Build Contractor by the Corps of Engineers authorizing him/her to procure products for this project.

10.11.2. Bid Options include, but are not limited to the following:

a. Cost of furnishings
b. Crating, Freight Costs, Mileage and fuel upcharges.
c. Installation cost of all moveable furnishings, in locations as indicated on the plans. Use of elevator is not guaranteed.
d. Rental of equipment required to complete any aspect of installation.
e. State of Florida Taxes.

Refer to Appendix for Bid Option 1.

10.12. Specifications.

As a minimum, the Contractor must edit and submit the following UFGS as defined in Section 01 10 12, Design After Award:

09 06 90 COLOR SCHEDULE
09 30 00 CERAMIC TILE, QUARRY TILE, AND PAVER TILE
09 51 00 ACOUSTICAL CEILINGS
09 65 00 RESILIENT FLOORING
10 14 02 INTERIOR SIGNAGE
10 26 13 WALL AND CORNER GUARDS
12 48 13.13 ENTRANCE FLOOR MATS

11. STRUCTURAL DESIGN

11.1. Codes and References

a. Codes and References COE Mobile District Design Manual,
b. International Building Code
c. State of Florida Building Code – High Velocity Hurricane Zone requirements
d. ASCE 7-10 Minimum Design Loads for Buildings and Other Structures,
e. UFC 1-200-01 DoD Building Code (General Building Requirements)
f. UFC 3-301-01 Structural Engineering
g. UFC 3-310-04 Seismic Design of Buildings
h. UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings
i. UFC 4-023-03 Design of Buildings to Resist Progressive Collapse

11.2. General Design Requirements

11.2.1. The Design-Build Contractor shall have on his staff a licensed Structural Engineer that shall be responsible for the design of the complete structural building system. A complete structural system for the building shall include foundations, walls, roof framing, roof diaphragms, lateral load stability, framing and connection of any architectural features, and the support of mechanical and electrical equipment. Structural design of the building shall be compatible with the architectural design. Structural design shall be in accordance with the criteria, requirements, and guidance provided in the codes and references noted in 12.1, and the following requirements.

11.2.2. Foundations are assumed to be shallow bearing on compacted subgrade with a minimum allowable bearing pressure of 1500 psf. To achieve adequate bearing capacity and settlement values, over excavation and compaction of loose soils within the entire footprint of the building may be required. Design of foundations will be in accordance with the recommendations of the contractor’s final geotechnical report. Geotechnical borings will be included as an appendix to the DA and the RFP to provide general knowledge of the in-situ soil conditions, but the contractor is responsible to provide additional borings and a final geotechnical investigation.

Slabs on grade for administration and sleeping area shall be a minimum of 5 inches thick and reinforced with weld wire fabric within 2 inches of the top surface. Slabs on grade for the apparatus bay shall be a minimum of 8 inches thick and reinforced with deformed steel rebar. All slabs on grade shall be cast over a continuous plastic vapor barrier and compacted granular subbase that acts as a capillary barrier. Slabs on grade shall be isolated from the load bearing walls and foundations to allow for differential movement.

The structural framing system shall consist of some combination of reinforced concrete beams and columns, load-bearing CMU walls, steel column and beam framing, open web steel joists, and metal deck roof. Steel framing used for exterior applications shall be hot dip galvanized. All roof framing shall be sloped to avoid the use of tapered insulation.

Lateral stability for the building shall be provided by some combination of braced frames, moment resisting frames, reinforced concrete shear walls, and/or

reinforced CMU shear walls. The lateral loads will be transmitted through the steel roof deck diaphragm to the lateral load resisting systems and then to the foundations

11.2.2.1 Columns and shear walls at perimeter of building shall be concealed to avoid projections into the interior of the building.

11.2.2.2 Interior columns shall be designed to work with criteria floor plans to avoid significant changes to floor plan layout and furniture design and layout.

11.2.2.3 Multi-purpose rooms shall be column free as noted in the special requirements of section 8 in this RFP.

11.2.2.4 The designer’s Structural Engineer is responsible for ensuring that all mechanical and electrical equipment and other auxiliary building features such as sprinkler piping, etc. are properly supported and that all architectural features are adequately framed and connected. The Structural Engineer is also responsible for the design of all lesser structures such as utility vaults, pits, retaining walls, etc., although they may be shown on other disciplines drawings.

11.2.2.5 Building structural details shall be shown on the structural drawings and not intermixed with architectural plans and details.

11.2.3. Variations from level or from slopes specified for roof decks, floors, ceilings, beam soffits, lintels, sills, horizontal grooves, or other conspicuous lines shall be as follows: for overall length of line or surface of 10 feet or less, +/- 1/8 inch; up to 20 feet, +/- 1/4 inch; up to 40 feet, +/- 3/8 inch.

11.2.4. Where raised or depressed floors are provided, structural slab elevations shall be adjusted so that all finished floor levels are at the same elevation.

11.2.5. A minimum safety factor of 1.5 shall be provided against uplift, sliding, overturning, or flotation.

11.2.6. Wood shall not be used for any structural members. Plywood shall not be used for wall sheathing or structural roof sheathing, or floor decking. Pre-engineered metal buildings shall not be used.

11.2.7. Where dissimilar metals are in contact, or where aluminum is in contact with concrete, mortar, masonry, wet or pressure-treated wood, or absorptive materials subject to wetting, the surfaces shall be protected with a coat of bituminous paint or asphalt varnish.

11.2.8. Contractor to provide special inspections and testing as required by Chapter 17 of the IBC (International Building Code, 2015) as modified by UFC 3-301-01, UFC 4-023-03, UFC 3-600-01 and UFC 1-200-01. The Contractor is required to employ one or more approved agencies to perform inspections during construction on types of work listed under Section 1705 of the IBC (International Building Code, 2015). These inspections are in addition to the inspections defined in Section 110 of the IBC. The inspecting agency must provide reports of the special inspections directly to the government.

11.3. Design Loads

11.3.1. Design dead, live, and wind loads, and load combinations shall be in accordance with the IBC 2015, unless specified otherwise herein or modified by UFC 3-301-01.

11.3.2. Live loads, not given, shall be in accordance with Appendix D of UFC 3-301-01. The following floor areas shall be designed using the stated loads, as a minimum:

	Uniform	Concentrated
Slab-on-Grade (Unless Noted Otherwise):	50 psf	2,000 lbs
Mechanical and Electrical Rooms:	125 psf	
Fitness/Gym:	100 psf	
Light Storage:	125 psf	
Apparatus Bay:	200 psf	
	54.5 kip axle load, 9’-7” wide	
	27.25 kip wheel over 200 in^2	
Roofs:	20 psf	300 lbs

11.3.3. Wind loads shall be based on a 186 miles/hr Ultimate Wind Speed, Building Risk Category IV, and Exposure Category D as described in Florida Building Code and HVHZ requirements for Miami-Dade County. Wind loads shall be computed and applied in accordance with the IBC 2015 and ASCE 7-10. All parts of all structures shall be designed for the specified wind velocity and shall be tied together to provide an integrated resistance to high wind effects.

11.3.4. Seismic loads shall be in accordance with UFC 3-301-01 and ASCE 7-10, Building Risk Category IV. The short period spectral acceleration value (Ss) shall be taken as 0.07g and the one second period spectral acceleration value (S1) shall be taken as 0.05g, for a 2 percent probability of exceedance in 50 years. Seismic Site Classification D shall be used unless modified by the contractor’s geotechnical report. Seismic loads shall be computed and applied in accordance with the IBC 2015 and ASCE 7-10.

11.4. Concrete

12.4.1 Codes and References

a. ACI 315 Manual of Standard Practice for Detailing Reinforced Concrete Structures, latest ed.

b. ACI 318-14 Building Code Requirements for Reinforced Concrete

c. ACI 360 R-10 Design of Slabs on Grade

d. ACI 302.1R-15 Guide to Concrete Floor and Slab Construction

11.4.1. Concrete design and detailing shall be in accordance with the IBC except as noted below.

11.4.2. Concrete strengths for various applications and exposure conditions shall be in accordance with the specified minimum compressive strength (f’c at

28 days) listed below. Exterior exposed concrete shall receive proper air entrainment as required by ACI.

Slab-on-grade and Foundations	4,000 psi
Beams, columns and walls	4,000 psi
Cast-in-place concrete piles	4,000 psi
Precast (non-prestressed) members	4,000 psi
Precast prestressed members	5,000 psi

11.4.3. All edge or spandrel beams shall have continuous reinforcing top and bottom. As a minimum, two #5 bars, top and bottom shall be used. Beams shall have continuous ties at a maximum spacing of 16 inches.

11.4.4. The reinforcing of concrete walls, continuous footings, and tie and bond beams shall be continuous and, therefore typical details showing the arrangement of reinforcing at corners and intersections of these members shall be shown on the drawings.

11.4.5. Building slabs-on-grade shall be placed on a minimum 15 mil vapor barrier and minimum 6-inch capillary water barrier. Concrete floor slabs remaining exposed shall be treated with a hardener/sealer.

11.4.6. Slabs on grade shall be designed in accordance with ACI 360 “Design of Slabs on Grade” and ACI 302 “Guide for Concrete Floor and Slab Construction”. Slabs on grade shall be a minimum of 4 inches thick and reinforced with a minimum of .15 percent welded wire fabric, provided in flat sheets, or deformed bars. Reinforcement shall be placed approximately 1-1/2 inches from top of slab. Floor slabs on grade subject to heavy loads may be designed in accordance with UFC 3-320-06A, “Concrete Floor Slabs on Grade Subjected to Heavy Loads”. Control joints for slabs 4”-5” thick shall be spaced a maximum 12.5’ on center. Control joints for slabs 6”-9” thick shall be spaced a maximum 15’ on center. Slab areas created by crack control joints shall be as near to square as possible; slab area lengths shall not be greater than 1.5 times the width. Slabs-on-grade shall be placed on a minimum 15 mil vapor barrier.

11.4.7. Crack control joints may be construction joints, contraction joints, expansion joints, or isolation joints. Reentrant corners in slabs shall be reinforced with two #4 bars, 4 feet long, placed diagonally to the corner. Discontinuous joints shall be reinforced with two #4 bars, 4 feet long, placed opposite the end of the discontinuous joint. Where visible, construction joints in slabs, exterior walls and cap blocks shall match joints.

11.4.8. The flatness of the floors shall be carefully controlled and the tolerances shall be measured by the straightedge system as specified in paragraph 4.5.7 of ACI 117/117R, using a 10-foot straightedge, within 72 hours after floor slab installation and before shores and/or forms are removed. The listed tolerances shall be met at any and every location at which the straightedge can be placed.

Bullfloated	1/2 inch
Straightedged	5/16 inch
Float Finish	3/16 inch
Trowel Finish	3/16 inch

Tolerances may also be measured by the F-number system in accordance with Paragraph 4.5.6 and 4.5.6.1 of ACI 117/117R.

11.4.9. All detailing and materials used for concrete reinforcement shall be in accordance with ACI 315 and ACI 318, latest editions.

11.4.10. Reinforcing of concrete walls, continuous footings, and tie and bond beams shall be continuous and, therefore, typical details showing the arrangement of reinforcing at corners and intersections of these members shall be shown on the drawings.

11.4.11. The contractor shall provide a hot weather concreting plan that shall be approved by the contractor's structural engineer of record.

11.5. Steel

11.5.1. Codes and References

a. AISC 360-16 Specification for Structural Steel Buildings

b. AISC 341-10 Seismic Provisions for Structural Steel Buildings

c. SJI Standard Specifications Load Tables and Weight, latest edition.

d. AISC D.G. 11 Steel Design Guide 11: Floor Vibrations due to Human Activities, latest edition.

11.5.2. Shop connections for structural steel may be welded, and field connections will generally be made with high-strength bolts, ASTM A325 bearing-type connections. Connection angles shall be a minimum 5/16-inch-thick and bolts shall be a minimum ¾ inch diameter. Compressible-washer-type direct tension indicators or twist-off-type tension-control bolts conforming to RCSC, Specification for Structural Joints Using High-Strength Bolts shall be provided at all bolted connections. All connections other than standard AISC beam connections shall be designed by the structural engineer and detailed on the final plans. When standard AISC beam connections are used, beam end reactions shall be provided on the drawings. Design responsibility for all connections remains with the designer's Engineer of Record.

11.5.3. The structural steel specification shall be edited to include the requirements that the steel fabricator shall be certified by the AISC Quality Certification Program for the appropriate category.

11.5.4. For steel framed floor systems, design calculation shall be submitted demonstrating that the floor system is acceptable in accordance with the "AISC Steel Design Guide Series #11: Floor Vibrations Due to Human Activity".

11.5.5. Steel Joists: Steel joist construction will be in accordance with the IBC 2015 and the SJI, latest edition. Joists will be anchored to steel supports by bolting or field welding. Steel insert plates shall be provided in concrete work as required. Maximum joist spacing will be 2.5 feet for floors

and, generally, 5.0 feet for roofs, except where composite joists are utilized the maximum spacing shall be 4 feet. Where top chords are extended, the required section modulus of extensions shall be shown in the drawings. Where equipment is hung from joists, details of joist reinforcement at hangar locations shall be provided on the drawings. Floors shall be designed to prevent excessive vibration. For joist supported floor systems, design calculations shall be submitted demonstrating that the floor system is acceptable in accordance with the "AISC Steel Design Guide Series #11: Floor Vibrations Due to Human Activity".

11.5.6. Braced frames, if used, shall be designed and detailed according to AISC 360 and AISC 341.

11.5.7. Structural steel frames, if used, shall be designed and detailed according to AISC 360 and AISC 341.

11.5.8. An erection plan shall be provided by the contractor. The erection plan shall be reviewed, stamped and sealed by a structural engineer licensed by the State of Florida. The erection plan shall also be approved by the engineer of record.

11.5.9. Masonry steel lintel angles and relieving angles: Shall be designed, detailed and indicated on the structural contract drawings. All masonry lintel angles shall be 1/4" thick minimum and shall be hot-dip galvanized.

11.5.10. Exterior steel embedded in concrete for such purposes as exterior railing, handrails, fence, base plates, anchor bolts, etc. shall be hot-dipped galvanized unless otherwise directed.

11.5.11. All column base plates and anchor bolts shall be completely encased in concrete, with 3" minimum clear cover. All below grade steel shall be completely encased in concrete with 3" minimum clear cover or coated with coal-tar epoxy.

11.5.12. Where dissimilar metals are in contact, or where aluminum is in contact with concrete, mortar, masonry, wet or pressure-treated wood, or absorptive materials subject to wetting, the surfaces shall be protected with a coat of bituminous paint or asphalt varnish.

11.6. Metal Deck

11.6.1 Codes and References

a. SDI Diaphragm Mnl.	Diaphragm Design Manual
b. ANSI-10	Standard for Noncomposite Steel floor Deck
c. ANSI-10	Standard for Steel Roof Deck
d. SDI-C-2011	Standard for Composite Steel Floor Deck Slab
e. SDI-QA/QC-2011	Standard for Quality Control and Quality Assurance for Installation of Steel Deck.

11.6.1. Where steel floor and roof deck is used, the required section modulus and moments of inertia shall be shown on the drawings.

11.6.2. The type and quantity of decking connectors to be used to resist computed wind uplift and shear diaphragms shall be clearly detailed on the final plans.

11.6.3. Steel deck diaphragms shall be designed in accordance with the SDI Diaphragm Manual.

11.6.4. Metal form deck material shall be galvanized steel and have a minimum thickness of 0.033 inches (20 gage).

11.6.5. All decking shall have a minimum galvanized coating conforming to ASTM A653, G60 for interior and G90 for exterior conditions. Steel roof deck material shall have a minimum thickness of 0.033 inch (20 gauge).

11.6.6. Structural metal roof decks shall be attached to structural supports and to adjoining units using mechanical fasteners, such as screws, powder actuated or pneumatically driven fasteners. Welding shall not be used to attach roof decks.

11.6.7. When the underside surface of large areas of steel decking is exposed to view and indicated to be finish painted, the underside surface of the steel decking shall be specified to be factory cleaned and factory primed with a finish paint compatible primer.

11.6.8. Net uplift resistance required will be specified in the Metal Deck specification in keeping with project design computations.

11.7. Masonry

11.7.1. Codes and References

a. ACI 530-13 Building Code Requirements for Masonry Structures

b. ACI 530.1-13 Specifications for Masonry Structures

11.7.2. Concrete Masonry Units and Concrete Masonry Veneer Units

11.7.2.1. Masonry construction shall be designed in accordance with the 2015 IBC. All structural masonry walls (load bearing walls, shear walls, or exterior walls) shall be designed as reinforced masonry, neglecting the tensile strength of masonry. Masonry walls shall be laid in running bond and reinforced as required to resist all vertical and horizontal loads.

11.7.2.2. Minimum thickness of structural masonry walls shall be 8 inches. Minimum vertical reinforcement shall be as follows: Minimum bar size shall be #5. One vertical reinforcing bar shall be provided continuously from support to support at each wall corner, at each side of each opening, at each side of control joints, at ends of walls, and elsewhere in the wall panels at a maximum spacing of 48 inches. This minimum reinforcement shall be the same size as the minimum vertical reinforcement provided for flexural stresses.

11.7.2.3. Horizontal reinforcement in continuous masonry bond beams shall be provided continuously at floor and roof levels and at the tops of walls. Horizontal reinforcement shall also be provided above and below all wall openings. These bars shall extend a minimum of 40 bar diameters, but not less

than 24 inches, past the edges of the opening. For masonry laid in running bond, the minimum horizontal reinforcement should be two #5 bars per bond beam. Lintel units shall not be used in lieu of bond beam units.

11.7.2.4. Particular attention will be given to details for the reinforcement of masonry construction. The horizontal and vertical wall reinforcement and reinforcement around openings and at lintels shall be clearly shown on the structural drawings and coordinated with the sections and details on the architectural drawings. Masonry control joint and expansion joint locations shall be shown on the drawings.

11.7.2.5. Nonstructural masonry walls may be designed as unreinforced masonry in accordance with ACI 530. However, the minimum reinforcement around openings given above for structural walls shall be incorporated.

11.7.2.6. Concrete masonry walls shall have vertical control joints as follows.

a. Exterior and Interior Walls: 24 feet and/or 1.5 Width to Height ratio, maximum.
b. At changes in wall height or thickness
c. Near wall intersections
d. At points of stress concentration
e. At control joints in foundation walls
f. Where a slab joint passes beneath a wall.

In no case shall any masonry control joint be placed so as to interrupt the continuity of lintel bar extensions as described above. Bond beam reinforcing shall extend through masonry control joints.

11.7.2.7. Certain standard structural details are required, as applicable on all projects. Typical masonry details shall be furnished showing details of horizontal and vertical wall reinforcement, reinforcement around openings and at lintels, and masonry control joints.

11.7.2.8. If the masonry compressive strength (f'm) used in the design is 2000 psi or more, a qualified masonry inspector approved by the COR shall perform inspection of the masonry work. Minimum qualifications for the masonry inspector shall be 5 years of reinforced masonry inspection experience or acceptance by a State, municipality, or other governmental body having a program of examining and certifying inspectors for reinforced masonry construction. The masonry inspector shall be present during preparation of masonry prisms, sampling and placing of masonry units, placement of reinforcement (including placement of dowels in footings and foundation walls), inspection of grout space, immediately prior to closing of cleanouts, and during grouting operations. The masonry inspector shall assure Contractor compliance with the drawings and specifications. The masonry inspector shall keep a complete record of all inspections and shall submit daily written reports to the Quality Control representative reporting the quality of masonry construction.

11.7.2.9. A sample masonry panel shall be built on the project site where directed. The sample panel shall be constructed after the material samples are approved and prior to starting masonry work. The sample panel shall be not less than 6 feet long by 4 feet high. The panel shall be of typical wall thickness

for the construction represented. The panel shall show joint finish, bond pattern, control joints, and cleaning of the masonry as required in the work. The panel shall also show cold-formed steel framing, insulation, gypsum wallboard, gypsum sheathing, water/vapor barrier, joint reinforcement, steel shelf angles, flashing and weep holes, as applicable. The approved sample panel shall be used as a standard of workmanship required in the actual installation. The sample panel shall be protected from weather and construction operations and shall not be removed until the wall work has been completed and accepted.

11.8. Miscellaneous Cold Formed Steel Framing

11.8.1. Codes and References

a. AISI S100-12 North American Specification for the Design of Cold-formed Steel Structural Members, 2012
b. AISI S200-12 North American Standard for Cold-formed steel framing-General Provisions, 2012.

11.8.2. Structural steel studs may be used for interior non-load bearing walls and for soffits, fascia and eyebrow framing construction.

11.8.3. Structural Cold-Formed Steel: Cold-formed steel framing shall be designed in accordance with the IBC 2015 and the above referenced codes.

11.8.4. All cold-formed steel framing shall be formed from steel that conforms to the requirements of ASTM A-653, Grade 33 or higher, having a minimum yield of 33 ksi.

11.8.5. Minimum uncoated steel thickness (design thickness times 0.95) shall be 0.0329 inches (20 gage). All cold-formed steel framing, connectors, etc. shall receive a G60 galvanized coating, as a minimum.

11.8.6. Cold formed metal framing shall be designed by a registered professional engineer licensed in the State of Florida to meet all design loads and deflections as established in IBC 2015, UFC 3-301-01, and UFC 4-010-01.

11.8.7. The contract drawings shall show all components of the steel stud walls, roof trusses, soffits, fascia and eyebrow systems. The connections shall be completely detailed on the drawings.

11.8.8. Design and detail the connections between steel framing and the main structural system to prevent the cold formed framing from carrying floor or roof axial or shear loads where walls are non-load bearing.

11.8.9. Contract drawings shall specify the required stud depth, spacing, thickness, section modulus and moment of inertia

11.8.10. Use #10 minimum self-tapping screws for connections. Do not weld 18 gage (43 mils) thick or thinner materials.

11.8.11. Cold Formed Roof Trusses. Generally, cold-formed steel trusses shall be pre-engineered and pre-fabricated in the manufacturer’s plant from system components specifically manufactured for trusses. Trusses designed and fabricated from standard light gauge framing members and field fabricated trusses shall be limited to only minor trusses. The designer shall provide

proper truss load diagrams on the drawings. The diagrams shall show the design span length and all appropriate load components. Details showing required bearing conditions and connections shall be shown on the contract drawings. A special specifications section shall be prepared for the cold-formed steel roof trusses. The truss fabricator shall be required to have a minimum of three years of experience in the production of steel roof trusses. Complete signed and sealed shop drawings showing erection plan, bracing, truss configurations, and truss joint connections shall be required to be submitted for approval. Trusses shall be designed to meet all design loads and deflections as established in IBC 2015, UFC 3-301-01, and UFC 4-010-01.

11.9. Antiterrorism/Force Protection

11.9.1. Antiterrorism/Force Protection design shall be in accordance with Chapter 5 Anti-Terrorism Force Protection Requirements.

11.10. Specifications

As a minimum, the Contractor shall edit and submit the following UFGS as defined in Section 01 10 12, Design After Award:

a. 01 45 35 Special Inspections
b. 03 30 00 Cast-In-Place Concrete
c. 04 20 00 Masonry
d. 05 12 00 Structural Steel
e. 05 21 19 Open Web Steel Joist Framing
f. 05 30 00 Steel Decks
g. 05 40 00 Cold-Formed Metal Framing
h. 05 50 13 Miscellaneous Metal Fabrications
i. 05 51 00 Metal Stairs

12. HEATING, VENTILATING, AND AIR CONDITIONING REQUIREMENTS

12.1. Codes and References

Facilities shall be designed in accordance with all government requirements, regional, and national applicable codes effective at issue date of RFP including, but not limited to:

a. Installation Facilities Standards (IFS) Tyndall AFB, Florida, 2018
b. Architectural Barriers Act (ABA) Standards
c. ASHRAE Handbook of Fundamentals,
d. ASHRAE Standard 62.1 "Ventilation for acceptable Indoor Air Quality",
e. ASHRAE 90.1, 2013 Energy Standard for Buildings Except Low-Rise Residential Buildings
f. ASHRAE 55 Thermal Comfort
g. SMACNA HVAC Duct Construction Standards, latest ed.
h. SMACNA HVAC Systems Commissioning Manual, latest ed.
i. SMACNA HVAC Air Duct Leakage Test Manual, latest ed.
j. EISA 2007, Energy Independence and Security Act of 2007
k. EPACT 2005, Energy Policy Act of 2005
l. Executive Order (EO) 13423 "Strengthening Federal Environmental, Energy, and Transportation Management"
m. UFC 1-200-01, DoD Building Code (General Building Requirements)
n. UFC 1-200-02, High Performance and Sustainable Building Requirements
o. UFC 3-401-01, Mechanical Engineering
p. UFC 3-410-01, Heating Ventilating and Air Conditioning Systems
q. UFC 3-410-02, Direct digital Control for HVAC and Other Building Control Systems
r. UFC 3-420-01 Plumbing Systems
s. UFC 3-600-01, Design: Fire Protection Engineering for Facilities,
t. UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings
u. National Fire Protection Association Standard 90A (NFPA 90A), Standard for the Installation of Heating and Air Conditioning Systems, 2015 edition
v. USACE Mobile District Design Manual,
w. AFI91-203 Air Force Instruction
x. FEMP Federal Energy Management Program
y. Executive Order (EO) 13514 Federal Leadership in Environmental, Energy and Economic Performance
z. Executive Order (EO) 13514 Federal Leadership in Environmental, Energy and Economic Performance
aa. FLHPSB - Federal Leadership in High Performance and Sustainable Buildings MOU (HPSB)
bb. AGRAM 17-01 Change to AF New Construction and Major Renovation Certification Requirements changes guidance for 3rd Party Validation and use of LEED from:
    a. Air Force Sustainable Design & Development (SDD) Implementation Guidance, memorandum

The HVAC systems shall be designed to the latest industry standards, codes, Government regulations, and to the specifications included in this solicitation.

12.2. Design Criteria

12.2.1. Areas in the facility shall be conditioned and zoned as follows:

a. Offices, Classrooms, Common Area rooms – Zoned thermodynamically similarly, heated and cooled to standard design conditions.

b. Telecom/Electrical Rooms – Individually zoned, shall be provided with dedicated cooling to meet standard design conditions.

c. Apparatus Bay – heating and ventilation only to meet standard design conditions.

12.2.2. The HVAC systems shall be designed to the latest industry standards, codes, Government regulations, the Energy Policy Act of 2005 (EPACT 2005), and to the specifications included in this solicitation. Design documents shall be submitted and approved prior to commencing work on the HVAC system. The contractor shall be responsible for the professional quality and technical accuracy of all HVAC design documents and shall ensure construction meets all requirements of the approved design. Drawings, specifications, and other design documents upon which construction is based shall be coordinated with other disciplines to ensure compatibility of all building systems.

12.2.3. It shall be the design/build design professionals' responsibility to verify occupancy and heat loads for all equipment prior to commencing work. The design/build contractor shall submit, for review and approval, building HVAC load calculations and shall demonstrate compliance with Section 19 Sustainable Design and Energy Use Reduction.

12.2.4. Heat gain and loss calculations shall be, as a minimum, in accordance with the ASHRAE Handbook of Fundamentals. Computer load calculations shall be provided and include complete input and output summaries. Acceptable computer load analysis programs are BLAST, Trane TRACE, or Carrier HAP. If the designer wishes to use a different load analysis program, this shall require approval by the Contracting Officer's Representative. Cooling equipment shall be selected to meet the calculated load operating at 95 degrees F ambient.

12.2.5. The design of the facility systems shall make use of the latest technology to provide equipment with the highest efficiency possible to achieve compliance with EPACT 2005 without compromising maintainability. The design shall comply with ASHRAE Standard 90.1-2013 "Energy Standard for Buildings Except Low Rise Residential Buildings."

12.2.6. General Design Parameters

a. Standard Design Conditions:
Outside:

Summer	90.2 Degrees F DB;	78.8 Degrees F WB (1% Cooling)
	84.9 Degrees F DB;	81.0 Degrees F WB (1%HR)
Winter	35.5 Degrees F DB (99% Heating)	

*** Design shall be required to evaluate highest cooling loads at both the highest temp (dry bulb) & mean coincident wet bulb AND highest wet bulb & mean coincident dry bulb temperatures.**

b. Inside-General:

Summer 78 Degrees FDB; 50% RH
Winter 68 Degrees FDB

c. Telecommunication Rooms:

Summer 70 Degrees FDB; 50% RH
Winter 70 Degrees FDB

d. Filtration Rates:

MERV 13 filters per ASHRAE 52-76 with MERV-8 pre-filters
Maximum 350 feet per minute face velocity
Construction filters shall be provided per HPSB requirements

e. Exhaust Rates:

Restrooms	Minimum 70 cfm per fixture.
Janitor's Closets	Minimum 1 CFM/Sq. Ft.
Pressurization	10-15%

f. Mechanical rooms where air handling equipment is located and electrical rooms shall be part of the conditioned spaces. Mechanical rooms without air handling equipment shall be heated and ventilated only.

g. Each telecommunication room shall be designed for a sensible heat load of approximately 20 watts per square foot. The successful D/B team shall verify exact loading prior to design. Telecommunication rooms shall each be provided with a separate computer room air conditioning-type unit sized for the equipment load and provided with humidifier, reheat and condensate pump (if required to pump condensate to drain location). Provide sufficient reheat to offset the cooling sensible capacity of the unit for humidity control at low loads.

h. Miscellaneous Loads:
Equipment Heat Load for Office Spaces and Other Areas: Include 0.5 watts per square foot (approx.) for miscellaneous office equipment loads and 0.7 watt per square foot (approx.) lighting load.

i. Personnel:
As indicated in other parts of this document and the furniture layouts.

j. Outside Air Criteria:
Design facilities to comply with ASHRAE Standard 62.1-2013. The Design/Build contractor shall provide documentation describing the calculations and methodology for ventilation rates included in the design. Ventilation shall conform to the requirements described in UFC 3-410-01 regarding pretreatment of outside air and energy recovery from exhaust air.

k. Pressurization:
Exhausted spaces (e.g. Apparatus Bay, Infectious Control, etc.) shall be maintained at a slight negative pressure with respect to adjacent spaces.

12.3. System Types and Equipment Requirements

12.3.1. Systems Description and Requirements

a. All equipment shall be of the high efficiency type and in compliance with ASHRAE 90.1-2013 minimum efficiency requirements.

b. The mechanical/HVAC scope is to provide heating, ventilation, air conditioning (HVAC), and summer/cooling space humidity control.

c. The HVAC systems shall be zoned to provide maximum year-around comfort and adequate flexibility. Air handling, heating, ventilation, and exhaust systems shall comply with NFPA 90A, except as modified by UFC 3-600-01. The facility standard operating hours shall be Monday-Friday 7:30-16:30. Refer to Section 1 "Description of Facility" for additional operational requirements information.

d. Split-system DX unit with hot water coils and economizer will provide conditioned ducted supply air to all zones. Return air is ducted back to the air handler located in the mechanical room. Ventilation air is ducted to unit from exterior wall louver with motorized damper.

e. Spaces shall be heated and cooled to the indoor conditions listed above using ducted VAV boxes with hot water reheat coils.

f. Telecommunication rooms shall be cooled/dehumidified/humidified to the indoor conditions listed above using horizontal computer room air conditioning units.

g. The building heating system shall consist of gas fired boiler plant. Variable volume pumps shall provide the distribution to each building loop.

h. Mechanical equipment shall utilize VFD's (variable frequency drives) for motors where applicable. VFD's shall be furnished by the mechanical contractor in accordance with electrical division 26 specifications.

i. All mechanical equipment located outdoors shall incorporate all corrosion resistant features commercially available for each particular type of equipment. Localized corrosion monitoring device of electrical resistance type will be provided and tie into the DDC system for monitoring and alarm.

12.3.2. Air Distribution

The air distribution system shall be designed to meet the minimum ASHRAE design guidelines for 2015 (ASHRAE HVAC Application Chapter 48) room criteria (RC) sound levels when operating at maximum space design requirements (Maximum air flow). Fire dampers, smoke dampers, exhaust fans, terminal units, turning vanes, balancing dampers, control dampers, diffusers, registers, grilles, louvers,

flexible connections, etc. shall be selected to provide a complete, easy to balance air distribution system free of objectionable noise. Mechanical rooms shall not be used as return air plenums. The supply, return, outside, and exhaust air systems shall be fully ducted using galvanized steel of thicknesses suitable for the pressure classification. All supply air ductwork upstream of VAV boxes shall be single walled, flat-oval or round medium pressure ductwork. All exhaust, return, outside air, and low-pressure supply ductwork downstream of VAV boxes shall be single walled round or rectangular ductwork. All supply, return, outside air, and exhaust air ductwork shall be externally insulated.

Use insulated non-metallic flexible duct runouts for connection of supply air devices to branch ductwork. Flexible duct length shall not exceed 5 feet. Provide runouts that are pre-insulated, factory fabricated, and that comply with NFPA 90A and UL 181. Provide either field or factory applied vapor barrier. Provide not less than 0.60 L 20-ounce glass fabric duct connectors coated on both sides with neoprene. Where coil induction or high velocity units are supplied with vertical air inlets, use a streamlined, vaned and mitered elbow transition piece for connection to the flexible duct or hose. Provide a die-stamped elbow and not a flexible connector as the last elbow to these units other than the vertical air inlet type. Insulated flexible connectors are allowed as runouts. Do not expose the insulation material surface to the air stream.

Ductwork shall be designed for .08” s.p. drop per 100 equivalent feet of duct for low pressure (2” or less pressure class – SMACNA) supply duct, .15” s.p. drop per 100 equivalent feet of duct for medium pressure (>2” to 6” pressure class – SMACNA) supply duct, .30” s.p. drop per 100 equivalent feet of duct for high pressure (higher than 6” pressure class – SMACNA) supply duct and,05” s.p. drop per 100 equivalent feet of duct for return duct. Use 45-degree takeoffs in lieu of air scoops.

All diffusers, registers, grilles, and louvers shall be constructed of aluminum. Diffusers, registers, and grilles in finished spaces such as community rooms and living quarters shall be factory anodized white. Diffusers, registers, and grilles in janitor's rooms, storage rooms, and similar spaces may be factory anodized white or clear.

Dorm rooms shall each have ceiling fan without light kit installed with wall mounted fan control.

Kitchen areas with gas-fired appliances will be provided with CO sensor/alarm.

Laundry dryer shall be provided as an O&M funded equipment. The successful D/B team shall coordinate design and rough-in of the GF/GI equipment. The exhaust from each laundry dryer shall be routed to the exterior wall. Dryer exhaust ductwork shall be single wall round ductwork sized for the exhaust flow rate. Dryer exhaust requirements shall be coordinated with the dryer unit manufacturer’s requirements.

12.3.3. Variable Air Volume (VAV) Terminal Units

Conditioned zones shall be provided with variable air volume distribution boxes with how water heating/reheat coil. Units shall be horizontal type for installation in ceiling plenum. The VAV terminal unit shall have capacity to serve each zone. Thermostats and associated wiring shall be installed for each

VAV box. Equipment located near the end of long piping runs shall utilize three-way valves for hot water circulation.

12.3.4. Air Handling Unit Unit(s)

The air handling unit (AHU) shall be of modular double-wall construction with minimum R-13 insulated walls and welded or bolted frame and rated as a complete assembly. Provide ARI certified fan and ARI certified coils. Air handlers shall be provided with thermal breaks at all points in the unit construction to completely prevent thermal bridging from the inside of the unit to the outside of the unit.

The AHU supply air fans shall be of the centrifugal type and shall be variable volume. Fans shall be internally isolated for vibration control.

The AHU shall be provided with dx cooling coil. Dehumidification cycle with hot gas reheat coil to be provided. Positive draining stainless-steel drain pan shall also be provided. Supply air heating and reheat shall be provided at the VAV terminal box.

The AHU shall be provided with base rails and housekeeping pads of sufficient height for proper trapping and draining of the condensate drain pan. The AHU shall be provided with minimum MERV 13 filters and MERV 8 pre-filters on the return air supply.

Airflow measuring stations shall be provided to measure ventilation airflow rate.

12.3.5. Condensing Unit

Air-cooled condensing units shall be high efficiency scroll type as required to comply with Section 19 Sustainable Design and Energy Use Reduction and shall have multiple stages of cooling capable of operating down to 15% load for an extended period. Condensing units shall be provided with a minimum of two totally independent refrigerant circuits, factory applied seacoast condenser corrosion protection on copper tubes/aluminum fins condenser coils, gateway interface required for communicating with the DDC/EMCS and remote display with condenser percent capacity, louvered panels, low ambient controls option, circuit breaker, fused disconnect switch, and increased thickness evaporator insulation for high humidity. Provide 5-year parts and labor warranty for all components in both units to include refrigerant. Provide all appurtenances required by manufacturer. Unit controls shall be fully integrated with the DDC including host programming and condenser graphics screen. Unit(s) startup shall be provided by the manufacturer’s factory representative. New refrigeration equipment shall use refrigerants as required to comply with AFI 32-7086 "Hazardous Materials Management". No Class I or Class II ODS shall be allowed on any refrigeration equipment. Refrigerant Ozone Depletion Factor: 0.050 or Lower. All refrigerants shall be R-134A, R-410A or R-407C to meet Section 19 Sustainable Design and Energy Use Reduction criteria.

12.3.6. Heating System

Heating for the building shall be provided by hot water boilers. All systems selected shall provide uniform, consistent and comfortable space conditions. Equipment efficiencies shall meet or exceed requirements of ASHRAE 90.1. Natural

gas boilers shall be high efficiency, direct vented type and shall meet the minimum requirements of ASHRAE 90.1. Boilers shall have a minimum of 10:1 turndown ratio. Boilers over 1 million btuh require an air construction permit.

Heating water system shall be designed for supply and return water temperature difference that reduce heating water flow where possible with the installed equipment. Heating water supply temperature reset shall be used where a natural gas boiler is installed. Normal and reset supply and return temperatures shall be shown on the plan drawings.

12.3.7. Pumps and Piping Systems

There shall be two pumps for the hot water piping systems, each sized for 100% capacity. The hot water pumps serving central mechanical equipment shall be located inside the mechanical rooms and shall be base-mounted, end-suction or double suction type. Provide oil filled suction, discharge and differential pressure gages. Provide isolation valves, balancing valves, check valves, strainers, and suction diffusers. Pump operation shall be controlled by the DDC system with failure alarm. Provide minimum 6" thick concrete equipment pad for each pump.

Piping systems shall be designed to include pipe, fittings, thermometers, gages, pumps, hangers, valves, flexible connectors, balancing cocks, wells for controllers and sensors, strainers, pressure reducing stations, flow meters, etc. as required to provide complete, functional, easy to balance systems. Piping systems shall be provided with a chemical treatment system complete with feeder and chemicals to control scaling inside the pipe. Dielectric couplings shall be provided at all connections of dissimilar metals. Provide makeup water stations, air separators and expansion tanks for the hot water system.

All exterior piping, tanks, or other appurtenances that could be damaged by freezing shall be protected with heat tracing and proper coatings or finishes.

Water piping inside the building shall be insulated with cellular glass or phenolic foam insulation with a vapor barrier and white all-purpose jacket. Any chilled/hot water piping routed exterior to the facility shall be provided with an aluminum insulation jacket and heat trace as required. Contractor shall evaluate and design the water systems for freeze protection during low ambient temperature. Piping shall not be routed through or over rooms containing electrical and/or communication equipment. Water losses, pressure losses, etc., for sizing piping shall be based on “Cameron Hydraulic Data” with C = 150. The maximum friction loss shall be 1219mm (4 feet) of water per 30.48 meters (100 feet) of pipe with a maximum velocity of 1.22 meter/sec (4 fps) for systems in occupied areas, and up to 2.44 meter/sec (8 fps) for mains and large branches. The minimum pipe size shall be 19mm (¾-inch).

Cathodic protection shall be provided for all metallic underground piping and valves and coordinated with electrical/corrosion engineering.

12.4. Commissioning

Third Party, Independent, Commissioning Authority “Enhanced Commissioning” services shall be provided by the contractor in compliance with UFC 1-200-02 and as further defined in RFP 01 10 10 Section 19 Sustainable Design and Energy Use Reduction. The requirements for contractor and sub-contractor participation

in the commissioning process shall be as per the unedited specification requirements of Section 01 91 00 Commissioning. The Commissioning Authority oversees the commissioning process to be performed by the contractor and the sub-contractors.

12.5. Test and Balance

The design shall include testing, balancing, and adjusting of all HVAC systems by a certified AABC or NEBB test and balance firm. Reports of all tests shall be submitted for approval to the COR on standard AABC or NEBB forms.

12.6. Operation and Maintenance Manuals

Operation and Maintenance Manuals for all components of the HVAC systems shall be submitted by the design/build contractor prior to the training date. Manuals shall be submitted for approval 60 days prior to the scheduled completion date for the project. The design shall include requirements for training of operating personnel in the operation and maintenance of the complete HVAC system. Framed instructions, control drawings, and system diagrams shall be in place prior to the start of training.

12.7. Maintenance Clearances and Equipment Layout

The air handling units, pumps and any other plant accessories and/or appurtenances, except for the air-cooled condenser, shall be designed and arranged to fit properly within the mechanical room. The layout of the mechanical room shall consider proper maintenance clearances around all equipment including coil pull space, and observance of the "dedicated electrical space" around electrical equipment as required by the National Electrical Code, as well as the minimum clearance requirements set forth in the International Mechanical Code, and the manufacturer's minimum recommended clearances.

Access panels and doors shall be provided for maintenance of all equipment and appurtenances above hard ceilings or otherwise concealed. Access panels shall be of sufficient size and located so that concealed items can be easily serviced, maintained and completely removed and replaced. Any valves, VAV's, dampers or other mechanical devices that maintenance personnel may need to access shall be marked on the ceiling grid with phenolic nameplates and a laminated index of markings shall be placed in the mechanical room.

12.8. Antiterrorism Force Protection Requirements

Contractor shall adhere to the requirements of RFP Section 01 10 10-5 of this specification. The following is a partial list of AT/FP requirements:

a. All equipment, ductwork, and piping located inside of the building shall be installed and supported in accordance with UFC 4-010-01.
b. All outside air intakes for distribution to the occupied spaces shall be located a minimum of 10 feet above grade.
c. Emergency shutoff switches shall be provided to shut down the entire HVAC air distribution system in accordance with UFC 4-010-01. A minimum of one switch per floor shall be provided.

d. Provide all outside air intakes, relief air, and exhaust openings with low leakage dampers that are automatically closed when the emergency air distribution shutoff switch is activated. The low leakage dampers shall have maximum leakage rates of 3 cfm/square foot (15 liters/second/square meter) with a differential pressure of one inch of water gage (250 Pa) across the damper.

12.9. Utilities Rates

The utility rates are as follows:

Electricity 0.0935 $/KWH
Gas 1.0578 $/Therm

12.10. General Direct Digital Control Requirements

12.10.1. A complete automatic temperature control system shall be designed by the design/build HVAC design professional. The direct digital control (DDC) system shall be a complete system suitable for the heating, ventilating, and air conditioning (HVAC) systems provided. The DDC system shall be compatible with and completely integrated into the existing Tyndall Siemens BACnet Desigo CC framework including host graphics, programming, and end to end commissioning of each field point to the host graphics screen. All control wiring shall be routed in dedicated metallic raceways.

a. Provide building level supervisory controllers based on Tyndall's existing system (Siemens BACnet Desigo CC). The building level supervisory controllers shall include point-2-point (P2P), Secure Socket Layer SSL, Web server and embedded WorkBench (WB). The building level supervisory controllers shall contain all building logic and graphics.
b. All graphics and points shall be duplicated in the ENS (Enterprise Network Server) using existing workbench software located in building 503 which shall serve as the Web Server for the system. All trended points shall be transferred via P2P to the server for history trending of points.
c. The system shall allow CE technicians to connect to all controllers with all available software in all modes available from the manufacturer from Bldg 503 via the local area network (LAN)to program, backup, download, configure and perform all functions necessary to maintain the system as if onsite and direct connected to the device.
d. All hardware and software administrator level passwords shall be provided to the government to access all levels of all controllers including the new Siemens Framework controllers. The password shall allow complete access to everything the manufacture has access to.
e. All field controllers shall use BACnet MSTP protocol.
f. Provide a LAN drop within three foot of each building level supervisory controller and provide a patch cable between the LAN drop and the building level supervisory controller.
g. When the BACnet comm bus leaves and enters the building provide inline surge protection.
h. When the BACnet comm bus is ran between buildings use fiber optic cable.

i. Control and network wiring shall be run as high above the ceiling as possible to allow easy removal of ceiling tiles without interference due to control or network wiring. Control wiring in partition walls, structural walls, or run exposed in equipment rooms shall be in dedicated metallic raceways.
j. The design shall include complete control system drawings, complete technical specifications, and commissioning procedures for each control system. Temperature control drawings shall be prepared by the control system vendor and shall be similar to shop drawings. No catalog cuts or specific component information is required on the temperature control system design drawings. Variation of air flow delivered by the air handling unit fan shall not create a variation in outside air quantity except as required to satisfy the measured carbon dioxide levels in systems utilizing demand control ventilation schemes.
k. The DDC system shall include hardware and software necessary for monitoring, control and programming of the HVAC system, as indicated below, directly over the Ethernet LAN, and via direct connection to each DDC panel and controller.
l. Coordinate requirements to insure that LAN and phone connections are installed in the mechanical rooms in close proximity to DDC control panels and DDC communications modules.
m. Each thermal zone shall be provided with manual override capability of the DDC time clock function at the space sensor to start and stop the HVAC system(s) so as to provide air conditioning during unscheduled operational hours. The override run time shall be adjustable with no limit on the number of overrides allowed per zone.
n. One laptop computer with the latest operating system, CPU, and technology as it relates to laptops shall be provided to the Government unconditionally for monitoring and control of the new DDC systems. All required training of Government personnel shall be carried out utilizing this laptop to insure software and hardware compatibility to include demonstrating host integration with the base system. Provide software and USB adapters for each type of DDC field controllers, to include factory installed DDC controllers.

12.10.2. All equipment such as condensing units, variable frequency drives, CRU’s, etc. shall be provided with communications cards to interface with the DDC system.

12.10.3. Graphics *sh*all be in the existing ENS (Enterprise Network Server) located in Building (TBD) which shall serve as the Web Server for the system. Include date and time on all graphic screens.

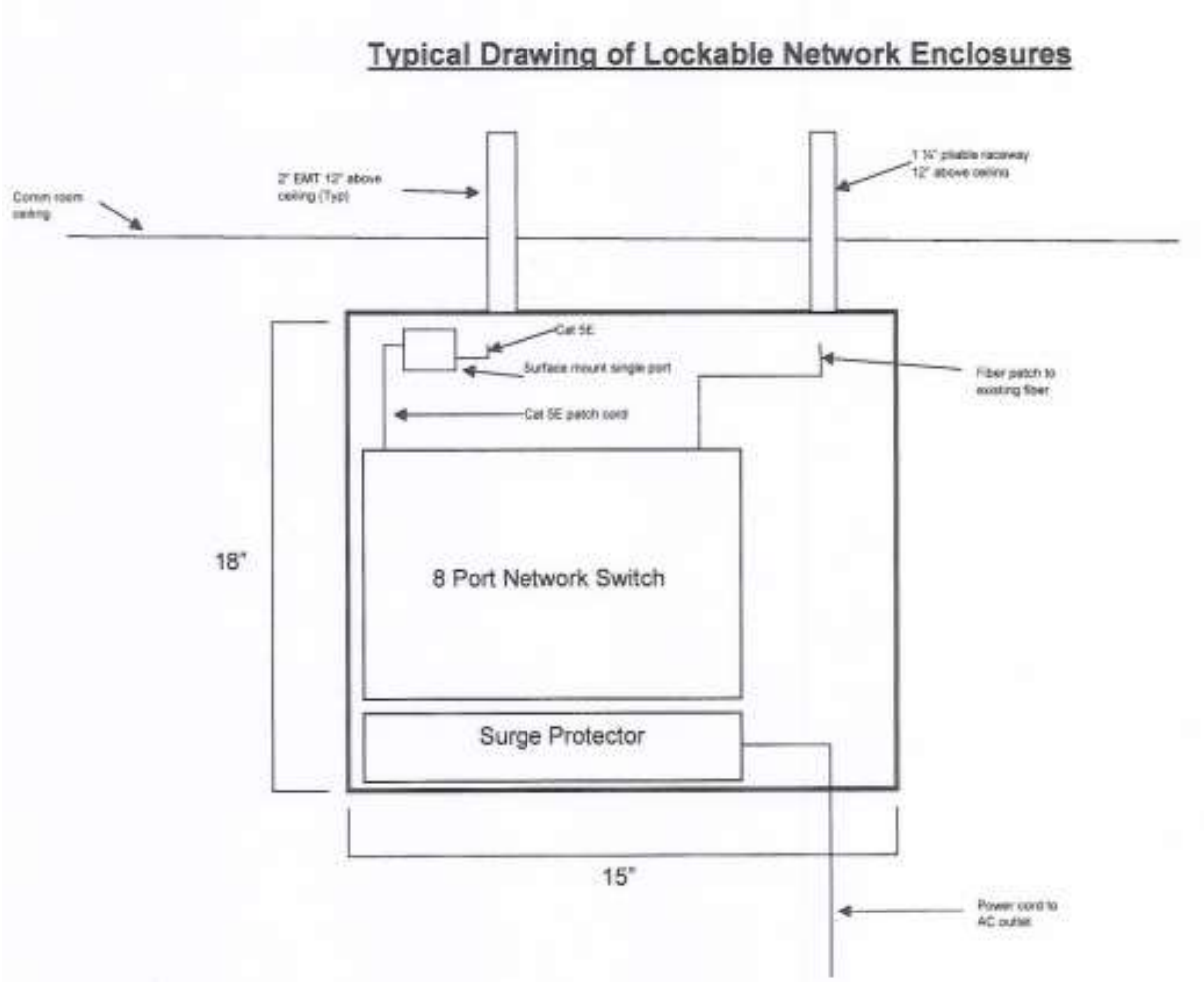
a. Main Map Graphic- This screen shall have a list and link to all of the buildings on the entire Tyndall complex.
b. Building Graphic - This screen shall have a 3d graphic of the front of the building and a building number. The following links are required on this page: Back to Main Map, floor plans, alarms, reports, schedules, history, and user service.
c. Floor Plan Graphic - The floor plan shall be 3D with color coded zones, room numbers, and as- built sensor and equipment locations. The following links are required on this page: back to building graphic,

all equipment (Click on sensor or equipment shown on the floor plan and the link shall go to the corresponding equipment).

d. Typical Equipment Graphic - Include a header with equipment type and number, room numbers and area served. Include all points on the equipment graphic. The following points shall be animated: fans, dampers, coils, pumps, boilers. All set points shall have the capability of being changed from the graphic. The following links are required on this page: back to floor, provide a hidden link over each point to show an hourly 3-day trend, provide a hidden link over each point to override all outputs. Provide a link to a spread sheet with manufacture and part numbers and warranty dates for all parts on the equipment graphic.

e. Communication Bus Graphic - Include an as-built wiring diagram of the communication bus between all controllers.

12.10.4. Typical Lockable Network Enclosure



12.10.5. Energy Management Control System (EMCS) Network Requirements:

a. Install and dedicate 2 fiber strands for DDC connectivity.
b. Install a wall mounted lockable network enclosure {LNE) with an 8-port switch and a surge protector with backup power (provided by customer) in the main Communication room.
c. Install a 20A/12SV duplex receptacle within 3' of the LNE for connection of the surge protector. This receptacle shall be connected to the emergency power panel if the building is, or shall be, equipped with an emergency generator.
d. Install a single port LAN connection inside the LNE and inside each building level supervisory controller.
e. Install a 2" EMT conduit from the LNE to a height approximately 12" above the Communications room ceiling for connection of the LNE to each building level supervisory controller in the building.
f. Install a 1-1/4” pliable raceway from the LNE to a height approximately 12" above the Communications room ceiling.

g. Install a 1-1/4” pliable raceway from the Communications terminated fiber patch panel to approximately 12" above the Communications room ceiling.
h. Install a 1/4” EMT conduit from each building level supervisory controller to a height approximately 12" above the ceiling of each mechanical room they are installed in. If a ceiling is not installed, install the conduit to the same height that matches the height of the 2" conduit installed from the LNE above the Commutations room ceiling.
i. Install a pull string connecting both 1-1/4” pliable conduits installed in Communications room or install a fiber jumper-provided by customer from the LNE to the installed fiber patch panel.
j. Install purple Cat SE cable from the LNE to each building level supervisory controller. If the distance exceeds 100 meters between the LNE and the building level supervisory controller, the building level supervisory controller shall be moved to the main Communications room.
k. Provide a fiber jumper (provided by customer) for the Complex node that connects the end building to the backbone network switch.

12.10.6. Minimum Points to be Monitored

a. Air Handling Units:
   Coil leaving air temperature
   Coil Entering air temperature
   Temperature and humidity in each zone
   Temperature set-point in each zone
   Fan on-off indication
   Filter differential pressure
   Supply Air Quantity
   Outside Air Quantity

b. Condensing Unit:
   Condenser on-off
   Condensing unit status/alarm

c. VAV Units:
   Supply air temperature
   Supply air volume
   Hot water coil position
   Hot water coil status
   Space temperature
   Zone humidity

d. ERV Units:
   Enthalpy wheel exhaust entering air temperature
   Enthalpy wheel exhaust leaving air temperature
   Enthalpy wheel outside air leaving air temperature
   Preheat coil leaving air temperature
   Cooling coil leaving air temperature
   Cooling coil Entering air temperature
   Fan on-off indication
   Enthalpy wheel on-off indication
   Filter differential pressure
   Exhaust Air Quantity

e. Main Mechanical Room:

Pump on-off indication, each pump
Water meter
Power meter
Outside air temperature/humidity

f. Server Room Units:
Run Status
Room air temperature
Space humidity
Alarm condition

g. Corrosion Monitoring:
Sample Status
Alarm condition

12.10.7. General DDC Minimum Alarm Print Outs

a. Condenser failure to start
Air handling unit fan failure
Zone space temperature rise to 4 degrees above set-point
Leaving air temperature rise to 4 degrees above set point
Zone RH 3% above set-point
Pump failure
Server room temperature and humidity above setpoint
Water on Floor of Mechanical Room

12.10.8. General DDC Minimum Points to be controlled

a. Start/stop condenser/compressors
Start/stop air handling units
Start/stop ERV units
Set-point adjust - all controllers with set-points Set-point adjust - all VAV zones

Note: Provide capacity for 12 extra points.

12.10.9. The facility mechanical systems shall be designed and controlled with the consideration that maintenance personnel shall not be readily available to address operational problems in a timely manner. To this end, the controls shall provide for automatic restart of all equipment (air and water sides) after interruptions except in the case of safety code requirements for a manual restart. An alarm shall be sent to the DDC system whenever equipment or controller outputs have been placed in the "hand" mode. The supplier of the control system shall provide a copy of the operating software and the technical manuals for the control system to the operating personnel.

An emergency shutoff switch shall be provided in each facility located at the LOC that shall immediately shut down the entire HVAC air distribution system for that facility. Each switch shall be placed inside a clear flip up cover or equal anti-tamper enclosure. A plastic laminate sign shall be provided for each switch that reads "BUILDING VENTILATION SYSTEM EMERGENCY SHUTOFF SWITCH".

12.10.10. DDC Training Requirements

a. Provide a qualified instructor (or instructors) with two years minimum field experience with the installation and programming of similar BACnet DDC systems. Orient training to the specific systems installed. Coordinate training times and location with the Contracting Officer and BAS Owner after receiving approval of the training course documentation.
b. Training shall take place at the job site or a nearby Government-furnished location. A training day shall occur during normal working hours, last no longer than 8 hours and include a one-hour break for lunch and two additional 15-minute breaks. The project's approved Controls System Operators Manual shall be used as the training text. The Contractor shall ensure the manuals are submitted, approved, and available to hand out to the trainees before the start of training.
c. Training Documentation - Submit training documentation in the form of a training manual for review 60 days minimum before training. Documentation shall include an agenda for each training day, objectives, a synopsis of each lesson, and the instructor's background and qualifications. The training documentation can be submitted at the same time as the project's Controls System Operators Manual. One training manual shall be provided for each trainee plus two additional manuals for archival storage at the project site. Two copies of audiovisual materials shall be delivered to the government for archival storage at the project site, either as part of the printed training manuals or on the same media as that to be used during the training session.
d. Phase I Training – Fundamentals - The contractor will provide training by factory certified trainer(s) for 3 operating staff members designated by the government. The course shall be selected from the DDC manufactures controls factory training department and be relevant to main components used on this project. The training can be located at the manufacturer’s factory school or at a classroom provided by the government. The training session shall be conducted in a classroom environment with complete audiovisual aids provided by the contractor. Provide each trainee a printed 8.5 by 11-inch hardcopy of all visual aids used. Upon completion of the Phase I Training, each trainee should fully understand the project's DDC system fundamentals. The training session shall include the following:

    i. DDC fundamentals (objects, services, addressing) and how/where they are used on this project.
    ii. This project's list of control system components
    iii. This project's list of points and objects
    iv. This project's device and network communication architecture
    v. This project's sequences of control, and:
    Alarm capabilities
    Trending capabilities
    Troubleshooting communication errors
    Troubleshooting hardware errors

e. Phase II – Operation - Provide Phase II Training shortly after completing Phase I Training. Phase II training shall last one day per

Building and be conducted at the DDC system workstation, using one laptop computer with the latest operating system, cpu, and technology as it relates to laptops. Provide software and USB adapters for each type of DDC Field Controllers, to include factory installed DDC Controllers, connected to the DDC system in the field, and at other site locations as necessary. Upon completion of Phase II Training, each trainee should fully understand the project's DDC system operation. The training session shall include the following:

i. A walk-through tour of the mechanical system and the installed DDC components (controllers, valves, dampers, surge protection, switches, thermostats, sensors, etc.).
ii. A discussion of the components and functions at each DDC panel.
iii. Logging-in and navigating at each operator interface type.
iv. Using each operator interface to find, read, and write to specific controllers and objects.
v. Modifying and downloading control program changes.
vi. Modifying set points.
vii. Creating, editing, and viewing trends.
viii. Creating, editing, and viewing alarms.
ix. Creating, editing, and viewing operating schedules and schedule objects.
x. Backing-up and restoring programming and data bases.
xi. Modifying graphics text, backgrounds, dynamic data displays, and links to other graphics.
xii. Creating new graphics and adding new dynamic data displays and links.
xiii. Alarm and Event management.
xiv. Adding and removing network devices

12.11. Specifications

The following list of specifications is anticipated for this project. The list is not comprehensive, and the Contractor shall provide all specifications required to adequately describe the project and all materials to be used and installed. The Contractor shall edit and submit the following UFGS and other sections as required by the design as defined in Section 01 10 12, Design After Award using the latest comparable SpecsIntact version:

01 91 00.15	TOTAL BUILDING COMMISSIONING
23 00 00	AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEMS
23 03 00.00 20	BASIC MECHANICAL MATERIALS AND METHODS
23 05 93	TESTING, ADJUSTING, AND BALANCING FOR HVAC
23 07 00	THERMAL INSULATION FOR MECHANICAL SYSTEMS
23 09 00	INSTRUMENTATION AND CONTROL FOR HVAC
23 09 13	INSTRUMENTATION AND CONTROL DEVICES FOR HVAC
23 09 23.02	BACNET DIRECT DIGITAL CONTROL FOR HVAC AND OTHER BUILDING SYSTEMS
23 09 93	SEQUENCES OF OPERATION FOR HVAC CONTROL
23 11 25	FACILITY GAS PIPING

23 25 00	CHEMICAL TREATMENT OF WATER FOR MECHANICAL SYSTEMS
23 64 26	CHILLED, CHILLED-HOT, AND CONDENSER WATER PIPING SYSTEMS
23 81 00	DECENTRALIZED UNITARY HVAC EQUIPMENT
25 05 11	CYBERSECURITY FOR FACILITY-RELATED CONTROL SYSTEMS

13. PLUMBING

13.1. Codes and References

Facilities shall be designed in accordance with all government requirements, regional, and national applicable codes effective at issue date of RFP including, but not limited to:

a. Installation Facilities Standards (IFS) Tyndall AFB, Florida,
b. Architectural Barriers Act (ABA) Standards
c. ASHRAE Handbook of Fundamentals,
d. ASHRAE 90.1, 2013 Energy Standard for Buildings Except Low-Rise Residential Buildings
e. EISA 2007, Energy Independence and Security Act of 2007
f. EPACT 2005, Energy Policy Act of 2005
g. Executive Order (EO) 13423 "Strengthening Federal Environmental, Energy, and Transportation Management"
h. UFC 1-200-01 DoD Building Code (General Building Requirements)
i. UFC 1-200-02, High Performance and Sustainable Building Requirements
j. UFC 3-420-01 Plumbing Systems
k. UFC 3-600-01, Fire Protection Engineering for Facilities
l. UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings
m. International Building Code (IBC),
n. International Plumbing Code,
o. USACE Mobile District Design Manual,
p. AFI91-203 Air Force Instruction
q. FEMP Federal Energy Management Program
r. Executive Order (EO) 13514 Federal Leadership in Environmental, Energy and Economic Performance
s. Executive Order (EO) 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 2009)
t. FLHPSB - Federal Leadership in High Performance and Sustainable Buildings MOU (HPSB)
u. ASME Code for Pressure Piping
v. ASME Boiler and Pressure Vessel Code
w. AGRAM 17-01 Change to AF New Construction and Major Renovation Certification Requirements changes guidance for 3rd Party Validation and use of LEED from:
    a. Air Force Sustainable Design & Development (SDD) Implementation Guidance, memorandum

13.2. Design Requirements

13.2.1. General

a. The design of the plumbing system shall conform to the Mobile District Design Manual and the applicable codes, standards and requirements included in this RFP. Plumbing system shall be designed and installed in accordance with the International Plumbing Code and referenced criteria. Inspection and testing of the plumbing system shall be performed as prescribed in the International Plumbing Code. The plumbing system shall conform to the applicable rules of the International Plumbing Code governing venting of plumbing fixtures, sizing of waste, vents, drains,

and water systems. All shutoff/isolation valves and water hammer arrestors shall be accessible. If installed above hard ceilings, access doors shall be provided. All piping shall be labeled, color coded, titled, and indicate direction of flow. Backflow preventers shall be provided at the service entrance outside the facility. Fixture counts as shown on the plans are based upon 2015 International Plumbing Code calculations supplemented with the requirements of UFC 3-420-01.

b. Water efficiency: Plumbing fixtures shall be selected to meet the water-efficiency requirements of EPAct 2005 and UFC 1-200-02.

c. Backflow Preventers: All facilities requiring potable water shall be provided with a reduced pressure backflow preventer. New backflow preventers shall be installed at the domestic water service entrance outside. The assembly shall have two positive seating check modules with bronze valve seats. The assembly shall meet the requirements of ASSE Std. 1015 and AWWA Std. C510 and be approved by the foundation for Cross-Connection Control and Hydraulic Research (FCCHR-01) at the University of Southern California. All test cocks shall be equipped with 1/4-inch flare adapters to facilitate attachment of test equipment. A poppet replacement kit shall be provided with each backflow preventer.

d. Backflow Preventer Test Kit: The design-build contractor shall provide the Government with two sets of FCCHR-01 detailed and approved test equipment and gauges compatible with the backflow preventer installed. Each set shall include all necessary equipment to test both double check and reduced pressure backflow preventers. The gauges on these test kits shall be a type that can be calibrated.

e. Domestic Hot Water Temperatures: The domestic hot water shall be heated and stored by the domestic hot water heating system to a minimum of 140° F. A thermostatic mixing valve shall be provided to reduce the water supply temperature to the facility fixtures. All latrines and toilet facilities with showers shall be supplied with hot water at a maximum temperature of 110°F.

f. The water meter shall be provided with Advanced Meter Reading capability and shall be integrated into the DDC building automation system. Water Meters shall be provided for all facilities requiring potable water and shall be turbine-type water services meters located inside a facility mechanical room. New meter shall be sized to account for the new service/fixtures. Meter shall meet the requirements of AWWA C701 and shall be provided with a non-re-settable read-out. Readout shall be in gallons and shall withstand freezing temperatures.

g. The facility gas meter shall be purchased from TECO Energy by the contractor and provided with a regulator. The meter and regulator shall be located outside, adjacent to the mechanical room, inside the secured equipment yard. Gas meters shall be capable of providing pulse or digital signals for remote readout. Pulse switch initiators shall provide the maximum number of pulses per 2.83 cubic meters (100 cubic feet). Meters shall be calibrated and have local readout capability in

volumetric units of 100 cubic feet. Meter shall be pipe mounted and shall be suitable for gas pressure, temperature, and flow rate. Meters shall be direct reading without having to apply a multiplication factor. The gas meter shall be integrated into the facility DDC system for remote monitoring.

h. A life cycle cost analysis has been conducted to determine the suitability of providing solar hot water heating to offset 30% of the required domestic hot water demand as required by EPAct 2005. The life cycle cost results indicate that providing 30% of the facility hot water usage via solar hot water heating is not life cycle cost effective.

i. The contractor shall provide appropriate connections for all appliances, refrigerators, vending machines, washing machines and any other items requiring water and/or drain connections.

j. Water faucets provided with hose-end outlets are to be provided with vacuum breakers.

k. All soil, waste, vent, and drainage piping shall be tested by capping or plugging and filling the system with water, allowing it to stand filled for 8 hours. If tested in sections, each section shall be subjected to not less than a 10 foot head. Cold water, hot water and hot water circulating piping shall be tested by applying a hydrostatic pressure of 150 psig for 4 hours minimum. Piping under floor slabs in floor fill shall be tested before slabs are poured. Piping which is not tight under tests shall be taken down and reassembled. Joints in cast iron no-hub pipe not tight under test shall be taken down and reassembled using new couplings. Each fixture shall be tested for soundness, stability of support and operation. A statement certifying that piping has passed the herein specified test shall be provided. Tests shall be made while pipe is exposed to view.

l. Water Hammer Arrestors: PDI WH2O1. Provide engineered mechanical type arrestors sized and installed to safeguard the water distribution system against destructive water hammer hazard and noise. Air chambers are not acceptable.

m. Flush and disinfect all new potable water systems.

n. The utility rates are as follows:

Domestic water 0.035 $/gallon

13.2.2. Domestic Water Heating System

Domestic water heating system shall be composed of a natural gas, atmospheric boiler located in a mechanical room with heating capacity and storage tank volume adequate to provide domestic hot water to facility fixtures. Water heating system shall be sized in accordance with UFC 3-420-01 Plumbing systems,

with Change 10 (26 Oct. 2015) for a 90-degree F rise. A pressure/temperature relief valve, vacuum breaker on the water supply line, drain and a 6-inch concrete pad shall be provided for the boiler and/or storage tank. Domestic hot water heating system shall be equipped with recirculation pumps and recirculation piping and balancing valves. An inline domestic water circulator pump shall be provided that is factory assembled and constructed of materials suitable for hot domestic water. The inline circulating pump shall also be provided with an aquastat. Service shall be provided within water distribution system where required.

13.2.3. Piping

a. All piping shall be concealed and properly supported with allowances for expansion and contraction. Do not route water piping through any Telecommunication/Server room. Interior water distribution piping shall not be buried under concrete floors except where no other routing options exist. All piping shall be drainable and exposed piping subject to freezing shall be insulated and heat traced. Domestic cold-water piping shall be provided to serve coffee makers and ice makers (where applicable). Individual shutoff or stop valves shall be provided on water supply lines to all plumbing fixtures. Individual stops shall also be furnished at all equipment connections such as dishwashers, vending machines, coffee makers, icemakers, washing machines, etc. Isolation shutoff valves shall be provided in the water distribution system to allow isolation shutoff for maintenance purposes while continuing service to the remainder of the building. Consolidate fixture vents through one common vent whenever possible. All vent penetrations through the roof shall be made through a roof jack designed for use with the roofing system furnished.

b. Natural gas piping shall be provided conforming to the ASME B31.8, and NFPA 54. A complete natural gas system to the facility from the meter and pressure regulator shall be provided. Aboveground piping within buildings shall be black steel schedule 40. Steel pipe fittings, black malleable iron threaded fitting or butt-welding fittings shall be provided. Unions shall be black malleable iron. Flanges and flanged fittings shall be steel or convoluted steel.

c. Soil, waste, drain, and vent piping and fittings passing through and located below the slab and out to the exterior line shall be Schedule 40 PVC. Soil, waste, drain and vent piping above the slab shall be Schedule 40 PVC or cast-iron pipe and fittings. PVC shall not be used in return air plenums. Each fixture and piece of equipment requiring connections to the drainage system shall be equipped with a trap and all fixtures shall be vented. Surface or wall cleanouts shall be provided for each drainage main. Encase piping passing through fire rated walls with Schedule 40 steel or cast-iron pipe sleeve extending not less than 2 feet beyond either side of such walls. Cleanouts shall be provided at each change in direction of sanitary sewer lines, at the intervals specified in the International Plumbing Code and at the building service entrance. All cleanouts shall be permanently accessible. Ground cleanouts shall be

installed in a 1 foot by 1 foot, 4-inch-thick concrete pad, flush with grade.

d. Water piping shall be type K copper pipe and fittings. Joints under the slabs are not permitted. Amount of supply piping located under concrete slabs shall be held to a minimum and limited to trap primer piping. Material or equipment containing lead shall not be used in any potable water system.

   Provide mineral fiber insulation on all domestic water (hot and cold) supply and recirculation piping. Provide vapor barrier on all cold water piping. Minimum pipe insulation performance for Domestic Service Hot Water Piping shall be in accordance with the requirements of the latest edition of ASHRAE/IESNA 90.1.

13.2.4. Fixtures

a. Fixtures shall be provided complete with fittings, and chromium or nickel-plated brass (polished bright) trim. All shutoff valves shall be metal construction. Plastic valves are not acceptable. All fixtures, fittings, and trim in a project shall be from the same manufacturer and shall have the same finish. Each fixture shall be tested for soundness, stability of support and operation. Fixture shall exhibit no movement from a 180-lb person exerting moderated force on fixture. A statement certifying that piping has passed the herein specified test shall be provided. In general, all faucets shall have solid brass bodies, low flow aerators, ceramic valving, and chrome plated or nickel finish over brass (polished bright) trim. Fixtures shall be water conservation type.

   i. Icemaker Boxes shall be provided at each refrigerator and icemaker location. Cold water supply shall be provided for refrigerator icemakers. Icemaker connection, ½-inch compression fitting supply shall be provided in standard manufactured recessed wall box with single-face plate. Boxes shall be constructed of PVC plastic. Boxes shall be mounted a minimum of 18” above the finish floor.

   ii. Water Closets shall be ASME A112.19.2/CSA B45.1, white vitreous china, siphon jet, elongated bowl, pressure assisted, floor-mounted, floor outlet. Top of toilet seat height above floor shall be 14 to 15 inches, except 17 to 19 inches for wheelchair water closets. Nonfloat swing type flush tank valves are not acceptable. Gravity tank type water closets are not permitted. Provide wax bowl ring including plastic sleeve. Water flushing volume of the water closet shall not exceed 1.28 gallons per flush. Water closet trim shall conform to ANSI A112.19.5, Trim for Water-Closet Bowls, Tanks, and Urinals (Dimensional Standards). Any designed as handicapped water closet mounting height and appurtenances shall be in accordance with UFAS and ADA-ABA.

iii. Bathroom countertop lavatories shall integral solid surface countertop. Countertop lavatories shall be provided with ASME 112.18.1M copper alloy centerset faucets with metering valve, mixing valve, and 0.5 gpm aerator. In addition, countertop lavatories shall be provided with adjustable P-traps, stops, supplies, and perforated grid strainers for a complete installation.

iv. Public area lavatories shall be 21”x18” wall mount type, vitreous china, with front overflow and concealed arm supports, and shall comply with ASME A112.19.2. 4” center set faucet shall be 0.5 gpm, cast brass with chrome finish, metal lever handles, and shall comply with ASME A112.18.1. All public area lavatories shall be provided with insulated, adjustable P-traps, stops, supplies, and perforated grid strainers for a complete installation.

v. Service sinks shall be pre-cast terrazzo, and floor-mounted, 36 inches x 36 inches x 12 inches. Service sinks shall be made of marble chips cast in white Portland cement to a compressive strength of not less than 3,625 PSI 7 days after casting. Brass body drains with nickel bronze strainers cast integral with terrazzo shall be provided along with stainless steel rim guard for mop sink. Chrome-plated exposed hot and cold water faucets ASME A112.18.1 wall-mounted copper alloy faucets swing spout with 3/4 inch hose connection, vacuum breaker, and pail hook shall be provided with a mop hanger on wall above sink suitable for four mops.

vi. Shower shall be solid surface 3’x3’ shower stall with integral drainage pan. Glass fiber reinforced showers shall not be acceptable. Shower Valves and trim shall be single lever, pressure balancing type, anti-scald designed to maintain constant water temperature by automatically compensating for water pressure changes. Valve shall be of solid brass construction with washerless ceramic valving. Adjustable pattern showerhead shall be chrome plated or polished nickel finish to match levers and escutcheons. Provide hand shower with flexible metal hose, in-line vacuum breaker wall connection and flange, and 30" slide bar for hand shower mounting. Provide a flow control device with the shower head to limit the flow to a maximum of 1.5 gpm at pressures between 20 and 60 psi. Shower Drains shall be stainless steel.

vii. Water cooler drinking fountains shall be provided as required by the IPC at each floor in the communal area. Water cooler drinking fountains shall be self-contained, conform to ARI 1010, use one of the fluorocarbon gases conforming to ARI 700 and ASHRAE 34 which has and Ozone Depletion Potential of less than or equal to 0.05, have a capacity to deliver 4.75 gph of water

at 50 degrees F with an inlet water temperature of 80 degrees F while residing in a room environment of 90 degrees F and have self-closing valves. Self-closing valves shall have automatic stream regulations, have a flow control capability, have a push button actuation or have a cross-shaped index metal turn handle without a hood. Exposed surfaces of stainless steel shall have No. 4 general polish finish. Spouts shall provide a flow of water at least 4-inch-high so as to allow the insertion of a cup or glass under the flow of water. Water fountains shall also be provided with filterless bottle filling stations. Handicap accessible drinking fountains shall be provided as required by the Americans with Disabilities Act.

viii. Floor drains shall be flush bronze strainer type with automatic trap primers and be provided in mechanical rooms, fire pump rooms, showers, restrooms, janitor's closets, laundry rooms, plumbing chase areas, fire sprinkler areas, at ice machines, and to receive condensate from air handling and air compressor equipment.

ix. Washing machine shall be provided as O&M funded equipment. The successful D/B team shall coordinate design and rough-in of the GF/CI equipment. Recessed washing machine connection wall box fabricated of PVC plastic with bronze dual washing machine valve with single lever shut-off shall be provided where required for washer connection.

x. Wall Hydrants (Exterior) shall be provided at a maximum spacing such that all points along the perimeter can be reached with a 100 ft hose. Each hydrant shall be box type, bronze, freeze proof, with integral vacuum breaker/backflow preventer. Hydrants shall have ¾ inch hose connections.

xi. Angle type, copper alloy hose bibbs with vacuum breakers shall be provided in mechanical rooms.

13.3. Specifications

The following list of specifications is anticipated for this project. The list is not comprehensive, and the Contractor shall provide all specifications required to adequately describe the project and all materials to be used and installed. The Contractor shall edit and submit the following UFGS as defined in Section 01 10 12, Design After Award using the latest comparable SpecsIntact version:

22 00 00 PLUMBING, GENERAL PURPOSE

14. FIRE PROTECTION.

14.1. Codes and References

Facilities shall be designed in accordance with all government requirements, regional, and national applicable codes effective at issue date of RFP including, but not limited to:

a. Unified Facilities Criteria (UFC) 3-600-01, Fire Protection Engineering for Facilities,
b. Unified Facilities Criteria (UFC) 4-010-01, DoD Minimum Antiterrorism Standards for Buildings,
c. Unified Facilities Criteria (UFC) 4-021-01, Design and O&M: Mass Notification Systems,
d. International Building Code® (IBC), for construction type and fire resistance rating, occupancy separation, allowable floor area, building height limitations and building separation distance requirements, except as modified by UFC 3-600-01
e. National Fire Protection Association (NFPA) 10, Standard for Portable Fire Extinguishers,
f. National Fire Protection Association (NFPA) 13, Standard for the Installation of Sprinkler Systems,
g. National Fire Protection Association (NFPA) 20, Standard for the Installation of Stationary Pumps for Fire Protection,
h. National Fire Protection Association (NFPA) 24, Standard for the Installation of Private Fire Service Mains and their Appurtenances,
i. National Fire Protection Association (NFPA) 70, National Electrical Code®,
j. National Fire Protection Association (NFPA) 72, National Fire Alarm and Signaling Code®,
k. National Fire Protection Association (NFPA) 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems,
l. National Fire Protection Association (NFPA) 101, Life Safety Code®, for separation from hazards, building egress and life safety and applicable criteria in UFC 3-600-01
m. National Fire Protection Association (NFPA) 291, Recommended Practice for Flow Testing and Marking of Hydrants,
n. ABA Accessibility Guidelines for Buildings and Facilities
o. US Army Corps of Engineers, Engineering and Construction Bulletin (ECB)

14.2. General Requirements

Provide fire suppression and fire alarm/mass notification systems that meet United Facilities Criteria (UFC) and National Fire Protection Association (NFPA) Standards including, but not limited to, the codes and references listed in this RFP.

14.2.1. A Qualified Fire Protection Engineer (QFPE), meeting the qualifications required by UFC 3-600-01, shall be responsible for, but not limited to, the design engineering, preparation of the construction documents, construction phase inspection and acceptance testing of the fire suppression and fire alarm/mass notification systems. QFPE shall also be involved with the building code and life safety code analysis. QFPE shall provide certifications in writing that the design is in compliance with UFC 3-600-01 and all applicable criteria. A Qualified Fire Protection Engineer is an integral part of the design team and must be involved in every aspect of the design as it relates to fire protection.

14.2.2. At a minimum, during the construction phase the QFPE shall be responsible for material submittal review, shop drawing review, and participate in the Preparatory Inspection Meeting, initial inspection at job site, mid-point inspection at job site, Pre-Final Inspection with General Contractor and installation subcontractors, and Final Acceptance Inspection and Testing with General Contractor, installing subcontractors and Corps of Engineers.

14.2.3. Refer to other portions of this specification and RFP, including, but not limited to, architectural, interior design, mechanical, plumbing, fire protection, and electrical sections for additional requirements and criteria related to clearances from devices to potential sprinkler head locations. Adjust head location and quantities to allow for installation of ceiling fans, lights, and equipment so that other elements will not interfere with sprinkler head distribution.

14.3. Fire Suppression System.

14.3.1. Design of sprinkled facilities shall be in accordance with UFC 3-600-01, which takes precedence over NFPA 13. NFPA 13 shall be applied where referenced by UFC 3-600-01 and where installation guidance is not covered by the UFC.

14.3.2. The facilities shall be fully sprinklered and hydraulically designed for the most demanding area. Provide wet pipe sprinklers systems in all conditioned spaces. Provide dry pipe sprinkler systems for the exterior egress balconies and other non-conditioned spaces. Protect water filled pipes from freezing in accordance with NFPA 13 in any locations where it must pass through an unconditioned space. Floor control valve assemblies shall be provided for each floor level. Hydraulic calculations shall include a 12 pound per square inch loss through the backflow prevention device. A new fire protection lead-in shall be provided. A new riser assembly, located in the first floor riser room, shall be equipped with an alarm check valve, wall mounted post indicator valve, and water-motor gong assembly. The alarm check valve shall be installed between 48” and 60” above finished floor. A nitrogen generation system shall be provided for all dry pipe systems.

14.3.3. All systems shall be electronically supervised with tamper switches on all valves controlling water to the fire sprinkler system and transmit a signal to the Base fire department. All sprinkler system control valves will be provided with signage indicating their function and what it controls in accordance with NFPA 13. Sprinklers shall be centered in each direction of the ceiling tiles. All sprinkler pipes, braces and hangers, etc., shall be designed to meet seismic requirements.

14.3.3.1. In areas classified as ordinary hazard, the overhead sprinkler system shall be hydraulically designed to provide a discharge density of 0.20 gallons per minute over the hydraulically most remote 2,500 square feet of floor area. Sprinklers in these areas shall be ordinary temperature (unless ambient conditions require higher temperature rated sprinklers), quick-response type. In areas with ceilings 30 feet or less, pendent, chrome finish, recessed, K-8 sprinklers shall be provided in areas with finished ceilings and upright, rough brass, K-8 sprinklers shall be provided in areas without finished ceilings. The maximum protection area per sprinkler shall be 130 square feet, with a maximum spacing of 15 feet. An outside hose stream allowance of 250 gallons per minute, taken at the fire hydrant closest to the building, shall be included in the system design.

14.3.3.2. In areas classified as light hazard with ceilings 30 feet or less, the overhead sprinkler system will be hydraulically designed to provide a discharge density of 0.10 gallons per minute over the hydraulically most remote 1,500 square feet of floor area (or the floor area corresponding to the four

hydraulically most remote residential sprinklers). Sprinklers provided in dwelling units and corridors will be quick response or residential type. Sprinklers in all other areas will be ordinary temperature (unless ambient conditions require higher temperature rated sprinklers), quick-response type. In areas with ceilings 30 feet or less, pendent, chrome finish, recessed, K-5.6 sprinklers will be provided in areas with finished ceilings; and upright, rough brass, K-5.6 sprinklers will be provided in areas without finished ceilings. The maximum protection area per sprinkler for non-residential type sprinklers will be 225 square feet with a maximum spacing of 15 feet. The maximum protection area per sprinkler for residential type sprinklers will be in accordance with the manufacturer’s requirements. Upright, or listed dry pendent sprinklers shall be provided for all dry pipe sprinkler systems. All sprinklers installed in locations exposed to the exterior shall be corrosion resistant and of a material suitable for the ambient conditions. An outside hose stream allowance of 250 gallons per minute, taken at the fire hydrant closest to the building, will be included in the system design.

14.3.3.3. General purpose portable fire extinguishers are not required in buildings that are protected throughout with an automatic sprinkler system designed and installed in accordance with UFC 3-600-01 and NFPA 13.

14.3.4. Inspector’s test connection shall be provided at the most hydraulically remote section of the system on each floor level. If any portion of the inspector's test piping extends outside of the building, it shall be painted the same color as the adjacent area and a concrete splash block shall be provided under the discharge. Test valves as well as all auxiliary drain valves shall be located in accessible areas and shall not be mounted any higher than 72 inches above the finished floor. Any valves or other mechanical devices that maintenance personnel may need to access shall be marked on the ceiling grid with an approved marking system and a laminated index of markings shall be placed in the mechanical room.

14.3.5. A new double-check backflow preventer, installed in a hot-box enclosure, shall be provided exterior to the building on the new fire protection lead-in to Building A. A new backflow preventer test header shall be provided on the exterior of the building, outside the first-floor sprinkler riser room.

14.3.6. A new, fire department connection shall be provided exterior to the building, located within 100 feet of a fire hydrant. Fire department connections shall be installed in a readily accessible location between 36” and 48” above finished grade. Fire department connection check valves shall be readily accessible for maintenance. If buried, it shall be in a valve pit in accordance with NFPA 13 with a rock bottom at least 12 inches below the check valve to allow for drainage.

14.3.7. A preliminary fire hydrant flow test performed at the project site on 5/21/19 at 9am indicated a static pressure of 65 psi, a residual pressure of 50 psi, and a flow of 1186 gpm. Based on this information, a fire pump is not required for this project. The QFPE shall conduct a flow test at the project site to verify flow and pressure available. The QFPE shall provide the AHJ with calibration documentation for all equipment required for system testing, including but not limited to pressure gauges and flow meters. These tests shall be conducted by the preparer of the Contract Documents (i.e., the QFPE) under the supervision of the Contracting Officer's Representative and in accordance with the procedures contained in NFPA 291.

14.3.8. The Contractor's design shall be prepared by and sealed by the QFPE.

14.3.8.1. The project QFPE must review the 100 percent design submission of plans and specification and certify in writing that the design is in compliance with UFC 3-600-01 and all applicable criteria. This certification letter must be submitted with the 100 percent submission.

14.3.8.2. Qualifications shall be submitted for approval. Construction Drawings shall be prepared by a Fire Protection Specialist having obtained a Level III or IV certification as defined by the National Institute for Certification in Engineering Technologies (NICET) in the Automatic Sprinkler System Layout subfield of Fire Protection Engineering Technology in accordance with NICET 1014-7. The Fire Protection Specialist shall be regularly engaged in the design and installation of the type and complexity of system specified in the contract documents and shall have served in a similar capacity for at least three systems. The Construction Drawings shall be signed and sealed by the QFPE.

14.3.9. The Fire Protection Specialist and the QFPE shall inspect the sprinkler systems periodically during installation to assure that the systems are being provided and installed in accordance with the Construction Drawings. The Fire Protection Specialist and QFPE shall witness the preliminary and final tests and both shall sign the test results. The QFPE, after completion of the system inspections and a successful final test, shall certify in writing that the system has been installed in accordance with the Construction Drawings and the contract requirements. The hydraulic design plate shall be engraved to preserve the markings.

14.3.10. Pre-Final Acceptance Test and Final Acceptance Test shall be conducted by a Fire Protection Specialist. The Fire Protection Specialist shall provide a complete demonstration of the operation of the system. The Fire Protection Specialist shall provide the AHJ with calibration documentation for all equipment required for system testing, including but not limited to pressure gauges and flow meters. The QFPE shall certify the final plans and specification and participate in commissioning of the fire protection systems. At the end of construction, a letter from the QFPE must be provided certifying compliance.

14.3.11. The Contractor is responsible for obtaining water supply data, developing the hydraulic analysis and developing a code analysis demonstrating compliance with NFPA codes and the model building code utilized prior to initial design submittals. Submit the input data, hydraulic analysis, and code analysis from the computer program used to design the sprinkler system along with the design submittal to the Authority Having Jurisdiction (AHJ) for review.

14.3.12. The following criteria shall be incorporated into the design of the fire suppression systems:

a. Concrete splash blocks shall be provided to intercept the discharge from all inspector’s test, main drain, and auxiliary drain valves.
b. Each new fire sprinkler riser shall be provided with an alarm check valve and water motor gong assembly. The use of a 24VDC electric waterflow bell is not permitted.

c. The inspector's test, main drain, and auxiliary drains shall be discharged to the exterior of all facilities to a safe location that does not cross any egress path from the building.
d. Hydraulic design plates shall be engraved so the markings shall be permanent.
e. Piping for fire suppression systems in this facility shall be Schedule 10 and/or Schedule 40 steel piping. All sprinkler piping shall be concealed in all finished areas. All piping shall be marked in accordance with AFOSH 91-501 Chapter 20. CPVC piping shall not be allowed on this project.
f. Fire pumps over 2000 RPM are discouraged. Any fire pump over 2000 RPM must be proved to the government's satisfaction to be the best choice for the particular application.
g. When pipe thread sealant is used, use non petroleum-based product.
h. All thread shall not be used for pipe stands.

14.4. Fire Alarm and Mass Notification System.

14.4.1. A new combination fire alarm and mass notification system shall be provided in accordance with NFPA 72, UFC 3-600-01 and UFC 4-021-01. The fire alarm and the mass notification control panel shall be located in the electrical room with outside access or other space with temperature and humidity control located on the first floor. Install fire alarm and mass notification control panel such that the top of the panel is no higher than 60" above finished floor. A fire alarm remote annunciator shall be provided at the main lobby. Do not install a graphic annunciator.

14.4.2. The fire alarm/mass notification control panel (FMCP) shall be one of three manufacturers; Notifier, Gamewell/FCI, or EST3. It shall be intelligent and contain a microprocessor-based Central Processing Unit (CPU). A document box shall be installed next to the FMCP; containing a points list, as-built drawings, and a thumb drive or disc with the database.

14.4.3. One new working Technician Interface Tool (laptop computer), system programming software, connecting cables & adapters, security keys, and passwords shall be provided to the Electronic/Alarm section of Civil Engineering at passage of the final inspection for the main fire alarm system. Laptop shall be equal to one their technicians use.

14.4.4. Programming software for all additional fire panels, devices, and systems, to include; electrical/electronic fire pump controllers, etc., shall be turned over to the Electronic/Alarm section at final inspection. These should be on the laptop along with the fire system software.

14.4.5. Initiating devices shall consist of spot-type smoke detection (above the fire alarm panel, above any other fire alarm panels), spot-type smoke detectors with low-frequency sounder bases in the dwelling rooms, carbon monoxide detectors (in kitchen area for gas range), manual pull stations at each exit and adjacent to the fire alarm control panel and sprinkler waterflow switches. Photoelectric duct detectors shall be provided in air handling units greater than 2,000 cfm. Sprinkler system tamper switches shall be monitored as supervisory conditions by the fire alarm system.

14.4.6. All SLC, IDC and NAC wiring shall be configured Class B in accordance with UFC 3-600-01 and shall be installed in red conduit. The SLC shall be provided with fault isolation modules in accordance with NFPA 72.

14.4.7. Alarm, trouble and supervisory signals shall be transmitted to the Base Fire Department. Install building transceiver such that the top of the panel enclosure is no higher than 60” above finished floor. Transient voltage surge suppression shall be provided for each control panel and auxiliary panel. Do not install AC power surge suppressors inside the fire alarm control panel cabinet. Provide adapter as required to integrate into a standard telephone system.

14.4.8. Combination speaker/strobes, speakers and strobes shall be provided in accordance with NFPA 72. As the dormitory is being designed for able-bodied personnel, strobes are not required in the dwelling units, however, speakers shall be provided in each dwelling unit. The fire alarm and mass notification system shall utilize the same clear-lens strobes, labeled “Alert”, for occupant notification and scrolling LED signs shall be provided above each exit from each floor in accordance with the draft revision UFC 04-021-01 as directed by the AFCEC Fire Protection Engineer. Provide textural displays for notification of the emergency at primary egress points. Locate textural displays internal to the building before entering a vestibule. Do not locate textural displays close to glass walls or entries with large expanses of glass. Exterior exit doors from a single room do not require a textural display. Textural displays must be capable of displaying two or more distinct messages. At a minimum, the messages "EVACUATE" and "ANNOUNCEMENT" are required. "Evacuate" must be displayed for all fire alarm events and "announcement" displayed for all other mass warning system events. Additional messages are permitted including programmed messages and messages sent to the building from a command and control location. The system shall be designed in accordance with the UFC 4-021-01, including live voice messaging and playback of prerecorded messages. Utilize Tyndall AFP specific voice message requirements for in-building mass notification. Weatherproof exterior speakers shall be provided at exterior gathering locations and entrances/exits to the buildings.

14.4.9. Local operator consoles (LOC) shall be provided on each floor and located throughout the building such that an occupant does not have to travel more than 200 feet or transverse floors to get to a LOC. A global emergency HVAC shutdown button shall be provided inside of, or adjacent to, each LOC. An interface with the fire alarm system shall be provided to silence the fire alarm voice messages during broadcast of mass notification messages. The mass notification system will utilize the Monaco BT-XM radio transceiver for connection to the Base-wide mass notification system.

14.4.10. Provide maintenance free, rechargeable batteries to operate the fire alarm system under supervisory conditions for 48 hours and all alarm notification devices for an additional 15 minutes upon a normal AC power failure. Individual batteries for the fire alarm system shall not be larger than 55 amp-hour. If the required load is greater than 55 A/H, provide smaller battery sets to provide sufficient capacity.

14.4.11. It is required that the Design/Build Contractor's QFPE participate in the following inspections: preparatory inspection meeting, initial inspection meeting at the job site, midpoint inspection at the job site, pre-final inspection and final inspection (see also Section 01 10 12).

14.4.12. The fire alarm/mass notification subcontractor shall be a first-tier subcontractor to the prime contractor.

14.4.13. At final inspection, provide one set of fire alarm drawings in a "true half" size (12"x18"). Also, provide a complete points list of all items to be tested in paper form, showing addresses and locations.

14.4.14. Contractor shall provide manufacturer technician level certification training slots for two technicians for the fire alarm system installed. Training shall take place at the closest available location where the manufacturer trains their technicians.

14.4.15. Install a model 3200 hinged Knox box without tamper on all facilities.

14.5. Specification

The following list of specification sections is anticipated for this project. The list is not comprehensive and the Contractor shall provide all specification sections required to adequately describe the project and all materials to be used and installed. The Contractor shall edit and submit the following UFGS as defined in Section 01 10 12, Design After Award using the latest comparable UFGS version:

a. 21 13 13.00 10 WET PIPE SPRINKLER SYSTEM, FIRE PROTECTION
b. 21 13 17.00 10 DRY PIPE SPRINKLER SYSTEM, FIRE PROTECTION
c. 28 31 76 INTERIOR FIRE ALARM AND MASS NOTIFICATION SYSTEM

15. ELECTRICAL SYSTEMS

15.1. Codes and References

Facilities shall be designed in accordance with all government requirements, regional, and national applicable codes effective at issue date of RFP including, but not limited to:

i. ABA Accessibility Guidelines, current version
j. AF Handbook 32-1084 Facility Requirements
k. Air Force Instruction AFI 21-402, Engineering Drawing System
l. Air Force Instruction AFI 32-1023, Design and Construction Standards and Execution of Facility Construction Projects
m. Air Force Instruction AFI 32-1063, Electrical Power Systems
n. Air Force Instruction AFI 32-1065, Grounding Systems
o. Air Force Manual (AFM) 88-9 Electrical Design Lighting and Static Electricity Manual
p. Air Force Sustainable Design & Development (SDD) Implementation Guidance
q. Air Force Unaccompanied Housing Design Guide,
r. Air Force Civil Engineer Center (AFCEC) A-Gram 17-01, Change to AF New Construction and Major Renovation Certification Requirements, F
s. ASHRAE 90.1 Energy Standards for Buildings except Low-Rise Residential Buildings
t. ASHRAE 189.1 Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings - application as defined by UFC 1-200-02.
u. Engineering Technical Letter, ETL 90-6 Electrical System Grounding, Static Grounding and Lightning Protection

v. E.O. 13423 & E.O. 13514 with applicable portions of FLHPSB MOU, EPAct 2005 & EISA 2007
w. Florida Administrative Code 62-210.300
x. IBC
y. IEEE C2 National Electrical Safety Code,
z. IESNA Illuminating Engineers Society of North America Handbook
aa. Mobile District Design Manual,
bb. NFPA 70 National Electrical Code
cc. NFPA 70E Standard for Electrical Safety in the Workplace
dd. NFPA 101 Life Safety Code
ee. NFPA 780 Installation Lightning Protection Systems
ff. TI 800-01 Technical Instruction – Design Criteria
gg. UFC 1-200-01 DoD Building Code (General Building Requirements)
hh. UFC 1-200-02 High Performance and Sustainable Building Requirements
ii. UFC 3-501-01 Electrical Engineering
jj. UFC 3-520-01 Interior Electrical Systems
kk. UFC 3-530-01 Interior and Exterior Lighting and Controls
ll. UFC 3-540-01 Engine-Driven Generator System for Prime and Standby Power Applications.
mm. UFC 3-550-01 Exterior Electrical Power Distribution
nn. UFC 3-575-01 Lightning and Static Electricity Protection Systems
oo. UFC 3-580-01 Telecommunications Interior Infrastructure Planning and Design
pp. UFC 3-600-01 Fire Protection Engineering for Facilities
qq. UFC 4-010-06 Cybersecurity of Facility-Related Control Systems
rr. UFC 4-010-01 DOD Minimum Antiterrorism Standards for Buildings
ss. UFC 4-730-10 Fire Stations

15.2. Exterior Electrical Requirements

Primary power for the facility will be provided by Gulf Coast Electrical Cooperative (GCEC). All primary cabling, conduit and building service, pad-mount transformer will be done by GCEC. A quote will be obtained from GCEC for their portion of the work and this information will be included in the bid schedule for contractor use during bidding. The secondary conduit and underground conduit duct bank shall be provided by the DB Contractor. The secondary underground conduit duct bank shall be concrete encased.

15.2.1.1. The Contracting Officer’s Representative shall approve all outages required for connection of new services to existing system. Coordinate this work with GCEC through the COR. The contractor shall be responsible for saw cutting and patching of pavements and sidewalks as required for installation of their electrical work and shall repair any areas damaged by the system installation activities, including but not limited to sod, landscaping, pavement damage, pavers and/or concrete removal and replacement.

15.2.1.2. Temporary power requirements are to be per Specification Section 01 00 00 “Additional Special Contract Requirements” and are to be coordinated with GCECCO. The cost of temporary power and requirements for temporary power are not included in the Inspection Fee indicated on the Bid Schedule. The DB Contractor is not required to pay fees for temporary power.

15.2.2. Exterior Lighting

Street and parking lot lighting at Tyndall AFB is owned and maintained by GCEC. GCEC will provide new parking lot lighting for this building as indicated on the site lighting plan located in Appendix H. Contractor shall provide the electrical connections as indicated in the Appendix H drawing. A quote will be obtained from GCEC for their portion of the work and this information will be included in the bid schedule for contractor use during bidding.

15.3. Emergency Generator

A diesel fueled emergency generator will be provided. Generator shall be sized to provide emergency backup power for fire station critical loads. The generator has been sized as a 150 KW/186 KVA Diesel Generator with basis of design Cummins Model DGFA. A generator load bank sized to simulate connected load of the fire station shall be provided as part of the generator system. The generator shall be provided and tested to comply with NFPA 101/NFPA 110. The automatic transfer switch shall be provided and tested to comply with IAW NFPA 110.

The generator installation is required to obtain Air Construction Permit and Air Operation Permit per Florida Administrative Code 62-210.300.

A base mounted diesel fuel tank will be provided under generator set. Fuel tank will be sized to run 72 hours at 100% rated load. Emergency generator system will be monitored at the fire station.

An automatic transfer switch shall be provided as part of the generator set and shall be located in the electrical room. Automatic transfer switch shall be sized to accommodate fire station critical loads. Automatic transfer switch shall be three-pole with solid neutral.

15.4. Electrical Interiors

The electrical distribution for the Fire Station shall be designed, provided and installed in accordance with UFC 3-520-01 Interior Electrical Systems, NFPA 70 (National Electrical Code), UFC 4-730-10 Fire Stations, and other national standards as applicable to the system under consideration. Actual equipment electrical loads and demand factors, where known, shall be used for electrical calculation purposes. Where loads are unknown, the contractor shall utilize loading and demand factors outlined in NFPA 70. Branch circuits feeding receptacles of unknown loads shall be limited to 1200VA per circuit. The interior electrical distribution system shall be designed with a minimum of 25% excess load capacity in all panelboards, and feeders after all load and demand factors have been applied to the electrical calculations. Additionally, all distribution panelboards shall have 25% excess physical space for future use. All electrical equipment shall be located in rooms, closets or spaces dedicated solely for this purpose with the exception of the load centers in each dormitory module.

15.4.1. General: All materials, equipment, fixtures, and other appurtenances shall comply with the applicable Underwriters Laboratories, Inc., standards or applicable standards of a similar independent testing organization. All wiring shall consist of insulated copper conductors (aluminum conductor not allowed) installed in metallic conduits. There shall be no exposed conduit on the interior of the building except in mechanical rooms, communications rooms and electrical rooms. Conduit shall be labeled with source and destination.

Empty conduit shall have nylon pull rope in it with 3 meters of additional pull rope coiled at each end. All circuits shall contain a grounding conductor. All overcurrent protection shall be provided by fully rated (cascade or series ratings are not allowed) circuit breakers. Fuses shall not be utilized.

Service Entrance/Equipment: The service equipment shall be located in a main electrical room. The service lateral and service equipment shall be sized to accommodate the demand load (as calculated in accordance with the National Electrical Code, NFPA 70) plus 25% spare capacity. Building shall be served by a separate pad mounted transformer. Transformers shall have a 480Y/277 volt secondary. Service entrance distribution panelboard shall be equipped with main breakers and branch breakers required to support the system. All panels shall have bolt on breakers. Each panelboard shall have, as a minimum, 25% spare load capacity and 25% spare breaker capacity. All distribution panels shall be provided with integral type surge protection. The main panelboard will be provide with an electronic electrical meter capable of transmitting energy usage data.

Electronic sub-metering of systems shall be provide in accordance with ASHRAE 189.1-2014.

15.4.2. Wiring: Wiring shall be copper conductors (aluminum will not be allowed). All wiring shall be installed in conduit. Conduit shall be concealed within the walls in all areas except electrical, mechanical, communication rooms. Conduit shall be labeled with source and destination. Empty conduit shall have nylon pull rope installed in it with 10 feet of pull rope coiled at each end. A ground conductor shall be installed with all feeders and with all branch circuit wiring. Conductors shall be a minimum size of 12 AWG.

15.4.3. Receptacles: Receptacles for general purposes will be provided such that no more than six duplex or three quad-duplex receptacles are placed on one 20 amp, single-pole breaker. Receptacles dedicated for computer loads shall be circuited such that no more than two quad-duplex receptacles are placed on one 20 amp, single-pole breaker (two computers per circuit). Quad-duplex receptacles in communications rooms shall be circuited such that one quad-duplex receptacle is placed on one 20 amp, single-pole breaker. Dedicated receptacles will be provided for all ancillary office equipment such as faxes, printers, plotters, shredders, or copiers. A dedicated circuit will be provided for refrigerators, water coolers, microwaves, and vending machines. Each receptacle homerun will have a dedicated neutral, multi-wire branch circuits (shared neutrals) will not be used. Ground fault circuit interrupting receptacles will be provided as required by the NEC (latest edition). A minimum of one general-purpose receptacle will be provided on each wall of individual offices and conference rooms. In offices where walls exceed 12 feet, an additional duplex receptacle will be provided for each additional 12 feet of wall or fraction thereof. General-purpose receptacle spacing will not exceed 12 feet. Additional outlet types and locations will be provided where indicated in the Room Data Sheets (Refer to 9.3 Functional Area/Room Requirements).

15.4.3.1. Specific Equipment - Specific Equipment Outlets shall be provided for certain specified equipment items with a dedicated circuit and be provided in addition to the general outlets indicated above. Provide the proper size device, branch circuit, and protection. The Electrical Designer shall coordinate with the User to assure that circuits with the correct quantity of conductors

are provided and that receptacles with the correct NEMA configuration will be installed for the specific equipment that will be purchased by the User.

15.4.3.2. Telecommunications Room electrical requirements shall comply with UFC 3-580-01 Telecommunications Interior Infrastructure Planning and Design. Uninterruptable Power Supply (UPS) will be provided to allow instantaneous backup power for the Telecommunications Room panel.

15.4.4. Provide power and pathways for security electric strikes on wing corridor doors and future access controls. Provide rough-in and pathways for remote alarms in security office for stair doors. Provide rough-in and pathways for CCTV cameras for stairwells and facility entrances/exits.

15.4.5. A complete lighting system will be designed in accordance with ASHRAE 90.1-2013 and UFC 3-530-01 requirements. Emergency lighting systems will be designed in accordance with NFPA 101 Chapter 7. Lighting will consist of energy efficient LED fixtures throughout the building that are typically equipped with dimming capabilities and occupancy sensors for additional energy savings. Interior lighting shall be both efficient and color corrected, with Color Rendering Index (CRI) of 80 or better and a standard lighting color temperature of 4000 K. Daylight harvesting sensors will also be provided where applicable to dim lighting levels when sufficient daylight is present in the space. Interior lighting shall be lighting fixture types for different areas are provided in 16.3.6.1. Complete lighting calculations for each room shall be provided in the Electrical Design Narrative as well as exterior lighting calculations for building perimeter lighting. A tabulation consisting of room number, room description, illumination level, lighting power density, drawing designation, voltage, basis of design shall be provided with the design narrative. Final actual loads shall be determined by the final design conditions. Egress lighting shall comply with Life Safety Code. Emergency lights shall be designated by a small permanent red mark on the fixture. Exterior lighting will comply with state and local codes, IES recommendations and UFC 3-530-01. All exterior lighting will be certified turtle friendly meeting the Florida Fish and Wildlife Conservation Commission Sea Turtle Lighting Guidelines.

15.4.5.1. Common Areas Lighting Requirements:

- Lobby – Recessed direct/indirect LED downlights
- Dayroom – Pendant mounted, decorative lighting fixtures over dining table and over kitchen island.
- Admin – Recessed direct/indirect LED troffers
- Private Office – Recessed direct/indirect LED troffers
- Open Office – Recessed direct/indirect LED troffers
- Bay – Pendant mounted, low-bay LED fixtures
- Accessible Toilet Room - Recessed direct/indirect LED downlights and LED vanity luminaires
- Storage Rooms – LED troffers
- Janitor – linear lensed LED strip light
- Communications Room – linear lensed LED strip light
- Equipment Rooms – linear lensed LED strip light

- Multipurpose Rooms – recessed LED downlights with dimming controls with separate switches for TV viewing areas
- Corridor – Recessed LED downlights
- Additional lighting and lighting controls will be provided where indicated in the Room Data Sheets (Refer to 9.3 Functional Area/Room Requirements)

Lighting controls in public spaces shall be in accordance with ASHRAE and UFC standards. Automatic lighting control devices shall comply with NFPA 101. Energy-saving sensors, switches, timers or controllers shall be approved and shall not compromise the continuity of illumination of the means of egress.

15.4.5.2. Dormitory rooms shall utilize surface Architectural grade point source LED luminaires and table lamps (table lamps with be CID/FFE) in the sleeping/study module. The sink area of the dormitory room module will utilize wall mounted LED fixtures at each sink. The toilet/shower area in the dormitory room module will utilize surface mounted Architectural grade point source LED Architectural grade luminaires. The dormitory room entry corridor shall utilize a surface point source LED downlight. Sleeping and living areas shall be provided with ceiling fans. The luminaires in the dormitory room sleeping area shall have dimming controls.

15.4.5.3. Emergency Lighting shall be provided by the emergency generator system.

15.4.6. A ground ring electrode system with ¾” X 10’ copper clad ground rods shall be provided for this facility and shall include the electrical system service entrance ground, equipment grounding, lightning protection grounding and other auxiliary systems grounding such that all systems and components maintain low potential differences. Copper ground conductors from the main communications room backboard to the main electrical service ground shall also be provided. Facility grounding system shall have a resistance of 25 ohms or less to earth.

15.4.7. Cathodic protection will not be necessary for any electrical or telecommunications systems as these systems utilize PVC-coated rigid conduit. Gas and water lines will be provided by privatized utility companies, so those companies will be in charge of protecting their pipes if they decide to use metal.

15.4.8. Loads shall be evaluated at each bus location in amps and the type of loads analyzed for system design considerations. Non-linear loads shall be compensated for in the design. Voltage drop shall be limited to not more than the following percentages: 2 percent for feeders, 3 percent for branch circuits at the farthest distance, and 2% for the secondary service. All voltage drop calculations shall be included in the Electrical Design Narrative.

15.4.9. Short Circuit Coordination Study and Arc Flash Analysis - Analysis shall be performed for the exterior and interior electrical distribution system. Provide arc flash labels per NFPA 70E.

15.4.10. Lightning Protection – A conventional lightning protection system consisting of air terminals, down conductors, and ground rods shall be provided. All lightning protection system conductors shall be concealed. The lightning

protection system shall be third party certified as compliant in accordance with AFI 32-1065 and NFPA 780.

15.4.11. The following list of specifications is anticipated for this project. The list is not comprehensive and the Contractor shall provide all specifications required to adequately describe the project and all materials to be used and installed. The Contractor shall edit and submit the following UFGS as defined in Section 01 10 12, Design After Award using the latest comparable SpecsIntact version:

26 20 00 INTERIOR DISTRIBUTION SYSTEM
26 24 13 SWITCHBOARDS
26 29 23 VARIABLE FREQUENCY DRIVE SYSTEMS UNDER 600 VOLTS
26 32 15. 00 10 DIESEL-GENERATOR SET STATIONARY 100-2500 KW
26 41 01 LIGHTNING PROTECTION SYSTEM
26 51 00 INTERIOR LIGHTING

16. COMMUNICATIONS SYSTEMS

16.1. Codes and References

Facilities shall be designed in accordance with all government requirements, regional, and national applicable codes effective at issue date of RFP including, but not limited to:

a. AFBAN Standards (AF Base Network Functional Specification)
b. ANSI/TIA standards 526-14, 606, 607 and 758
c. IBC International Building Code
d. NEMA Standards
e. NFPA 70 National Electrical Code,
f. NFPA 101 Life Safety Code,
g. RUS Standards
h. TIA/EIA-568 Commercial Building Telecommunications Cabling
i. TIA/EIA-569 Commercial Building Standard for Telecommunications Pathways and Spaces
j. ANSI/TIA Standards 526-14,606,607 and 758 most recent at the time of solicitation.
k. UFC 3-600-01 Design: Fire Protection Engineering For Facilities
l. UFC 3-580-01 Telecommunications Infrastructure Planning and Design
m. UFC 4-010-06 Cybersecurity of Facility-Related Control Systems
n. ECB 2018-11 Control System Cybersecurity Coordination
o. Unaccompanied Housing Design Guide, United States Air Force,
p. ABA standards

16.2. Exterior Electronic Systems

The system shall meet the requirements of the Tyndall AFB Communications Standards as well as the other referenced standards. The Contractor shall provide a new underground duct bank consisting of one 4” conduit from the Communication Room to existing manhole MH-574B. Conduit will be provide with a 3 cell Maxcell inner-duct. Tracer wire will be provide as part of the new underground duct bank. Top of all communications ducts shall be installed 24” below finished grade and shall be sand encased, except at road or pavement crossings where directional drill or jack and bore will be required.

a. Hand Holes: Hand holes shall be reinforced concrete with a lid that permits internal access to the housed components. Hand holes shall not be shared with electrical installations. Hand holes shall not be used for splicing cables without prior US Government approval. Hand holes installed were vehicular traffic may be present shall be load-rated as H-20. All hand holes shall be 3ft x 5ft x 4ft minimum and have cover cast with “COMMUNICATIONS” displayed on the outside. These hand holes shall be equipped with torsion assisted rectangular diamond plate covers and self-latching stainless steel slam locks with 1/8” raised letters stating “COMMUNICATIONS”. Hand holes shall be furnished with cable racks, grounding system and a sump (gravel bottom). Form and install a 12” wide by 8” deep concrete perimeter around handhole.
b. Fiber Optic Cables: A 12 strand, single mode fiber optic cable will be provided from the building Communications Room to existing MH-574A. From MH-574A, existing duct banks will be utilized to pull one 24-strand single mode fiber optic cable to Building 1210. The fire station’s 12 strand

fiber optic cable will be spliced into the 24 strand fiber optic cable in MH-574A.

c. Copper Cables: A 25 pair OSP copper connection will be provided from the building Communications Room to Building 1210 utilizing new and existing duct back to Building 1210.

16.3. Interior Telephone and LAN Systems

Communications systems will follow all requirements of UFC 3-580-01 (Telecommunications) and UFC 4-730-10 and shall meet all referenced ANSI/TIA requirements. All telephone and LAN systems shall be provided and pre-wired by the Contractor.

16.3.1. The communication requirement for each room as a minimum shall be as follows (also follow UFC 3-580-01 for type and density of outlets):

- Lobby/Admin Desk Area – 1-NIPR/1-CATV outlet for AV streaming/CATV content at AV display and 1-NIPR outlet per work workstation
- Private Office – Comply with UFC-3-580-010 Page 20 Table 2-1. Outlet Configuration: Two 8-pin modular (RJ45 type) outlet/connector. Provide 1-NIPR/VOIP outlet for each workstation plus 1-NIPR/VOIP outlet for a network printer and 1-NIPR outlet for government Wi-Fi
- Open Office – Comply with UFC-3-580-010 Page 20 Table 2-1. Outlet Configuration: Two 8-pin modular (RJ45 type) outlet/connector. Provide 1-NIPR/VOIP outlet for each workstation plus 1-NIPR/VOIP outlet for a network printer and 1-NIPR outlet for government Wi-Fi
- Mechanical Room – Connection for DDC system and 1-wall telephone (VOIP) outlet
- Day Rooms 1-wall phone (VOIP) plus 1-NIPR outlet for AV streaming content at AV/TV displays
- Communications Room – 1-NIPR/VOIP outlet
- Dormitory Rooms – 1-NIPR/VOIP outlet and 1 CATV outlet
- Additional outlet types and locations will be provided where indicated in the Room Data Sheets (Refer to 9.3 Functional Area/Room Requirements)

16.3.2. The Communications Room shall service the premises communication area via above ceiling, cable tray support system with a minimum 1-inch EMT conduit to each outlet from serving cable tray support system. Cable shall be installed uniformly using cable management, waterfall cable protection and stain-relief throughout cable tray support, cable ladder, cable distribution rack, crossovers or braids.

Communication Room "Backboards": Provide void-free, interior grade A-C plywood ¾" thick 4 by 8 feet. Backboards shall be fire rated by manufacturing process. Fire Stamp shall be clearly visible. Paint applied over fire retardant backboard shall be UL 723 fire retardant paint. Provide label including paint manufacturer, date painted, UL listing and name of Installer. When painted, paint label and Fire Stamp shall be clearly visible. Backboards shall be provided on a minimum of two adjacent walls in the telecommunication spaces.

Cables to support the outlets shall be white in color and shall be run via cable tray/conduit systems to patch panels in racks in the Communications Room.

All outlets shall consist of 2-RJ45 CAT6 jacks with homeruns to patch panels in the Communications Room.

16.3.3. Communication Systems Grounding: Telecommunications systems grounding shall comply with the NEC and EIA/TIA standards, Grounding and Bonding Requirements for Telecommunications. Provide grounding bus bar in the communications closets. Bond main bus bar to building main electrical service ground with #3/0 AWG insulated (green) copper grounding conductor. Conductor from bus bar location to building service ground shall be run in EMT conduit. Grounding to building structure, conduits, utility piping, or electrical subpanels in lieu of bonding to building main electrical service ground shall not be acceptable. All communication racks, cable trays, conduits, etc., shall be grounded with #6 AWG insulated (green) copper grounding conductor to main grounding bus bar. The racks shall be individually grounded to bus bar. Looping grounds shall not be permitted.

16.3.4. Design and Installation Requirements: All work including design drawings shall be performed by an Industry Certified Telecommunications Contractor. Contractor shall have a minimum of 3 years'' experience in the application, installation and testing of the specified systems and equipment. The contractor shall have the name and certification number of a BICSI certified Registered Communications Distribution Designer (RCDD) who is a permanent employee of the Structured Cabling System Contractor. The Contractor shall maintain this RCDD, or another RCDD approved by the Government, in his permanent employment throughout this project. The RCDD shall have overall responsibility for certifying that the installed structured cabling system conforms to these contract documents and to the referenced EIA/TIA, IEEE, BICSI, UFC, and UL standards. All supervision and installers assigned to the installation of this system or any of its components shall have factory certification from each equipment manufacturer that they are qualified to install and test the provided products. General electrical trade staff (electricians) shall not be used for the installation of the premises distribution system cables and associated hardware. All installers assigned to the installation of this system or any of its components shall have a minimum of 3 years' experience in the installation of the specified copper and fiber optic cable and components. Construction submittals shall include manufacturer's catalog information showing dimensions, colors, and configurations. The building structured wiring system shall be in accordance with ANSI/TIA-606 designed by a Registered Communications Distribution Designer (RCDD). The design drawing of the communications and security systems shall consist of detailed construction drawings detailing the exact requirements of the system. The identifier for each termination and cable shall appear on the drawings. Drawings shall depict final telecommunications installed wiring system infrastructure in accordance with ANSI/TIA-606. The drawings should provide details required to prove that the distribution system shall properly support connectivity. All cabling and equipment shall be in accordance with the referenced standards and the systems shall be fully wired and terminated in outlets and patch panels.

The electrical designer, the Architect, the RCDD and the interior designer must coordinate the layout of all furniture with electrical and communications outlets during the design process. Specifically, Multiuser Telecommunications Outlet Assemblies (MUTOAS) shall be used to ensure proper separation and connectivity is maintained/supported ANSI/TIA 568.

16.3.5. Minimum Manufacturer Qualifications. The equipment and hardware provided under this contract will be from manufacturers that have a minimum of

3 years' experience in producing the types of systems and equipment specified. All cable must be manufactured within 12 months of the date of installation.

16.3.6. All premise wiring system shall be tested. All governmental ISP acceptance testing shall be witness/approved by the government. Category 6 link tests in accordance with EIA TIA/EIA-568-B.1 and EIA TIA-EIA-568-B-2. Tests will include wire map, length, insertion loss, NEXT, PSNEXT, ELFEXT, PSELFEXT, return loss, propagation delay, and delay skew. Optical fiber end-to-end link tests will be performed in accordance with EIA TIA/EIA-568-B.3. Provide both a hard copy and a soft copy of test results.

16.4. Cable Television

CATV service will be provided by local Cable TV (CATV) Company. The Contractor shall provide a capped 2" conduit with pull string, from an area in the communications room reserved for local CATV head-end equipment, and stub out 5' outside the building perimeter. Local CATV will be responsible for bringing the service cable into the building. Each dormitory room shall be wired for CATV. Each dormitory room shall be provided with 1-CATV outlet and 1-RG6 cable homerun in conduit to the Communication Room. Outlets are also required for TV's in the day rooms, offices and at the AV display in the first floor lobby. The CATV utility provider will provide the cables, faceplates, F type connectors, required splitters, amplifiers and taps, and testing. Provide a cable tray system with ¾" conduit from each CATV outlet to support the system cabling. Cable trays shall be separate from the base communications cable trays.

16.5. Security

Cybersecurity – All fire alarm, building management control and telecommunications systems will comply with UFC 4-010-06 Cybersecurity of Facility-Related Control Systems and ECB 2018-11 Control System Cybersecurity Coordination.

16.6. Fire Fighter Alert System/Public Address System

The fire station shall be provided a Firefighter Alert System to notify the firefighters of a fire event. The Firefighter Alert System shall be a Motorola Satellite Fire Alert System to match existing system and shall tie into the system at Fire Station #1. This system will provide speaker stations and alert strobes in the appropriate locations that will be used to notify occupants of fire events. Refer to 9.3 Functional Area/Room Requirements for additional information on speaker stations. In addition, this system will be capable of turning on bay lighting and opening all bay doors. The system head-end equipment will also be capable of use for a PA/paging function. A separate communication connection for the Firefighter Alert System shall be provided. The Designer of Record can utilize fiber optic cable or copper cable for this connection. Radio remote operation as part of the Firefighter Alert System shall be considered as an option.

16.7. Specifications

The following list of specifications is anticipated for this project. The list is not comprehensive and the Contractor shall provide all specifications

required to adequately describe the project and all materials to be used and installed. The Contractor shall edit and submit the following UFGS as defined in Section 01 10 12, Design After Award using the latest comparable SpecsIntact version:

27 05 14 CABLE TELEVISION PREMISES DISTRIBUTION SYSTEM
27 10 00 BUILDING TELECOMMUNICATIONS CABLING SYSTEM
33 82 00 TELECOMMUNICATIONS OUTSIDE PLANT

17. CORROSION CONTROL AND CATHODIC PROTECTION

Referenced in the development of these requirements are the National Fire Protection Association (NFPA) 70 –the National Electric Code (NEC), NACE standard SP0169-2013, NACE SP0188-2006, NACE SP0286-2007, UFC 3-570-01 Cathodic Protection Systems, UFC 3-570-06 Operation and Maintenance: Cathodic Protection Systems.

17.1. General

Metal components installed under this contract for the building and site water distribution system (domestic and fire water), natural gas and propane pipes, force mains, heating and chilled water pipes, oil/water separators, pipes and tanks that store hazardous materials that are in soil or submerged in water shall be protected from corrosion to prevent waste, hazardous conditions, or contamination. Contractor shall conduct a survey of the existing cathodic protection system or systems in the vicinity of the new facility to ensure that interference does not occur as a result of multiple cathodic protection systems. If any conflicts between existing cathodic protection systems and/or other facilities and the new cathodic protection system(s) are found, the contractor shall properly coordinate and provide appropriate remedial solutions. All new water lines; fire protection lines; metallic gas lines or metallic components of nonmetallic gas lines; backflow prevention valves; shall be protected. The Contractor shall relocate any existing cathodic protection test stations or other cathodic protection equipment located in areas conflicting with construction of the new facility. Any existing cathodic protection system equipment that has to be moved shall be relocated to a grassed area.

17.2. Cathodic Protection and Coatings

For all metal facilities located in the atmosphere, soil, or water electrolytes serving the buildings, corrosion control shall be provided. Cathodic protection shall be provided for metals in soils or water. Coatings are normally provided as corrosion protection in the atmosphere. As a minimum, cathodic protection is required on all metallic piping (and other metallic structures listed) and on all metallic components of plastic pipelines of the following systems: interior surfaces of elevated steel water storage tanks, including the interior of the riser; interior surfaces and bottom surfaces of on-grade steel water storage tanks; backflow preventers; gas lines; water lines; and fire protection lines. Pressurized ductile iron and other metallic piping under floor slabs shall also be cathodically protected and provided with an isolation flange above the floor slab. Pipes with cathodic protection must past through concrete floor slabs in non-metallic sleeves or in metallic sleeves with insulating link seals to isolate the pipe from the sleeve. The cathodic protection systems provided on the metallic structures listed above shall be galvanic type systems as determined by the following requirements: 1) the pertinent design data as gathered by the "corrosion expert" (defined below), including but not limited to soil resistivity, material selection, coating selection, current requirements, anode selection, ability to isolate from foreign structures, etc. as necessary to meet the minimum potential criteria defined below; 2) full compliance with one or more of the properly edited and subsequently approved applicable guide specification(s) listed below; 3) nonmetallic pipelines with metallic components and metallic components of other described structures requiring cathodic protection shall, as a minimum, comply with all the

requirements of UFGS Section 26 42 14.00 10 CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE)(unless gathered data requires the use of an impressed current system); 4) all metallic pipelines shall, as a minimum, comply with all requirements of UFGS specification 26 42 14.00 10 CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE). The minimum technical requirements that are to be included in the specification Section 26 42 14.00 10 CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE) are included in the technical specification sections as part of these contract documents; however, other specification sections as listed must be properly edited and submitted for government approval if they are required as described herein. Additionally, the Section 26 42 14.00 10 CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE) provided herein, must not be utilized as the construction specification section; the "corrosion expert" must obtain a new specification section, completely edit it for the specific design required in order to meet the defined criteria, and submit it to the government for approval.

17.3. Qualifications and Required Site Visits

Cathodic protection field work (surveys), analysis, and design shall be accomplished by a "corrosion expert." "Corrosion expert" refers to a person, who by thorough knowledge of the physical sciences and the principles of engineering and mathematics, acquired by professional education and related practical experience, is qualified to engage in the practice of corrosion control of buried or submerged metallic surfaces. Such a person must be accredited or certified by NACE International, formerly National Association of Corrosion Engineers (NACE), as a NACE Accredited Corrosion Specialist or a NACE Certified Cathodic Protection (CP) Specialist or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metallic piping and tank systems, if such certification or licensing includes 5-years experience in corrosion control on underground metallic surfaces of the type under this contract. The "corrosion expert's" name and qualifications shall be certified prior to start of design. The "corrosion expert" shall make at least 3 visits to the project site. The first of these visits shall include obtaining soil resistivity data and other required data necessary for design, verifying the type of pipeline materials and coatings (must coordinate with the pipeline supplier and installer) to be used and reporting to the Contractor the type of cathodic protection required. Once the "corrosion expert's" cathodic protection design submittals are approved and the materials delivered, the "corrosion expert" shall revisit the site to ensure the Contractor understands installation practices and laying out the components. The third visit shall involve testing the installed cathodic protection systems and training applicable personnel on proper maintenance techniques. The "corrosion expert" shall supervise installation and testing of all cathodic protection.

17.4. Criteria and Protection

Criteria for determining the adequacy of protection on a buried structure shall be in accordance with the criteria as describe below and as defined in the following NACE International Publications: NACE SP0169-2013 revision, Control of External Corrosion on Underground or Submerged Metallic Piping Systems; The cathodic protection system shall meet the minimum criteria for steel, ductile iron, and cast iron structures defined in the first subparagraph below (Criteria indicated in the second subparagraph may be utilized at the discretion of the Corrosion Expert):

a. A negative voltage of at least minus 850 millivolts as measured between the structure or specified underground metallic component and a saturated copper-copper sulfate reference electrode contacting the (electrolyte) earth directly over the structure. Determination of this voltage shall be made with the cathodic protection system in operation and after it has been in operation for a minimum of 72 hours. Voltage drops shall be considered for valid interpretation of this voltage measurement. A minimum of minus 850 millivolts "instant off" potential between the structure being tested and the reference cell shall be achieved over 95 percent of the area of the structure. A close interval survey shall be conducted on all cathodically protected pipelines and components. The design shall be accomplished so that the protective current can be interrupted in order to obtain the "instant off" potential readings. Adequate number of measurements shall be obtained over the entire structure, pipe, or other metallic component to verify and record achievement of minus 850 millivolts "instant off." This potential shall be obtained over 95 percent of the total metallic area without the "instant off" potential exceeding 1100 millivolts.

b. A minimum polarization voltage shift of 100 millivolts as measured between the structure and a saturated copper-copper sulfate reference electrode contacting the earth directly over the structure. This polarization voltage shift shall be determined by interrupting the protective current and measuring the polarization decay. When the protective current is interrupted, an immediate voltage shift shall occur. The voltage reading, after the immediate shift (this reading shall be defined herein as being the same reading as the "instant off" reading described in the immediate paragraph above and this term will be utilized below), shall be used as the base reading from which to measure polarization decay. Measurements achieving 100 millivolts decay shall be made over 95 percent of the metallic surface. Alternatively, the "instant off" measurements can be compared to the native readings taken prior to energizing of the cathodic protection system and in the exact same locations. For comparison of "instant off" to native readings, the same number of measurements in corresponding locations must be taken. If the "instant off" reading is compared to the corresponding native reading in the same location, it must be a minimum of 100 mV more negative with respect to the copper/copper-sulfate reference cell than the native reading. The "Corrosion Expert" must assure that a complete set of native readings are taken prior to energizing the cathodic protection system at all of the same locations as the "on" and "instant off" measurements are taken (i.e., close interval survey), as is required by the referenced guide specifications. The "instant off" measurements shall be made after the system has been in operation for a minimum of 72 hours.

17.5. Coating

A minimum coating thickness of 40 mils is required on all underground metal. Allowable coating types shall be as listed in the applicable cathodic protection specification section.

17.6. Specifications and System Design

Regardless if other sections of the RFP allow the use of specifications other than the UFGS (Unified Facilities Guide Specifications) for other portions of the design of this facility; ONLY the latest Army's edition (has an "A" at end of section number) of UFGS specifications (currently dated August 2008) shall be allowed for specification of cathodic protection systems. These specifications are available at the following web address: http://www.wbdg.org/ccb/browse_org.php?o=70, or can be obtained from the Mobile District, Corps of Engineers. It is mandatory that the Contractor, as a minimum, edits and submits latest Specs-In-Tact version of the following UFGS specification section (re-submission of the specification Section 26 42 14.00 10 CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE) section included in the technical specification section of these contract documents is not acceptable): UFGS 26 42 14.00 10 CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE) The "Corrosion Expert" shall also completely edit and submit for approval specification Section 26 42 14.00 10 CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE), under the following conditions: 1) the "Corrosion Expert" determines that an impressed current cathodic protection system is required in order to meet the criteria of protection defined above; 2) an all metallic piping system is to be provided and installed by the Contractor, which may require an impressed current system in order to meet the required criteria; or 3) it becomes necessary to install an on-grade water tank, which would subsequently require the installation of an impressed current cathodic protection system to protect the tank bottom. If a water storage tank becomes necessary in this project, then the "Corrosion Expert" shall also completely edit and submit for approval specification Section 26 42 14.00 10 CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE), in order to provide cathodic protection to the interior submerged surfaces of the tank.

a. In addition to the design and submittal requirements required by the Mobile District Design Manual and elsewhere in the RFP, as a minimum, the following submittals shall be submitted to the government for approval and for review by Engineering Division, Corps of Engineers, Mobile District: descriptive and technical literature of all cathodic protection materials and equipment, drawings and details, evidence of qualifications of the "corrosion expert," and tests and measurements data and procedures. Additionally, all other submittals included in the applicable specification shall be submitted to the government.

b. The Contractor shall provide a complete design for acceptance and approval prior to purchase of any of the equipment included herein. The Contractor shall provide calculations, manufacturer's cutsheets, a complete list of material showing location where each anode, test station and other material shall be used, design drawings and shop drawings to support this design and indicate the intentions of the Contractor's final product.

c. Each buried or submerged metallic component in this contract shall have design calculations, a drawing detail of that component showing cathodic protection with at least one test station. Each component shall have a minimum of one test station, two anodes, and one permanent reference electrode. Each location shall be shown on drawings.

d. Each new metallic pipeline connecting to an existing metallic pipeline shall be electrically isolated from the existing pipeline by the installation of an insulating flange. New metallic pipeline passing through concrete slabs, walls, and floors shall have an insulating material between the pipe and

concrete in order to provide isolation (this can be accomplished by passing the metallic pipe through a PVC sleeve). Insulating flanges shall also be installed in new metallic pipelines extending above grade or where they extend above floor slabs; the flanges are to be located above grade.

e. The Contractor shall coordinate his work with any existing cathodic protection systems in the area of the new facility of this project. As necessary, the contractor shall relocate any existing cathodic protection system test stations or other cathodic protection equipment located in areas conflicting with new facilities. Any existing cathodic protection system equipment that has to be moved shall be relocated to areas approved by the Contracting Officer's representative.

f. Detailed drawings shall be provided showing location of rectifiers (if an impressed current system is deemed necessary), anodes, insulated fittings, test stations, permanent reference cells, and bonding. Locations shall be referenced to two permanent facilities or marker points.

g. All potential tests shall be made at 2.5 feet. intervals witnessed by the Contracting Officer's Representative. Submittals shall identify test locations on a separate drawing showing all metal to be protected and all cathodic protection equipment. However, a minimum of 3 tests shall be made at each metallic component in the piping system. Test points, equipment, and protected metal shall be easily distinguished and identified on the drawings.

18. ENVIRONMENTAL CONSIDERATIONS

18.1. Applicable Criteria

AFI 32-1053	Pest Management Program
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 152-186	Pesticide Programs
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171-178	Hazardous Materials Regulations

18.2. Environmental Protection

The Contractor shall prevent environmental pollution and damage as the result of construction operations. Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic, cultural and/or historical purposes. The control of environmental pollution and damage requires consideration of air, water, and land resources; and includes management of visual aesthetics; noise; solid, chemical, and liquid waste; radiant energy and radioactive materials; as well as other pollutants. A red-cockaded woodpecker and gopher tortoise survey shall be coordinated by the DB Team with Tyndall AFB before starting any construction activities at the project site and prior to the removal of trees. Refer to RFP Appendix, Environmental Impact Analysis Form 813 and Miscellaneous Environmental Documentation, for further information regarding environmental considerations. A new Form 813 shall be provided by the Government during the final 90 days of the construction for the new dumpster pad.

18.3. Installation Restoration Program

There is one Environmental Restoration Program (ERP) site located within the boundary of construction activities which is Site SR-170, Stationary Target Range. Metals (lead, antimony, arsenic) and polycyclic aromatic hydrocarbons (PAHs) contaminated soils and groundwater have been identified as potential contaminants at SR-170. During Proposed Construction activities, monitoring wells must be protected and if wells need to be removed, Tyndall AFB Environmental Element must be contacted. Contractor shall strip, excavate, sample and test soils for contaminants. Any contaminated soils shall be removed from the site and exposed of per federal and state regulations. Testing shall be conducted on a grid of approximately 50 foot sections or as approved by the contracting officer. Excavated and sampled depth shall start at 6-inches and proceed as necessary until all contaminated soils are removed. Contractor will coordinate sampling, analysis and soil characterization methods with the appropriate local, state and federal authorities as well as Tyndall AFB Environmental element. All disturbed soil must be sampled and characterized for any contaminants and then removed from Tyndall AFB in accordance with all local,

state, and federal regulations. After removal, any in situ soil must also be sampled to confirm that additional contamination is not present.

18.4. Contractor Generated Hazardous Waste

The Contractor shall comply with all provisions of 40 CFR 260 through 281 regarding the generation, storage, and disposal of hazardous waste. If the applicable, the Contractor shall submit a hazardous waste management plan to the COR for approval by Base Civil Engineering. The Contractor shall not commence any work until this approval is obtained. The Contractor shall stop all work in the event Base Civil Engineering identifies noncompliance with federal and state regulations and shall correct any discrepancies immediately within 2 hours of notification by Base Civil Engineering. All hazardous waste shall be labeled and an inventory management system will be initiated to insure timely removal and proper disposal. No on-base disposal will be allowed. All drums will be labeled with a hazardous waste label. The label shall include the proper DOT shipping name, UN or NA, EPA waste number, generator information, and accumulation start date. The label shall be placed on the side of the drum. All drums used to store hazardous waste shall be nonleaking and safe to handle. Contractor shall be responsible for overpacking drums that are rusted, dented, or leaking. Drums and/or overpacks shall be provided by the Contractor. All drums shall be "new" DOT approved containers. The storage location for the hazardous waste drums shall be approved by the Base Civil Engineering prior to the generation of hazardous waste. The Contractor shall document inspection of drums for leaks on a daily basis or if not working in the area daily, then a weekly inspection will suffice. A copy of the inspection checklist shall be forwarded to Base Civil Engineering every Friday. Hazardous waste transportation and disposal shall be coordinated through Base Civil Engineering. The Contractor shall be responsible for transportation and disposal of all hazardous waste at an EPA approved treatment, storage, disposal facility (TSDF). The transportation and disposal facilities shall be approved by Base Civil Engineering prior to their use. Manifests shall be signed only by Base Civil Engineering. Drums shall be disposed of within 90 days of placing the first drop in the container. The Contractor shall reimburse the Government for any remediation undertaken to clean up releases by the Contractor and for any civil or criminal fines or penalties for any environmental infraction caused by the Contractor.

18.5. Asbestos Materials and Lead Based Paints

The Contractor shall not use materials containing Asbestos or Lead Based Paints in the construction of this facility. Upon completion of the construction, the Contractor shall submit two copies of a Certified Letter to the Contracting Officer's Representative (COR) stating that no lead based paints of materials containing asbestos were used in the construction of the new facilities.

18.6. Specifications

As a minimum, the Contractor shall edit and submit the following UFGS as defined in Section 0 10 12, Design After Award:

01 57 19 Temporary Environmental Controls

19. SUSTAINABLE DESIGN AND ENERGY USE REDUCTION

19.1. Codes and Criteria

Facility shall be designed in accordance with all government requirements, regional, and national applicable codes effective at issue date of RFP including. The following sustainable design and energy conservation criteria shall apply to this project:

a. UFC 1-200-02 High Performance and Sustainable Building Requirements
b. AFCEC AGRAM 17-01 Change to AF New Construction and Major Renovation Certification Requirements
c. Air Force Sustainable Design & Development (SDD) Implementation Guidance, memorandum
d. ASHRAE 189.1 Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings- application as defined by UFC 1-200-02.
e. Guiding Principles for Sustainable Federal Building
f. E.O. 13834 Efficient Federal Operations
g. EPAct2005 - Energy Policy Act of 2005
h. EISA 2007 - Energy Independence Security Act of 2007
i. U.S. GREEN BUILDING COUNCIL (USGBC); GBCI GP Assessment Guiding Principles Assessment by GBCI (DOD Version)
j. TECHNICAL GUIDE Guiding Principles Assessment by GBCI (v2.1), Department of Defense: UFC 1-200-02: Chapter 2 Building Design & Construction,

19.2. Sustainable Design Criteria and Application

19.2.1. General

Design and construct the new facility and sitework to comply with the requirements of UFC 1-200-02 High Performance and Sustainable Building Requirements.

The Contractor shall include all costs to design and prepare necessary calculations and documentation and construct the facility to meet the HPSB sustainability requirements and certification process. No requests for additional funds to meet this requirement will be entertained by the Government.

Current public laws and executive orders require all new Federal facilities to meet a comprehensive set of requirements commonly referred to as the Federal High Performance and Sustainable Building (HPSB) Guiding Principles (GPs). These requirements have been consolidated into the current UFC 1-200-02, High Performance and Sustainable Building Requirement. The Department of Defense Sustainable Buildings Policy Memorandum (10 Nov 2013) states "A building that meets the UFC (1-200-02) requirements shall be considered compliant with the requirements of law and the Guiding Principles." Additionally, the memo requires DOD Components to "… establish an auditable process to ensure applicable new buildings and major renovations meet requirements as defined in the UFC. The auditable process shall include green-building certification …"

19.3. Air Force Requirements for Third Party Certification (TPC)

In the past, the Air Force has utilized the USGBC LEED rating system as a third-party validation of meeting project sustainability goals. While the intent of

the HPSB GP requirements align with the LEED rating system, LEED Silver certification does not constitute compliance with the Federal requirements and UFC 1-200-02. In an effort to reduce confusion about project sustainability goals, advance compliance with the Federal requirements, streamline HPSB GP compliance and tracking requirements, and identify a third-party certification that can be used for all new construction and major renovation projects, the Air Force reviewed newly developed USGBC/GBCI and GBI Guiding Principles Compliance rating systems and determined these can better serve as indicators of HPSB GP compliance.

AFCEC A-Gram, dated Feb 2017, provides guidance on the Air Force switching from using Leadership in Energy and Environmental Design (LEED) third party certification program, as required by the Air Force Sustainable Design and Development (SDD) Implementing Guidance Memorandum (Jun 2011); to use a third-party certification program using the DoD version of Guiding Principles (GPs). Compliance certification of either the 1) US Green Building Council (USGBC)/ Green Business Certification Inc. (GBCI), or 2) Green Building Initiative (GBI) rating systems, for all applicable projects as described herein.

This project shall utilize the U.S. GREEN BUILDING COUNCIL (USGBC); GBCI GP Assessment (2016) Guiding Principles Assessment by GBCI (DOD Version) and shall achieve verification of meeting the Federal requirements as detailed in UFC 1-200-02.

19.3.1. Project Registration, Reviews and Compliance Assessment

Contractor shall register this project with the USGBC (GBCI) including submission of initial Interest Forms and payment of registration fees, prepare compliance documentation as required by TECHNICAL GUIDE Guiding Principles Assessment by GBCI, submission of design and construction reviews and payment of fees, and obtain final assessment report and certification by GBCI. Contractor shall be responsible for all design submittals and construction submittals.

19.3.2. Government Review of GBCI Report and Certification

Submit all compliance documentation, final assessment report and certification to Government for review and acceptance. Failure to obtain certification will be considered non-compliant with the contract requirements requiring the Government to consider withholding of progress payments, equitable adjustment to the Contractor’s contract value, unsatisfactory performance evaluation, or termination for default of contract.
The Design Build Contractor is responsible for design submittals in addition to construction submittals.

19.4. Air Force Sustainability Requirements Score Sheet (updated Jan 2017) for HPSB

Prepare and submit the Air Force Sustainability Requirements Score Sheet at each design phase submittal, update during construction phase, and submit final version for review and acceptance.

19.5. Compliance Documentation of Sustainable Design and Federal Mandates

Provide documentation demonstrating compliance with the various federal mandates and sustainable design requirements in the Design Analysis as separate chapter(s). As a minimum, compliance documentation to include narratives, calculations, energy reduction calculations, report summaries, and LCCA and supporting information. This information is in addition to documentation required for third party certification required elsewhere in this RFP and related criteria references.

19.6. Sustainable Design Team Qualifications and Process

Design-Build design and construction team with experience in sustainable design and construction practices and documentation similar to the type and scale to this project. The sustainable team members shall lead the design-build team through the sustainable design, documentation, and certification process, and through project closeout.

Documentation shall be submitted with each design submittal during the design process, the construction phase, as well as with project Operation Maintenance Data as part of Project Closeout Submittals.

Pre-design & Pre-construction Conferences - Contractor to lead and facilitate these conferences, provide an agenda to include discussion of roles and responsibilities, goals and compliance requirements, credits being pursued and overview of approach, coordination issues, discussion of possible problem areas, and review of documentation requirements. Meeting attendees will include design-build contractor (including superintendent and CQC), major subcontractors, design-build Contractor’s Designers of Record for each design discipline requiring participation, USACE Project Manager, USACE construction staff, Base CE Representative(s) including maintenance personnel. Meeting shall be organized and led by the Contractor including preparation of meeting agenda provided to the COTR at least 7 days prior to each meeting, and meeting minutes documenting the discussions, decisions and action items. A Pre-Design conference shall occur before the start of the design phase and a Pre-Construction conference before the start of the Construction Phase to assure there is adequate understanding of the sustainable requirements for the design and construction.

19.7. Specifications

The Contractor shall edit and submit the following UFGS specification as defined in Section 01 10 12, Design After Award using the latest comparable SpecsIntact version:

01 33 29 SUSTAINABILITY REPORTING

Specification shall be edited to reflect the requirements of this design-build contract. Requirements for Implementation Plan, Documentation Notebook, and Coordination Meetings shall not be deleted.

Sustainability Documentation Notebook required by this specification shall be prepared and provided in the construction phase to the level of detail required by the unedited specification. The notebook shall be updated throughout the construction phase and available for review by the COTR.

The final notebook shall be delivered to the COTR (provide 4 hard copies; 3-ring binder with table of contents, labeled dividers for each credit, checklist summary for credits and points, and compliance documentation for each credit. Provide (4) electronic file copies of the Documentation Notebook on CD-ROM with the same information provided hard copies in .pdf format with each credit bookmarked.

01 91 00 COMMISSIONING

Edit this specification to include the commissioning requirements as required by UFC 1-200-02 and as summarized below. Coordinate and review with the commissioning agent. The commissioning specifications shall be supplemented by other UFGS commissioning specifications as appropriate.

Level of Building Commissioning

UFC 1-200-02 Section 2-2.2 requires Building Project Commissioning be performed for this project. An independent Commissioning Authority (CxA) shall be contracted by the design-build Contractor to oversee the level of commissioning as determined by the PDT and as defined in this RFP. The Commissioning Authority shall be a first-tier subcontractor to the General Contractor and shall report directly to the Government. The commissioning authority shall not have its' work vetted by the Contractor or the Designers of Record.

UFC 1-200-02 also states for Air Force projects the level of commissioning scope must be determined by the Project Delivery Team (PDT). For this project the RFP Project Delivery Team (PDT) has determined the level of commissioning appropriate for the building systems as follows:

Commission the following HVAC systems:

- Chilled water system including: chillers, pumps, piping systems, and variable speed drives.
- Heating system including: electric resistance heating.
- Air distribution systems including: air handling units, computer room units, energy recovery units, duct systems, and air terminal units with electric resistance heat.
- Exhaust systems including: fans (not part of the energy recovery ventilation system) and duct systems.
- Automatic temperature control system including: control devices, general building controls, energy management system integration.

Commission the following plumbing systems:

- Domestic hot water system utilizing hot water storage and recirculation pumps.
- Domestic heating hot water system including: boiler, pumps, and piping systems.

Commission the following electrical systems:

- Lighting control system

The RFP PDT has determined that the appropriate level of envelope commissioning will include Design Submittal reviews, construction inspections (including inspection of envelope mock-ups, to verify envelope construction complies with construction documents), envelope pressure testing to verify building air-tightness, and thermography analysis to verify thermal and moisture integrity for building envelope systems, components and assemblies. Testing to be performed by the Contractor with results reviewed by the Commissioning Authority (CxA). Construction inspections shall inspect and report on the following items, including but not limited to:

- Flashing
- Insulation
- Vapor barrier
- Seals
- Roofing
- Windows
- Doors
- Other Penetrations (i.e., louver, pipe, etc.)

No renewable energy systems will require commissioning as these systems have been determined to not be Life cycle cost effective following guidance of UFC 1-200-02 and federal mandate.

No irrigation systems will require commissioning as this system will be a temporary system to be utilized for 1 year only.

--End of Section--

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SECTION 01 10 12

DESIGN AFTER AWARD

1. DESIGN RESPONSIBILITY

The Contractor shall furnish and be responsible for a complete set of design documents as called for in specification section 01 10 10 DESIGN REQUIREMENTS, and Section 00 10 00, ADDITIONAL SPECIAL CONTRACT REQUIREMENTS and as called for hereinafter. Information provided below is intended to supplement the Mobile District Design Manual requirements. The Design Manual is available on the internet at:

http://www.sam.usace.army.mil/Missions/Military-Missions/Engineering/Design-Guides/Mobile-District-Design-Guides/

2. DESIGN SUBMITTAL

The Contractor shall submit its design in different phases and different stages to the Government for review. The number and requirements of each design submittal are listed below. The number and contents of the design submittals shall be reflected in the Contractor's progress charts. All comments for each submittal shall have been annotated and incorporated into the design before approval is granted.

2.1 TECHNICAL SPECIFICATIONS

Utilize Unified Facilities Guide Specifications (UFGS) in the SpecsIntact format. Utilize complete project specifications to cover the full scope of work. Delete references to materials that are not allowed or that are not intended to be provided. Government standards will not be referenced in the specifications; instead, provide any specific requirement of the standard in the specification as applicable.

Operations and maintenance (O&M) portions of UFGS shall be edited by the respective Designers of Record in the design phase. O&M requirements in the UFGS shall not be edited out. Submittals, operating procedures, schematics, as-built drawings, manuals, software, and computer hardware required in the UFGS for system operation incorporated in the design phase are critical to the operation of the new facility on completion. All operations and maintenance (O&M) manuals shall be compiled into one binder with separate sections tabbed and with a cover sheet for each UFGS section with O&M requirements. Provide in hard copy and electronic format (.pdf) with each section bookmarked. Provide additional sets of O&M manuals as required for training purposes.

2.1.1 Fast Tracking: at the contractor’s option, may "fast track" the design and construction of site work, exterior utilities, and the building foundation.

These items may be initially designed to the 100% Unreviewed stage, and submitted with the 50% Design Submittal. The drawings must exhibit a completed understanding of the final design and indicate all items to be installed on this site and below the building slab including all utilities. An Intermediate Backcheck Submittal shall be provided for Fast-Tracked items for review and approval by the Government, so that a Partial Notice To Proceed (NTP) can be issued to the contractor for that portion of the work.

2.1.2 Design Submittals: Items of work not Fast-Tracked shall be submitted in a maximum of three complete packages at the 50%, 100% Un-Reviewed, and Final Design stages as outlined in the following paragraphs. Partial design submissions of various portions of the project other than those identified for fast-tracking will not be allowed.

2.2 PERMITTING

The Contractor is responsible for identifying and obtaining all necessary permits and licenses prior to the start of construction.

3. GOVERNMENT APPROVED SUBMITTALS

The approval of submittals by the Contracting Officer's Representative shall not be construed as a complete check, but will indicate only that the design is in conformance with the contract requirements. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor is responsible for the design and construction of all work.

4. DESIGN SCHEDULE

Within 21 days after Notice to Proceed, the Contractor shall submit, for approval, a complete design schedule with all submittals and review times indicated by calendar dates. This schedule shall fully comply with the requirements of spec section 01 32 01.00 10. The schedule shall be updated monthly with copies furnished to the Contracting Officer. No progress payments will be made without an approved schedule. Any additional changes which the Contractor may wish to make to number or composition of design submittals shall be made 30 days prior to the expected submittal date. The Contractor shall allow 21 days for the Government review period if submittal dates are met. If a scheduled design submittal date is not met without notifying the Contracting officer in writing one (1) week in advance, 28 days shall be allowed for the Government review period. If a submittal date is not going to be met, the Contractor shall notify the Contracting Officer, in writing, one (1) week prior to the scheduled submittal date. Failure to do so will increase the Government review time by seven (7) days. See Paragraph: "SUBMITTAL REVIEW".

5. STAGES AND CONTENTS OF DESIGN SUBMITTALS: Information provided below is intended to supplement the COE Mobile District Design Manual (latest edition) requirements. The COE Mobile District Design Manual is available on the internet at:

http://www.sam.usace.army.mil/Missions/Military-Missions/Engineering/Design-Guides/Mobile-District-Design-Guides/

5.1 INTERIOR DESIGN

The Contractor shall lead a predefinition conference at Tyndall AFB and Government personnel shall attend it. A full SID color scheme, Appendix B, has been prepared for this project. The purpose of the predefinition conference is to present, confirm and discuss the SID color scheme for the project. Actual exterior and interior materials, finishes and colors are to be provided for review and comment. The Contractor may provide colored elevations/perspectives of the SID color scheme to assist in the discussion of the SID. At the end of the predefinition conference, the Government will decide the necessary adjustments needed to the SID and this information will be used by the Contractor to further develop the project.

5.2 STRUCTURAL INTERIOR DESIGN (SID)

A complete SID package is included as an Appendix in this RFP. The Contractor shall submit an updated SID design and binders to provide confirmation of contractor's interpretation of selections. Substitution may be provided for any items discontinued or not available any longer. The SID includes selection of all the building related finishes, materials and colors to be provided and installed. The design philosophy shall be interpreted using the UFGS 09 06 00 Schedules for Finishes. All SID materials, finishes and colors shall be reviewed by the Government for compliance with the RFP. All SID submittals will run concurrent with the Architectural submittals.

5.3 FFE FURNITURE, FIXTURES AND EQUIPMENT

A full FF&E package has been prepared for this project and included as an Appendix in this RFP. The FFE under this RFP includes the confirmation of the contractor's interpretation of the FFE package and specification of all moveable furnishings for all occupied and unoccupied areas as indicated in Section 01 10 10 Design Criteria.

Movable furnishings shall include but are not limited to desks, workstations, beds, chairs, tables, AV support furnishings and equipment, files, storage cabinets, tables and gaming equipment.

5.4 FFE INTERIOR DESIGN REQUIREMENTS

5.4.1 The design of the FFE integration shall be concurrent with the building related design and fully coordinated with the building systems design for power, voice, data and mechanical devices such as thermostats, fire protection devices, fire pull boxes, sprinkler heads, etc. The Contractor will be responsible for insuring all the building systems devices are correctly placed so that the FFE is fully coordinated for access. The FFE shall also be fully coordinated with the Customer's equipment requirements.

5.4.2 Based on customer in-put, the FFE has been fully developed and includes the space planning with comprehensive furniture placement plans, selection of all furniture and furnishings with all associated fabrics and finishes and development of illustrated furniture order forms and furniture drawings to allow accurate procurement from sources that have current General Services Administration (GSA) Federal Supply Schedule (FSS) contracts for the specified items. The FFE movable furnishings demonstrate complete coordination with every aspect of the building related designs and finishes. Any deviations to this package shall require the full coordination of the interior design; including

fabrics and finishes by an Interior Designer. A minimum of two User interviews shall be required to confirm that products meet the function and design intent.

5.4.3 The FFE shall be formatted as indicated in Chapter 10 Interior Design of the Mobile District Design Manual latest edition.

5.4.4 All movable furnishings designed shall be purchased by the Contractor from sources that have current General Services Administration Federal Supply contracts, in accordance with the Federal Acquisition Regulations (FAR) Part 8 Required Sources of Supply and FAR Part 51. In addition to the cost of the moveable furnishings, all the Contractor's administrative costs associated with procurement and coordination and all labor cost associated with receiving, staging, installation (including hardwire, voice and data connections if required), adjustments/leveling, trash removal/disposal, and touch-ups shall be included in the total price of the FFE. Installation shall be provided by an installation team regularly engaged and certified by the products being installed in the installation of furnishings to maintain product warranties. The Design Build contractor's own personnel shall not provide installation services.

5.1.4.5 All Contractor services involving moveable furnishings shall be completed within the specified construction contract completion date for the building.

5.1.4.6 The final cost for the moveable furniture specified in the FFE shall be determined during the design phase of the Design Build project delivery process. The Contractor shall not add any additional mark-ups to the FFE over and above his normal overhead and profit. The final cost estimate shall show pricing in accordance with the following line items:

(a) Totals of all the FFE items specified by the Contractor's Interior Designer
(b) Freight, crating and all handling costs if not included in the price of an item
(c) Installation cost of all FFE (moveable furniture items)
(d) Local Sales tax, if applicable

For each FFE submittal required during the design phase of the project, each cost shall be reported as separate line items in the cost summary.

5.5 COMPLIANCE VERIFICATION

Compliance with the FFE Description and FFE Requirements shall be determined by the government review of the design, drawings, specifications and construction submittals.

Standards set in the Design Criteria and Design After Award submittal sections apply. Submittal shall be as indicated in Chapter 10 Interior Design of the Mobile District Design Manual.

5.6 FFE IMPLEMENTATION SCHEDULE

After acceptance of the FFE package, the Contractor shall submit an FFE Implementation Schedule with set benchmark dates for the procurement and

installation of the FFE. The Contractor shall fully coordinate the construction schedule with the FFE Implementation Schedule. The Implementation Schedule shall allow for correction of any missing parts and/or replacement items.

5.7 FFE INSTALLATION REQUIREMENTS

All furniture systems and FFE items shall be installed in accordance with the manufacturer's instruction and by the manufacturer's certified installer to ensure the warranty is not void. All FFE items shall be level and aligned so that all items are complete, usable and in working order. All FFE items are to be touched up, dusted and left in clean condition, including drawer and cabinet interiors. Upon completion of the installation the Contractor shall conduct a Post Installation Evaluation including the Government and the Vendor. Items requiring correction shall be ordered immediately at no expense to the Government. The correction of the work shall be completed within the specified construction contract completion date for the building.

5.8 50% SUBMITTAL

5.8.1 Paving, Grading and Drainage:

a. Provide drawings, narrative and supporting documentation incorporating work as shown for an interim submittal in the Mobile District Design Manual. Identify all required permits.

b. Provide marked-up specifications supporting work in this category.

5.8.2 Underground Utilities:

a. Water Supply and Sanitary Sewer:

(1) Unless directed otherwise in Section 01 10 10 Design Requirements, the Contractor shall follow the applicable guidance and directions contained in the Mobile District Design Manual relative to the presentation of data and the submittal documents. See Chapter 8, entitled Water & Wastewater Treatment.

(2) The submittal shall contain the design narrative and design calculations for the water and wastewater systems relating to this project. Include an analysis showing the required size of all components of the water supply and distribution system. The design narrative for wastewater systems shall show calculations for sewage flows, pipe sizes, and capacities. The narrative shall discuss anticipated permit requirements for water and wastewater features. Identify any deviation in the design from what was originally proposed and provide reasons and justifications for the deviation.

(3) The Contractor shall perform a fire protection design analysis in accordance with UFC 3-600-01. The Contractor shall provide the services of a qualified fire protection engineer who shall be an integral part of the design team and shall be involved in all aspects of the design as it relates to fire protection, in accordance with UFC 3-600-01.

(4) The narrative shall furnish Outline Specifications consisting of the number and title of the UFGS that the Contractor expects will be included

in the final design. The Contractor shall use the UFGS Guide Specification. The outline specification shall briefly describe the item.

(5) The Drawings shall show, in plan, the anticipated water distribution and sewage conveyance systems and layout.

(6) Standard details shall also be included.

(7) The Contractor is encouraged to include manufacturer's catalog cuts and descriptive information in the submittal. (Manufacturer's trade names are allowable on the drawings and in the specifications.)

b. Environmental:

The Contractor shall edit UFGS 01 57 19, Temporary Environmental Controls. The Contractor shall provide a list of all permits that are required to be obtained and any associated fees. The Contractor shall ensure that required environmental permits are obtained prior to start of construction and/or installing or operating any new or modified equipment or processes. In addition to Environmental Permits, based upon information provided by the BCE, the Contractor will determine when Installation specific permits are required, such as digging, communications, and security.

5.8.3 Landscape Work:

a. Provide drawings, narrative, and supporting documentation incorporating work as shown for an interim submittal in the Mobile District Design Manual.

b. Provide marked-up specifications supporting work in this category.

5.8.4 Geotechnical Investigation and Design:

a. Provide Geotechnical Report, narrative, and supporting documentation incorporating work as shown for an interim submittal in the Mobile District Design Manual.

b. Provide marked-up specifications supporting work in this category.

5.8.5 Architectural Design:

a. Provide drawings, design analysis, and supporting documentation incorporating work as shown in the Mobile District Design Manual.

b. Provide detailed, annotated and dimensioned drawings (Plans, Building Sections, Elevations, Typical Wall Sections etc.) including partition types, details of air barrier perimeter, Windows, Doors, Rails, Partitions, Shelving and Cabinets. Identify any deviation in the design from what was originally proposed and provide reasons and justifications for the deviation.

c. The Contractor shall furnish marked up Specifications supporting work in this category. The Contractor shall use the UFGS Guide Specification. For

specific items not covered by a UFGS Guide Specification, the Contractor may use an industry specification or manufacturer's specification.

d. Provide building code analysis and a Life Safety Analysis include occupancy classification, distances for dead end corridors, common path, and travel distances, building type, fire rated assemblies, occupancy separation walls, etc. Provide life safety plan.

e. Provide Florida Building Code Analysis documenting compliance with FBC chapters 14, 15, 16 and 17 for material selection and assembly design conformance as well as Miami-Dade High Velocity Hurricane Zone (HVHZ) requirements. Provide Miami-Dade Notice of Acceptance (NOA) documents for all exterior wall and roof materials or assemblies.

5.8.6 Structural Interior and Comprehensive Interior Design:

a. The Contractor shall submit five (5) complete sets of the initial SID package. All SID proposals shall be reviewed and approved by the Government. The Government shall return the SID packages to the Contractor after the review for updating and incorporating the review comments. Each submittal will follow this method of review until the Government approves the completed SID package. The Submittals shall be side marked and distributed as follows:

b. EN-DA-Mobile District Office; 2. CD-GE 3. Installation; 4. User; and 5. Base Contracting

5.8.7 Structural:

a. Provide drawings, narrative, and design analysis to include calculations and supporting documentation incorporating work as shown for an interim submittal in the Mobile District Design Manual.

b. Provide Florida Building Code Analysis documenting compliance with FBC chapters 15 and 16 for Miami-Dade High Velocity Hurricane Zone requirements. Include calculations demonstrating each building systems’ compliance with these FBC requirements.

c. Provide marked-up specifications supporting work in this category.

5.8.8 Plumbing:

a. List all references used in the design including Government design documents and industry standards.

b. Provide justifications and brief descriptions of the types of plumbing fixtures, piping materials and equipment proposed for use.

c. Provide pipe layouts and risers for each plumbing system listed above. Included equipment and fixture schedules with description, capacities, locations, connection sizes, and other information as required.

d. The design analysis, submitted for review shall consist of the following:

(1) Design Narrative to include applicable design assumptions, sizing methods chosen, and why.

(2) Design Calculations. Provide detailed calculations for the sizing of the following systems:

Domestic cold water piping
Domestic hot water piping
Waste and Vent
Water heating system
Natural gas distribution
Roof Drainage System

e. Drawings shall be complete with legends, floor plans, schedules, sections, details, and riser diagrams.

(1) Indicate locations and general arrangement of plumbing fixtures and major equipment.

(2) Include plan and isometric riser diagrams of all areas including hot water, cold water, storm drain, waste and vent piping. Piping layouts and risers should also include natural gas (and meter as required), and other specialty systems as applicable.

(3) Include equipment and fixture schedules with descriptions, capacities, locations, connection sizes and other information as required.

f. Include redlined marked up technical specifications for materials and methods.

5.8.9 Fire Suppression System:

a. The fire protection engineer qualifications shall be submitted to and approved by the Contracting Officer certifying that the design engineer is a registered fire protection engineer or a registered professional engineer with a fire protection background and at least four years' experience in fire protection/detection design.

b. Certificates shall be furnished to certify that the sprinkler system designed for the buildings in this project complies with the material and fabrication requirements of this specification.

c. The design analysis shall consist of the design narrative, design calculations, and drawings as specified in the Design Criteria such as the fire protection and life safety drawings.

d. Drawings shall not be smaller than the scale used for architectural floor plans. Drawings shall provide the information required by NFPA 13 and any additional requirements as stated in the Design Criteria. The drawings shall be submitted for review.

e. Drawings will detail method of attaching waterproofing membranes to sleeves passing through walls or floors that are subject to a static head of water.

f. Maintain fire resistive integrity as tested per ASTM E 814.

g. Locate or detail the following items on the contract drawings as applicable:

(1) Control valve locations.

(2) Type of sprinkler heads to be used.

(3) Required flagged pipe or mechanical grooved coupling connection locations and symbols.

(4) Wall and floor pipe penetration locations and details.

(5) Post indicator valve location.

(6) Pipe runs requiring freeze protection location and length to be protected.

(7) Fire department connections and water flow indicators locations and symbols.

(8) Mounting location for local water flow alarm facilities.

(9) Point of interconnection between alarm signal circuit and source of power will be indicated on the appropriate riser diagram.

h. Submit mark-up technical specifications of materials and methods.

i. Fire protection will be 100% complete by the 50% submittal.

5.8.10 Heating, Ventilating and Air Conditioning (HVAC):

a. Provide a 50% HVAC design review package to include the following items:

(1) 50% Design Analysis: The Design Analysis shall include the following items:

(a) Detailed calculations for the following: heating loads, cooling loads, piping, ductwork, equipment sizing, etc. Computer calculations shall include print out of input and output data.

(b) Equipment selection: Equipment selection shall be based on not less than three manufacturers whose equipment meets project requirements for each item. The design analysis shall include catalog cuts of all major equipment (e.g., air handlers, coils, chillers, condensing units, boilers, pumps, fans, unit heaters, etc.) manufacturer, model number, dimensions, capacities, and electrical requirements. The project design is not complete until the designer is assured that there is sufficient physical space in areas where equipment is to be located to install and to maintain the selected equipment.

(c) Include any other information or calculations to verify that the design complies with applicable criteria codes or standards and is satisfactory for intended purposes.

(d) Explanatory notes shall be included in the design analysis covering all rationale for design which would not be obvious to an engineer reviewing the analysis. Methods of air conditioning and controls for air conditioning systems shall generally be confined to those in common use in the industry.

(2) Specifications: Redlined marked-up specifications shall be submitted for materials and methods.

(3) 50% Drawings: The drawings should include, but not be limited to, the following items:

(a) Show all ductwork and piping, with sizes and flow rates, where necessary for balancing purposes. Indicate the ductwork pressures in accordance with SMACNA standards. Include all accessories and appurtenances.

(b) Show temperature control schematics indicating remote sensors, panel mounted controllers, reset schedules (if applicable), and thermostats.

(c) Show layout and details of the final version of all HVAC systems. The location, arrangement, capacity, and space requirements of all equipment shall be indicated. Selected zones of air distribution shall be sufficiently completed to indicate the solution of the design for the remainder of the system and the precautions taken to coordinate the design with the architectural, structural, and electrical phases of construction. Equipment room layouts shall be sufficiently complete to show piping and duct layouts and access for maintenance. Since equipment rooms represent the most congested areas for both equipment and piping, the following guidelines should be followed when drawings are being prepared.

(i) Pipe fittings and accessory details shall be shown.

(ii) All duct and fittings in congested areas and mechanical rooms shall be drawn to scale using double-line layouts. In a VAV system, ducts between the AHU and VAV boxes shall be double-lined and ducts downstream of the VAV boxes may be single lined.

(iii) All equipment shall be outlined to scale, and maintenance or removal space shall be indicated by dashed lines.

(iv) Show new exterior chilled water lines from central energy plant in plan and profile. Show all other exterior piping to scale.

(d) The final form of all equipment schedules shall be shown with preliminary equipment data filled in.

(e) The HVAC system shall be designed in accordance with the most current version of UFC 3-410-01.

5.8.11 Interior Electrical System:

a. Narrative: In narrative, address the following to allow verification that the design complies with the requirements of the project. The design analysis shall include all calculations required to support design decisions and estimates at this stage of design. The analysis shall include specific criteria furnished, conference minutes, and cost analyses of all systems considered.

(1) Indicate electrical characteristics (voltage, phases, and number of wires) for the electrical system.

(2) Provide a description of lighting systems(s) to be used for all areas, referencing calculations. Also, include tabulation showing the following:

(a) Rooms name and number.

(b) Lighting intensity for each room. State the basis for selection such as I.E.S., etc.

(c) Identify the type of fixture by manufacturers catalog cut.

(3) State the type of wiring system to be used, such as insulated conductors installed in rigid or intermediate metal conduit, insulated conductors installed in electrical metallic tubing, etc. and location of proposed use.

(4) Describe any special areas of design, such as equipment, receptacles, handicap requirements, seismic requirements, etc

(5) Define any hazardous classified locations by class, division, and group as defined by the National Electrical Code. Indicate the types of equipment to be used in these areas. State the reasons for the area(s) being hazardous classified locations.

(6) Provide a lightning risk analysis and describe the lightning protection system to be installed.

(7) Describe the type of grounding system planned.

(8) Describe the basic characteristics of panelboards, switchboards, motor control centers, and other major pieces of electrical equipment being provided. Short circuit and voltage drop calculations at all equipment with protective devices included shall be provided. Indicate equipment interrupting ratings and short circuit withstand ratings based on these calculations.

(9) Describe the electrical metering equipment to be provided.

(10) Provide a statement that no duct or liquid piping shall pass over and/or through any electrical space and/or room as defined by the National Electrical Code Article 384.

(11) Provide marked-up specifications supporting work in this category.

b. Drawings: In drawings, provide the following to allow verification that the design complies with the requirements of the project. Some detailed checks will be made. Complete and independent checking of the design shall be accomplished by the Contractor. The Contractor is fully responsible for the design. The design shall be complete and accurate. It shall be thoroughly checked for errors and conflicts (both within and between disciplines).

(1) The power riser or one-line diagram shall be essentially complete except for finalization of conduit and wire sizes.

(2) Panelboards, switchboards, motor control centers, and all other utilization equipment shall be located on the floor plans. Schedules for applicable equipment shall be provided. The schedules shall include all pertinent information to fully describe the equipment. Elevations for free standing equipment shall be provided but need not be entirely finalized. Details of the layouts for electrical room and closets shall be shown.

(3) Branch circuits, lighting fixtures, receptacles, and switches, shall be shown with number of conductors indicated.

(4) A completed fixture schedule shall be included on the drawings.

5.8.12 Exterior Electrical Distribution System:

a. Narrative: In narrative, address the following to allow verification that the design complies with the requirements of the project. The design analysis shall include all calculations required to support design decisions and estimates at this stage of design. The analysis shall include specific criteria furnished, conference minutes, and cost analyses of all systems considered.

(1) Clearly describe the electrical distribution system and state the changes to be made to the existing system to accommodate this project.

(2) State the electrical characteristics of power supply from the service point to the main service equipment (voltage, phase, number, and size of conductors).

(3) Indicate the type, number, voltage rating, and connections, and kV A rating of all transformers provided whether Contractor provided or Government furnished (existing).

(4) State the type of conductor and location of proposed use and provide a justification for its use.

(5) Include a statement describing the criteria used for the exterior design such as primary and secondary voltage drop. Describe the physical characteristics of circuits. Provide the short circuit current available at the site and state the source of this value.

(6) Describe all exterior lighting. Provide types of fixture, pole heights, and proposed intensities. IES point to point calculations shall be submitted to support the selected lighting system.

(7) Provide marked-up specifications supporting work in this category.

b. Drawings: In drawings, provide the following to allow verification that the design complies with the requirements of the project. Some detailed checks will be made. Complete and independent checking of the design shall be accomplished by the Contractor. The Contractor is fully responsible for the design. The design shall be complete and accurate. It shall be thoroughly checked for errors and conflicts (both within and between disciplines). The electronic systems drawing information may be placed on the electrical drawings or on separate electronic systems drawings.

(1) All of the exterior electrical design drawings shall be completed with all conductors (underground) with all pertinent component details. Details shall include but are not limited to ductbanks, transformer location, transformer data (kV A, impedance. voltage, phase. etc.), conductor type and size, etc.

(2) Show removals and relocations, if any.

5.8.13 Interior Electronic Systems:

a. Narrative: In narrative, address the following to allow verification that the design complies with the requirements of the project. The design analysis shall include all calculations required to support design decisions and estimates at this stage of design. The analysis shall include specific criteria furnished, conference minutes, and cost analyses of all systems considered.

(1) Provide a descriptive narrative for all the electronic systems that are required for the project.

Telecommunication/Data Systems
Fire Detection and Alarm/Mass Notification System
Cable TV Systems

(2) Provide marked-up specifications supporting work in this category.

b. Drawings: In drawings, provide the following to allow verification that the design complies with the requirements of the project. Some detailed checks will be made. Complete and independent checking of the design shall be accomplished by the Contractor. The Contractor is fully responsible for the design. The design shall be complete and accurate. It shall be thoroughly checked for errors and conflicts (both within and between disciplines). The electronic systems drawing information may be placed on the electrical drawings or on separate electronic systems drawings.

(1) Provide riser diagrams for all electronic systems. Riser shall show the location of the various components and interconnections with other systems.

(2) Show location of all devices and equipment for electronic system on floor plans. Show location of devices to be interconnected.

(3) Provide details of telephone outlets, telephone backboard arrangement, and other pertinent items required by criteria.

5.8.14 Exterior Electronic Systems:

a. Narrative: In narrative, address the following to allow verification that the design complies with the requirements of the project. The design analysis shall include all calculations required to support design decisions and estimates at this stage of design. The analysis shall include specific criteria furnished, conference minutes, and cost analyses of all systems considered.

(1) Describe the extent of the exterior work.

(2) Provide the name of the licensed corrosion engineer or NACE specialist. Provide the following for cathodic protection systems:

(a) Clearly define areas of structures or components in soil or water to be protected.

(b) Type system recommended, comparison of systems, cost estimates showing all equipment alternatives.

(c) Calculations on all systems that are considered showing all information and descriptions.

(3) Provide marked-up specifications supporting work in this category.

b. Drawings: In drawings, provide the following to allow verification that the design complies with the requirements of the project. Some detailed checks will be made. Complete and independent checking of the design shall be accomplished by the Contractor. The Contractor is fully responsible for the design. The design shall be complete and accurate. It shall be thoroughly checked for errors and conflicts (both within and between disciplines). The electronic systems drawing information may be placed on the electrical drawings or on separate electronic systems drawings.

(1) Cathodic protection system should be complete. Drawing shall indicate all structures or components to be protected and all cathodic protection components in relation to the protected structure. This includes showing sacrificial and impressed current anodes, rectifiers, isolation (dielectric) bonding, and any other data needed to define the scope and area of the cathodic protection system.

5.8.15 Antiterrorism/Force Protection:

a. Provide narrative and supporting documentation discussing methods of incorporating requirements of UFC 4-010-01 and UFC 4-023-03 into project.

b. Antiterrorism/Force Protection requirements shall be included in applicable disciplines' drawings, design analysis and calculations to a level of completion described for an interim submittal in the Mobile District Design Manual.

5.8.16 Sustainable Design:

a. Provide narratives, energy simulation modeling and calculations, life cycle cost evaluations, and support documentation to demonstrate compliance with the various federal mandates for sustainability and energy/water use reduction that include, but not limited to UFC 1-200-02, EPAct2005, and EISA2007. Narratives and support documentation shall be provided in the Design Analysis as a separate chapter(s) to explain approach for compliance with each requirement. Provide references to drawings and specifications for location of applicable features. Compliance documentation shall be reviewed accordance with the third-party CxA certification process requirements. The third-party CxA comments shall be entered into Dr Checks for the contractor's response. Refer to specification Section 01 10 10 Section 20 SUSTAINABLE DESIGN AND ENERGY USE REDUCTION for additional requirements.

b. Contractor will register the project with the USGBC (GBCI) for third party certification (TPC) as required by UFC 1-200-02 and further defined in Section 01 10 10-20 of this RFP. Compliance documentation shall be provided in accordance with the third-party certification process requirements. Documentation shall be updated during construction phase for constructed related credits and submitted for final compliance review and acceptance by the third party reviewing entity. Refer to specification Section 01 10 10 Section 20 SUSTAINABLE DESIGN AND ENERGY USE REDUCTION for additional requirements.

5.9 100% UNREVIEWED SUBMITTAL

5.9.1 Paving, Grading, and Drainage:

a. Provide drawings, specifications, narrative, annotated comments, and supporting documentation revised to comply with comments resulting from 50% submittal. Include copies of all required permit applications.

5.9.2 Underground Utilities:

a. Provide drawings, specifications, narrative, annotated comments, and supporting documentation revised to comply with comments resulting from 50% submittal. Include copies of all required permit applications.

(1) Water Supply and Sanitary Sewer: 100% unreviewed submittal shall be a refinement and completion of the preliminary submittal. Key points in the 100% unreviewed submittal include:

(a) The Contractor shall incorporate all earlier accepted comments into the design package.

(b) Drawings shall be completed and ready for implementation by construction forces.

(c) The submittal shall include all construction details and standard drawings.

(d) Specifications shall be edited and complete, including submittal register.

(e) Sanitary sewer profile.

(2) Underground Sprinkler System: Provide drawings, specifications, narrative, and supporting documentation revised to comply with comments resulting from 50% submittal.

(3) Environmental: The Contractor shall edit UFGS 01 57 19, Temporary Environmental Controls. Where environmental permits are required, the Contractor shall prepare technical documentation for the permit application and submit the permit application(s) including payment of all fees to the Contracting Officer's Representative. All payment checks should be made out to Florida Department of Environmental Protection. The Contracting Officer's Representative shall forward all permit applications and fees to the Air Force 96 CEG/CEVC for review. The Air Force will sign the applications and forward them to the appropriate regulatory authority.

5.9.3 Landscape Work:

a. Provide drawings, specifications, narrative, annotated comments, and supporting documentation revised to comply with comments resulting from 50% submittal.

5.9.4 Geotechnical Investigation and Design:

a. Provide Geotechnical Report, specifications, narrative, annotated comments, and supporting documentation revised to comply with comments resulting from 50% submittal.

5.9.5 Architectural Design:

a. Provide drawings, specifications, narrative, annotated comments, and supporting documentation revised to comply with comments resulting from 50% submittal.

5.9.6 Structural Interior Design:

a. The Contractor shall submit five (5) complete sets of the approved and final SID/CID package. Once the Contractor has submitted the SID/CID and the Government has approved the submittal, all materials, finishes, colors, textures and pattern submitted and approved for this project are then considered as part of the contract and the Contractor shall furnish and install all approved SID finishes and items. No deviations will be considered once the SID has been approved.

5.9.7 Structural:

a. Provide drawings, narrative, design analysis with complete calculations and supporting documentation, specifications, and annotated comments, as shown for a final submittal in the Mobile District Design Manual revised to comply with comments resulting from 50% submittal. Structural drawings shall be carefully checked to ensure coordination with architectural, site, mechanical, and electrical drawings.

5.9.8 Fire Protection:

a. Submit the complete 100% unreviewed final submittal revised to comply

with comments resulting from 50% submittal.

5.9.9 Plumbing:

a. The final plumbing design review package shall be submitted by the Contractor for Government review to include the final design analysis, specifications, annotated comments, and drawings of the plumbing systems showing the completed designs revised to comply with comments resulting from 50% submittal.

5.9.10 Heating, Ventilating and Air Conditioning (HVAC):

a. The final HVAC design review package shall be submitted by the Contractor for Government review to include the final design analysis, specifications, annotated comments, and drawings of the HVAC systems showing the completed designs revised to comply with comments resulting from 50% submittal.

5.9.11 Interior Electrical System:

a. The drawings shall be thoroughly checked for discrepancies, for compatibility between drawing and specifications, and for compatibility between disciplines.

b. Completed short circuit calculations and a coordination analysis with time current curves and arc flash data for the entire electrical system shall be provided. All equipment shall be identified by manufacturer's name and catalog number.

c. Complete voltage drop calculations shall be provided. The voltage drop calculations shall use the same single line diagram as the short circuit calculations and shall show drops at the same locations as short circuit currents are shown.

d. Lighting calculations (lumen method for interior and point-to-point for exterior) shall be provided for all rooms and spaces and all exterior locations requiring illumination.

e. All details shall be completed at this stage. Congested areas where there can be interferences with various systems shall be thoroughly detailed by expanded scale drawings.

f. The drawings shall be thoroughly checked for discrepancies. for compatibility between drawing and specifications. and for compatibility between disciplines.

5.9.12 Exterior Electrical Distribution System:

a. The final design review package revised to incorporate 50% review comments shall be submitted by the Contractor for Government review to include the final design analysis, specifications, annotated comments, and drawings showing the completed designs.

5.9.13 Interior Electronic Systems:

a. The final design review package revised to incorporate 50% review comments shall be submitted by the Contractor for Government review to include the final design analysis, specifications, annotated comments, and drawings showing the completed designs.

5.9.14 Exterior Electronic Systems:

a. The final design review package revised to incorporate 50% review comments shall be submitted by the Contractor for Government review to include the final design analysis, specifications, annotated comments, and drawings showing the completed designs.

5.9.15 Antiterrorism/Force Protection:

a. Provide narrative and supporting documentation discussing methods of incorporating requirements of UFC 4-010-01 and UFC 4-023-03 into project.

b. Antiterrorism/Force Protection requirements shall be included in applicable disciplines' drawings, design analysis, calculations, and specifications as shown for a final submittal in the Mobile District Design Manual revised to comply with comments resulting from 50% submittal.

5.9.16 Sustainable Design:

a. Provide updated narratives, energy simulation modeling and calculations, life cycle cost evaluations, and support documentation to demonstrate compliance with the various federal mandates for sustainability and energy/water use reduction that include, but not limited to UFC 1-200-02, EPAct2005, and EISA2007. Narratives and support documentation shall be provided in the Design Analysis as a separate chapter(s) to explain approach for complying with each requirement. Highlight any changes from the previous design submittal and describe the reason for the change. Provide references to drawings and specifications for location of applicable features. Compliance documentation shall be reviewed accordance with the third-party CxA certification process requirements. The third-party CxA comments shall be entered into Dr Checks for the contractor's response. Refer to specification Section 01 10 10 Section 20 SUSTAINABLE DESIGN AND ENERGY USE REDUCTION for additional requirements.

b. Contractor will be register the project with the USGBC (GBCI) for third party certification (TPC) as required by UFC 1-200-02 and further defined in Section 01 10 10-20 of this RFP. Compliance documentation shall be provided in accordance with the third-party certification process requirements. Documentation shall be updated during construction phase for constructed related credits and submitted for final compliance review and acceptance by the third party reviewing entity. Refer to specification Section 01 10 10 Section 20 SUSTAINABLE DESIGN AND ENERGY USE REDUCTION for additional requirements. Documentation developed for the third-party certification process shall also be included in the Documentation Notebook required by Section 01 10 10-20.

5.10 FINAL SUBMITTAL

Completed drawings, specifications, design analysis, and supporting documentation for all previous submissions and disciplines as required by this section and in accordance with the Mobile District Design Manual, the BIM M3

requirements matrix, other specified criteria, and with all review comments incorporated.

6. QUANTITY OF SUBMITTAL ITEMS

The documents which the Contractor shall submit to the Government for each submittal are listed and generally described below.

At the Final submittal, the Contractor shall also submit one full size set of blackline paper plot drawings and one original hard copy set of the specifications to MDO. At the final submittal, the Contractor shall also submit 2 CD's each with a complete set of drawings and specifications.

7. MAILING OF SUBMITTALS

All submittals to the Government during design shall be mailed using overnight mailing service. The addresses to where each copy shall be mailed are listed below. Each submittal shall have a transmittal letter accompanying it which indicates the date, design percentage, type of submittal, list of items submitted, transmittal number and point of contact with telephone number.

7.1 RECIPIENT AND MAILING ADDRESSES FOR SUBMITTAL DISTRIBUTION

A. U.S. Army Corps of Engineers - Mobile District ATTN: CESAM-EN-GC, Clyde M Ashley Jr PO Box 2288 Mobile, Alabama 36628-0001 109 St. Joseph Street Mobile, Alabama 36602	**D.** U.S. Army Corps of Engineers Tyndall Resident Office ATTN: CESAM-CD-GT Jonathan Carr 542 Mississippi Rd. Bldg. 36272 Tyndall AFB, FL 32403-5601
B. U.S. Army Corps of Engineers - Mobile District ATTN: CESAM-PM-M, Nichole Griffin PO Box 2288 Mobile, Alabama 36628-0001 109 St. Joseph Street Mobile, Alabama 36628-0001	**E.** AFCEC/CFMA ATTN: Naomi Gabriel 3515 S. General McMullen, Bldg 1 San Antonio, TX 78226-9853
C. 325 CEG/CEPM Attn: Mr. Kevin Sharkey 119 Alabama Ave. Tyndall AFB, FL 32403	**F.** Tyndall AFB Fire Department ATTN: Chief Kevin Remedies Tyndall AFB, FL 32403-3601

7.2 SUBMITTAL DISTRIBUTION LIST

The following table lists the number of copies of design submittal requirements for this project.

SUBMITTAL ITEMS	**NUMBER OF COPIES**											**REMARKS**
50% DESIGN SUBMITTALS	**A**	**B**	**C**	**D**	**E**	**F**						4
DESIGN ANALYSIS	8	1	2		1	1						3

SPECIFICATIONS	8	1	2		1	1						
DRAWINGS	8	1	2	2	1	1						
SID BINDER	1		1	1								2
FF&E / CID BINDER	1		1	1								2
PERMIT APPLICATIONS	1		1	1								
BIM DELIVERABLES	1		1	1	1							
ELECTRONIC COPY OF ALL SUBMITTAL DELIVERABLES	8	1	7	2	1	1						1
100% UNREVIEWED FINAL DESIGN SUBMITTALS	**A**	**B**	**C**	**D**	**E**	**F**						4
DESIGN ANALYSIS	8	1	2		1	1						3
SPECIFICATIONS	8	1	2		1	1						
DRAWINGS	8	1	2	2	1	1						
SID BINDER	1		1	1								2
FF&E / CID BINDER	1		1	1								2
PERMIT DOCUMENTATION	1		1	1	1							
ANNOTATED REVIEW COMMENTS	8	1	2		1	1						
DRAFT 3D RENDERING VIEW IN .PDF FORMAT	1	1	1	1		1						
BIM DELIVERABLES	1		1	1	1							
ELECTRONIC COPY OF ALL SUBMITTAL DELIVERABLES	8	1	2	2	1	1						1
FINAL DESIGN SUBMITTALS	**A**	**B**	**C**	**D**	**E**	**F**						4
DESIGN ANALYSIS	8	1	2	1	1	1						3
SPECIFICATIONS	8	1	2	1	1	1						
DRAWINGS	8	1	2	2	1	1						
SID BINDER	1		1	1								2
FF&E / CID BINDER	1		1	1								2
PERMIT DOCUMENTATION	1		1	1	1							
ANNOTATED REVIEW COMMENTS	8	1	2		1	1						
FINAL 3D RENDERING (FRAMED & MATTED)	1		1	1		1						

FINAL 3D RENDERING (8”x10” COLOR COPY)	1	1	1	1		1						
BIM DELIVERABLES	1		1	1	1							
ELECTRONIC COPY OF ALL SUBMITTAL DELIVERABLES	8	1	2	2	1	1						1
	A	**B**	**C**	**D**	**E**	**F**						

Remarks:

1. Electronic copies shall be on a single DVD disc. Each deliverable shall be a single .pdf document bookmarked for each title indexed and/or major elements of the document. These electronic file copies are in addition to that required for the final drawings, specifications and design analysis specified elsewhere in this specification section.
2. Binder updates or replacements. If no revisions are made to the original SID or CID/FFE package included in the RFP the Design Build Contractor shall submit the package developed as part of the RFP at each submittal phase.
3. Includes sustainable design and federal mandate compliance documentation/calculations. Provide additional documentation as required in other portions of the RFP.

8. SUBMITTAL REVIEWS

For each design review submittal, the Contractor will be furnished comments from personnel of the Mobile District and from other concerned agencies involved in the review process. The review will be for conformance with the technical requirements of the solicitation. The Government will take twenty-one (21) 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, he 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 he believes the action required by any comment exceeds the requirements of this contract, that he should take no action and notify the Contracting Officer’s Representative (COR) 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 Tyndall AFB, FL. The Contractor shall bring the personnel that developed the design submittal to the review conference. These conferences will take place the week after the

twenty-one (21) day review period. 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. Distribution shall be to the offices shown under paragraph 8, Mailing of Submittals.

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.

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 COR 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 COR.

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.

9. NOT USED

10. DESIGN ANALYSIS

10.1 Media and Format: The design analysis shall be presented on 8-1/2" x 11" paper except that larger sheets may be used when required for graphs or other special calculation forms. All sheets shall be reproducible form. The material may be typewritten, hand lettered, handwritten, or a combination thereof, provided it is legible. Side margins shall be 1-inch minimum to permit side binding and head to head printing. Bottom margins shall be 1 ¼ inches, with page numbers centered 1-inch from the bottom.

10.2 Organization: The several parts and sheets of the design analysis shall be given a sequential binding number and bound under a cover indicating the name of the facility and project number, if applicable. The title page shall carry the designation of the submittal being made. The complete design analysis presented for final review with the final drawings and specifications shall carry the designation "FINAL DESIGN ANALYSIS" on the title page.

10.3 Design Calculations: Design calculations are a part of the design analysis. When they are voluminous, they shall be bound separately from the narrative part of the design analysis. The design calculations shall be presented in a clean and legible form incorporating a title page and index for each volume. A table of contents, which shall be an index of the indices, shall be furnished

when there is more than one volume. The source of loading conditions, supplementary sketches, graphs, formulae, and references shall be identified. Assumptions and conclusions shall be explained. Calculation sheets shall carry the names or initials of the computer and the checker and the dates of calculations and checking. No portion of the calculations shall be computed and checked by the same person.

10.4 Automatic Data Processing Systems (ADPS): When ADPS are used to perform design calculations, the design analysis shall include descriptions of the computer programs used and copies of the ADPS input data and output summaries. When the computer output is large. It may be divided into volumes at logical division points. Each set of computer printouts shall be preceded by an index and by a description of the computation performed. If several sets of computations are submitted, they shall be accompanied by a general table of contents in addition to the individual indices. Preparation of the descriptions which must accompany each set of ADPS printouts shall include the following:

a. Explain the design method, including assumptions, theories, and formulae.
b. Include applicable diagrams, adequately identified.
c. State exactly the computation performed by the computer.
d. Provide all necessary explanations of the computer printout format, symbols, and abbreviations.
e. Use adequate and consistent notation.
f. Provide sufficient information to permit manual checks of the results.

11. DRAWINGS

11.1 General: Design and preparation of all drawings shall BIM technologies and software following BIM criteria as defined in this RFP and related BIM and AutoCAD deliverables. The Contractor shall prepare the drawings and specifications in such a manner and level of completeness that the Mobile District could construct the facility without any additional assistance from the Contractor or designers (drawings shall be complete). Unnecessary work such as duplicate views, notes and lettering, and repetition of details shall not be permitted. Standard details not applicable to the project shall not be shown. Details of standard products or items which are adequately covered by specifications shall not be included on the drawings. Drawings shall be detailed such that conformance with the RFP can be checked and to the extent that shop drawings can be checked. Shop drawings shall not be used as design drawings. The Contractor shall use standard Corps of Engineers title blocks and borders on all drawings at all submittal stages. Standard drawing sheet formats and title blocks, and file and drawing CADD file names will be furnished to the Contractor by the Government. The Contractor shall incorporate the drawing, file, and contract numbers on individual drawing sheets at the earliest submittal.

11.2 50%, 100%, and Final Submittals: Drawing submittals shall be half size 11" x 17" with black lines or plots.

The building drawings shall consist of 1/8" scale minimum floor plans. Elevations shall be drawn to a 1/8" scale minimum. The scale of other visual information shall be as required. Building wall sections shall be drawn at a minimum of 1/4" scale. The site and exterior utility drawings shall use a minimum scale of 1"=30' unless otherwise indicated. Additionally, the overall site plan for this project shall be on one drawing sheet. Minimum text size on half size drawings is 1/8". Refer to Mobile District Design Manual for additional requirements.

12. SPECIFICATIONS

The Contractor shall submit marked-up specifications at the 50% submittal, and final form specifications at the 100% unreviewed and final submittals. The specifications shall be Unified Guide Specifications (UFGS). These specifications are available on the Internet at: http://www.wbdg.org

The specifications shall be detailed enough such that another product meeting the specification could be substituted and it would not adversely impact the project. All marked-out or redlined text shall be deleted and all inserted text shall be typed at the 100% unreviewed and final submittals.

13. 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 insure 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. See specifications Section 01 33 00 SUBMITTAL PROCEDURES (DESIGN BUILD) for submittal and submittal register definitions and procedures.

14. DESIGNER OF RECORD

The Contractor shall identify and have a Designer of Record to develop submittal requirements during design and be responsible for each submittal identified in the Contractor Submittal Register. A Designer of Record may be responsible for more than one submittal. All areas of work shall be accounted for by a listed Designer of Record. Designer of Record shall approve all design submittals they are responsible for prior to submittal to the Government and review of construction submittals.

15. RENDERING AND PRINTS

15.1 Submit professionally prepared, 24" x 36" framed renderings for the facility showing main entry in a slightly elevated perspective view. Submit a draft rendering for approval of view angle and content prior to preparing final rendering. The size shall include double matting and frame. Frames shall be metal, 3/4-inch to 1-inch deep. Matting shall be a double mat that is neutral in color to complement the rendering. The Contractor shall consult with Tyndall AFB representative for frame and matting preference. Total number shall be in accordance with SUBMITTAL DISTRIBUTION LIST.

15.2 Submit 8" x 10" color photographic prints of rendering and electronic file copy (.pdf and .jpg formats), printed on photo quality material. Total number shall be in accordance with SUBMITTAL DISTRIBUTION LIST.

16. PROJECT KICK-OFF MEETING

A project kick-off meeting will be held at Tyndall AFB, FL that requires the Contractors, major subcontractors, and the design team Discipline Designers of Record to attend. The COR, Corps of Engineers, Base CE and Users will attend this meeting. The kick-off meeting will provide a forum for the Contractor and Government to discuss the requirements of the contract, project specific requirements and to discuss communication and contract protocols.

--END OF SECTION --

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SECTION 01 32 01.00 10

PROJECT SCHEDULE
02/15

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AACE INTERNATIONAL (AACE)

AACE 29R-03	(2011) Forensic Schedule Analysis
AACE 52R-06	(2006) Time Impact Analysis - As Applied in Construction

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11	(1995) Administration -- Progress, Schedules, and Network Analysis Systems

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance to Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Project Scheduler Qualifications; G

Preliminary Project Schedule; G

Initial Project Schedule; G

Periodic Schedule Update; G

1.3 PROJECT SCHEDULER QUALIFICATIONS

Designate an authorized representative to be responsible for the preparation of the schedule and all required updating and production of reports. The authorized representative must have a minimum of 2-years experience scheduling construction projects similar in size and nature to this project with scheduling software that meets the requirements of this specification. Representative must have a comprehensive knowledge of CPM scheduling principles and application.

PART 2 PRODUCTS

2.1 SOFTWARE

The scheduling software utilized to produce and update the schedules required herein must be capable of meeting all requirements of this specification.

2.1.1 Government Default Software

The Government intends to use Primavera P6.

2.1.2 Contractor Software

Scheduling software used by the contractor must be commercially available from the software vendor for purchase with vendor software support agreements available. The software routine used to create the required sdef file must be created and supported by the software manufacturer.

2.1.2.1 Primavera

If Primavera P6 is selected for use, provide the "xer" export file in a version of P6 importable by the Government system.

2.1.2.2 Other Than Primavera

If the contractor chooses software other than Primavera P6, that is compliant with this specification, provide for the Government's use two licenses, two computers, and training for two Government employees in the use of the software. These computers will be stand-alone and not connected to Government network. Computers and licenses will be returned at project completion.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

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).

3.2 BASIS FOR PAYMENT AND COST LOADING

The schedule is the basis for determining contract earnings during each update period and therefore the amount of each progress payment. The aggregate value of all activities coded to a contract CLIN must equal the value of the CLIN.

3.2.1 Activity Cost Loading

Activity cost loading must be reasonable and without front-end loading. Provide additional documentation to demonstrate reasonableness if requested by the Contracting Officer.

3.2.2 Withholdings / Payment Rejection

Failure to meet the requirements of this specification may result in the disapproval of the preliminary, initial or periodic schedule updates and subsequent rejection of payment requests until compliance is met.

In the event that the Contracting Officer directs schedule revisions and those revisions have not been included in subsequent Project Schedule revisions or updates, the Contracting Officer may withhold 10 percent of pay request amount from each payment period until such revisions to the project schedule have been made.

3.3 PROJECT SCHEDULE DETAILED REQUIREMENTS

3.3.1 Level of Detail Required

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:

3.3.2 Activity Durations

Reasonable activity durations are those that allow the progress of ongoing activities to be accurately determined between update periods. Less than 2 percent of all non-procurement activities may have Original Durations (OD) greater than 20 work days or 30 calendar days.

3.3.3 Design and Permit Activities

Include design and permit activities with the necessary conferences and follow-up actions and design package submission dates. Include the design schedule in the project schedule, showing the sequence of events involved in carrying out the project design tasks within the specific contract period. Provide at a detailed level of scheduling sufficient to identify all major design tasks, including those that control the flow of work. Also include review and correction periods associated with each item.

3.3.4 Procurement Activities

Include activities associated with the critical submittals and their approvals, procurement, fabrication, and delivery of long lead materials, equipment, fabricated assemblies, and supplies. Long lead procurement activities are those with an anticipated procurement sequence of over 90 calendar days.

3.3.5 Mandatory Tasks

Include the following activities/tasks in the initial project schedule and all updates.

a. Submission, review and acceptance of SD-01 Preconstruction Submittals (individual activity for each).

b. Submission, review and acceptance of design packages.

c. Submission of mechanical/electrical/information systems layout drawings.

d. Long procurement activities

e. Submission and approval of O & M manuals.

f. Submission and approval of as-built drawings.

g. Submission and approval of DD1354 data and installed equipment lists.

h. Submission and approval of testing and air balance (TAB).

i. Submission of TAB specialist design review report.

j. Submission and approval of fire protection specialist.

k. Submission and approval of Building Commissioning Plan, test data, and reports: Develop the schedule logic associated with testing and commissioning of mechanical systems to a level of detail consistent with the contract commissioning requirements. All tasks associated with all building testing and commissioning will be completed prior to submission of building commissioning report and subsequent contract completion.

l. Air and water balancing.

m. Building commissioning - Functional Performance Testing.

n. Controls testing plan submission.

o. Controls testing.

p. Performance Verification testing.

q. Other systems testing, if required.

r. Contractor's pre-final inspection.

s. Correction of punch list from Contractor's pre-final inspection.

t. Government's pre-final inspection.

u. Correction of punch list from Government's pre-final inspection.

v. Final inspection.

3.3.6 Government Activities

Show Government and other agency activities that could impact progress. These activities include, but are not limited to: acceptance, design reviews, environmental permit approvals by State regulators, inspections, utility tie-in, Government Furnished Equipment (GFE) and Notice to Proceed (NTP) for phasing requirements.

3.3.7 Standard Activity Coding Dictionary

Use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11. This exact structure is mandatory. Develop and assign all Activity Codes to activities as detailed herein. A template SDEF compatible schedule backup file is available on the QCS web site: http://rms.usace.army.mil.

The SDEF format is as follows:

Field	Activity Code	Length	Description
1	WRKP	3	Workers per day
2	RESP	4	Responsible party
3	AREA	4	Area of work
4	MODF	6	Modification Number
5	BIDI	6	Bid Item (CLIN)
6	PHAS	2	Phase of work
7	CATW	1	Category of work
8	FOW	20	Feature of work*
*Some systems require that FEATURE OF WORK values be placed in several activity code fields. The notation shown is for Primavera P6. Refer to the specific software guidelines with respect to the FEATURE OF WORK field requirements.			

3.3.7.1 Workers Per Day (WRKP)

Assign Workers per Day for all field construction or direct work activities, if directed by the Contracting Officer. Workers per day is based on the average number of workers expected each day to perform a task for the duration of that activity.

3.3.7.2 Responsible Party Coding (RESP)

Assign responsibility code for all activities to the Prime Contractor, Subcontractor(s) or Government agency(ies) responsible for performing the activity.

a. Activities coded with a Government Responsibility code include, but are not limited to: Government approvals, Government design reviews, environmental permit approvals by State regulators, Government Furnished Property/Equipment (GFP) and Notice to Proceed (NTP) for phasing requirements.

b. Activities cannot have more than one Responsibility Code. Examples of acceptable activity code values are: DOR (for the designer of record);

ELEC (for the electrical subcontractor); MECH (for the mechanical subcontractor); and GOVT (for USACE).

3.3.7.3 Area of Work Coding (AREA)

Assign Work Area code to activities based upon the work area in which the activity occurs. Define work areas based on resource constraints or space constraints that would preclude a resource, such as a particular trade or craft work crew from working in more than one work area at a time due to restraints on resources or space. Examples of Work Area Coding include different areas within a floor of a building, different floors within a building, and different buildings within a complex of buildings. Activities cannot have more than one Work Area Code.

Not all activities are required to be Work Area coded. A lack of Work Area coding indicates the activity is not resource or space constrained.

3.3.7.4 Modification Number (MODF)

Assign a Modification Number Code to any activity or sequence of activities added to the schedule as a result of a Contract Modification, when approved by Contracting Officer. Key all Code values to the Government's modification numbering system. An activity can have only one Modification Number Code.

3.3.7.5 Bid Item Coding (BIDI)

Assign a Bid Item Code to all activities using the Contract Line Item Schedule (CLIN) to which the activity belongs, even when an activity is not cost loaded. An activity can have only one BIDI Code.

3.3.7.6 Phase of Work Coding (PHAS)

Assign Phase of Work Code to all activities. Examples of phase of work are design phase, procurement phase and construction phase. Each activity can have only one Phase of Work code.

a. Code proposed fast track design and construction phases proposed to allow filtering and organizing the schedule by fast track design and construction packages.

b. If the contract specifies phasing with separately defined performance periods, identify a Phase Code to allow filtering and organizing the schedule accordingly.

3.3.7.7 Category of Work Coding (CATW)

Assign a Category of Work Code to all activities. Category of Work Codes include, but are not limited to design, design submittal, design reviews, review conferences, permits, construction submittal, procurement, fabrication, weather sensitive installation, non-weather sensitive installation, start-up, and testing activities. Each activity can have no more than one Category of Work Code.

3.3.7.8 Feature of Work Coding (FOW)

Assign a Feature of Work Code to appropriate activities based on the Definable Feature of Work to which the activity belongs based on the approved QC plan.

Definable Feature of Work is defined in Section 01 45 00.00 10 QUALITY CONTROL. An activity can have only one Feature of Work Code.

3.3.8 Contract Milestones and Constraints

Milestone activities are to be used for significant project events including, but not limited to, project phasing, project start and end activities, or interim completion dates. The use of artificial float constraints such as "zero free float" or "zero total float" are prohibited.

Mandatory constraints that ignore or effect network logic are prohibited. No constrained dates are allowed in the schedule other than those specified herein. Submit additional constraints to the Contracting Officer for approval on a case by case basis.

3.3.8.1 Project Start Date Milestone and Constraint

The first activity in the project schedule must be a start milestone titled "NTP Acknowledged," which must have a "Start On" constraint date equal to the date that the NTP is acknowledged.

3.3.8.2 End Project Finish Milestone and Constraint

The last activity in the schedule must be a finish milestone titled "End Project."

Constrain the project schedule to the Contract Completion Date in such a way that if the schedule calculates an early finish, then the float calculation for "End Project" milestone reflects positive float on the longest path. If the project schedule calculates a late finish, then the "End Project" milestone float calculation reflects negative float on the longest path. The Government is under no obligation to accelerate Government activities to support a Contractor's early completion.

3.3.8.3 Interim Completion Dates and Constraints

Constrain contractually specified interim completion dates to show negative float when the calculated late finish date of the last activity in that phase is later than the specified interim completion date.

3.3.8.3.1 Start Phase

Use a start milestone as the first activity for a project phase. Call the start milestone "Start Phase X" where "X" refers to the phase of work.

3.3.8.3.2 End Phase

Use a finish milestone as the last activity for a project phase. Call the finish milestone "End Phase X" where "X" refers to the phase of work.

3.3.9 Calendars

Schedule activities on a Calendar to which the activity logically belongs. Develop calendars to accommodate any contract defined work period such as a 7-day calendar for Government Acceptance activities, concrete cure times, etc. Develop the default Calendar to match the physical work plan with non-work periods identified including weekends and holidays. Develop sSeasonal Calendar(s) and assign to seasonally affected activities as

applicable.

If an activity is weather sensitive it should be assigned to a calendar showing non-work days on a monthly basis, with the non-work days selected at random across the weeks of the calendar, using the anticipated adverse weather delay work days provided in the contract clause TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER. Assign non-work days over a seven-day week as weather records are compiled on seven-day weeks, which may cause some of the weather related non-work days to fall on weekends.

3.3.10 Open Ended Logic

Only two open ended activities are allowed: the first activity "NTP Acknowledged" may have no predecessor logic, and the last activity -"End Project" may have no successor logic.

Predecessor open ended logic may be allowed in a time impact analyses upon the Contracting Officer's approval.

3.3.11 Default Progress Data Disallowed

Actual Start and Finish dates must not automatically update with default mechanisms included in the scheduling software. Updating of the percent complete and the remaining duration of any activity must be independent functions. Disable program features that calculate one of these parameters from the other. Activity Actual Start (AS) and Actual Finish (AF) dates assigned during the updating process must match those dates provided in the Contractor Quality Control Reports. Failure to document the AS and AF dates in the Daily Quality Control report will result in disapproval of the Contractor's schedule.

3.3.12 Out-of-Sequence Progress

Activities that have progressed before all preceding logic has been satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case basis subject to approval by the Contracting Officer. Propose logic corrections to eliminate out of sequence progress or justify not changing the sequencing for approval prior to submitting an updated project schedule. Address out of sequence progress or logic changes in the Narrative Report and in the periodic schedule update meetings.

3.3.13 Added and Deleted Activities

Do not delete activities from the project schedule or add new activities to the schedule without approval from the Contracting Officer. Activity ID and description changes are considered new activities and cannot be changed without Contracting Officer approval.

3.3.14 Original Durations

Activity Original Durations (OD) must be reasonable to perform the work item. OD changes are prohibited unless justification is provided and approved by the Contracting Officer.

3.3.15 Leads, Lags, and Start to Finish Relationships

Lags must be reasonable as determined by the Government and not used in place of realistic original durations, must not be in place to artificially absorb float, or to replace proper schedule logic.

a. Leads (negative lags) are prohibited.

b. Start to Finish (SF) relationships are prohibited.

3.3.16 Retained Logic

Schedule calculations must retain the logic between predecessors and successors ("retained logic" mode) even when the successor activity(s) starts and the predecessor activity(s) has not finished (out-of-sequence progress). Software features that in effect sever the tie between predecessor and successor activities when the successor has started and the predecessor logic is not satisfied ("progress override") are not be allowed.

3.3.17 Percent Complete

Update the percent complete for each activity started, based on the realistic assessment of earned value. Activities which are complete but for remaining minor punch list work and which do not restrain the initiation of successor activities may be declared 100 percent complete to allow for proper schedule management.

3.3.18 Remaining Duration

Update the remaining duration for each activity based on the number of estimated work days it will take to complete the activity. Remaining duration may not mathematically correlate with percentage found under paragraph entitled Percent Complete.

3.3.19 Cost Loading of Closeout Activities

Cost load the "Correction of punch list from Government pre-final inspection" activity(ies) not less than 1 percent of the present contract value. Activity(ies) may be declared 100 percent complete upon the Government's verification of completion and correction of all punch list work identified during Government pre-final inspection(s).

3.3.19.1 As-Built Drawings

If there is no separate contract line item (CLIN) for as-built drawings, cost load the "Submission and approval of as-built drawings" activity not less than $35,000 or 1 percent of the present contract value, which ever is greater, up to $200,000. Activity will be declared 100 percent complete upon the Government's approval.

3.3.19.2 O & M Manuals

Cost load the "Submission and approval of O & M manuals" activity not less than $20,000. Activity will be declared 100 percent complete upon the Government's approval of all O & M manuals.

3.3.20 Early Completion Schedule and the Right to Finish Early

An Early Completion Schedule is an Initial Project Schedule (IPS) that indicates all scope of the required contract work will be completed before the contractually required completion date.

a. No IPS indicating an Early Completion will be accepted without being fully resource-loaded (including crew sizes and manhours) and the

Government agreeing that the schedule is reasonable and achievable.

b. The Government is under no obligation to accelerate work items it is responsible for to ensure that the early completion is met nor is it responsible to modify incremental funding (if applicable) for the project to meet the contractor's accelerated work.

3.4 PROJECT SCHEDULE SUBMISSIONS

Provide the submissions as described below. The data CD/DVD, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS. If the Contractor fails or refuses to furnish the information and schedule updates as set forth herein, then the Contractor will be deemed not to have provided an estimate upon which a progress payment can be made.

Review comments made by the Government on the schedule(s) do not relieve the Contractor from compliance with requirements of the Contract Documents.

3.4.1 Preliminary Project Schedule Submission

Within 15 calendar days after the NTP is acknowledged submit the Preliminary Project Schedule defining the planned operations detailed for the first 90 calendar days for approval. The approved Preliminary Project Schedule will be used for payment purposes not to exceed 90 calendar days after NTP. Completely cost load the Preliminary Project Schedule to balance the contract award CLINS shown on the Price Schedule. The Preliminary Project Schedule may be summary in nature for the remaining performance period. It must be early start and late finish constrained and logically tied as specified. The Preliminary Project Schedule forms the basis for the Initial Project Schedule specified herein and must include all of the required plan and program preparations, submissions and approvals identified in the contract (for example, Quality Control Plan, Safety Plan, and Environmental Protection Plan) as well as design activities, planned submissions of all early design packages, permitting activities, design review conference activities, and other non-construction activities intended to occur within the first 90 calendar days. Government acceptance of the associated design package(s) and all other specified Program and Plan approvals must occur prior to any planned construction activities. Activity code any activities that are summary in nature after the first 90 calendar days with Bid Item (CLIN) code (BIDI), Responsibility Code (RESP) and Feature of Work code (FOW).

3.4.2 Initial Project Schedule Submission

Submit the Initial Project Schedule for approval within 42 calendar days after notice to proceed is issued. The schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the entire contract performance period. Include in the design-build schedule detailed design and permitting activities, including but not limited to identification of individual design packages, design submission, reviews and conferences; permit submissions and any required Government actions; and long lead item acquisition prior to design completion. Also cover in the initial design-build schedule the entire construction effort with as much detail as is known at the time but, as a minimum, include all construction start and completion milestones, and detailed construction activities through the dry-in milestone, including all activity coding and cost loading. Include the remaining construction, including cost loading, but it may be scheduled summary in nature. As the

design proceeds and design packages are developed, fully detail the remaining construction activities concurrent with the monthly schedule updating process. Constrain construction activities by Government acceptance of associated designs. When the design is complete, incorporate into the then approved schedule update all remaining detailed construction activities that are planned to occur after the dry-in milestone. No payment will be made for work items not fully detailed in the Project Schedule.

3.4.2.1 Design Package Schedule Submission

With each design package submitted to the Government, submit a fragnet schedule extracted from the then current Preliminary, Initial or Updated schedule which covers the activities associated with that Design Package including construction, procurement and permitting activities.

3.4.3 Periodic Schedule Updates

Update the Project Schedule on a regular basis, monthly at a minimum. Provide a draft Periodic Schedule Update for review at the schedule update meetings as prescribed in the paragraph PERIODIC SCHEDULE UPDATE MEETINGS. These updates will enable the Government to assess Contractor's progress. Update the schedule to include detailed construction activities as the design progresses, but not later than the submission of the final un-reviewed 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.

a. 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.

b. AS and AF dates must match the date(s) reported on the Contractor's Quality Control Report for an activity start or finish.

3.5 SUBMISSION REQUIREMENTS

Submit the following items for the Preliminary Schedule, Initial Schedule, and every Periodic Schedule Update throughout the life of the project:

3.5.1 Narrative Report

Provide a Narrative Report with each schedule submission. The Narrative Report is expected to communicate to the Government the thorough analysis of the schedule output and the plans to compensate for any problems, either current or potential, which are revealed through that analysis. Include the following information as minimum in the Narrative Report:

a. Identify and discuss the work scheduled to start in the next update period.

b. A description of activities along the two most critical paths where the total float is less than or equal to 20 work days.

c. A description of current and anticipated problem areas or delaying factors and their impact and an explanation of corrective actions taken or required to be taken.

d. Identify and explain why activities based on their calculated late dates should have either started or finished during the update period but did not.

e. Identify and discuss all schedule changes by activity ID and activity name including what specifically was changed and why the change was needed. Include at a minimum new and deleted activities, logic changes, duration changes, calendar changes, lag changes, resource changes, and actual start and finish date changes.

f. Identify and discuss out-of-sequence work.

3.5.2 Schedule Reports

The format, filtering, organizing and sorting for each schedule report will be as directed by the Contracting Officer. Typically, reports contain Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float, Actual Start Date, Actual Finish Date, and Percent Complete. Provide the reports electronically in .pdf format. The following lists typical reports that will be requested:

3.5.2.1 Activity Report

List of all activities sorted according to activity number.

3.5.2.2 Logic Report

List of detailed predecessor and successor activities for every activity in ascending order by activity number.

3.5.2.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. List activities which have the same amount of total float in ascending order of Early Start Dates. Do not show completed activities on this report.

3.5.2.4 Earnings Report by CLIN

A compilation of the Total Earnings on the project from the NTP to the data date, which reflects the earnings of activities based on the agreements made in the schedule update meeting defined herein. Provided a complete schedule update has been furnished, this report serves as the basis of determining progress payments. Group activities by CLIN number and sort by activity number. Provide a total CLIN percent earned value, CLIN percent complete, and project percent complete. The printed report must contain the following for each activity: the Activity Number, Activity Description, Original Budgeted Amount, Earnings to Date, Earnings this period, Total Quantity, Quantity to Date, and Percent Complete (based on cost).

3.5.2.5 Schedule Log

Provide a Scheduling/Leveling Report generated from the current project schedule being submitted.

3.5.3 Network Diagram

The Network Diagram is required for the Preliminary, Initial and Periodic

Updates. Depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.5.3.1 Continuous Flow

Show a continuous flow from left to right with no arrows from right to left. Show the activity number, description, duration, and estimated earned value on the diagram.

3.5.3.2 Project Milestone Dates

Show dates on the diagram for start of project, any contract required interim completion dates, and contract completion dates.

3.5.3.3 Critical Path

Show all activities on the critical path. The critical path is defined as the longest path.

3.5.3.4 Banding

Organize activities using the WBS or as otherwise directed to assist in the understanding of the activity sequence. Typically, this flow will group activities by major elements of work, category of work, work area and/or responsibility.

3.5.3.5 Cash Flow / Schedule Variance Control (SVC) Diagram

With each schedule submission, provide a SVC diagram showing 1) Cash Flow S-Curves indicating planned project cost based on projected early and late activity finish dates, and 2) Earned Value to-date.

3.6 PERIODIC SCHEDULE UPDATE

3.6.1 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.

3.6.2 Update Submission Following Progress Meeting

Submit the complete Periodic Schedule Update of the Project Schedule containing all approved progress, revisions, and adjustments, pursuant to paragraph SUBMISSION REQUIREMENTS not later than 4 work days after the periodic schedule update meeting.

3.7 WEEKLY PROGRESS MEETINGS

Conduct a weekly meeting with the Government (or as otherwise mutually agreed to) between the meetings described in paragraph entitled PERIODIC SCHEDULE UPDATE MEETINGS for the purpose of jointly reviewing the actual progress of the project as compared to the as planned progress and to review planned activities for the upcoming two weeks. Use the current approved schedule update for the purposes of this meeting and for the production and review of reports. At the weekly progress meeting, address the status of RFIs, RFPs and Submittals.

3.8 REQUESTS FOR TIME EXTENSIONS

Provide a justification of delay to the Contracting Officer in accordance with the contract provisions and clauses for approval within 10 days of a delay occurring. Also prepare a time impact analysis for each Government request for proposal (RFP) to justify time extensions.

3.8.1 Justification of Delay

Provide a description of the event(s) that caused the delay and/or impact to the work. As part of the description, identify all schedule activities impacted. Show that the event that caused the delay/impact was the responsibility of the Government. Provide a time impact analysis that demonstrates the effects of the delay or impact on the project completion date or interim completion date(s). Evaluate multiple impacts chronologically; each with its own justification of delay. With multiple impacts consider any concurrency of delay. A time extension and the schedule fragnet becomes part of the project schedule and all future schedule updates upon approval by the Contracting Officer.

3.8.2 Time Impact Analysis (Prospective Analysis)

Prepare a time impact analysis for approval by the Contracting Officer based on industry standard AACE 52R-06. Utilize a copy of the last approved schedule prior to the first day of the impact or delay for the time impact analysis. If Contracting Officer determines the time frame between the last approved schedule and the first day of impact is too great, prepare an interim updated schedule to perform the time impact analysis. Unless approved by the Contracting Officer, no other changes may be incorporated into the schedule being used to justify the time impact.

3.8.3 Forensic Schedule Analysis (Retrospective Analysis)

Prepare an analysis for approval by the Contracting Officer based on industry standard AACE 29R-03.

3.8.4 Fragmentary Network (Fragnet)

Prepare a proposed fragnet for time impact analysis consisting of a sequence of new activities that are proposed to be added to the project schedule to demonstrate the influence of the delay or impact to the

project's contractual dates. Clearly show how the proposed fragnet is to be tied into the project schedule including all predecessors and successors to the fragnet activities. The proposed fragnet must be approved by the Contracting Officer prior to incorporation into the project schedule.

3.8.5 Time Extension

The Contracting Officer must approve the Justification of Delay including the time impact analysis before a time extension will be granted. No time extension will be granted unless the delay consumes all available Project Float and extends the projected finish date ("End Project" milestone) beyond the Contract Completion Date. The time extension will be in calendar days.

Actual delays that are found to be caused by the Contractor's own actions, which result in a calculated schedule delay will not be a cause for an extension to the performance period, completion date, or any interim milestone date.

3.8.6 Impact to Early Completion Schedule

No extended overhead will be paid for delay prior to the original Contract Completion Date for an Early Completion IPS unless the Contractor actually performed work in accordance with that Early Completion Schedule. The Contractor must show that an early completion was achievable had it not been for the impact.

3.9 FAILURE TO ACHIEVE PROGRESS

Should the progress fall behind the approved project schedule for reasons other than those that are excusable within the terms of the contract, the Contracting Officer may require provision of a written recovery plan for approval. The plan must detail how progress will be made-up to include which activities will be accelerated by adding additional crews, longer work hours, extra work days, etc.

3.9.1 Artificially Improving Progress

Artificially improving progress by means such as, but not limited to, revising the schedule logic, modifying or adding constraints, shortening activity durations, or changing calendars in the project schedule is prohibited. Indicate assumptions made and the basis for any logic, constraint, duration and calendar changes used in the creation of the recovery plan. Any additional resources, manpower, or daily and weekly work hour changes proposed in the recovery plan must be evident at the work site and documented in the daily report along with the Schedule Narrative Report.

3.9.2 Failure to Perform

Failure to perform work and maintain progress in accordance with the supplemental recovery plan may result in an interim and final unsatisfactory performance rating and may result in corrective action directed by the Contracting Officer pursuant to FAR 52.236-15 Schedules for Construction Contracts, FAR 52.249-10 Default (Fixed-Price Construction), and other contract provisions.

3.9.3 Recovery Schedule

Should the Contracting Officer find it necessary, submit a recovery schedule pursuant to FAR 52.236-15 Schedules for Construction Contracts.

3.10 OWNERSHIP OF FLOAT

Except for the provision given in the paragraph IMPACT TO EARLY COMPLETION SCHEDULE, float available in the schedule, at any time, may not be considered for the exclusive use of either the Government or the Contractor including activity and/or project float. Activity float is the number of work days that an activity can be delayed without causing a delay to the "End Project" finish milestone. Project float (if applicable) is the number of work days between the projected early finish and the contract completion date milestone.

3.11 TRANSFER OF SCHEDULE DATA INTO RMS/QCS

Import the schedule data into the Quality Control System (QCS) and export the QCS data to the Government. This data is considered to be additional supporting data in a form and detail required by the Contracting Officer pursuant to FAR 52.232-5 Payments under Fixed-Price Construction Contracts. The receipt of a proper payment request pursuant to FAR 52.232-27 Prompt Payment for Construction Contracts is contingent upon the Government receiving both acceptable and approvable hard copies and matching electronic export from QCS of the application for progress payment.

3.12 PRIMAVERA P6 MANDATORY REQUIREMENTS

If Primavera P6 is being used, request a backup file template (.xer) from the Government, if one is available, prior to building the schedule. The following settings are mandatory and required in all schedule submissions to the Government:

a. Activity Codes must be Project Level, not Global or EPS level.

b. Calendars must be Project Level, not Global or Resource level.

c. Activity Duration Types must be set to "Fixed Duration & Units".

d. Percent Complete Types must be set to "Physical".

e. Time Period Admin Preferences must remain the default "8.0 hr/day, 40 hr/week, 172 hr/month, 2000 hr/year". Set Calendar Work Hours/Day to 8.0 Hour days.

f. Set Schedule Option for defining Critical Activities to "Longest Path".

g. Set Schedule Option for defining progressed activities to "Retained Logic".

h. Set up cost loading using a single lump sum labor resource. The Price/Unit must be $1/hr, Default Units/Time must be "8h/d", and settings "Auto Compute Actuals" and "Calculate costs from units" selected.

i. Activity ID's must not exceed 10 characters.

j. Activity Names must have the most defining and detailed description

within the first 30 characters.

-- End of Section --

SECTION 01 33 00

SUBMITTAL PROCEDURES
08/18

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Submittal Information

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

1.1.2 Project Type

The Contractor and the Designer of Record (DOR), if applicable, are to check and approve all items before submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

1.1.3 Submision of Submittals

Schedule and provide submittals requiring Government approval before acquiring the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Safety Data Sheets (SDS) and in compliance with existing laws and regulations.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittal requirements are specified in the technical sections. Examples and descriptions of submittals identified by the Submittal Description (SD) numbers and titles follow:

SD-01 Preconstruction Submittals

Submittals that are required prior to or at the start of construction (work) or the next major phase of the construction on a multiphase contract.

Preconstruction Submittals include schedules and a tabular list of locations, features, and other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates Of Insurance

Surety Bonds

List Of Proposed Subcontractors

List Of Proposed Products

Baseline Network Analysis Schedule (NAS)

Submittal Register

Schedule Of Prices Or Earned Value Report

Accident Prevention Plan

Work Plan

Quality Control (QC) plan

Environmental Protection Plan

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

Design submittals, design substantiation submittals and extensions of design submittals.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

Report that includes findings of a test required to be performed on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report that includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports

Daily logs and checklists

Final acceptance test and operational test procedure

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that the product, system, or material meets specification requirements. Must be dated after award of project contract and

clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor. The document purpose is to further promote the orderly progression of a portion of the work by documenting procedures, acceptability of methods, or personnel qualifications.

Confined space entry permits

Text of posted operating instructions

SD-10 Operation and Maintenance Data

Data provided by the manufacturer, or the system provider, including manufacturer's help and product line documentation, necessary to maintain and install equipment, for operating and maintenance use by facility personnel.

Data required by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

Data incorporated in an operations and maintenance manual or control system.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Submittals required for Guiding Principle Validation (GPV) or Third Party Certification (TPC).

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve the submittal.

1.2.3 Work

As used in this section, on-site and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction. In exception, excludes work to produce SD-01 submittals.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability Notebook, in conformance to Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with this section.

SD-01 Preconstruction Submittals

Submittal Register; G, RO

1.4 SUBMITTAL CLASSIFICATION

1.4.1 Government Approved (G)

Government approval is required for any variations from the Solicitation or the Accepted Proposal and for other items as designated by the Government.

Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, submittals are considered to be "shop drawings."

1.4.2 Design-Build Submittal Classifications

1.4.2.1 Designer of Record Approved (DA)

Designer of Record (DOR) approval is required for extensions of design; critical materials; any variations from the Solicitation, the Accepted Proposal, or the completed design; equipment whose compatibility with the entire system must be checked; and other items as designated by the Contracting Officer. Provide the Government with the number of copies designated hereinafter of all DOR approved submittals. The Government may review any or all Designer of Record approved submittals for conformance with the Solicitation, the Accepted Proposal, and the completed design. The Government will review all submittals designated as varying from the Solicitation or Accepted Proposal, as described below. Provide design submittals in accordance with Section 01 10 12 DESIGN AFTER AWARD. Generally, list design submittals under SD-05 Design Data.

1.4.2.2 Government Conformance Review of Design (CR)

The Government will review all intermediate and final design submittals for conformance with the technical requirements of the Solicitation. Section 01 10 12 DESIGN AFTER AWARD covers the design submittal and review process in detail. Review will be only for conformance with the applicable codes, standards, and contract requirements. Design data includes the design documents described in Section 01 10 12 DESIGN AFTER AWARD.

1.4.2.3 Designer of Record Approved/Government Conformance Review (DA/CR)

1.4.2.3.1 Variations from the Accepted Design

DOR approval and the Government's concurrence are required for any proposed variation from the accepted design that still complies with the contract before the Contractor is authorized to proceed with material acquisition or installation. If necessary to facilitate the project schedule, before offical submission to the Government, the Contractor and the DOR may discuss with the Contracting Officer's Representative a submittal proposing a variation. However, the Government reserves the right to review the submittal before providing an opinion. In any case, the Government will not formally agree to or provide a preliminary opinion on any variation without the DOR's approval or recommended approval. The Government reserves the right to reject any design, variation that may affect furniture, furnishings, equipment selections, or operational decisions that were made, based on the reviewed and concurred design.

1.4.2.3.2 Substitutions

Unless prohibited or otherwise provided for elsewhere in the contract, where the Accepted Proposal named products, systems, materials or equipment by manufacturer, brand name, model number, or other specific identification, and the Contractor desires to substitute a manufacturer or model after award, submit a requested substitution for Government concurrence. Include substantiation, through identifying information and the DOR's approval, that the substitute meets the contract requirements and that it is equal in function, performance, quality, and salient features to that in the accepted contract proposal. If the contract otherwise prohibits substitutions of equal named products, systems, materials or equipment by manufacturer, brand name, m,odel number or other specific identification, the request is considered a "variation" to the contract. Variations are discussed below in paragraphs: "DESIGNER OF RECORD APPROVED/GOVERNMENT APPROVED" and VARIATIONS.

1.4.2.4 Designer of Record Approved/Government Approved (DA/GA)

In addition to the above-stated requirements for proposed variations to the accepted design, both DOR and Government Approval and, where applicable, a contract modification are required before the Contractor is authorized to proceed with material acquisition or installation for any proposed variation to the contract (the Solicitation or the Accepted Proposal), that constitutes a change to the contract terms. The Government reserves the right to accept or reject any such proposed variation.

1.4.3 For Information Only

Submittals not requiring Government approval will be for information only. For Design-build construction all submittals not requiring DOR or Government approval will be for information only. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are not considered to be "shop drawings."

1.4.4 Sustainability Reporting Submittals (S)

Submittals for Guiding Principle Validation (GPV) or Third Party Certification (TPC) are indicated with an "S" designation. These submittals are for information only and for use as specified in Section 01 33 29 SUSTAINABILITY REPORTING.

Schedule submittals for these items throughout the course of construction as provided; do not wait until closeout.

1.5 PREPARATION

1.5.1 Transmittal Form

Use the ENG Form 4025-R transmittal form for submitting both Government-approved and information-only submittals. Submit in accordance with the instructions on the reverse side of the form. These forms are included in the RMS CM software that the Contractor is required to use for this contract. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted. Exercise special care to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

1.5.2 Submittal Format

1.5.2.1 Format of SD-01 Preconstruction Submittals

When the submittal includes a document that is to be used in the project, or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.2.2 Format for SD-02 Shop Drawings

Prepare drawings to accurate size, with scale indicated, unless another form is required. Ensure drawings are suitable for reproduction and of a quality to produce clear, distinct lines and letters, with dark lines on a white background.

a. Include the nameplate data, size, and capacity on drawings. Also include applicable federal, military, industry, and technical society publication references.

b. Dimension drawings, except diagrams and schematic drawings. Prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.

Submit an electronic copy of drawings in PDF format.

1.5.2.2.1 Drawing Identification

Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph IDENTIFYING SUBMITTALS.

Number drawings in a logical sequence. Each drawing is to bear the number of the submittal in a uniform location next to the title block. Place the Government contract number in the margin, immediately below the title block, for each drawing.

Reserve a blank space, no smaller than [_____] inches on the right-hand side of each sheet for the Government disposition stamp.

1.5.2.3 Format of SD-03 Product Data

Include a table of contents, listing the page and catalog item numbers for product data.

Indicate, by prominent notation, each product that is being submitted; indicate the specification section number and paragraph number to which it pertains.

1.5.2.3.1 Product Information

Supplement product data with material prepared for the project to satisfy the submittal requirements where product data does not exist. Identify this material as developed specifically for the project, with information and format as required for submission of SD-07 Certificates.

Provide product data in units used in the Contract documents. Where product data are included in preprinted catalogs with another unit, submit the dimensions in contract document units, on a separate sheet.

1.5.2.3.2 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.3.3 Data Submission

Collect required data submittals for each specific material, product, unit of work, or system into a single submittal that is marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will not be accepted for expedition of the construction effort.

Submit the manufacturer's instructions before installation.

1.5.2.4 Format of SD-04 Samples

1.5.2.4.1 Sample Characteristics

Furnish samples in the following sizes, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately the same size as specified:

a. Sample of Equipment or Device: Full size.

b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.

c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.

d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.

e. Sample Volume of Nonsolid Materials: Pint. Examples of nonsolid materials are sand and paint.

f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.

g. Sample Panel: 4 by 4 feet.

h. Sample Installation: 100 square feet.

1.5.2.4.2 Sample Incorporation

Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at the time of use.

Recording of Sample Installation: Note and preserve the notation of any area constituting a sample installation, but remove the notation at the final clean-up of the project.

1.5.2.4.3 Comparison Sample

Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.

When color, texture, or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.5.2.5 Format of SD-05 Design Data

Provide design data and certificates electronically in PDF.

1.5.2.6 Format of SD-06 Test Reports

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.7 Format of SD-07 Certificates

Provide design data and certificates electronically in PDF.

1.5.2.8 Format of SD-08 Manufacturer's Instructions

Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry, and technical-society publication references. If supplemental information is needed to clarify the manufacturer's data, submit it as specified for SD-07 Certificates.

Submit the manufacturer's instructions before installation.

1.5.2.8.1 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization,

competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.9 Format of SD-09 Manufacturer's Field Reports

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.10 Format of SD-10 Operation and Maintenance Data (O&M)

Comply with the requirements specified in Section 01 78 23 OPERATION AND MAINTENANCE DATA for O&M Data format.

1.5.2.11 Format of SD-11 Closeout Submittals

When the submittal includes a document that is to be used in the project or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.3 Source Drawings for Shop Drawings

1.5.3.1 Source Drawings

The entire set of source drawing (DWG) or Revit (RVT) files will be provided to the Contractor. These drawings are provided only after award.

1.5.3.2 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse is at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor must make no claim, and waives to the fullest extent permitted by law any claim or cause of action of any nature against the Government, its agents, or its subconsultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities, or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic source drawing files are not construction documents. Differences may exist between the source drawing files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic source drawing files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. The Contractor is responsible for determining if any conflict exists. In the event that a conflict arises between the signed and sealed construction documents prepared by the Government and the furnished source drawing files, the signed and sealed construction documents govern. Use of these source drawing files does not relieve the Contractor of the duty to fully comply with the contract documents, including and without limitation the need to check, confirm and coordinate the work of all contractors for the project.

If the Contractor uses, duplicates or modifies these electronic source drawing files for use in producing construction data related to this contract, remove all previous indication of ownership (seals, logos, signatures, initials and dates).

1.5.4 Electronic File Format

Provide submittals in electronic format, with the exception of material samples required for SD-04 Samples items. Compile the submittal file as a single, complete document, to include the Transmittal Form described within. Name the electronic submittal file specifically according to its contents, and coordinate the file naming convention with the Contracting Officer. Electronic files must be of sufficient quality that all information is legible. Use PDF as the electronic format, unless otherwise specified or directed by the Contracting Officer. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is searchable and can be copied. If documents are scanned, optical character resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature or a scan of a signature.

E-mail electronic submittal documents smaller than 10MB to an e-mail address as directed by the Contracting Officer. Provide electronic documents over 10 MB on an optical disc or through an electronic file sharing system such as the AMRDEC SAFE Web Application located at the following website: https://safe.amrdec.army.mil/safe/.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Number of SD-04 Samples

a. Submit two samples, or two sets of samples showing the range of variation, of each required item. One approved sample or set of samples will be retained by the approving authority and one will be returned to the Contractor.

b. Submit one sample panel or provide one sample installation where directed. Include components listed in the technical section or as directed.

c. Submit one sample installation, where directed.

d. Submit one sample of nonsolid materials.

1.6.2 Number of SD-10 Operation and Maintenance Data Copies

Submit three copies of O&M data to the Contracting Officer for review and approval.

1.6.3 Number of SD-11 Closeout Submittals Copies

Unless otherwise specified, submit two sets of administrative submittals.

1.7 INFORMATION ONLY SUBMITTALS

Submittals without a "G" designation must be certified by the QC manager and submitted to the Contracting Officer for information-only. Approval of the Contracting Officer is not required on information only submittals.

The Contracting Officer will mark "receipt acknowledged" on submittals for information. Normally, submittals for information only will not be returned. However, the Government reserves the right to return unsatisfactory submittals and require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

1.8 PROJECT SUBMITTAL REGISTER

A sample Project Submittal Register showing items of equipment and materials for when submittals are required by the specifications is provided as "Appendix A - Submittal Register."

1.8.1 Submittal Management

Prepare and maintain a submittal register, as the work progresses. Do not change data that is output in columns (c), (d), (e), and (f) as delivered by Government; retain data that is output in columns (a), (g), (h), and (i) as approved. As an attachment, provide a submittal register showing items of equipment and materials for which submittals are required by the specifications. This list may not be all-inclusive and additional submittals may be required. Maintain a submittal register for the project in accordance with Section 01 45 00.15 15 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM).

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD Number. and type, e.g., SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in each specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting the project requirements.

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns and all dates on which submittals are received by and returned by the Government.

1.8.2 Design-Build Submittal Register

The Designer of Record develops a complete list of submittals during design and identify required submittals in the specifications, and use the list to prepare the Submittal Register. The list may not be all inclusive and additional submittals may be required by other parts of the contract. Complete the submittal register and submit it to the Contracting Officer for approval within 30 calendar days after Notice to Proceed. The approved submittal register will serve as a scheduling document for submittals and will be used to control submittal actions throughout the contract period.

Coordinate the submit dates and need dates with dates in the Contractor prepared progress schedule. Submit monthly or until all submittals have been satisfactorily completed, updates to the submittal register showing the Contractor action codes and actual dates with Government action codes. Revise the submittal register when the progress schedule is revised and submit both for approval.

1.8.3 Preconstruction Use of Submittal Register

Submit the submittal register. Include the QC plan and the project schedule. Verify that all submittals required for the project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for the approving authority to receive submittals.

Column (h) Contractor Approval Date: Date that Contractor needs approval of submittal.

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.8.4 Contractor Use of Submittal Register

Update the following fields with each submittal throughout the contract.

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) Date submittal transmitted.

Column (q) Date approval was received.

1.8.5 Approving Authority Use of Submittal Register

Update the following fields:

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (l) Date submittal was received.

Column (m) through (p) Dates of review actions.

Column (q) Date of return to Contractor.

1.9 VARIATIONS

Variations from contract requirements require Contracting Officer approval pursuant to contract Clause FAR 52.236-21 Specifications and Drawings for Construction, and will be considered where advantageous to the Government.

1.9.1 Considering Variations

Discussion of variations with the Contracting Officer before submission will help ensure that functional and quality requirements are met and minimize rejections and resubmittals. When contemplating a variation that results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from contract requirements in transmittal letters. Failure to point out variations may cause the Government to require rejection and removal of such work at no additional cost to the Government.

1.9.2 Proposing Variations

When proposing variation, deliver a written request to the Contracting Officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Government. Include the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

Check the column "variation" of ENG Form 4025 for submittals that include variations proposed by the Contractor. Set forth in writing the reason for any variations and note such variations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted variations.

1.9.3 Warranting that Variations are Compatible

When delivering a variation for approval, the Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.9.4 Review Schedule Extension

In addition to the normal submittal review period, a period of 14 calendar days will be allowed for the Government to consider submittals with variations.

1.10 SCHEDULING

Schedule and submit concurrently product data and shop drawings covering component items forming a system or items that are interrelated. Submit pertinent certifications at the same time. No delay damages or time extensions will be allowed for time lost in late submittals. Allow an additional 15 calendar days for review and approval of submittals for food service equipment and refrigeration and HVAC control systems.

a. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work so that work will not be delayed by submittal processing. The Contractor is responsible for additional time required for Government reviews resulting from required resubmittals. The review period for each resubmittal is the same as for the initial submittal.

b. Submittals required by the contract documents are listed on the submittal register. If a submittal is listed in the submittal register

but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but that have been omitted from the register or marked "N/A."

c. Resubmit the submittal register and annotate it monthly with actual submission and approval dates. When all items on the register have been fully approved, no further resubmittal is required.

Contracting Officer review will be completed within 30 calendar days after the date of submission for submittals requiring Government approval.

1.10.1 Government Reviewed Design

The Government will review design submittals for conformance with the technical requirements of the Solicitation. Section 01 10 12 DESIGN AFTER AWARD covers the design submittal and review process in detail. Government review is required for variations from the completed design. Review will be only for conformance with the contract requirements. Included are only those construction submittals for which the DOR's design documents do not include enough detail to ascertain contract compliance. The Government may, but is not required to, review extensions of design such as structural steel or reinforcement shop drawings.

1.11 GOVERNMENT APPROVING AUTHORITY

When the approving authority is the Contracting Officer, the Government will:

a. Note the date on which the submittal was received.

b. Review submittals for approval within the scheduling period specified and only for conformance with project design concepts and compliance with contract documents.

c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with comments and markings appropriate for the action indicated.

Upon completion of review of submittals requiring Government approval, stamp and date submittals. If the Government performs a conformance review of other Designer of Record approved submittals, the submittals will be identified and returned, as described above.

1.11.1 Review Notations

Submittals will be returned to the Contractor with the following notations:

a. Submittals marked "approved" or "accepted" authorize proceeding with the work covered.

b. Submittals marked "approved as noted" or "approved, except as noted, resubmittal not required," authorize proceeding with the work covered provided that the Contractor takes no exception to the corrections.

c. Submittals marked "not approved," "disapproved," or "revise and resubmit" indicate incomplete submittal or noncompliance with the contract requirements or design concept. Resubmit with appropriate changes. Do not proceed with work for this item until the resubmittal

is approved.

d. Submittals marked "not reviewed" indicate that the submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

e. Submittals marked "receipt acknowledged" indicate that submittals have been received by the Government. This applies only to "information-only submittals" as previously defined.

1.12 DISAPPROVED SUBMITTALS

Make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications, give notice to the Contracting Officer as required under the FAR clause titled CHANGES. The Contractor is responsible for the dimensions and design of connection details and the construction of work. Failure to point out variations may cause the Government to require rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and resubmit in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.13 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing, and other information are satisfactory. the design, general method of construction, materials, detailing, and other information appear to meet the Solicitation and Accepted Proposal.

Approval or acceptance by the Government for a submittal does not relieve the Contractor of the responsibility for meeting the contract requirements or for any error that may exist, because under the Quality Control (QC) requirements of this contract, the Contractor is responsible for ensuring information contained with in each submittal accurately conforms with the requirements of the contract documents.

After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.14 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, provide assurance that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those that may be damaged in testing, will be returned to the Contractor, at its expense, upon completion of the contract. Unapproved samples will also be returned to the Contractor at its expense, if so requested.

Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make as that material. The Government reserves the right to disapprove any material or equipment that has previously proved unsatisfactory in service.

Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals. Replace such materials or equipment to meet contract requirements.

1.15 WITHHOLDING OF PAYMENT

No payment for materials incorporated in the work will be made unless all required DOR approvals or required Government approvals have been obtained. No payment will be made for any materials incorporated into the work for any conformance review submittals or information-only submittals found to contain errors or deviations from the Solicitation or Accepted Proposal.

1.16 STAMPS

Certify the submittal data as follows on Form ENG 4025: "I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.
_____NAME OF CONTRACTOR _____ SIGNATURE OF CONTRACTOR

CONTRACTOR
(Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheet (s)
SIGNATURE: _____
TITLE: _____
DATE: _____

For Design-Build construction, both the Contractor QC manager and the DOR are to stamp and sign to certify that the submittal meets contract requirements.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
DESIGN-BUILD FY-19 FIRE STATION #2, TYNDALL AFB, FL

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 00 00	SD-01 Preconstruction Submittals															
			Work Clearance Request		G	CD												
			Hazard Analysis		G	SO												
			Area use Plan		G	CD												
			Request for Interruption of Utility		G	CD												
			Services															
			Request for Road Closures		G	CD												
			FAA Form 7460-1 for		G	CD												
			Construction Period															
			Request Use of Cranes		G	CD												
			DD Form 1354		G	CD												
			AF Forms 81, 82, and 83		G	CD												
			SD-02 Shop Drawings															
			Protective Fence		G	CD												
			SD-07 Certificates															
			Asbestos and Lead Based Paint		G	CD												
			Certification Letter															
		01 32 01.00 10	SD-01 Preconstruction Submittals															
			Project Scheduler Qualifications	1.3	G													
			Preliminary Project Schedule	3.4.1	G													
			Initial Project Schedule	3.4.2	G													
			Periodic Schedule Update	3.6.2	G													
		01 33 00	SD-01 Preconstruction Submittals															
			Submittal Register	1.8	G	RO												
		01 33 29	SD-01 Preconstruction Submittals															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
DESIGN-BUILD FY-19 FIRE STATION #2, TYNDALL AFB, FL

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							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 33 29	Preliminary High Performance	1.5.3.1	G													
			and Sustainable Building Checklist															
			Sustainability Action Plan	1.4.1	G													
			Preliminary Sustainability	1.5.3.1	G													
			eNotebook															
			SD-11 Closeout Submittals															
			Final High Performance and	1.5.3.1	G													
			Sustainable Building Checklist															
			Final Sustainability eNotebook	1.5.3.1	G													
			Amended Final Sustainability	1.5.3.1	G													
			eNotebook															
			Amended Final High	1.5.3.1	G													
			Performance and Sustainable															
			Building Checklist															
			Third Party Certification	3.2	G													
			Certificate, Assessment, or															
			Validation															
		01 35 26	SD-01 Preconstruction Submittals															
			Accident Prevention Plan (APP)	1.7	G													
			SD-06 Test Reports															
			Monthly Exposure Reports	1.4														
			Notifications and Reports	1.12														
			Accident Reports	1.12.2	G													
			LHE Inspection Reports	1.12.3														
			SD-07 Certificates															
			Crane Operators/Riggers	1.6.1.4														

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
DESIGN-BUILD FY-19 FIRE STATION #2, TYNDALL AFB, FL

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 35 26	Standard Lift Plan	1.7.2.2	G													
			Critical Lift Plan	1.7.2.3	G													
			Naval Architecture Analysis	1.7.2.4	G													
			Activity Hazard Analysis (AHA)	1.8														
			Confined Space Entry Permit	1.9.1														
			Hot Work Permit	1.9.1														
			Certificate of Compliance	1.12.4														
			License Certificates	1.14														
			Radiography Operation Planning	1.14.1	G													
			Work Sheet															
			Portable Gauge Operations	1.14.1	G													
			Planning Worksheet															
		01 45 00.00 10	SD-01 Preconstruction Submittals															
			Contractor Quality Control (CQC)	3.2	G													
			Plan															
			Additional Requirements for	3.2.2	G													
			Design Quality Control (DQC) Plan															
			SD-05 Design Data															
			Discipline-Specific Checklists	3.2.2														
			Design Quality Control	3.9.1														
			SD-06 Test Reports															
			Verification Statement	3.9.2														
		01 57 19	SD-01 Preconstruction Submittals															
			Preconstruction Survey	1.5.1														
			Solid Waste Management Permit	1.9	G													
			Regulatory Notifications	1.5.2	G													

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
DESIGN-BUILD FY-19 FIRE STATION #2, TYNDALL AFB, FL

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 57 19	Environmental Protection Plan	1.6	G													
			Stormwater Notice of Intent	3.2.1.2	G													
			Dirt and Dust Control Plan	1.6.9.1	G													
			Employee Training Records	1.5.5	G													
			Environmental Manager	1.5.4	G													
			Qualifications															
			SD-06 Test Reports															
			Inspection Reports	3.2.1.3														
			Solid Waste Management Report	3.7.2.1	G													
			SD-07 Certificates															
			Employee Training Records	1.5.5	G													
			Erosion and Sediment Control	1.5.5														
			Inspector															
			SD-11 Closeout Submittals															
			Stormwater Pollution Prevention	3.2.1.4	G													
			Plan Compliance Notebook															
			Stormwater Notice of Termination	3.2.1.5	G													
			Waste Determination	3.7.1	G													
			Documentation															
			Disposal Documentation for	3.7.3.5	G													
			Hazardous and Regulated Waste															
			Assembled Employee Training	1.5.5	G													
			Records															
			Solid Waste Management Permit	1.9	G													
			Solid Waste Management Report	3.7.2.1	G													

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
DESIGN-BUILD FY-19 FIRE STATION #2, TYNDALL AFB, FL

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 57 19	Hazardous Waste/Debris	3.7.3.1	G													
			Management															
			Regulatory Notifications	1.5.2	G													
			Sales Documentation	3.7.2.1	G													
			As-Built Topographic Survey	3.2.1.5														
		01 74 19	SD-01 Preconstruction Submittals															
			Construction Waste Management	1.7	G													
			Plan															
			SD-06 Test Reports															
			Quarterly Reports	1.9.2														
			Annual Report	1.9.3														
			SD-11 Closeout Submittals															
			Final Construction Waste	1.10	S													
			Diversion Report															
		01 78 23	SD-10 Operation and Maintenance															
			Data															
			O&M Database	1.3	G													
			Training Plan	3.1.1	G													
			Training Outline	3.1.3	G													
			Training Content	3.1.2	G													
			SD-11 Closeout Submittals															
			Training Video Recording	3.1.4	G													
			Validation of Training Completion	3.1.6	G													

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instruction on the reverse side prior to initiating this form)*	DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SEC. NO. *(Cover only one section with each transmital)*	PROJECT TITLE AND LOCATION		

ITEM NO.	DESCRIPTION OF ITEM SUBMITTED *(Type size, model number/etc.)*	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction no. 8)*	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE	VARIATION *(See instruction No. 6)*	FOR CE USE CODE
				SPEC. PARA. NO.	DRAWING SHEET NO.			
a.	*b.*	*c.*	*d.*	*e.*	*f.*	*g.*	*h.*	*I.*

REMARKS	I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated. _____ NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section 1 will be initiated by the Contractor in the required number of copies.

2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmits mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.

3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288 for each entry on this form.

4. Submittals requiring expeditious handling will be submitted on a separate form.

5. Separate transmittal form will be used for submittals under separate sections of the specifications.

6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".

7. Form is self-transmittal, letter of transmittal is not required.

8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.

9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A -- Approved as submitted.

B -- Approved, except as noted on drawings.

C -- Approved, except as noted on drawings.
Refer to attached sheet resubmission required

D -- Will be returned by separate correspondence.

E -- Disapproved (See attached).

F -- Receipt acknowledge.

FX -- Receipt acknowledged, does not comply
as noted with contract requirements.

G -- Other *(Specify)*

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

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SECTION 01 33 29

SUSTAINABILITY REPORTING
02/17

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

ASHRAE 189.1	(2014) Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings

COUNCIL ON ENVIRONMENTAL QUALITY (CEQ) (WHITE HOUSE)

HPSB Guiding Principles	(2016) Guiding Principles for Sustainable Federal Buildings and Determining Compliance with the Guiding Principles for Sustainable Federal Buildings

U.S. DEPARTMENT OF AGRICULTURE (USDA)

FSRIA 9002	Farm Security and Rural Investment Act Section 9002 (USDA Biopreferred Program)

U.S. DEPARTMENT OF ENERGY (DOE)

Energy Star	(1992; R 2006) Energy Star Energy Efficiency Labeling System (FEMP)

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

10 CFR 433.300	Subpart C - Green Building Certification for Federal Buildings
40 CFR 247	Comprehensive Procurement Guideline for Products Containing Recovered Materials

1.2 SUMMARY

This specification includes general requirements and procedures for this project to be constructed and documented per the federally mandated High Performance and Sustainable Building or HPSB Guiding Principles (GP), Third Party Certification (TPC) requirements, UFC 1-200-02 High Performance and Sustainable Building Requirements, and other requirements identified in this specification.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When

used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance to this section. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Preliminary High Performance and Sustainable Building Checklist; G

Sustainability Action Plan; G

Preliminary Sustainability eNotebook; G

SD-11 Closeout Submittals

Final High Performance and Sustainable Building Checklist; G

Final Sustainability eNotebook; G

Amended Final Sustainability eNotebook; G

Amended Final High Performance and Sustainable Building Checklist; G

Third Party Certification Certificate, Assessment, or Validation; G

1.4 GUIDING PRINCIPLES VALIDATION (GPV)

Provide construction related sustainability documentation to verify achievement of HPSB Guiding Principles Validation (GPV). Provide the following for GPV:

a. Refer to HPSB Checklist at the end of this specification section. These requirements are based on legislative mandates that must be met by all projects. (Multiple checklists indicate multiple buildings that require HPSB tracking.)

b. No variations to the HPSB Checklist are allowed without written consent from the Contracting Officer. Immediately bring to the attention of the Contracting Officer any changes that impact meeting the approved HPSB Guiding Principles Requirements for this project.

c. All work, including "S" submittals, required to incorporate the applicable HPSB Guiding Principles Requirements indicated on the HPSB Checklist and in this contract.

d. Sustainability Action Plan

e. Construction related documentation for the project Sustainability eNotebook, and keep updated with regularly-scheduled construction meetings. Include construction related documentation containing the following components;

(1) HPSB Checklist

(2) Sustainability Action Plan

(3) Documentation illustrating HPSB Guiding Principles Requirements

compliance (including "S" submittals)

1.4.1 Sustainability Action Plan

Include the following information in the Sustainability Action Plan:

a. Planned method to achieve each construction related GP requirement.

b. For each designated construction related HPSB Guiding Principles Requirements that is applicable, as defined in UFC 1-200-02, provide justification narrative explaining what precludes achieving specific sustainability requirement or goal. Provide analysis of particular requirement and level to which project is able to comply. Final government-approved narrative(s) must be included with the HPSB Checklist submittal.

c. Name and contact information for: Point of Contact (POC) responsible for ensuring sustainability goals are accomplished and documentation is assembled. For TPC that include on-site visit by third party representative, provide list of required attendees.

d. Include the Indoor Air Quality plan with the Sustainability Action Plan.

1.4.2 Costs

Bear all costs associated with constructing, demonstrating, and documenting that project complies with approved HPSB Guiding Principles Requirements.

1.4.3 Calculations

Provide calculations, product data, labels and product certifications, required in this section to demonstrate compliance with the HPSB Guiding Principles Requirements.

1.4.4 Third Party Certification (TPC)

1.4.4.1 TPC Registration Required

Pay all fees associated with registration and achievement of Third Party Certification (TPC), by meeting all TPC and project requirements for a level of GBCI GP Assessment, or Government-approved equivalent TPC sustainability certification, assessment, or validation. An equivalent TPC organization must demonstrate equivalency for Government consideration and meet the requirements of 10 CFR 433.300, prior to use on the project. Third Party Certification is met when Government receives TPC organization certificate, assessment, or validation.

Register project with TPC organization using the following format and content:

a. Project Title First Line: Building Owner (US Army, US Air Force, US Navy or US Marine Corps), Building Name (if known)

b. Project Title Second Line: MILCON P#, DD1391 Project Name

c. Project Address: UIC (Installation code), Category code, RPUID (Real Property Unique Identifier) Number

d. Project Owner Organization: US Army, US Air Force, US Navy or US Marine Corps

e. Primary Contact, Owner: Component Project Manager

f. Building Owner Organization: US Army, US Air Force, US Navy or US Marine Corps

g. Building Owner Organization Project Number

h. Additional Contact, Building Owner: Department of Public Works, Public Works Officer, Base Civil Engineer, or Designee

1.4.4.2 TPC Management and Certification

Execute the following TPC Certification, assessment, or validation requirements:

a. Refer to TPC Checklist at the end of this specification section. (Multiple checklists indicate multiple buildings that require TPC.)

b. Immediately bring to the attention of the Contracting Officer any project changes that impact meeting the approved TPC Requirements for this project.

c. Complete all work required to incorporate the applicable TPC Requirements.

d. Maintain the construction related information, and provide replacement pages, in the Sustainability eNotebook pertaining to additions and changes to the approved sustainability requirements. Maintain the Sustainability eNotebook in electronic format. For more explanation, refer to paragraph SUSTAINABILITY eNOTEBOOK. Provide the following components in the Sustainability eNotebook, in addition to the GPV components above:

(1) TPC Checklist

(2) Completed TPC Online forms for each identified requirements

(3) Copy of all correspondence with the TPC organization including proof of TPC registration

(4) Documentation illustrating compliance with TPC requirements and additional documentation as requested by the TPC

(5) TPC Award Certificate, assessment, or validation

e. Provide the following information in the Sustainability Action Plan. Provide this TPC information in addition to the Sustainability Action Plan items above:

(1) Planned method to achieve each TPC requirement.

(2) For each TPC requirement that is attempted but not achieved, provide narrative explaining how mission or activity precludes achieving specific sustainability requirement or goal. Provide analysis of particular requirement and level to which project is able to comply.

(3) Provide name and contact information for: Sustainability Point of Contact (POC) and other names of sustainability professionals responsible for ensuring TPC sustainability goals are accomplished and documentation is assembled. Sustainability POCs are also responsible for ensuring GPV required in paragraph GUIDING PRINCIPLES VALIDATION (GPV) above.

f. Bear all costs associated with constructing, demonstrating, and documenting that project complies with approved TPC requirements, including but not limited to:

(1) Final TPC review, certification, assessment, or validation fees

(2) Online (or offline with secure facilities) TPC management and documentation.

(3) Obtaining TPC certification or validation based on Government-approved sustainability goals.

(4) Construction work required to incorporate TPC requirements.

(5) Submittals required to demonstrate compliance with Government approved TPC checklists.

g. Provide all calculations, product data, and certifications, assessments, or validations required in this specification to demonstrate compliance with the TPC Requirements.

h. Provide all online (or offline, with secure facilities) TPC management and documentation.

i. Provide all required responses to third party organization.

1.5 SUSTAINABILITY SUBMITTALS

Provide HPSB Checklist and other documentation in the Sustainability eNotebook to indicate compliance with the sustainability requirements of the project.

1.5.1 High Performance Sustainable Building (HPSB) Checklist

Provide construction documentation that provides proof of and supports compliance with the completed HPSB Checklist.

1.5.1.1 HPSB Checklist Submittals

Submit updated HPSB Checklist with each Sustainability eNotebook submittal. Attach final HPSB Checklist(s) to draft final DD1354 Real Property Record Submittal.

1.5.2 "S" Submittals for Sustainability Documentation

Submit the GPV and TPC sustainability documentation required in this specification as "S" submittals in all affected UFGS Sections.

a. Highlight GPV and TPC compliance data in "S" submittal.

b. Add "S" submittals to the Sustainability eNotebook only after submittal approval, and bookmark them as required in paragraph SUSTAINABILITY eNOTEBOOK below.

c. Ensure all approved "S" submittals (the sustainability documentation requirements) are included in each Sustainability eNotebook submittal.

1.5.3 Sustainability eNotebook

The Sustainability eNotebook is an electronic organizational file that serves as a repository for all required sustainability submittals. To support documentation of compliance with an approved HPSB and TPC checklist, provide and maintain a comprehensive and current Sustainability eNotebook Sustainability eNotebook must contain all required data to support full compliance with the HPSB Guiding Principles Requirements, including:

a. HPSB checklist

b. Sustainable Action Plan

c. Calculations

d. Labels

e. "S" submittals (sustainability documentation requirements)

f. Certifications, assessments, or validations

g. TPC documentation required in paragraph THIRD PARTY CERTIFICATION (TPC) above.

Provide sustainability eNotebook in the form of an Adobe PDF file; bookmark each HPSB Guiding Principles Requirement , TPC requirement,and sub-bookmark at each document. Match format to HPSB Guiding Principles numbering system indicated herein. Maintain up-to-date information, spreadsheets, templates, and other required documentation with each current submittal. For TPC projects, provide a second Table of contents using TPC numbering system, for maintaining documentation unique to TPC.

Contracting Officer may deduct from the monthly progress payment accordingly if Sustainability eNotebook information is not current, until information is updated and on track per project goals.

1.5.3.1 Sustainability eNotebook Submittal Schedule

Provide Sustainability eNotebook Submittals at the following milestones of the project:

a. Preliminary Sustainability eNotebook

Submit preliminary Sustainability eNotebook for approval at the Pre-construction conference. Include Preliminary High Performance and Sustainable Building Checklist and TPC checklist.

b. Construction Progress Meetings. Provide up-to-date GP and TPC documentation in the Sustainability eNotebook for each meeting.

c. Final Sustainability eNotebook

Provide up-to-date Sustainability eNotebook at the Beneficial Occupancy Date (BOD). Final progress payment retainage may be held by Contracting Officer until final sustainability documentation is complete. Submit three electronic copies of the Final Sustainability eNotebook on DVDs to the Government. Include Final High Performance and Sustainable Building Checklist.

d. Amended Final Sustainability eNotebook

Amend and resubmit the Final Sustainability eNotebook to include post-occupancy corrections, updates, and requirements. Include Amended Final High Performance and Sustainable Building Checklist. Final progress payment retainage may be held by Contracting Officer until amended final sustainability documentation is complete. Submit 3 final electronic copies of the Amended Final Sustainability eNotebook Submittal on DVDs to the Government no longer than 30 days after the GP, TPC designated data collection period.

1.6 DOCUMENTATION REQUIREMENTS

a. Incorporate each of the following HPSB Guiding Principles Requirements into project construction; and provide documentation that proves compliance with each listed requirement. Items below are organized according to the HPSB Guiding Principles. For life-cycle cost analysis requirements, one document with all analyses is acceptable, with Contracting Officer approval.

b. For each of the following paragraphs that require the use of products listed on Government-required websites, provide documentation of the process used to select products, or process used to determine why listed products do not meet project performance requirements.

1.6.1 Commissioning

Submit approved Final Commissioning Report required by Section 01 91 00.15 TOTAL BUILDING COMMISSIONING as proof of this tracking requirement.

1.6.2 Energy Efficient Products

Provide only energy-using products that are Energy Star rated, or have the Federal Energy Management Program (FEMP) recommended efficiency. Where Energy Star or FEMP recommendations have not been established, provide most efficient products that are life-cycle cost effective. Provide only energy using products that meet FEMP requirements for low standby power consumption. Energy efficient products can be found at: https://energy.gov/eere/femp/federal-energy-management-program and https://www.energystar.gov/. Provide the following documentation:

Proof that products are labeled energy efficient and comply with the cited requirements.

1.6.3 Indoor Water Use

Provide only water-consuming products that are EPA WaterSense labeled, or the most efficient water fixtures available that meet the requirements of ASHRAE 189.1 Section 6.3.2, when EPA WaterSense products are not available.

Provide the following documentation:

For products available with EPA WaterSense labeling, proof that fixtures are labeled EPA WaterSense or Energy Star; for all other fixtures, proof they comply with the cited efficiency requirements.

1.6.4 Reduce Volatile Organic Compounds (VOC) (Low Emitting Materials)

Meet the requirements of Table 3-1 at the end of this specification. Provide the following documentation:

Provide certifications or labels that demonstrate compliance with cited requirements.

1.6.5 Indoor Air Quality During Construction

Prior to construction, create indoor air quality (IAQ) plan. Develop and implement the IAQ construction management plan during construction and flush building air before occupancy.

For new construction and for renovation of unoccupied existing buildings, indoor air quality plan must meet the requirements of ASHRAE 189.1 Section 10.3.1.4. (Indoor Air Quality (IAQ) Construction Management), with maximum outdoor air consistent with achieving relative humidity no greater than 60 percent.

Provide documentation showing that after construction ends and prior to occupancy, HVAC filters were replaced and building air was flushed out in accordance with the cited standard.

1.6.6 Recycled Content

Comply with 40 CFR 247. Refer to https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program for assistance identifying products cited in 40 CFR 247. Selected products must comply with non-proprietary requirements of the Federal Acquisition Regulation, and must meet performance requirements. Provide the following documentation:

a. Manufacturers' documents stating the recycled content by material, or written justification for claiming one of the exceptions allowed on the cited website.

b. Substitutions: Submit for Government approval, proposed alternative products or systems that provide equivalent performance and appearance and have greater contribution to project recycled content requirements. For all such proposed substitutions, submit with the Sustainability Action Plan accompanied by product data demonstrating equivalence.

c. In order to complete compliance with FAR 52.223-9 Estimate of Percentage of Recovered Material Content for EPA Designated Items, refer to submittal requirement for recycled/recovered material content in Section 01 78 00.

1.6.7 Bio-Based Products

Provide products and material composed of the highest percentage of

biobased materials (including rapidly renewable resources and certified sustainably harvested products), consistent with FSRIA 9002 USDA BioPreferred Program, to the maximum extent possible without jeopardizing the intended end use or detracting from the overall quality delivered to the end user. Use only supplies and materials of a type and quality that conform to applicable specifications and standards.

Comply with FSRIA 9002 USDA BioPreferred Program. Refer to https://www.biopreferred.gov/BioPreferred/ for the product categories and BioPreferred Catalog. Selected products must comply with non-proprietary requirements of the Federal Acquisition Regulation, and must meet performance requirements. Provide the following documentation:

a. USDA BioPreferred label for each product; for bio-based products used on project but not listed with BioPreferred program, provide bio-based content and percentage.

b. In order to complete compliance with FAR 52.223-2 Affirmative Procurement of Biobased Products Under Service and Construction Contracts, refer to submittal requirement for biobased products in Section 01 78 00.

1.6.8 Waste Material Management (Recycling – Construction)

Divert construction debris from landfill disposal where markets or on-site recycling exists, and provide documentation in accordance with Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 SUSTAINABILITY COORDINATION

3.1.1 Coordinating Sustainability Documentation Progress

Provide sustainability focus and coordination at the following meetings to achieve sustainability goals. The designated TPC accredited sustainability professional responsible for GP and TPC documentation must participate in the following meetings to coordinate documentation completion.

a. Pre-Construction Conference: Discuss the following: TPC and HPSB Checklists, Sustainability Action Plan, Construction submittal requirements and schedule, individuals responsible for achieving each Guiding Principle Requirement and TPC prerequisite and credit.

b. Construction Progress Meetings: Review GP and TPC sustainability requirements with project team including contractor and sub-contractor representatives. Demonstrate GP and TPC documentation is being collected and updated to the Sustainability eNotebook and TPC Online tool.

(1) For TPC that include on-site visit by third party representative, execute, coordinate, and facilitate the visit.

(2) Facility Turnover Meetings: Review Sustainability eNotebook, and TPC Online submission for completeness and identify any

outstanding issues relating to final documentation requirements.

(3) Final Sustainability eNotebook Review

3.2 THIRD PARTY CERTIFICATION CERTIFICATE, ASSESSMENT, OR VALIDATION

Finalize the sustainability certification or validation process and obtain the TPC Certificate, assessment, or validation, indicating completion of the projects sustainability goals.

Provide one original framed copy of the certificate, assessment, or validation, mounted in 1 inch deep metal frames, with double matt, and wire hangers, in location approved by Contracting Officer. Provide one copy of original certificate, assessment, or validation, and deliver to Contractor Officer, unless otherwise instructed.

3.3 TABLE 3-1 VOLATILE ORGANIC COMPOUNDS (VOC) (LOW EMITTING MATERIALS) REQUIREMENTS

TABLE 3-1 Volatile Organic Compounds (VOC) (Low Emitting Materials) Requirements

Source: ASHRAE 189.1 section 8.4.2 (Materials)(Interior Applications Only)

MATERIAL CATEGORY	**EMISSIONS REQUIREMENT**		**MATERIALS WITH ADDED VOC REQUIREMENT**	**MATERIAL CATEGORY**
Adhesives and Sealants	**CDPH/EHLB/Standard method V1.1 (California Section 01350)** (Use "office" or "classroom" space limits for all applications)	or	Adhesives (carpet, resilient, wood flooring; panel; primers) Sealants (acoustical; firestop; HVAC Air duct; primers) Caulks	**SCAQMD Rule 1168** (Use "other" category for HVAC duct sealant) (for firestop adhesive, UFC 3-600-01 overrides conflicting requirements)
			Aerosol adhesives	**Section 3 of Green Seal Standard GS-36** (except: cleaners, solvent cements, and primers used with plastic piping and conduit in plumbing, fire suppression, and electrical systems; HVAC air duct sealants when the application space air temp is less than 40 F (4.5 C).
Paints and Coatings	**CDPH/EHLB/Standard method V1.1 (California Section 01350)** (Use "office" or "classroom" space limits for all applications)	or	Flat and nonflat topcoats, primers, undercoaters, and anti-corrosive coatings	**Green Seal Standard GS-11**

TABLE 3-1 Volatile Organic Compounds (VOC) (Low Emitting Materials) Requirements

Source: ASHRAE 189.1 section 8.4.2 (Materials)(Interior Applications Only)

MATERIAL CATEGORY	EMISSIONS REQUIREMENT		MATERIALS WITH ADDED VOC REQUIREMENT	MATERIAL CATEGORY
Paints and Coatings	**CDPH/EHLB/Standard method V1.1 (California Section 01350)** (Use "office" or "classroom" space limits for all applications)	or	Concrete/masonry sealers (waterproofing concrete/masonry sealers), concrete curing compounds, dry fog coatings, faux finishing coatings, fire resistive coatings, floor coatings, graphic arts (sign) coatings, industrial maintenance coatings, mastic texture coatings, metallic pigmented coatings, multicolor coatings, pretreatment wash primers, reactive penetrating sealers, recycled coatings, shellacs (clear and opaque), specialty primers, stains, wood coatings (clear wood finishes), wood preservatives, and zinc primers	**California Air Resources Board (CARB) Suggested Control Measure for Architectural Coatings** or **SCAQMD Rule 1113**

TABLE 3-1 Volatile Organic Compounds (VOC) (Low Emitting Materials) Requirements

Source: ASHRAE 189.1 section 8.4.2 (Materials)(Interior Applications Only)

MATERIAL CATEGORY	**EMISSIONS REQUIREMENT**		**MATERIALS WITH ADDED VOC REQUIREMENT**	**MATERIAL CATEGORY**
Paints and Coatings	**CDPH/EHLB/Standard method V1.1 (California Section 01350)** (Use "office" or "classroom" space limits for all applications)	or	Basement specialty coatings, high-temperature coatings, low solids coatings, stone consolidants, swimming-pool coatings, tub- and tile-refining coatings, and waterproofing membranes	**California Air Resources Board (CARB) Suggested Control Measure for Architectural Coatings**
Floor Covering Materials	For carpet, all locations: **CDPH/EHLB/Standard Method V1.1 (California Section 01350)** or label for **Section 9** of **CDPH/EHLB/Standard Method V1.1 (California Section 01350)**		none	none

TABLE 3-1 Volatile Organic Compounds (VOC) (Low Emitting Materials) Requirements

Source: ASHRAE 189.1 section 8.4.2 (Materials)(Interior Applications Only)

MATERIAL CATEGORY	EMISSIONS REQUIREMENT		MATERIALS WITH ADDED VOC REQUIREMENT	MATERIAL CATEGORY
Composite Wood, Wood Structural Panel, and Agrifiber Products particleboard medium density fiberboard (MDF) wheatboard strawboard panel substrates door cores **no added urea-formaldehyde resins** including laminating adhesives for composite wood and agrifiber assemblies	Third-party certification (approved by CARB) of **California Air Resource Board's (CARB) regulation**, Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products		none	none
	CDPH/EHLB/Standard method V1.1 (California Section 01350) (Use "office" or "classroom" space limits for all applications) (except: Structural panel components such as plywood, particle board, wafer board, and oriented strand board identified as "EXPOSURE 1," "EXTERIOR," or "HUD-APPROVED" are considered acceptable for interior use.)			

TABLE 3-1 Volatile Organic Compounds (VOC) (Low Emitting Materials) Requirements

Source: ASHRAE 189.1 section 8.4.2 (Materials)(Interior Applications Only)

MATERIAL CATEGORY	EMISSIONS REQUIREMENT		MATERIALS WITH ADDED VOC REQUIREMENT	MATERIAL CATEGORY
Office Furniture Systems and Seating installed prior to occupancy	**ANSI/BIFMA X7.1 ANSI/BIFMA X7.1:** (95 percent of installed office furniture system workstations and seating units) **Section 7.6.2 of ANSI/BIFMA e3** (50 percent of office furniture system workstations and seating units)		none	none
Ceiling and Wall Systems ceiling and wall insulation acoustical ceiling panels tackable wall panels gypsum wall board and panels wall coverings	**CDPH/EHLB/Standard method V1.1 (California Section 01350)** (Use "office" or "classroom" space limits for all applications)		none	none

-- End of Section --

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS
11/15

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.22	(2007; R 2017) Safety Requirements for Rope-Guided and Non-Guided Workers' Hoists
ASSP A10.34	(2001; R 2012) Protection of the Public on or Adjacent to Construction Sites
ASSP A10.44	(2014) Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations
ASSP Z244.1	(2016) The Control of Hazardous Energy Lockout, Tagout and Alternative Methods
ASSP Z359.0	(2012) Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ASSP Z359.1	(2016) The Fall Protection Code
ASSP Z359.11	(2014) Safety Requirements for Full Body Harnesses
ASSP Z359.12	(2009) Connecting Components for Personal Fall Arrest Systems
ASSP Z359.13	(2013) Personal Energy Absorbers and Energy Absorbing Lanyards
ASSP Z359.14	(2014) Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
ASSP Z359.15	(2014) Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems
ASSP Z359.2	(2017) Minimum Requirements for a Comprehensive Managed Fall Protection Program
ASSP Z359.3	(2017) Safety Requirements for Lanyards and Positioning Lanyards
ASSP Z359.4	(2013) Safety Requirements for

	Assisted-Rescue and Self-Rescue Systems, Subsystems and Components
ASSP Z359.6	(2016) Specifications and Design Requirements for Active Fall Protection Systems
ASSP Z359.7	(2011) Qualification and Verification Testing of Fall Protection Products

ASME INTERNATIONAL (ASME)

ASME B30.20	(2013; INT Oct 2010 - May 2012) Below-the-Hook Lifting Devices
ASME B30.22	(2016) Articulating Boom Cranes
ASME B30.23	(2011) Personnel Lifting Systems Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings
ASME B30.26	(2015; INT Jun 2010 - Jun 2014) Rigging Hardware
ASME B30.3	(2016) Tower Cranes
ASME B30.5	(2014) Mobile and Locomotive Cranes
ASME B30.7	(2011) Winches
ASME B30.8	(2015) Floating Cranes and Floating Derricks
ASME B30.9	(2014; INT Feb 2011 - Nov 2013) Slings

ASTM INTERNATIONAL (ASTM)

ASTM F855	(2015) Standard Specifications for Temporary Protective Grounds to Be Used on De-energized Electric Power Lines and Equipment

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 1048	(2003) Guide for Protective Grounding of Power Lines
IEEE C2	(2017; Errata 1-2 2017; INT 1 2017) National Electrical Safety Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2018; TIA 18-1) Standard for Portable Fire Extinguishers
NFPA 241	(2013; Errata 2015) Standard for Safeguarding Construction, Alteration, and Demolition Operations

NFPA 51B	(2014) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2017; ERTA 1-2 2017; TIA 17-1; TIA 17-2; TIA 17-3; TIA 17-4; TIA 17-5; TIA 17-6; TIA 17-7; TIA 17-8; TIA 17-9; TIA 17-10; TIA 17-11; TIA 17-12; TIA 17-13; TIA 17-14; TIA 17-15; TIA 17-16; TIA 17-17) National Electrical Code
NFPA 70E	(2018; TIA 18-1; TIA 81-2) Standard for Electrical Safety in the Workplace

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

TIA-1019	(2012; R 2016) Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas
TIA-222	(2005G; Add 1 2007; Add 2 2009; Add 3 2014; Add 4 2014; R 2014; R 2016) Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

10 CFR 20	Standards for Protection Against Radiation
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910.147	The Control of Hazardous Energy (Lock Out/Tag Out)
29 CFR 1910.333	Selection and Use of Work Practices
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1915.89	Control of Hazardous Energy (Lockout/Tags-Plus)
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.1400	Cranes and Derricks in Construction
29 CFR 1926.16	Rules of Construction
29 CFR 1926.450	Scaffolds
29 CFR 1926.500	Fall Protection

29 CFR 1926.552	Material Hoists, Personal Hoists, and Elevators
29 CFR 1926.553	Base-Mounted Drum Hoists
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
CPL 02-01-056	(2014) Inspection Procedures for Accessing Communication Towers by Hoist
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

1.2.1 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

1.2.2 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person requirements as defined EM 385-1-1 Appendix Q, with thorough knowledge of OSHA’s Confined Space Standard, 29 CFR 1910.146, and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.3 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined in EM 385-1-1 Appendix Q, is a person meeting the competent person, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.4 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and 29 CFR 1926, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.5 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and in accordance with ASSP Z359.0, who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.6 Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements in EM 385-1-1 Appendix Q, and designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and also has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented and include experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented, minimum of 8-hours of scaffold training to include training on the specific type of scaffold being used (e.g. mast-climbing, adjustable, tubular frame), in accordance with EM 385-1-1 Section 22.B.02.

1.2.7 Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

1.2.8 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

1.2.9 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

1.2.10 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

1.2.11 Medical Treatment

Medical Treatment is treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

1.2.12 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

1.2.13 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this "envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.

1.2.14 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

1.2.15 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the requirements of EM 385-1-1 Appendix Q, and ASSP Z359.0, with a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

1.2.16 USACE Property and Equipment

Interpret "USACE" property and equipment specified in USACE EM 385-1-1 as Government property and equipment.

1.2.17 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over). Document an LHE mishap using the Crane High Hazard working

group mishap reporting form.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance with Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G

SD-06 Test Reports

Monthly Exposure Reports

Notifications and Reports

Accident Reports; G

LHE Inspection Reports

SD-07 Certificates

Crane Operators/Riggers

Standard Lift Plan; G

Critical Lift Plan ; G

Naval Architecture Analysis; G

Activity Hazard Analysis (AHA)

Confined Space Entry Permit

Hot Work Permit

Certificate of Compliance

License Certificates

Radiography Operation Planning Work Sheet; G

Portable Gauge Operations Planning Worksheet; G

1.4 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, comply with the most recent edition of USACE EM 385-1-1, and the following federal, state, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.6 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section 1. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one (1) person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and government-accepted Accident Prevention Plan. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs.

If the SSHO is off-site for a period longer than 24 hours, an equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

1.6.1.1.1 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

The SSHO may not serve as the Quality Control Manager. The SSHO may not serve as the Superintendent.

1.6.1.2 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and electrical work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (i.e. competent person, fall protection).

The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the the Contracting Officer for information in consultation with the Safety Office.

1.6.1.2.1 Competent Person for Confined Space Entry

Provide a Confined Space (CP) Competent Person who meets the requirements of EM 385-1-1, Appendix Q, and herein. The CP for Confined Space Entry must supervise the entry into each confined space in accordance with EM 385-1-1, Section 34.

1.6.1.2.2 Competent Person for Scaffolding

Provide a Competent Person for Scaffolding who meets the requirements of EM 385-1-1, Section 22.B.02 and herein.

1.6.1.2.3 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements of EM 385-1-1, Section 21.C.04, 21.B.03, and herein.

1.6.1.3 Qualified Trainer Requirements

Individuals qualified to instruct the 40 hour contract safety awareness course, or portions thereof, must meet the definition of a Competent Person Trainer, and, at a minimum, possess a working knowledge of the following subject areas: EM 385-1-1, Electrical Standards,Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450, Subpart L.

Instructors are required to:

a. Prepare class presentations that cover construction-related safety requirements.

b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five (5) years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.

c. Update training course materials whenever an update of the EM 385-1-1 becomes available.

d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.

e. Request, review and incorporate student feedback into a continuous course improvement program.

1.6.1.4 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in EM 385-1-1, Section 15.B for Riggers and Section 16.B for Crane Operators and Signal Persons. Provide proof of current qualification.

1.6.2 Personnel Duties

1.6.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily quality control report.

b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.

c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the site Safety Bulletin Board.

d. Maintain applicable safety reference material on the job site.

e. Attend the pre-construction conference, pre-work meetings including preparatory meetings, and periodic in-progress meetings.

f. Review the APP and AHAs for compliance with EM 385-1-1, and approve, sign, implement and enforce them.

g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.

h. Ensure subcontractor compliance with safety and health requirements.

i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SDS).

j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.

k. Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, QC Manager, and SSHO are subject to dismissal if the above duties are not being effectively carried out. If Superintendent, QC Manager, or SSHO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

a. Contractor representatives who have a responsibility or significant role in accident prevention on the project must attend the preconstruction conference. This includes the project superintendent, Site Safety and Occupational Health officer, quality control manager,

or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).

b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude project delays.

c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

d. The functions of a Preconstruction conference may take place at the Post-Award Kickoff meeting for Design Build Contracts.

1.6.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors on the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

1.7 ACCIDENT PREVENTION PLAN (APP)

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, and as supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control Manager, and any designated Certified Safety

Professional (CSP) or Certified Health Physicist (CIH). The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary, throughout the life of the contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e. imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSP A10.34), and the environment.

1.7.1 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.

b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

1.7.2 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

1.7.2.1 Confined Space Entry Plan

Develop a confined or enclosed space entry plan in accordance with EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, OSHA Directive CPL 2.100, and any other federal, state and local regulatory requirements identified in this contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the

event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

1.7.2.2 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with EM 385-1-1, Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of 3 months.

1.7.2.3 Critical Lift Plan - Crane or Load Handling Equipment

Provide a Critical Lift Plan as required by EM 385-1-1, Section 16.H.01, using Form 16-3. In addition, Critical Lift Plans are required for the following:

a. Lifts over 50 percent of the capacity of barge mounted mobile crane's hoist.

b. When working around energized power lines where the work will get closer than the minimum clearance distance in EM 385-1-1 Table 16-1.

c. For lifts with anticipated binding conditions.

d. When erecting cranes.

1.7.2.3.1 Critical Lift Plan Planning and Schedule

Critical lifts require detailed planning and additional or unusual safety precautions. Develop and submit a critical lift plan to the Contracting Officer 30 calendar days prior to critical lift. Comply with load testing requirements in accordance with EM 385-1-1, Section 16.F.03.

1.7.2.3.2 Lifts of Personnel

In addition to the requirements of EM 385-1-1, Section 16.H.02, for lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400 and EM 385-1-1, Section 16.T.

1.7.2.4 Barge Mounted Mobile Crane Lift Plan

Provide a Naval Architecture Analysis and include an LHE Manufacturer's Floating Service Load Chart in accordance with EM 385-1-1, Section 16.L.03.

1.7.2.5 Multi-Purpose Machines, Material Handling Equipment, and Construction Equipment Lift Plan

Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Written approval from a qualified registered professional engineer, after a safety analysis is performed, is allowed in lieu of the OEM's approval. Demonstrate that

the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.

1.7.2.6 Fall Protection and Prevention (FP&P) Plan

The plan must comply with the requirements of EM 385-1-1, Section 21.D and ASSP Z359.2, be site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary, the Fall Protection and Prevention Plan documentation as conditions change, but at a minimum every six months, for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

1.7.2.7 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSP Z359.2, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

1.7.2.8 Hazardous Energy Control Program (HECP)

Develop a HECP in accordance with EM 385-1-1 Section 12, 29 CFR 1910.147, 29 CFR 1910.333, 29 CFR 1915.89, ASSP Z244.1, and ASSP A10.44. Submit this HECP as part of the Accident Prevention Plan (APP). Conduct a preparatory meeting and inspection with all effected personnel to coordinate all HECP activities. Document this meeting and inspection in accordance with EM 385-1-1, Section 12.A.02. Ensure that each employee is familiar with and complies with these procedures.

1.7.2.9 Excavation Plan

Identify the safety and health aspects of excavation, and provide and prepare the plan in accordance with EM 385-1-1, Section 25.A and Section 31 00 00 EARTHWORK.

1.7.2.10 Occupant Protection Plan

Identify the safety and health aspects of lead-based paint removal, prepared in accordance with Section 02 83 00 LEAD REMEDIATION.

1.7.2.11 Asbestos Hazard Abatement Plan

Identify the safety and health aspects of asbestos work, and prepare in accordance with Section 02 82 00 ASBESTOS REMEDIATION.

1.7.2.12 Site Safety and Health Plan

Identify the safety and health aspects, and prepare in accordance with Section 01 35 29.13 HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES FOR CONTAMINATED SITES.

1.7.2.13 Polychlorinated Biphenyls (PCB) Plan

Identify the safety and health aspects of Polychlorinated Biphenyls work, and prepare in accordance with Sections 02 84 33 REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBs) and 02 61 23 REMOVAL AND DISPOSAL OF PCB CONTAMINATED SOILS.

1.7.2.14 Site Demolition Plan

Identify the safety and health aspects, and prepare in accordance with Section 02 41 00 DEMOLITION and referenced sources. Include engineering survey as applicable.

1.8 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1, Section 1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or DFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including confined entry, crane and rigging, excavations, trenching, electrical work, fall protection, and scaffolding.

1.8.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

1.8.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must review the AHA for that work and sign a signature log specifically maintained for that AHA prior to starting work on that activity. The SSHO must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

1.9 DISPLAY OF SAFETY INFORMATION

1.9.1 Safety Bulletin Board

Within one calendar day(s) after commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, Section 01.A.07. Additional items required to be posted include:

a. Confined space entry permit.

b. Hot work permit.

1.9.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

a. Date deficiency identified;

b. Description of deficiency;

c. Name of person responsible for correcting deficiency;

d. Projected resolution date;

e. Date actually resolved.

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. Government has no responsibility to provide emergency medical treatment.

1.12 NOTIFICATIONS and REPORTS

1.12.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q, any report of injury, illness, or any property damage. For LHE or rigging mishaps, notify the Contracting Officer as soon as practical but not more than 4 hours after mishap. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law

enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

1.12.2 Accident Reports

a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report Form 3394, and provide the report to the Contracting Officer within 5 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

b. Near Misses: For Army projects, report all "Near Misses" to the GDA, using local mishap reporting procedures, within 24 hrs. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.

c. Conduct an accident investigation for any load handling equipment accident (including rigging accidents) to establish the root cause(s) of the accident. Complete the LHE Accident Report (Crane and Rigging Accident Report) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. The Contracting Officer will provide a blank copy of the accident report form.

1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

1.12.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section 16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.13 HOT WORK

1.13.1 Permit and Personnel Requirements

Submit and obtain a written permit prior to performing "Hot Work" (i.e. welding or cutting) or operating other flame-producing/spark producing devices, from the Fire Marshall. A permit is required from the Explosives Safety Office for work in and around where explosives are processed, stored, or handled. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. Provide at least two 20 pound 4A:20 BC rated extinguishers for normal "Hot Work". The extinguishers must be current inspection tagged, and contain an approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch must be trained in accordance with NFPA 51B and remain on-site for a minimum of one hour after completion of the task or as specified on the hot work permit.

When starting work in the facility, require personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency Fire Marshall's phone number. REPORT ANY FIRE, NO MATTER HOW SMALL, TO THE RESPONSIBLE FIRE MARSHALL IMMEDIATELY.

1.13.2 Work Around Flammable Materials

Obtain permit approval from a NFPA Certified Marine Chemist for "HOT WORK" within or around flammable materials (such as fuel systems or welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, or vaults) that have the potential for flammable or explosive atmospheres.

Whenever these materials, except beryllium and chromium (VI), are encountered in indoor operations, local mechanical exhaust ventilation systems that are sufficient to reduce and maintain personal exposures to within acceptable limits must be used and maintained in accordance with manufacturer's instruction and supplemented by exceptions noted in EM 385-1-1, Section 06.H

1.14 RADIATION SAFETY REQUIREMENTS

Submit License Certificates, employee training records, and Leak Test Reports for radiation materials and equipment to the Contracting Officer and Radiation Safety Office (RSO)for all specialized and licensed material and equipment proposed for use on the construction project (excludes portable machine sources of ionizing radiation including moisture density and X-Ray Fluorescence (XRF)). Maintain on-site records whenever licensed radiological materials or ionizing equipment are on government property.

Protect workers from radiation exposure in accordance with 10 CFR 20, ensuring any personnel exposures are maintained As Low As Reasonably Achievable.

1.14.1 Radiography Operation Planning Work Sheet

Submit a Gamma and X-Ray Radiography Operation Planning Work Sheet to Contracting Officer 14 days prior to commencement of operations involving radioactive materials or radiation generating devices. For portable machine sources of ionizing radiation, including moisture density and XRF, use and submit the Portable Gauge Operations Planning Worksheet instead.

The Contracting Officer will review the submitted worksheet and provide questions and comments.

Contractors must use primary dosimeters process by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

1.14.2 Site Access and Security

Coordinate site access and security requirements with the Contracting Officer for all radiological materials and equipment containing ionizing radiation that are proposed for use on a government facility. For gamma radiography materials and equipment, a Government escort is required for any travels on the Installation. The Government authorized representative will meet the Contractor at a designated location outside the Installation, ensure safety of the materials being transported, and will escort the Contractor for gamma sources onto the Installation, to the job site, and off the Installation. For portable machine sources of ionizing radiation, including moisture density and XRF, the Government authorized representative will meet the Contractor at the job site.

Provide a copy of all calibration records, and utilization records for radiological operations performed on the site.

1.14.3 Loss or Release and Unplanned Personnel Exposure

Loss or release of radioactive materials, and unplanned personnel exposures must be reported immediately to the Contracting Officer, RSO, and Base Security Department Emergency Number.

1.14.4 Site Demarcation and Barricade

Properly demark and barricade an area surrounding radiological operations to preclude personnel entrance, in accordance with EM 385-1-1, Nuclear Regulatory Commission, and Applicable State regulations and license requirements, and in accordance with requirements established in the accepted Radiography Operation Planning Work Sheet.

Do not close or obstruct streets, walks, and other facilities occupied and used by the Government without written permission from the Contracting Officer.

1.14.5 Security of Material and Equipment

Properly secure the radiological material and ionizing radiation equipment at all times, including keeping the devices in a properly marked and locked container, and secondarily locking the container to a secure point in the Contractor's vehicle or other approved storage location during transportation and while not in use. While in use, maintain a continuous visual observation on the radiological material and ionizing radiation equipment. In instances where radiography is scheduled near or adjacent to buildings or areas having limited access or one-way doors, make no assumptions as to building occupancy. Where necessary, the Contracting Officer will direct the Contractor to conduct an actual building entry, search, and alert. Where removal of personnel from such a building cannot be accomplished and it is otherwise safe to proceed with the radiography, position a fully instructed employee inside the building or area to prevent exiting while external radiographic operations are in process.

1.14.6 Transportation of Material

Comply with 49 CFR 173 for Transportation of Regulated Amounts of Radioactive Material. Notify Local Fire authorities and the site Radiation Safety officer (RSO) of any Radioactive Material use.

1.14.7 Schedule for Exposure or Unshielding

Actual exposure of the radiographic film or unshielding the source must not be initiated until after 5 p.m. on weekdays.

1.14.8 Transmitter Requirements

Adhere to the base policy concerning the use of transmitters, such as radios and cell phones. Obey Emissions control (EMCON) restrictions.

1.15 CONFINED SPACE ENTRY REQUIREMENTS

Confined space entry must comply with Section 34 of EM 385-1-1, OSHA 29 CFR 1926, OSHA 29 CFR 1910, OSHA 29 CFR 1910.146, and OSHA Directive CPL 2.100. Any potential for a hazard in the confined space requires a permit system to be used.

1.15.1 Entry Procedures

Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. Comply with EM 385-1-1, Section 34 for entry procedures. Hazards pertaining to the space must be reviewed with each employee during review of the AHA.

1.15.2 Forced Air Ventilation

Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its action level.

1.15.3 Sewer Wet Wells

Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

1.15.4 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implement an on-site rescue and recovery plan and procedures. The rescue plan must not rely on local emergency responders for rescue from a confined space.

1.16 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must:

a. Secure outside equipment and materials and place materials that could be damaged in protected areas.

b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing

facilities.

c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

a. Hard Hat

b. Long Pants

c. Appropriate Safety Shoes

d. Appropriate Class Reflective Vests

3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. An employee check-in/check-out communication procedure must be developed to ensure employee safety.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval. Notify the Radiation Safety Officer (RSO) prior to excepted items of radioactive material and devices being brought on base.

3.1.3 Unforeseen Hazardous Material

Contract documents may identify materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (i.e. 29 CFR Part 1910.1000). If previously unidentified material(s) that may be hazardous to human health upon disturbance are encountered during construction operations, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to FAR 52.243-4 Changes and FAR 52.236-2 Differing Site Conditions.

3.2 UTILITY OUTAGE REQUIREMENTS

Apply for utility outages at least 15 days in advance. At a minimum, the written request must include the location of the outage, utilities being affected, duration of outage, any necessary sketches, and a description of the means to fulfill energy isolation requirements in accordance with EM 385-1-1, Section 11.A.02 (Isolation). Some examples of energy isolation devices and procedures are highlighted in EM 385-1-1, Section 12.D. In accordance with EM 385-1-1, Section 12.A.01, where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy.

These activities include, but are not limited to, a review of HECP and HEC procedures, as well as applicable Activity Hazard Analyses (AHAs). In accordance with EM 385-1-1, Section 11.A.02 and NFPA 70E, work on energized electrical circuits must not be performed without prior government authorization. Government permission is considered through the permit process and submission of a detailed AHA. Energized work permits are considered only when de-energizing introduces additonal or increased hazard or when de-energizing is infeasible.

3.3 OUTAGE COORDINATION MEETING

After the utility outage request is approved and prior to beginning work on the utility system requiring shut-down, conduct a pre-outage coordination meeting in accordance with EM 385-1-1, Section 12.A. This meeting must include the Prime Contractor, the Prime and subcontractors performing the work, the Contracting Officer, and the Installation representative. All parties must fully coordinate HEC activites with one another. During the coordination meeting, all parties must discuss and coordinate on the scope of work, HEC procedures (specifically, the lock-out/tag-out procedures for worker and utility protection), the AHA, assurance of trade personnel qualifications, identification of competent persons, and compliance with HECP training in accordance with EM 385-1-1, Section 12.C. Clarify when personal protective equipment is required during switching operations, inspection, and verification.

3.4 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance with EM 385-1-1 Section 12, 29 CFR 1910.333, 29 CFR 1915.89, ASSP A10.44, NFPA 70E, and paragraph HAZARDOUS ENERGY CONTROL PROGRAM (HECP).

3.4.1 Safety Preparatory Inspection Coordination Meeting with the Government or Utility

For electrical distribution equipment that is to be operated by Government or Utility personnel, the Prime Contractor and the subcontractor performing the work must attend the safety preparatory inspection coordination meeting, which will also be attended by the Contracting Officer's Representative, and required by EM 385-1-1, Section 12.A.02. The meeting will occur immediately preceding the start of work and following the completion of the outage coordination meeting. Both the safety preparatory inspection coordination meeting and the outage coordination meeting must occur prior to conducting the outage and commencing with lockout/tagout procedures.

3.4.2 Lockout/Tagout Isolation

Where the Government or Utility performs equipment isolation and lockout/tagout, the Contractor must place their own locks and tags on each energy-isolating device and proceed in accordance with the HECP. Before any work begins, both the Contractor and the Government or Utility must perform energy isolation verification testing while wearing required PPE detailed in the Contractor's AHA and required by EM 385-1-1, Sections 05.I and 11.B. Install personal protective grounds, with tags, to eliminate the potential for induced voltage in accordance with EM 385-1-1, Section 12.E.06.

3.4.3 Lockout/Tagout Removal

Upon completion of work, conduct lockout/tagout removal procedure in accordance with the HECP. In accordance with EM 385-1-1, Section 12.E.08, each lock and tag must be removed from each energy isolating device by the authorized individual or systems operator who applied the device. Provide formal notification to the Government (by completing the Government form if provided by Contracting Officer's Representative), confirming that steps of de-energization and lockout/tagout removal procedure have been conducted and certified through inspection and verification. Government or Utility locks and tags used to support the Contractor's work will not be removed until the authorized Government employee receives the formal notification.

3.5 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSP Z359.2 and EM 385-1-1, Sections 21.A and 21.D.

3.5.1 Training

Institute a fall protection training program. As part of the Fall Protection Program, provide training for each employee who might be exposed to fall hazards. Provide training by a competent person for fall protection in accordance with EM 385-1-1, Section 21.C. Document training and practical application of the competent person in accordance with EM 385-1-1, Section 21.C.04 and ASSP Z359.2 in the AHA.

3.5.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 Section 21.I, 29 CFR 1926.500 Subpart M,ASSP Z359.0, ASSP Z359.1, ASSP Z359.2, ASSP Z359.3, ASSP Z359.4, ASSP Z359.6, ASSP Z359.7, ASSP Z359.11, ASSP Z359.12, ASSP Z359.13, ASSP Z359.14, and ASSP Z359.15.

3.5.2.1 Additional Personal Fall Protection

In addition to the required fall protection systems, other protection such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1, Sections 21.O through 21.O.06. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.5.2.2 Personal Fall Protection Harnesses

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabiners must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. All full body harnesses must be equipped with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1, Section 21.I.06.

3.5.3 Fall Protection for Roofing Work

Implement fall protection controls based on the type of roof being constructed and work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

a. Low Sloped Roofs:

(1) For work within 6 feet of an edge, on a roof having a slope less than or equal to 4:12 (vertical to horizontal), protect personnel from falling by use of personal fall arrest/restraint systems,

guardrails, or safety nets. A safety monitoring system is not adequate fall protection and is not authorized. Provide in accordance with 29 CFR 1926.500.

(2) For work greater than 6 feet from an edge, erect and install warning lines in accordance with 29 CFR 1926.500 and EM 385-1-1, Section L.

b. Steep-Sloped Roofs: Work on a roof having a slope greater than 4:12 (vertical to horizontal) requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also applies to residential or housing type construction.

3.5.4 Horizontal Lifelines (HLL)

Provide HLL in accordance with EM 385-1-1, Section 21.I.08.d.2. Commercially manufactured horizontal lifelines (HLL) must be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500). The competent person for fall protection may (if deemed appropriate by the qualified person) supervise the assembly, disassembly, use and inspection of the HLL system under the direction of the qualified person. Locally manufactured HLLs are not acceptable unless they are custom designed for limited or site specific applications by a Registered Professional Engineer who is qualified in designing HLL systems.

3.5.5 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1, Section 21.F.01 and 29 CFR 1926 Subpart M.

3.5.6 Rescue and Evacuation Plan and Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue or assisted-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan must comply with the requirements of EM 385-1-1, ASSP Z359.2, and ASSP Z359.4.

3.6 WORK PLATFORMS

3.6.1 Scaffolding

Provide employees with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Comply with the following requirements:

a. Scaffold platforms greater than 20 feet in height must be accessed by use of a scaffold stair system.

b. Ladders commonly provided by scaffold system manufacturers are prohibited for accessing scaffold platforms greater than 20 feet

maximum in height.

c. An adequate gate is required.

d. Employees performing scaffold erection and dismantling must be qualified.

e. Scaffold must be capable of supporting at least four times the maximum intended load, and provide appropriate fall protection as delineated in the accepted fall protection and prevention plan.

f. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward.

g. Special care must be given to ensure scaffold systems are not overloaded.

h. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited. The first tie-in must be at the height equal to 4 times the width of the smallest dimension of the scaffold base.

i. Scaffolding other than suspended types must bear on base plates upon wood mudsills (2 in x 10 in x 8 in minimum) or other adequate firm foundation.

j. Scaffold or work platform erectors must have fall protection during the erection and dismantling of scaffolding or work platforms that are more than 6 feet.

k. Delineate fall protection requirements when working above 6 feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

3.6.2 Elevated Aerial Work Platforms (AWPs)

Workers must be anchored to the basket or bucket in accordance with manufacturer's specifications and instructions (anchoring to the boom may only be used when allowed by the manufacturer and permitted by the CP). Lanyards used must be sufficiently short to prohibit worker from climbing out of basket. The climbing of rails is prohibited. Lanyards with built-in shock absorbers are acceptable. Self-retracting devices are not acceptable. Tying off to an adjacent pole or structure is not permitted unless a safe device for 100 percent tie-off is used for the transfer.

Use of AWPs must be operated, inspected, and maintained as specified in the operating manual for the equipment and delineated in the AHA. Operators of AWPs must be designated as qualified operators by the Prime Contractor. Maintain proof of qualifications on site for review and include in the AHA.

3.7 EQUIPMENT

3.7.1 Material Handling Equipment (MHE)

a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while

personnel are working on the platform.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.

c. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

3.7.2 Load Handling Equipment (LHE)

The following requirements apply. In exception, these requirements do not apply to commercial truck mounted and articulating boom cranes used solely to deliver material and supplies (not prefabricated components, structural steel, or components of a systems-engineered metal building) where the lift consists of moving materials and supplies from a truck or trailer to the ground; to cranes installed on mechanics trucks that are used solely in the repair of shore-based equipment; to crane that enter the activity but are not used for lifting; nor to other machines not used to lift loads suspended by rigging equipment. However, LHE accidents occurring during such operations must be reported.

a. Equip cranes and derricks as specified in EM 385-1-1, Section 16.

b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with EM 385-1-1, Section 16.A.02, so that necessary quality assurance spot checks can be coordinated. Contractor's operator must remain with the crane during the spot check. Rigging gear must comply with OSHA, ASME B30.9 Standards and host country safety standards.

c. Comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.

d. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices and ASME B30.26 for rigging hardware.

e. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME B30.5 or ASME B30.22 as applicable.

f. Do not use crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally, submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.

g. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.

h. All employees must keep clear of loads about to be lifted and of suspended loads, except for employees required to handle the load.

i. Use cribbing when performing lifts on outriggers.

j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

k. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.

l. Maintain inspection records in accordance by EM 385-1-1, Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.

m. Maintain written reports of operational and load testing in accordance with EM 385-1-1, Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.

n. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.

3.7.3 Machinery and Mechanized Equipment

a. Proof of qualifications for operator must be kept on the project site for review.

b. Manufacture specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

3.7.4 Base Mounted Drum Hoists

a. Operation of base mounted drum hoists must comply with EM 385-1-1 and ASSP A10.22.

b. Rigging gear must comply with applicable ASME/OSHA standards

c. When used on telecommunication towers, base mounted drum hoists must comply with TIA-1019, TIA-222, ASME B30.7, 29 CFR 1926.552, and 29 CFR 1926.553.

d. When used to hoist personnel, the AHA must include a written standard operating procedure. Operators must have a physical examination in accordance with EM 385-1-1 Section 16.B.05 and trained, at a minimum,

in accordance with EM 385-1-1 Section 16.U and 16.T. The base mounted drum hoist must also comply with OSHA Instruction CPL 02-01-056 and ASME B30.23.

e. Material and personnel must not be hoisted simultaneously.

f. Personnel cage must be marked with the capacity (in number of persons) and load limit in pounds.

g. Construction equipment must not be used for hoisting material or personnel or with trolley/tag lines. Construction equipment may be used for towing and assisting with anchoring guy lines.

3.7.5 Use of Explosives

Explosives must not be used or brought to the project site without prior written approval from the Contracting Officer. Such approval does not relieve the Contractor of responsibility for injury to persons or for damage to property due to blasting operations.

Storage of explosives, when permitted on Government property, must be only where directed and in approved storage facilities. These facilities must be kept locked at all times except for inspection, delivery, and withdrawal of explosives.

3.8 EXCAVATIONS

Soil classification must be performed by a competent person in accordance with 29 CFR 1926 and EM 385-1-1.

3.8.1 Utility Locations

Provide a third party, independent, private utility locating company to positively identify underground utilities in the work area in addition to any station locating service and coordinated with the station utility department.

3.8.2 Utility Location Verification

Physically verify underground utility locations, including utility depth, by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within 3 feet of the underground system.

3.8.3 Utilities Within and Under Concrete, Bituminous Asphalt, and Other Impervious Surfaces

Utilities located within and under concrete slabs or pier structures, bridges, parking areas, and the like, are extremely difficult to identify. Whenever contract work involves chipping, saw cutting, or core drilling through concrete, bituminous asphalt or other impervious surfaces, the existing utility location must be coordinated with station utility departments in addition to location and depth verification by a third party, independent, private locating company. The third party, independent, private locating company must locate utility depth by use of Ground Penetrating Radar (GPR), X-ray, bore scope, or ultrasound prior to the start of demolition and construction. Outages to isolate utility

systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the Contractor from meeting this requirement.

3.9 ELECTRICAL

Perform electrical work in accordance with EM 385-1-1, Appendix A, Sections 11 and 12.

3.9.1 Conduct of Electrical Work

As delineated in EM 385-1-1, electrical work is to be conducted in a de-energized state unless there is no alternative method for accomplishing the work. In those cases obtain an energized work permit from the Contracting Officer. The energized work permit application must be accompanied by the AHA and a summary of why the equipment/circuit needs to be worked energized. Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Attach temporary grounds in accordance with ASTM F855 and IEEE 1048. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator is allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method.

When working in energized substations, only qualified electrical workers are permitted to enter. When work requires work near energized circuits as defined by NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves and electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA. Ensure that each employee is familiar with and complies with these procedures and 29 CFR 1910.147.

3.9.2 Qualifications

Electrical work must be performed by QP personnel with verifiable credentials who are familiar with applicable code requirements. Verifiable credentials consist of State, National and Local Certifications or Licenses that a Master or Journeyman Electrician may hold, depending on work being performed, and must be identified in the appropriate AHA. Journeyman/Apprentice ratio must be in accordance with State, Local and Host Nation requirements applicable to where work is being performed.

3.9.3 Arc Flash

Conduct a hazard analysis/arc flash hazard analysis whenever work on or near energized parts greater than 50 volts is necessary, in accordance with NFPA 70E.

All personnel entering the identified arc flash protection boundary must be QPs and properly trained in NFPA 70E requirements and procedures. Unless permitted by NFPA 70E, no Unqualified Person is permitted to approach nearer than the Limited Approach Boundary of energized conductors and circuit parts. Training must be administered by an electrically qualified source and documented.

3.9.4 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70 and IEEE C2 to provide a permanent, continuous and effective path to ground unless otherwise noted by EM 385-1-1.

Check grounding circuits to ensure that the circuit between the ground and a grounded power conductor has a resistance low enough to permit sufficient current flow to allow the fuse or circuit breaker to interrupt the current.

3.9.5 Testing

Temporary electrical distribution systems and devices must be inspected, tested and found acceptable for Ground-Fault Circuit Interrupter (GFCI) protection, polarity, ground continuity, and ground resistance before initial use, before use after modification and at least monthly. Monthly inspections and tests must be maintained for each temporary electrical distribution system, and signed by the electrical CP or QP.

-- End of Section --

SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS
02/19

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g. ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

AACE INTERNATIONAL (AACE)
1265 Suncrest Towne Centre Drive
Morgantown, WV 26505-1876 USA
Ph: 304-296-8444
Fax: 304-291-5728
Internet: https://web.aacei.org/

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)
1791 Tullie Circle, NE
Atlanta, GA 30329
Ph: 404-636-8400 or 800-527-4723
Fax: 404-321-5478
E-mail: ashrae@ashrae.org
Internet: https://www.ashrae.org/

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)
520 N. Northwest Highway
Park Ridge, IL 60068
Ph: 847-699-2929
Internet: https://www.assp.org/

ASME INTERNATIONAL (ASME)
Two Park Avenue
New York, NY 10016-5990
Ph: 800-843-2763
Fax: 973-882-1717
E-mail: customercare@asme.org
Internet: https://www.asme.org/

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700

West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: https://www.astm.org/

COUNCIL ON ENVIRONMENTAL QUALITY (CEQ) (WHITE HOUSE)
722 Jackson Place
Washington DC 20506
Internet: https://www.whitehouse.gov/administration/eop/ceq

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
445 and 501 Hoes Lane
Piscataway, NJ 08854-4141
Ph: 732-981-0060 or 800-701-4333
Fax: 732-981-9667
E-mail: onlinesupport@ieee.org
Internet: https://www.ieee.org/

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 800-344-3555
Fax: 800-593-6372
Internet: https://www.nfpa.org

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)
1320 North Courthouse Rosd, Suite 200
Arlington, VA 22201
Ph: 703-907-7700
Fax: 703-907-7727
E-mail: marketing@tiaonline.org
Internet: https://www.tiaonline.org/

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet:
http://www.wbdg.org/ffc/army-coe/standards
Order Other Documents from:
Official Publications of the Headquarters, USACE
E-mail: hqpublications@usace.army.mil
Internet: http://www.publications.usace.army.mil/
or
https://www.hnc.usace.army.mil/Missions/Engineering-Directorate/TECHINFO/

U.S. DEPARTMENT OF AGRICULTURE (USDA)
Order AMS Publications from:
AGRICULTURAL MARKETING SERVICE (AMS)
Seed Regulatory and Testing Branch
801 Summit Crossing Place, Suite C
Gastonia, NC 28054-2193
Ph: 704-810-8884
E-mail: PA@ams.usda.gov
Internet: https://www.ams.usda.gov/
Order Other Publications from:
USDA Rural Development
Rural Utilities Service
STOP 1510, Rm 5135

1400 Independence Avenue SW
Washington, DC 20250-1510
Phone: (202) 720-9540
Internet:
https://www.rd.usda.gov/about-rd/agencies/rural-utilities-service

U.S. DEPARTMENT OF ENERGY (DOE)
1000 Independence Avenue Southwest
Washington, D.C. 20585
Ph: 202-586-5000
Fax: 202-586-4403
E-mail: The.Secretary@hq.doe.gov
Internet: https://www.energy.gov/

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road
College Park, MD 20740-6001
Ph: 866-272-6272
Internet: https://www.archives.gov/
Order documents from:
Superintendent of Documents
U.S. Government Publishing Office (GPO)
732 N. Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800 or 866-512-1800
Bookstore: 202-512-0132
Internet: https://www.gpo.gov/

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

-- End of Section --

SECTION 01 45 00.00 10

QUALITY CONTROL
11/16

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D3740	(2012a) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E329	(2018) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1110-1-12	(2006; Change 1) Engineering and Design -- Quality Management

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program. Include all associated costs in the applicable Bid Schedule item.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance to Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control (CQC) Plan; G

Additional Requirements for Design Quality Control (DQC) Plan; G

SD-05 Design Data

Discipline-Specific Checklists

Design Quality Control

SD-06 Test Reports

Verification Statement

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with FAR 52.246-12 Inspection of Construction. QC consist of plans, procedures, and organization necessary to produce an end product which complies with the Contract requirements. The QC system covers all design and construction operations, both onsite and offsite, and be keyed to the proposed design and construction sequence. The project superintendent 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 project superintendent. The project superintendent maintains 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.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

Submit no later than 15 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements FAR 52.246-12 Inspection of Construction. The Government will consider an interim plan for the first 30 days of operation. Design and construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional work.

3.2.1 Content of the CQC Plan

Include, as a minimum, the following to cover all design and construction-operations, both onsite and offsite, including work by subcontractors, designers of record, consultants, architect/engineers (AE), fabricators, suppliers and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified. Include a CQC System Manager that reports to the project superintendent.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC

System Manager, including authority to stop work which is not in compliance with the Contract. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the CQC System Manager. Furnish copies of these letters to the Contracting Officer.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, designers of record, consultants, architect engineers (AE), offsite fabricators, suppliers, and purchasing agents. These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer are required to be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking design and construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and is identified by different trades or disciplines, or it is work by the same trade in a different environment. Although each section of the specifications can generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

j. Coordinate scheduled work with Special Inspections required by Section 01 45 35 SPECIAL INSPECTIONS, the Statement of Special Inspections and the Schedule of Special Inspections. Where the applicable Code issue by the International Code Council (ICC) calls for inspections by the Building Official, the Contractor must include the inspections in the Quality Control Plan and must perform the inspections required by the applicable ICC. The Contractor must perform these inspections using independent qualified inspectors. Include the Special Inspection Plan requirements in the QC Plan.

3.2.2 Additional Requirements for Design Quality Control (DQC) Plan

The following additional requirements apply to the Design Quality Control (DQC) plan:

a. Submit and maintain a Design Quality Control (DQC) Plan as an effective quality control program which assures that all services required by this contract are performed and provided in a manner that meets professional architectural and engineering quality standards. As a minimum, all documents must be technically reviewed by competent, independent reviewers identified in the DQC Plan. The same element

that produced the product may not perform the independent technical review (ITR). Correct errors and deficiencies in the design documents prior to submitting them to the Government.

b. Include the design schedule in the master project schedule, showing the sequence of events involved in carrying out the project design tasks within the specific Contract period. This should be at a detailed level of scheduling sufficient to identify all major design tasks, including those that control the flow of work. Include review and correction periods associated with each item. This should be a forward planning as well as a project monitoring tool. The schedule reflects calendar days and not dates for each activity. If the schedule is changed, submit a revised schedule reflecting the change within 7 calendar days. Include in the DQC Plan the discipline-specific checklists to be used during the design and quality control of each submittal. Submit at each design phase as part of the project documentation these completed discipline-specific checklists. ER 1110-1-12 provides some useful information in developing checklists.

c. Implement the DQC Plan by a Design Quality Control Manager who has the responsibility of being cognizant of and assuring that all documents on the project have been coordinated. This individual must be a person who has verifiable engineering or architectural design experience and is a registered professional engineer or architect. Notify the Contracting Officer, in writing, of the name of the individual, and the name of an alternate person assigned to the position.

The Contracting Officer will notify the Contractor in writing of the acceptance of the DQC Plan. After acceptance, any changes proposed by the Contractor are subject to the acceptance of the Contracting Officer.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of design and construction. Acceptance is conditional and will be predicated on satisfactory performance during the design and construction. The Government reserves the right to require the Contractor to make changes in the Contractor Quality Control(CQC) Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Postaward Conference, before start of design or construction, and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. Submit the CQC Plan a minimum of 5 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the CQC operations, design activities, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared by the Government, signed by both the Contractor and the Contracting Officer and will become a

part of the contract file. There can be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a Safety and Health Manager, CQC System Manager, a Design Quality Manager, and sufficient number of additional qualified personnel to ensure safety and Contract compliance. The Safety and Health Manager reports directly to a senior project (or corporate) official independent from the CQC System Manager. The Safety and Health Manager will also serve as a member of the CQC Staff Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff maintains a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure Contract compliance. The CQC staff will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly complete and furnish all letters, material submittals, shop drawing submittals, schedules and all other project documentation to the CQC organization. The CQC organization is responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

Identify as CQC System Manager an individual within the onsite work organization that is responsible for overall management of CQC and has the authority to act in all CQC matters for the Contractor. The CQC System Manager is required to be a construction person with a minimum of 10 years in related work. This CQC System Manager is on the site at all times during construction and is employed by the prime Contractor. The CQC System Manager is assigned no other duties. Identify in the plan an alternate to serve in the event of the CQC System Manager's absence. The requirements for the alternate are the same as the CQC System Manager.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: electrical, mechanical, structural, Cx Agent/LEED Specialist,. These individuals or specialized technical companies are directly employed by the prime Contractor and can not be employed by a supplier or subcontractor on this project; be responsible to the CQC System Manager; be physically present at the construction site during work on the specialized peronnel's areas of responsibility; have the necessary education or experience in accordance with the experience matrix listed herein. These individuals can perform other duties but need to be allowed sufficient time to perform the specialized personnel's assigned quality control duties as described in the Quality Control Plan. A single person can cover more than one area provided that the single person is qualified to perform quality control activities in each designated and that workload allows.

Experience Matrix	
Area	Qualifications
Civil	Graduate Civil Engineer or Construction Manager with 2 years experience in the type of work being performed on this project or technician with 5 yrs related experience
Mechanical	Graduate Mechanical Engineer with 2 yrs experience or person with 5 years of experience supervising mechanical features of work in the field with a construction company
Electrical	Graduate Electrical Engineer with 2 years related experience or person 5 years of experience supervising electrical features of work in the field with a construction company
Structural	Graduate Civil Engineer (with Structural Track or Focus) or Construction Manager with 2 years experience or person 5 years of experience supervising structural features of work in the field with a construction company
Architectural	Graduate Architect with 2 years experience or person with 5 years related experience
Environmental	Graduate Environmental Engineer with 3 years experience
Submittals	Submittal Clerk with 1 year experience
Occupied Family Housing	Person, customer relations type, coordinator experience
Concrete, Pavements and Soils	Materials Technician with 2 years experience for the appropriate area
Testing, Adjusting and Balancing (TAB) Personnel	Specialist must be a member of AABC or an experienced technician of the firm certified by the NEBB
Design Quality Control Manager	Registered Architect or Professional Engineer

3.4.4 Additional Requirement

In addition to the above experience and education requirements, the Contractor Quality Control(CQC) System Manager and Alternate CQC System Manager are required to have completed the Construction Quality Management (CQM) for Contractors course. If the CQC System Manager does not have a current certification, obtain the CQM for Contractors course certification within 90 days of award. This course is periodically offered by the Naval Facilities Engineering Command and the Army Corps of Engineers. Contact the Contracting Officer for information on the next scheduled class.

The Construction Quality Management Training certificate expires after 5 years. If the CQC System Manager's certificate has expired, retake the course to remain current.

3.4.5 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, have to comply with the requirements in Section 01 33 00SUBMITTAL PROCEDURES. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the contract requirements. When Section 01 91 00.15 TOTAL BUILDING COMMISSIONING are included in the contract, the submittals required by those sections have to be coordinated with Section 01 33 00 SUBMITTAL PROCEDURES to ensure adequate time is allowed for each type of submittal required.

3.6 CONTROL

CQC is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control are required to be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase includes:

a. A review of each paragraph of applicable specifications, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the work.

b. Review of the Contract drawings.

c. Check to assure that all materials and equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control

inspection and testing.

e. Review Special Inspections required by Section 01 45 35 SPECIAL INSPECTIONS, the Statement of Special Inspections and the Schedule of Special Inspections.

f. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the Contract.

g. Examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

h. Review of the appropriate activity hazard analysis to assure safety requirements are met.

i. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

j. Check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

k. Discussion of the initial control phase.

l. The Government needs to be notified at least 48 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase is accomplished at the beginning of a definable feature of work. Accomplish the following:

a. Check work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing are in compliance with the contract.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government needs to be notified at least 48 hours in advance of beginning the initial phase for definable feature of work. Prepare

separate minutes of this phase by the CQC System Manager and attach to the daily CQC report. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases.

g. The initial phase for each definable feature of work is repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

h. Coordinate scheduled work with Special Inspections required by Section 01 45 35 SPECIAL INSPECTIONS, the Statement of Special Inspections and the Schedule of Special Inspections.

3.6.3 Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may be affected by the deficient work. Do not build upon nor conceal non-conforming work. Coordinate scheduled work with Special Inspections required by Section 01 45 35 SPECIAL INSPECTIONS, the Statement of Special Inspections and the Schedule of Special Inspections.

3.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and acceptance tests when specified. Procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. Perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Record results of all tests taken, both passing and failing on the CQC report for the date taken. Specification paragraph reference, location

where tests were taken, and the sequential control number identifying the test. If approved by the Contracting Officer, actual test reports are submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to the Contracting Officer. Failure to submit timely test reports as stated results in nonpayment for related work performed and disapproval of the test facility for this Contract.

3.7.2 Testing Laboratories

All testing laboratories must be validated by the USACE Material Testing Center (MTC) for the tests to be performed. Information on the USACE MTC with web-links to both a list of validated testing laboratories and for the laboratory inspection request for can be found at:

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel is required to meet criteria detailed in ASTM D3740 and ASTM E329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge determined by the Contracting Officer's Representative to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the Contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Conduct an inspection of the work by the CQC System Manager near the end of the work, or any increment of the work established by a time stated in FAR 52.211-10 Commencement, Prosecution, and Completion of Work, or by the specifications. Prepare and include in the CQC documentation a punch list of items which do not conform to the approved drawings and specifications, as required by paragraph DOCUMENTATION. Include within the list of deficiencies the estimated date by which the deficiencies will be corrected. Make a second inspection the CQC System Manager or staff to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the

facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. Ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Correct any items noted on the Pre-Final inspection in a timely manner. These inspections and any deficiency corrections required by this paragraph need to be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative is required to be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands can also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notify the Contracting Officer at least 14 days prior to the final acceptance inspection and include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the Contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance FAR 52.246-12 Inspection of Construction.

3.9 DOCUMENTATION

3.9.1 Quality Control Activities

Maintain current records providing factual evidence that required quality control activities and tests have been performed. Include in these records the work of subcontractors and suppliers on an acceptable form that includes, as a minimum, the following information:

a. The name and area of responsibility of the Contractor/Subcontractor.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and control activities performed with results and references to specifications/drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and specifications.

j. Provide documentation of design quality control activities. For independent design reviews, provide, as a minimum, identification of the Independent Technical Review (ITR) team, the ITR review comments, responses and the record of resolution of the comments.

3.9.2 Verification Statement

Indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. Furnish the original and one copy of these records in report form to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, prepare and submit one report for every 7 days of no work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the contract. The first report following a day of no work will be for that day only. Reports need to be signed and dated by the Contractor Quality Control(CQC) System Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC System Manager Report.

3.10 SAMPLE FORMS

Sample forms enclosed at the end of this section.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer can issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

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SECTION 01 45 00.15 10

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)
11/16

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

1.2 MEASUREMENT AND PAYMENT

The work of this section is not measured for payment. The Contractor is responsible for the work of this section, without any direct compensation other than the payment received for contract items.

1.3 CONTRACT ADMINISTRATION

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this contract. The Government accesses the system using the Government Mode of RMS (RMS GM) and the Contractor accesses the system using the Contractor Mode (RMS CM). The term RMS will be used in the remainder of this section for both RMS GM and RMS CM. The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. The Contractor accesses RMS to record, maintain, input, track, and electronically share information with the Government throughout the contract period in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Closeout
Import/Export of Data

1.3.1 Correspondence and Electronic Communications

For ease and speed of communications, exchange correspondence and other documents in electronic format to the maximum extent feasible. Some correspondence, including pay requests and payrolls, are also to be provided in paper format with original signatures. Paper documents will govern, in the event of discrepancy with the electronic version.

1.3.2 Other Factors

Other portions of this document have a direct relationship to the reporting accomplished through RMS. Particular attention is directed to FAR

52.236-15 Schedules for Construction Contracts; FAR 52.232-27 Prompt Payment for Construction Contracts; FAR 52.232-5 Payments Under Fixed-Priced Construction Contracts; Section 01 32 01.00 10 PROJECT SCHEDULE; Section 01 33 00 SUBMITTAL PROCEDURES; Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS; and Section 01 45 00.00 10 QUALITY CONTROL.

1.4 RMS SOFTWARE

RMS is a Windows-based program that can be run on a Windows-based PC meeting the requirements as specified in paragraph SYSTEM REQUIREMENTS. Download, install and be able to utilize the latest version of the RMS software within 7 calendar days of receipt of the Notice to Proceed. RMS software, user manuals, access and installation instructions, program updates and training information are available from the RMS website (http://rmsdocumentation.com). The Government and the Contractor will have different access authorities to the same contract database through RMS. The common database will be updated automatically each time a user finalizes an entry or change.

1.5 SYSTEM REQUIREMENTS

The following is the recommended system configuration to run the Contractor Mode RMS for full utilization of all features for all types and sizes of contracts. Smaller, less complicated, projects may not require the configuration levels described below. Required configuration also noted below.

Recommended RMS System Requirements	
Hardware	
Windows-based PC	1.7 GHz i3; AMD A6 3650 GHz or higher processor (REQUIRED)
RAM	8 GB
Hard drive disk	100 GB space for sole use by RMS system
Monitor	Screen resolution 1366 x 768
Mouse or other pointing device	
Windows compatible printer	Laser printer must have 4 MB+ of RAM
Connection to the Internet	minimum 4 Mbs per user
Software	
MS Windows	Windows 7 x 64 bit (RMS requires 64 bit O/S) or newer (REQUIRED)
Word Processing software	Viewer for MS Word 2013, MS Excel 2013 or newer (REQUIRED)
E-mail	MAPI compatible (REQUIRED)

Recommended RMS System Requirements	
Virus protection software	Regularly upgraded with all issued Manufacturer's updates and is able to detect most zero day viruses (REQUIRED)

1.6 CONTRACT DATABASE - GOVERNMENT

The Government will enter the basic contract award data in RMS prior to granting the Contractor access. The Government entries into RMS will generally be related to submittal reviews, correspondence status, and Quality Assurance(QA)comments, as well as other miscellaneous administrative information.

1.7 CONTRACT DATABASE - CONTRACTOR

Contractor entries into RMS establish, maintain, and update data throughout the duration of the contract. Contractor entries generally include prime and subcontractor information, daily reports, submittals, RFI's, schedule updates and payment requests. RMS includes the ability to import attachments and export reports in many of the modules, including submittals. The Contractor responsibilities for entries in RMS typically include the following items:

1.7.1 Administration

1.7.1.1 Contractor Information

Enter all current Contractor administrative data and information into RMS within 7 calendar days of receiving access to the contract in RMS. This includes, but is not limited to, Contractor's name, address, telephone numbers, management staff, and other required items.

1.7.1.2 Subcontractor Information

Enter all missing subcontractor administrative data and information into RMS CM within 7 calendar days of receiving access to the contract in RMS or within 7 calendar days of the signing of the subcontractor agreement for agreements signed at a later date. This includes name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed.

1.7.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office with "S". Prefix letters initiated by the Contractor's home (main) office with "H". Letters are numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C" or "RFP".

1.7.1.4 Equipment

Enter and maintain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.7.1.5 Reports

Track the status of the project utilizing the reports available in RMS. The value of these reports is reflective of the quality of the data input. These reports include the Progress Payment Request worksheet, Quality Control (QC) comments, Submittal Register Status, and Three-Phase Control worksheets.

1.7.1.6 Request For Information (RFI)

Create and track all Requests For Information (RFI) in the RMS Administration Module for Government review and response.

1.7.2 Finances

1.7.2.1 Pay Activity Data

Develop and enter a list of pay activities in conjunction with the project schedule. The sum of pay activities equals the total contract amount, including modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities assigned to a CLIN equals the amount of each CLIN.

1.7.2.2 Payment Requests

Prepare all progress payment requests using RMS. Update the work completed under the contract at least monthly, measured as percent or as specific quantities. After the update, generate a payment request and prompt payment certification using RMS. Submit the signed prompt payment certification and payment request as well as supporting data either electronically or by hard copy. Unless waived by the Contracting Officer, a signed paper copy of the approved payment certification and request is also required and will govern in the event of discrepancy with the electronic version.

1.7.3 Quality Control (QC)

Enter and track implementation of the 3-phase QC Control System, QC testing, transferred and installed property and warranties in RMS. Prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements in RMS. Maintain all data on a daily basis. Insure that RMS reflects all quality control methods, tests and actions contained within the Contractor Quality Control (CQC) Plan and Government review comments of same within 7 calendar days of Government acceptance of the CQC Plan.

1.7.3.1 Quality Control (QC) Reports

The Contractor's Quality Control (QC) Daily Report in RMS is the official report. The Contractor can use other supplemental formats to record QC data, but information from any supplemental formats are to be consolidated and entered into the RMS QC Daily Report. Any supplemental information may be entered into RMS as an attachment to the report. QC Daily Reports must be finalized and signed in RMS within 24 hours after the date covered by the report. Provide the Government a printed signed copy of the QC Daily Report, unless waived by the Contracting Officer.

1.7.3.2 Deficiency Tracking.

Use the QC Daily Report Module to enter and track deficiencies. Deficiencies identified and entered into RMS by the Contractor or the Government will be sequentially numbered with a QC or QA prefix for tracking purposes. Enter each deficiency into RMS the same day that the deficiency is identified. Monitor, track and resolve all QC and QA entered deficiencies. A deficiency is not considered to be corrected until the Government indicates concurrence in RMS.

1.7.3.3 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS. Worksheets for the three-phase control meetings are generated within RMS.

1.7.3.4 Labor and Equipment Hours

Enter labor and equipment exposure hours on a daily basis. Roll up the labor and equipment exposure data into a monthly exposure report.

1.7.3.5 Accident/Safety Reporting

Both the Contractor and the Government enter safety related comments in RMS as a deficiency. The Contractor must monitor, track and show resolution for safety issues in the QC Daily Report area of the RMS QC Module. In addition, follow all reporting requirements for accidents and incidents as required in EM 385-1-1, Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS and as required by any other applicable Federal, State or local agencies.

1.7.3.6 Definable Features of Work

Enter each feature of work, as defined in the approved CQC Plan, into the RMS QC Module. A feature of work may be associated with a single or multiple pay activities, however a pay activity is only to be linked to a single feature of work.

1.7.3.7 Activity Hazard Analysis

Import activity hazard analysis electronic document files into the RMS QC Module utilizing the document package manager.

1.7.4 Submittal Management

Enter all current submittal register data and information into RMS within 7 calendar days of receiving access to the contract in RMS. The information shown on the submittal register following the specification Section 01 33 00 SUBMITTAL PROCEDURES will already be entered into the RMS database when access is granted. Group electronic submittal documents into transmittal packages to send to the Government, except very large electronic files, samples, spare parts, mock ups, color boards, or where hard copies are specifically required. Track transmittals and update the submittal register in RMS on a daily basis throughout the duration of the contract. Submit hard copies of all submittals unless waived by the Contracting Officer.

1.7.5 Schedule

Enter and update the contract project schedule in RMS by either manually

entering all schedule data or by importing the Standard Data Exchange Format (SDEF) file, based on the requirements in Section 01 32 01.00 13 PROJECT SCHEDULE.

1.7.6 Closeout

Closeout documents, processes and forms are managed and tracked in RMS by both the Contractor and the Government. Ensure that all closeout documents are entered, completed and documented within RMS.

1.8 IMPLEMENTATION

Use of RMS as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS system. RMS is an integral part of the Contractor's required management of quality control.

1.9 NOTIFICATION OF NONCOMPLIANCE

Take corrective action within 7 calendar days after receipt of notice of RMS non-compliance by the Contracting Officer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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CONTRACTOR'S QUALITY CONTROL REPORT (QCR) (ER 1180-1-6)	DATE:	REPORT NO.:

CONTRACT NUMBER AND NAME OF CONTRACTOR:	DESCRIPTION AND LOCATION OF THE WORK:

WEATHER CLASSIFICATION:

CLASS A No interruptions of any kind from weather conditions occurring on this or previous shifts.
CLASS B Weather occurred during this shift that caused a complete stoppage of all work.
CLASS C Weather occurred during this shift that caused a partial stoppage of work.
CLASS D Weather overhead excellent or suitable during shift. Work completely stopped due to results of previous adverse weather.
CLASS E Weather overhead excellent or suitable during shift but work partially stopped due to previous adverse manner.
OTHER Explain.

CLASSIFICATION:

CLASS _____

TEMPERATURE:

MAX _____ MIN _____

PRECIPITATION:

INCHES _____

CONTRACTOR/SUBCONTRACTORS AND AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY: *(Attach list of items of equipment either idle or working as appropriate.)*

a. _____
b. _____
c. _____
d. _____
e. _____
f. _____
g. _____

1. WORK PERFORMED TODAY: (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in Table above.)

PURPOSE: Contractors Daily QC Report. Revision necessitated by EIG recommendation
MONTHLY USAGE: 1,500
PRESCRIBING DIRECTIVE: ER 1180-1-6
FUNCTIONAL CODE: 1180 Series - Engineer Contracts

2. TYPE AND RESULTS OF INSPECTION: (Indicate whether: P - Preparatory, I - Initial, or F - Follow-up and include satisfactory work completed or deficiencies with action to be taken.)

3. TESTS REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:

4. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Government personnel on construction deficiencies. retesting required, etc., with action to be taken.)

5. REMARKS: (Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials: offsite surveillance activities; progress of work, delays, causes and extent thereof; days of no work with reasons for same.)

6. SAFETY: (Include any infractions of approved safety plan, safety manual or instructions from Government personnel. Specify corrective action taken.)

INSPECTOR

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

CONTRACTOR'S APPROVED AUTHORIZED REPRESENTATIVE

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SECTION 01 57 19

TEMPORARY ENVIRONMENTAL CONTROLS
11/15

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
40 CFR 112	Oil Pollution Prevention
40 CFR 122.26	Storm Water Discharges (Applicable to State NPDES Programs, see section 123.25)
40 CFR 241	Guidelines for Disposal of Solid Waste
40 CFR 243	Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste
40 CFR 258	Subtitle D Landfill Requirements
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 261.7	Residues of Hazardous Waste in Empty Containers
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 262.31	Standards Applicable to Generators of Hazardous Waste-Labeling
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 266	Standards for the Management of Specific

	Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 273	Standards For Universal Waste Management
40 CFR 273.2	Standards for Universal Waste Management - Batteries
40 CFR 273.4	Standards for Universal Waste Management - Mercury Containing Equipment
40 CFR 273.5	Standards for Universal Waste Management - Lamps
40 CFR 279	Standards for the Management of Used Oil
40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
40 CFR 300.125	National Oil and Hazardous Substances Pollution Contingency Plan - Notification and Communications
40 CFR 355	Emergency Planning and Notification
40 CFR 50	National Primary and Secondary Ambient Air Quality Standards
40 CFR 60	Standards of Performance for New Stationary Sources
40 CFR 63	National Emission Standards for Hazardous Air Pollutants for Source Categories
40 CFR 64	Compliance Assurance Monitoring
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 172.101	Hazardous Material Regulation-Purpose and Use of Hazardous Material Table
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.2 DEFINITIONS

1.2.1 Class I and II Ozone Depleting Substance (ODS)

Class I ODS is defined in Section 602(a) of The Clean Air Act. A list of

Class I ODS can be found on the EPA website at the following weblink. http://www.epa.gov/ozone/science/ods/classone.html.

Class II ODS is defined in Section 602(s) of The Clean Air Act. A list of Class II ODS can be found on the EPA website at the following weblink. http://www.epa.gov/ozone/science/ods/classtwo.html.

1.2.2 Contractor Generated Hazardous Waste

Contractor generated hazardous waste is materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene), waste thinners, excess paints, excess solvents, waste solvents, excess pesticides, and contaminated pesticide equipment rinse water.

1.2.3 Electronics Waste

Electronics waste is discarded electronic devices intended for salvage, recycling, or disposal.

1.2.4 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally or historically.

1.2.5 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2.6 Hazardous Debris

As defined in paragraph SOLID WASTE, debris that contains listed hazardous waste (either on the debris surface, or in its interstices, such as pore structure) in accordance with 40 CFR 261. Hazardous debris also includes debris that exhibits a characteristic of hazardous waste in accordance with 40 CFR 261.

1.2.7 Hazardous Materials

Hazardous materials as defined in 49 CFR 171 and listed in 49 CFR 172.

Hazardous material is any material that: Is regulated as a hazardous material in accordance with 49 CFR 173; or requires a Safety Data Sheet (SDS) in accordance with 29 CFR 1910.120; or during end use, treatment, handling, packaging, storage, transportation, or disposal meets or has components that meet or have potential to meet the definition of a hazardous waste as defined by 40 CFR 261 Subparts A, B, C, or D.

Designation of a material by this definition, when separately regulated or controlled by other sections or directives, does not eliminate the need for adherence to that hazard-specific guidance which takes precedence over this section for "control" purposes. Such material includes ammunition, weapons, explosive actuated devices, propellants, pyrotechnics, chemical and biological warfare materials, medical and pharmaceutical supplies, medical waste and infectious materials, bulk fuels, radioactive materials, and other materials such as asbestos, mercury, and polychlorinated biphenyls (PCBs).

1.2.8 Hazardous Waste

Hazardous Waste is any material that meets the definition of a solid waste and exhibit a hazardous characteristic (ignitability, corrosivity, reactivity, or toxicity) as specified in 40 CFR 261, Subpart C, or contains a listed hazardous waste as identified in 40 CFR 261, Subpart D.

1.2.9 Land Application

Land Application means spreading or spraying discharge water at a rate that allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" must occur. Comply with federal, state, and local laws and regulations.

1.2.10 Municipal Separate Storm Sewer System (MS4) Permit

MS4 permits are those held by installations to obtain NPDES permit coverage for their stormwater discharges.

1.2.11 National Pollutant Discharge Elimination System (NPDES)

The NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

1.2.12 Oily Waste

Oily waste are those materials that are, or were, mixed with Petroleum, Oils, and Lubricants (POLs) and have become separated from that POLs. Oily wastes also means materials, including wastewaters, centrifuge solids, filter residues or sludges, bottom sediments, tank bottoms, and sorbents which have come into contact with and have been contaminated by, POLs and may be appropriately tested and discarded in a manner which is in compliance with other state and local requirements.

This definition includes materials such as oily rags, "kitty litter" sorbent clay and organic sorbent material. These materials may be land filled provided that: It is not prohibited in other state regulations or local ordinances; the amount generated is "de minimus" (a small amount); it is the result of minor leaks or spills resulting from normal process operations; and free-flowing oil has been removed to the practicable extent possible. Large quantities of this material, generated as a result of a major spill or in lieu of proper maintenance of the processing equipment, are a solid waste. As a solid waste, perform a hazardous waste determination prior to disposal. As this can be an expensive process, it is recommended that this type of waste be minimized through good housekeeping practices and employee education.

1.2.13 Regulated Waste

Regulated waste are solid wastes that have specific additional federal, state, or local controls for handling, storage, or disposal.

1.2.14 Sediment

Sediment is soil and other debris that have eroded and have been transported by runoff water or wind.

1.2.15 Solid Waste

Solid waste is a solid, liquid, semi-solid or contained gaseous waste. A solid waste can be a hazardous waste, non-hazardous waste, or non-Resource Conservation and Recovery Act (RCRA) regulated waste. Types of solid waste typically generated at construction sites may include:

1.2.15.1 Debris

Debris is non-hazardous solid material generated during the construction, demolition, or renovation of a structure that exceeds 2.5-inch particle size that is: a manufactured object; plant or animal matter; or natural geologic material (for example, cobbles and boulders), broken or removed concrete, masonry, and rock asphalt paving; ceramics; roofing paper and shingles. Inert materials may not be reinforced with or contain ferrous wire, rods, accessories and weldments. A mixture of debris and other material such as soil or sludge is also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

1.2.15.2 Green Waste

Green waste is the vegetative matter from landscaping, land clearing and grubbing, including, but not limited to, grass, bushes, scrubs, small trees and saplings, tree stumps and plant roots. Marketable trees, grasses and plants that are indicated to remain, be re-located, or be re-used are not included.

1.2.15.3 Material not regulated as solid waste

Material not regulated as solid waste is nuclear source or byproduct materials regulated under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

1.2.15.4 Non-Hazardous Waste

Non-hazardous waste is waste that is excluded from, or does not meet, hazardous waste criteria in accordance with 40 CFR 263.

1.2.15.5 Recyclables

Recyclables are materials, equipment and assemblies such as doors, windows, door and window frames, plumbing fixtures, glazing and mirrors that are recovered and sold as recyclable, wiring, insulated/non-insulated copper wire cable, wire rope, and structural components. It also includes commercial-grade refrigeration equipment with Freon removed, household

appliances where the basic material content is metal, clean polyethylene terephthalate bottles, cooking oil, used fuel oil, textiles, high-grade paper products and corrugated cardboard, stackable pallets in good condition, clean crating material, and clean rubber/vehicle tires. Metal meeting the definition of lead contaminated or lead based paint contaminated may be included as recyclable if sold to a scrap metal company. Paint cans that meet the definition of empty containers in accordance with 40 CFR 261.7 may be included as recyclable if sold to a scrap metal company.

1.2.15.6 Surplus Soil

Surplus soil is existing soil that is in excess of what is required for this work, including aggregates intended, but not used, for on-site mixing of concrete, mortars, and paving. Contaminated soil meeting the definition of hazardous material or hazardous waste is not included and must be managed in accordance with paragraph HAZARDOUS MATERIAL MANAGEMENT.

1.2.15.7 Scrap Metal

This includes scrap and excess ferrous and non-ferrous metals such as reinforcing steel, structural shapes, pipe, and wire that are recovered or collected and disposed of as scrap. Scrap metal meeting the definition of hazardous material or hazardous waste is not included.

1.2.15.8 Wood

Wood is dimension and non-dimension lumber, plywood, chipboard, hardboard. Treated or painted wood that meets the definition of lead contaminated or lead based contaminated paint is not included. Treated wood includes, but is not limited to, lumber, utility poles, crossties, and other wood products with chemical treatment.

1.2.16 Surface Discharge

Surface discharge means discharge of water into drainage ditches, storm sewers, creeks or "waters of the United States". Surface discharges are discrete, identifiable sources and require a permit from the governing agency. Comply with federal, state, and local laws and regulations.

1.2.17 Wastewater

Wastewater is the used water and solids from a community that flow to a treatment plant.

1.2.17.1 Stormwater

Stormwater is any precipitation in an urban or suburban area that does not evaporate or soak into the ground, but instead collects and flows into storm drains, rivers, and streams.

1.2.18 Waters of the United States

Waters of the United States means Federally jurisdictional waters, including wetlands, that are subject to regulation under Section 404 of the Clean Water Act or navigable waters, as defined under the Rivers and Harbors Act.

1.2.19 Wetlands

Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

1.2.20 Universal Waste

The universal waste regulations streamline collection requirements for certain hazardous wastes in the following categories: batteries, pesticides, mercury-containing equipment (for example, thermostats), and lamps (for example, fluorescent bulbs). The rule is designed to reduce hazardous waste in the municipal solid waste (MSW) stream by making it easier for universal waste handlers to collect these items and send them for recycling or proper disposal. These regulations can be found at 40 CFR 273.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submittals with an "S" are for inclusion in the Sustainability Notebook, in conformance with Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Preconstruction Survey

Solid Waste Management Permit; G

Regulatory Notifications; G

Environmental Protection Plan; G

Stormwater Notice of Intent (for NPDES coverage under the general permit for construction activities); G

Dirt and Dust Control Plan; G

Employee Training Records; G

Environmental Manager Qualifications; G

SD-06 Test Reports

Inspection Reports

Solid Waste Management Report; G

SD-07 Certificates

Employee Training Records; G

Erosion and Sediment Control Inspector Qualifications

SD-11 Closeout Submittals

Stormwater Pollution Prevention Plan Compliance Notebook; G

Stormwater Notice of Termination (for NPDES coverage under the general permit for construction activities); G

Waste Determination Documentation; G

Disposal Documentation for Hazardous and Regulated Waste; G

Assembled Employee Training Records; G

Solid Waste Management Permit; G

Solid Waste Management Report; G

Hazardous Waste/Debris Management; G

Regulatory Notifications; G

Sales Documentation; G

As-Built Topographic Survey

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Protect the environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire duration of this Contract. Comply with federal, state, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

Tests and procedures assessing whether construction operations comply with Applicable Environmental Laws may be required. Analytical work must be performed by qualified laboratories; and where required by law, the laboratories must be certified.

1.4.1 Conformance with the Environmental Management System

Perform work under this contract consistent with the policy and objectives identified in the installation's Environmental Management System (EMS). Perform work in a manner that conforms to objectives and targets of the environmental programs and operational controls identified by the EMS. Support Government personnel when environmental compliance and EMS audits are conducted by escorting auditors at the Project site, answering questions, and providing proof of records being maintained. Provide monitoring and measurement information as necessary to address environmental performance relative to environmental, energy, and transportation management goals. In the event an EMS nonconformance or environmental noncompliance associated with the contracted services, tasks, or actions occurs, take corrective and preventative actions. In addition, employees must be aware of their roles and responsibilities under the

installation EMS and of how these EMS roles and responsibilities affect work performed under the contract.

Coordinate with the installation's EMS coordinator to identify training needs associated with environmental aspects and the EMS, and arrange training or take other action to meet these needs. Provide training documentation to the Contracting Officer. Make EMS Awareness training completion certificates available to Government auditors during EMS audits and include the certificates in the Employee Training Records. See paragraph EMPLOYEE TRAINING RECORDS.

1.5 QUALITY ASSURANCE

1.5.1 Preconstruction Survey and Protection of Features

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any onsite construction activities, perform a Preconstruction Survey of the project site with the Contracting Officer, and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record. Include in the report a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. The Contractor and the Contracting Officer will sign this survey report upon mutual agreement regarding its accuracy and completeness. Protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference that their preservation may cause to the work under the Contract.

1.5.2 Regulatory Notifications

Provide regulatory notification requirements in accordance with federal, state and local regulations. In cases where the Government will also provide public notification (such as stormwater permitting), coordinate with the Contracting Officer. Submit copies of regulatory notifications to the Contracting Officer at least 10 days prior to commencement of work activities. Typically, regulatory notifications must be provided for the following (this listing is not all-inclusive): demolition, renovation, NPDES defined site work, construction, removal or use of a permitted air emissions source, and remediation of controlled substances (asbestos, hazardous waste, lead paint).

1.5.3 Environmental Brief

Attend an environmental brief to be included in the preconstruction meeting. Provide the following information: types, quantities, and use of hazardous materials that will be brought onto the installation; and types and quantities of wastes/wastewater that may be generated during the Contract. Discuss the results of the Preconstruction Survey at this time.

Prior to initiating any work on site, meet with the Contracting Officer and installation Environmental Office to discuss the proposed Environmental Protection Plan (EPP). Develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural and cultural resources, required reports, required permits, permit requirements (such as mitigation measures), and other measures to be taken.

1.5.4 Environmental Manager

Appoint in writing an Environmental Manager for the project site. The Environmental Manager is directly responsible for coordinating contractor compliance with federal, state, local, and installation requirements. The Environmental Manager must ensure compliance with Hazardous Waste Program requirements (including hazardous waste handling, storage, manifesting, and disposal); implement the EPP; ensure environmental permits are obtained, maintained, and closed out; ensure compliance with Stormwater Program requirements; ensure compliance with Hazardous Materials (storage, handling, and reporting) requirements; and coordinate any remediation of regulated substances (lead, asbestos, PCB transformers). This can be a collateral position; however, the person in this position must be trained to adequately accomplish the following duties: ensure waste segregation and storage compatibility requirements are met; inspect and manage Satellite Accumulation areas; ensure only authorized personnel add wastes to containers; ensure Contractor personnel are trained in 40 CFR requirements in accordance with their position requirements; coordinate removal of waste containers; and maintain the Environmental Records binder and required documentation, including environmental permits compliance and close-out. Submit Environmental Manager Qualifications to the Contracting Officer.

1.5.5 Employee Training Records

Prepare and maintain Employee Training Records throughout the term of the contract meeting applicable 40 CFR requirements. Provide Employee Training Records in the Environmental Records Binder. Submit these Assembled Employee Training Records to the Contracting Officer at the conclusion of the project, unless otherwise directed.

Train personnel to meet state requirements. Conduct environmental protection/pollution control meetings for personnel prior to commencing construction activities. Conduct additional meetings for new personnel and when site conditions change. Include in the training and meeting agenda: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, waters of the United States, and endangered species and their habitat that are known to be in the area. Provide copy of the Erosion and Sediment Control Inspector Certification as required byThe State of Florida..

1.5.6 Non-Compliance Notifications

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with federal, state or local environmental laws or regulations, permits, and other elements of the Contractor's EPP. After receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions will be granted or equitable adjustments allowed for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

1.6 ENVIRONMENTAL PROTECTION PLAN

The purpose of the EPP is to present an overview of known or potential environmental issues that must be considered and addressed during construction. Incorporate construction related objectives and targets from the installation's EMS into the EPP. Include in the EPP measures for protecting natural and cultural resources, required reports, and other measures to be taken. Meet with the Contracting Officer or Contracting Officer Representative to discuss the EPP and develop a mutual understanding relative to the details for environmental protection including measures for protecting natural resources, required reports, and other measures to be taken. Submit the EPP within 15 days after notice to proceed and not less than 10 days before the preconstruction meeting. Revise the EPP throughout the project to include any reporting requirements, changes in site conditions, or contract modifications that change the project scope of work in a way that could have an environmental impact. No requirement in this section will relieve the Contractor of any applicable federal, state, and local environmental protection laws and regulations. During Construction, identify, implement, and submit for approval any additional requirements to be included in the EPP. Maintain the current version onsite.

The EPP includes, but is not limited to, the following elements:

1.6.1 General Overview and Purpose

1.6.1.1 Descriptions

A brief description of each specific plan required by environmental permit or elsewhere in this Contract such as stormwater pollution prevention plan, spill control plan, solid waste management plan, wastewater management plan, air pollution control plan, contaminant prevention plan, pesticide treatment plan, a historical, archaeological, cultural resources, biological resources and wetlands plan, traffic control plan, Hazardous, Toxic and Radioactive Waste (HTRW) Plan, Non-Hazardous Solid Waste Disposal Plan, Pollution Prevention Plan, and/or borrowing material plan. The Contractor shall consult the references in Tyndall EMS Procedures when preparing the plans.

3.5.1.1 Solid Waste Management Plan Implementation

a. The Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing and documenting results of the Solid Waste Management Plan for the project.

b. The Contractor shall distribute copies of the Solid Waste Management Plan to key personnel.

c. The Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties.

d. The Contractor shall lay out and label a specific area to facilitate separation of materials for potential recycling, salvage, reuse, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.

1.6.1.2 Duties

The duties and level of authority assigned to the person(s) on the job site who oversee environmental compliance, such as who is responsible for adherence to the EPP, who is responsible for spill cleanup and training personnel on spill response procedures, who is responsible for manifesting hazardous waste to be removed from the site (if applicable), and who is responsible for training the Contractor's environmental protection personnel.

1.6.1.3 Procedures

A copy of any standard or project-specific operating procedures that will be used to effectively manage and protect the environment on the project site.

1.6.1.4 Communications

Communication and training procedures that will be used to convey environmental management requirements to Contractor employees and subcontractors.

1.6.1.5 Contact Information

Emergency contact information contact information (office phone number, cell phone number, and e-mail address).

1.6.2 General Site Information

1.6.2.1 Drawings

Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, jurisdictional wetlands, material storage areas, structures, sanitary facilities, storm drains and conveyances, and stockpiles of excess soil.

1.6.2.2 Work Area

Work area plan showing the proposed activity in each portion of the area and identify the areas of limited use or nonuse. Include measures for marking the limits of use areas, including methods for protection of features to be preserved within authorized work areas and methods to control runoff and to contain materials on site, and a traffic control plan.

1.6.2.3 Documentation

A letter signed by an officer of the firm appointing the Environmental Manager and stating that person is responsible for managing and implementing the Environmental Program as described in this contract. Include in this letter the Environmental Manager's authority to direct the removal and replacement of non-conforming work.

1.6.3 Management of Natural Resources

a. Land resources

b. Tree protection

c. Replacement of damaged landscape features

d. Temporary construction

e. Stream crossings

f. Fish and wildlife resources

g. Wetland areas

1.6.4 Protection of Historical and Archaeological Resources

a. Objectives

b. Methods

1.6.5 Stormwater Management and Control

a. Ground cover

b. Erodible soils

c. Temporary measures

(1) Structural Practices

(2) Temporary and permanent stabilization

d. Effective selection, implementation and maintenance of Best Management Practices (BMPs).

1.6.6 Protection of the Environment from Waste Derived from Contractor Operations

Control and disposal of solid and sanitary waste. Control and disposal of hazardous waste.

This item consist of the management procedures for hazardous waste to be generated. The elements of those procedures will coincide with the Installation Hazardous Waste Management Plan. The Contracting Officer will provide a copy of the Installation Hazardous Waste Management Plan. As a minimum, include the following:

a. List of the types of hazardous wastes expected to be generated

b. Procedures to ensure a written waste determination is made for appropriate wastes that are to be generated

c. Sampling/analysis plan, including laboratory method(s) that will be used for waste determinations and copies of relevant laboratory certifications

d. Methods and proposed locations for hazardous waste accumulation/storage (that is, in tanks or containers)

e. Management procedures for storage, labeling, transportation, and disposal of waste (treatment of waste is not allowed unless specifically noted)

f. Management procedures and regulatory documentation ensuring disposal of

hazardous waste complies with Land Disposal Restrictions (40 CFR 268)

g. Management procedures for recyclable hazardous materials such as lead-acid batteries, used oil, and similar

h. Used oil management procedures in accordance with 40 CFR 279; Hazardous waste minimization procedures

i. Plans for the disposal of hazardous waste by permitted facilities; and Procedures to be employed to ensure required employee training records are maintained.

1.6.7 Prevention of Releases to the Environment

Procedures to prevent releases to the environment

Notifications in the event of a release to the environment

1.6.8 Regulatory Notification and Permits

List what notifications and permit applications must be made. Some permits require up to 180 days to obtain. Demonstrate that those permits have been obtained or applied for by including copies of applicable environmental permits. The EPP will not be approved until the permits have been obtained.

1.6.9 Clean Air Act Compliance

1.6.9.1 Haul Route

Submit truck and material haul routes along with a Dirt and Dust Control Plan for controlling dirt, debris, and dust on Installation roadways. As a minimum, identify in the plan the subcontractor and equipment for cleaning along the haul route and measures to reduce dirt, dust, and debris from roadways.

1.6.9.2 Pollution Generating Equipment

Identify air pollution generating equipment or processes that may require federal, state, or local permits under the Clean Air Act. Determine requirements based on any current installation permits and the impacts of the project. Provide a list of all fixed or mobile equipment, machinery or operations that could generate air emissions during the project to the Installation Environmental Office (Air Program Manager).

1.6.9.3 Stationary Internal Combustion Engines

Identify portable and stationary internal combustion engines that will be supplied, used or serviced. Comply with 40 CFR 60 Subpart IIII, 40 CFR 60 Subpart JJJJ, 40 CFR 63 Subpart ZZZZ, and local regulations as applicable. At minimum, include the make, model, serial number, manufacture date, size (engine brake horsepower), and EPA emission certification status of each engine. Maintain applicable records and log hours of operation and fuel use. Logs must include reasons for operation and delineate between emergency and non-emergency operation.

1.6.9.4 Refrigerants

Identify management practices to ensure that heating, ventilation, and air conditioning (HVAC) work involving refrigerants complies with 40 CFR 82

requirements. Technicians must be certified, maintain copies of certification on site, use certified equipment and log work that requires the addition or removal of refrigerant. Any refrigerant reclaimed is the property of the Government, coordinate with the Installation Environmental Office to determine the appropriate turn in location.

1.6.9.5 Air Pollution-engineering Processes

Identify planned air pollution-generating processes and management control measures (including, but not limited to, spray painting, abrasive blasting, demolition, material handling, fugitive dust, and fugitive emissions). Log hours of operations and track quantities of materials used.

1.6.9.6 Compliant Materials

Provide the Government a list of and SDSs for all hazardous materials proposed for use on site. Materials must be compliant with all Clean Air Act regulations for emissions including solvent and volatile organic compound contents, and applicable National Emission Standards for Hazardous Air Pollutants requirements. The Government may alter or limit use of specific materials as needed to meet installation permit requirements for emissions.

1.7 LICENSES AND PERMITS

Obtain licenses and permits required for the construction of the project and in accordance with FAR 52.236-7. Notify the Government of all general use permitted equipment the Contractor plans to use on site. This paragraph supplements the Contractor's responsibility under FAR 52.236-7.

1.8 ENVIRONMENTAL RECORDS BINDER

Maintain on-site a separate three-ring Environmental Records Binder and submit at the completion of the project. Make separate parts within the binder that correspond to each submittal listed under paragraph CLOSEOUT SUBMITTALS in this section.

1.9 SOLID WASTE MANAGEMENT PERMIT

Provide the Contracting Officer with written notification of the quantity of anticipated solid waste or debris that is anticipated or estimated to be generated by construction. Include in the report the locations where various types of waste will be disposed or recycled. Include letters of acceptance from the receiving location or as applicable; submit one copy of the receiving location state and local Solid Waste Management Permit or license showing such agency's approval of the disposal plan before transporting wastes off Government property.

1.9.1 Solid Waste Management Report

Monthly, submit a solid waste disposal report to the Contracting Officer. For each waste, the report will state the classification (using the definitions provided in this section), amount, location, and name of the business receiving the solid waste.

1.10 FACILITY HAZARDOUS WASTE GENERATOR STATUS

Tyndall AFB is designated as a Large Quantity Generator. Meet the regulatory requirements of this generator designation for any work

conducted within the boundaries of this Installation. Comply with provisions of federal, state, and local regulatory requirements applicable to this generator status regarding training and storage, handling, and disposal of construction derived wastes.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

Minimize interference with, disturbance to, and damage to fish, wildlife, and plants, including their habitats. Prior to the commencement of activities, consult with the Installation Environmental Office, regarding rare species or sensitive habitats that need to be protected. The protection of rare, threatened, and endangered animal and plant species identified, including their habitats, is the Contractor's responsibility.

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work that is consistent with the requirements of the Installation Environmental Office or as otherwise specified. Confine construction activities to within the limits of the work indicated or specified.

3.1.1 Flow Ways

Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as specified and permitted.

3.1.2 Vegetation

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Contracting Officer's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attached ropes, cables, or guys is authorized, the Contractor is responsible for any resultant damage.

Protect existing trees that are to remain to ensure they are not injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. Coordinate with the Contracting Officer and Installation Environmental Office to determine appropriate action for trees and other landscape features scarred or damaged by equipment operations.

3.1.3 Streams

Stream crossings must allow movement of materials or equipment without violating water pollution control standards of the federal, state, and local governments. Construction of stream crossing structures must be in compliance with any required permits including, but not limited to, Clean Water Act Section 404, and Section 401 Water Quality.

The Contracting Officer's approval and appropriate permits are required before any equipment will be permitted to ford live streams. In areas

where frequent crossings are required, install temporary culverts or bridges. Obtain Contracting Officer's approval prior to installation. Remove temporary culverts or bridges upon completion of work, and repair the area to its original condition unless otherwise required by the Contracting Officer.

3.2 STORMWATER

Do not discharge stormwater from construction sites to the sanitary sewer. If the water is noted or suspected of being contaminated, it may only be released to the storm drain system if the discharge is specifically permitted. Obtain authorization in advance from the Installation Environmental Office for any release of contaminated water.

3.2.1 Construction General Permit

Provide a Construction General Permit as required by 40 CFR 122.26 or the State of Florida General Permit. Under the terms and conditions of the permit, install, inspect, maintain BMPs, prepare stormwater erosion and sediment control inspection reports, and retain SWPPP inspection reports. Maintain construction operations and management in compliance with the terms and conditions of the general permit for stormwater discharges from construction activities.

3.2.1.1 Stormwater Pollution Prevention Plan

Submit a project-specific Stormwater Pollution Prevention Plan (SWPPP) to the Contracting Officer for approval, prior to the commencement of work. The SWPPP must meet the requirements of 40 CFR 122.26 and the Florida State General Permit for stormwater discharges from construction sites.

Include the following:

a. Comply with terms of the state general permit for stormwater discharges from construction activities. Prepare SWPPP in accordance with state requirements.

b. Select applicable BMPs from EPA Fact Sheets located at http://water.epa.gov/polwaste/npdes/swbmp/Construction-Site-StormWater-Run-Off-Control.cfm or in accordance with applicable state or local requirements.

c. Include a completed copy of the Notice of Intent, BMP Inspection Report Template, and Stormwater Notice of Termination, except for the effective date.

3.2.1.2 Stormwater Notice of Intent for Construction Activities

Prepare and submit the Notice of Intent for NPDES coverage under the general permit for construction activities to the Contracting Officer for review and approval.

Submit the approved NOI and appropriate permit fees onto the appropriate federal or state agency for approval. No land disturbing activities may commence without permit coverage. Maintain an approved copy of the SWPPP at the onsite construction office, and continually update as regulations require, reflecting current site conditions.

3.2.1.3 Inspection Reports

Submit "Inspection Reports" to the Contracting Officer in accordance with

the State of FloridaConstruction General Permit.

3.2.1.4 Stormwater Pollution Prevention Plan Compliance Notebook

Create and maintain a three ring binder of documents that demonstrate compliance with the Construction General Permit. Include a copy of the permit Notice of Intent, proof of permit fee payment, SWPPP and SWPPP update amendments, inspection reports and related corrective action records, copies of correspondence with the the FloridaState Permitting Agency, and a copy of the permit Notice of Termination in the binder. At project completion, the notebook becomes property of the Government. Provide the compliance notebook to the Contracting Officer.

3.2.1.5 Stormwater Notice of Termination for Construction Activities

Submit a Notice of Termination to the Contracting Officer for approval once construction is complete and final stabilization has been achieved on all portions of the site for which the permittee is responsible. Once approved, submit the Notice of Termination to the appropriate state or federal agency. Prepare as-built topographic survey information required by the permitting agency for certification of the stormwater management system, and provide to the Contracting Officer.

3.2.2 Erosion and Sediment Control Measures

Provide erosion and sediment control measures in accordance with state and local laws and regulations. Preserve vegetation to the maximum extent practicable.

Erosion control inspection reports may be compiled as part of a stormwater pollution prevention plan inspection reports.

3.2.2.1 Erosion Control

Prevent erosion by mulching, Compost Blankets, Geotextiles, temporary slope drains, etc. Stabilize slopes by chemical stabilization, sodding, seeding, etc or such combination of these methods necessary for effective erosion control. Use of hay bales is prohibited.

3.2.2.2 Sediment Control Practices

Implement sediment control practices to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Implement sediment control practices prior to soil disturbance and prior to creating areas with concentrated flow, during the construction process to minimize erosion and sediment laden runoff.

Earthwork brought to final grade shall be finished as indicated. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in cases where the constructed feature obscures borrow areas, quarries, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the developed areas as approved by the Contracting Officer. The Contractor shall effectively prevent erosion and control sedimentation through approved methods, including but not limited to, the following:

a. Retardation and control of runoff. Runoff from the construction site or from storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, berms, and by any measures required by area wide plans under the Clean Water Act.

b. Erosion and sedimentation control devices. The Contractor shall construct or install temporary and permanent erosion and sedimentation control features as indicated on the construction drawings and specifications. Berms, dikes, drains, sedimentation basins, grassing, and mulching shall be maintained until permanent drainage and erosion control facilities are completed and operative.

The Contractor shall provide erosion and sediment controls in accordance with Engineering Technical Letter (ETL) 03-1: Storm Water Construction Standards.

3.2.3 Work Area Limits

Mark the areas that need not be disturbed under this Contract prior to commencing construction activities. Mark or fence isolated areas within the general work area that are not to be disturbed. Protect monuments and markers before construction operations commence. Where construction operations are to be conducted during darkness, any markers must be visible in the dark. Personnel must be knowledgeable of the purpose for marking and protecting particular objects.

3.2.4 Contractor Facilities and Work Areas

Place field offices, staging areas, stockpile storage, and temporary buildings in areas designated on the drawings or as directed by the Contracting Officer. Move or relocate the Contractor facilities only when approved by the Government. Provide erosion and sediment controls for onsite borrow and spoil areas to prevent sediment from entering nearby waters. Control temporary excavation and embankments for plant or work areas to protect adjacent areas.

3.2.5 Municipal Separate Storm Sewer System (MS4) Management

Comply with the Installation's MS4 permit requirements.

3.2.6 Environmental Resource Permit

The Contractor shall comply with all Environmental Resource Permit requirements in accordance with FL Admin Code 62-330.

3.3 SURFACE AND GROUNDWATER

3.3.1 Cofferdams, Diversions, and Dewatering

Construction operations for dewatering, removal of cofferdams, tailrace excavation, and tunnel closure must be constantly controlled to maintain compliance with existing state water quality standards and designated uses of the surface water body. Comply with the State of Florida water quality standards and anti-degradation provisions . Do not discharge excavation ground water to the sanitary sewer, storm drains, or to surface waters without prior specific authorization in writing from the Installation Environmental Office. Discharge of hazardous substances will not be

permitted under any circumstances. Use sediment control BMPs to prevent construction site runoff from directly entering any storm drain or surface waters.

If the construction dewatering is noted or suspected of being contaminated, it may only be released to the storm drain system if the discharge is specifically permitted. Obtain authorization for any contaminated groundwater release in advance from the Installation Environmental Officer and the federal or state authority, as applicable. Discharge of hazardous substances will not be permitted under any circumstances.

3.3.2 Waters of the United States

Do not enter, disturb, destroy, or allow discharge of contaminants into waters of the United States except as authorized herein. The protection of waters of the United States shown on the drawings in accordance with paragraph LICENSES AND PERMITS is the Contractor's responsibility. Authorization to enter specific waters of the United States identified does not relieve the Contractor from any obligation to protect other waters of the United States within, adjacent to, or in the vicinity of the construction site and associated boundaries.

3.4 PROTECTION OF CULTURAL RESOURCES

3.4.1 Archaeological Resources

If, during excavation or other construction activities, any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, activities that may damage or alter such resources will be suspended. Resources covered by this paragraph include, but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. Cease all activities that may result in impact to or the destruction of these resources. Secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources. The Government retains ownership and control over archaeological resources.

3.5 AIR RESOURCES

Equipment operation, activities, or processes will be in accordance with 40 CFR 64 and state air emission and performance laws and standards. Equipment operation and activities or processes performed by the Contractor in accomplishing the specified construction shall be in accordance with State of Florida rules and all Federal emission and performance laws and standards. Ambient Air Quality Standards set by the Environmental Protection Agency shall be maintained. Monitoring of air quality shall be the Contractor's responsibility. All air areas affected by the construction activities shall be monitored by the Contractor. Monitoring results will be periodically reviewed by the Government to ensure compliance.

3.5.1 Preconstruction Air Permits

Notify the Air Program Manager, through the Contracting Officer, at least 6

months prior to bringing equipment, assembled or unassembled, onto the Installation, so that air permits can be secured. Necessary permitting time must be considered in regard to construction activities. Clean Air Act (CAA) permits must be obtained prior to bringing equipment, assembled or unassembled, onto the Installation.

3.5.2 Oil or Dual-fuel Boilers and Furnaces

Provide product data and details for new, replacement, or relocated fuel fired boilers, heaters, or furnaces to the Installation Environmental Office (Air Program Manager) through the Contracting Officer. Data to be reported include: equipment purpose (water heater, building heat, process), manufacturer, model number, serial number, fuel type (oil type, gas type) size (MMBTU heat input). Provide in accordance with paragraph PRECONSTRUCTION AIR PERMITS.

3.5.3 Burning

Burning is prohibited on the Government premises.

3.5.4 Hydrocarbons and Carbon Monoxide

Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and State allowable limits at all times.

3.5.5 Class I and II ODS Prohibition

Class I and II ODS are Government property and must be returned to the Government for appropriate management. Coordinate with the Installation Environmental Office to determine the appropriate location for turn in of all reclaimed refrigerant.

3.5.6 Accidental Venting of Refrigerant

Accidental venting of a refrigerant is a release and must be reported immediately to the Contracting Officer.

3.5.7 EPA Certification Requirements

Heating and air conditioning technicians must be certified through an EPA-approved program. Maintain copies of certifications at the employees' places of business; technicians must carry certification wallet cards, as provided by environmental law.

3.5.8 Dust Control

Keep dust down at all times, including during nonworking periods. Sprinkle or treat, with dust suppressants, the soil at the site, haul roads, and other areas disturbed by operations. Dry power brooming will not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing will be permitted only for cleaning nonparticulate debris such as steel reinforcing bars. Only wet cutting will be permitted for cutting concrete blocks, concrete, and bituminous concrete. Do not unnecessarily shake bags of cement, concrete mortar, or plaster.

3.5.8.1 Particulates

Dust particles, aerosols and gaseous by-products from construction activities, and processing and preparation of materials (such as from

asphaltic batch plants) must be controlled at all times, including weekends, holidays, and hours when work is not in progress. Maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates that would exceed 40 CFR 50, state, and local air pollution standards or that would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators, or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp. Provide sufficient, competent equipment available to accomplish these tasks. Perform particulate control as the work proceeds and whenever a particulate nuisance or hazard occurs. Comply with state and local visibility regulations.

3.5.8.2 Abrasive Blasting

Blasting operations cannot be performed without prior approval of the Installation Air Program Manager. The use of silica sand is prohibited in sandblasting.

Provide tarpaulin drop cloths and windscreens to enclose abrasive blasting operations to confine and collect dust, abrasive agent, paint chips, and other debris.

3.5.9 Odors

Control odors from construction activities. The odors must be in compliance with state regulations and local ordinances and may not constitute a health hazard.

3.6 WASTE MINIMIZATION

IT IS TYNDALL AFB POLICY FOR ALL CONTRACTORS TO MAXIMIZE ALL RECYCLING OPPORTUNITIES DURING RENOVATION AND CONSTRUCTION. Minimize the use of hazardous materials and the generation of waste. Include procedures for pollution prevention/ hazardous waste minimization in the Hazardous Waste Management Section of the EPP. Obtain a copy of the installation's Pollution Prevention/Hazardous Waste Minimization Plan for reference material when preparing this part of the EPP. If no written plan exists, obtain information by contacting the Contracting Officer. Describe the anticipated types of the hazardous materials to be used in the construction when requesting information.

3.6.1 Pollution Prevention

The Contractor shall pursue pollution prevention, waste minimization and recycling as much as possible to reduce environmental compliance requirements. The Contractor shall seek alternatives for hazardous materials, especially those that generate hazardous waste as well as air and water pollutants.

3.6.2 Affirmative Procurement

Then Contractor shall observe all affirmative procurement requirement as outlined in Executive Order 13693 (Planning for Federal Sustainability in the Next Decade) and referenced laws therein, as well as Federal Comprehensive Procurement Guidelines and Recovered Materials Advisory Notices.

3.6.3 Salvage, Reuse and Recycle

IT IS TYNDALL AFB POLICY FOR ALL CONTRACTORS TO MAXIMIZE ALL RECYCLING OPPORTUNITIES DURING RENOVATION AND CONSTRUCTION. Identify anticipated materials and waste for salvage, reuse, and recycling. Describe actions to promote material reuse, resale or recycling. To the extent practicable, all scrap metal must be sent for reuse or recycling and will not be disposed of in a landfill.

Include the name, physical address, and telephone number of the hauler, if transported by a franchised solid waste hauler. Include the destination and, unless exempted, provide a copy of the state or local permit (cover) or license for recycling.

3.6.4 Nonhazardous Solid Waste Diversion Report

Maintain an inventory of nonhazardous solid waste diversion and disposal of construction and demolition debris. Submit a report to the Contracting Officer on the first working day after each fiscal year quarter, starting the first quarter that nonhazardous solid waste has been generated. The Contractor shall submit a report to 325 CEG/CEIEC, Solid Waste Management, through the Contracting Officer on the first working day after each fiscal year quarter, starting the first quarter that non-hazardous solid waste has been generated. The report shall provide clear description of the solid waste. Describe such as dirt, concrete, wood/light metal, etc. Include the following in the report:

Construction and Demolition (C&D) Debris Dispose. The amount (in tons) of material land-filled from the project, the identity of the landfill, the total amount of tipping fees paid at the landfill, and the total disposal cost. Include manifests, weight tickets, receipt, and invoices.	cubic yards or tons, as appropriate
C&D Debris Recycled. For each material recycled, reused or salvaged from the project, the amount (in tons), the date removed from the job-site, the receiving party, the transportation cost, the amount of any money paid or received for the recycled or salvaged material, and the net total cost or savings or salvage or recycling each material. Attach manifests, weight tickets, receipts, and invoices.	cubic yards or tons as appropriate
Total C&D Debris Generated	cubic yards or tons as appropriate

Construction and Demolition (C&D) Debris Dispose. The amount (in tons) of material land-filled from the project, the identity of the landfill, the total amount of tipping fees paid at the landfill, and the total disposal cost. Include manifests, weight tickets, receipt, and invoices.	cubic yards or tons, as appropriate
Waste Sent to Waste-To-Energy Incineration Plant (This amount should not be included in the recycled amount)	cubic yards or tons as appropriate

3.7 WASTE MANAGEMENT AND DISPOSAL

3.7.1 Waste Determination Documentation

Complete a Waste Determination form (provided at the pre-construction conference) for Contractor-derived wastes to be generated. All potentially hazardous solid waste streams that are not subject to a specific exclusion or exemption from the hazardous waste regulations (e.g. scrap metal, domestic sewage) or subject to special rules, (lead-acid batteries and precious metals) must be characterized in accordance with the requirements of 40 CFR 261 or corresponding applicable state or local regulations. Base waste determination on user knowledge of the processes and materials used, and analytical data when necessary. Consult with the Installation environmental staff for guidance on specific requirements. Attach support documentation to the Waste Determination form. As a minimum, provide a Waste Determination form for the following waste (this listing is not inclusive): oil- and latex -based painting and caulking products, solvents, adhesives, aerosols, petroleum products, and containers of the original materials.

3.7.2 Solid Waste Management

3.7.2.1 Solid Waste Management Report

Provide copies of the waste handling facilities' weight tickets, receipts, bills of sale, and other sales documentation. In lieu of sales documentation, a statement indicating the disposal location for the solid waste that is signed by an employee authorized to legally obligate or bind the firm may be submitted. The sales documentation must include the receiver's tax identification number and business, EPA or state registration number, along with the receiver's delivery and business addresses and telephone numbers. For each solid waste retained for the Contractor's own use, submit the information previously described in this paragraph on the solid waste disposal report. Prices paid or received do not have to be reported to the Contracting Officer unless required by other provisions or specifications of this Contract or public law.

3.7.2.2 Control and Management of Solid Wastes

Pick up solid wastes, and place in covered containers that are regularly emptied. Do not prepare or cook food on the project site. Prevent contamination of the site or other areas when handling and disposing of wastes. At project completion, leave the areas clean. Employ segregation

measures so that no hazardous or toxic waste will become co-mingled with non-hazardous solid waste. Transport solid waste off Government property and dispose of it in compliance with 40 CFR 260, state, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill is the minimum acceptable offsite solid waste disposal option. Verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate. Solid waste disposal offsite must comply with most stringent local, state, and federal requirements, including 40 CFR 241, 40 CFR 243, and 40 CFR 258.

Manage hazardous material used in construction, including but not limited to, aerosol cans, waste paint, cleaning solvents, contaminated brushes, and used rags, in accordance with 49 CFR 173.

3.7.3 Control and Management of Hazardous Waste

Do not dispose of hazardous waste on Government property. Do not discharge any waste to a sanitary sewer, storm drain, or to surface waters or conduct waste treatment or disposal on Government property without written approval of the Contracting Officer.

3.7.3.1 Hazardous Waste/Debris Management

Identify construction activities that will generate hazardous waste or debris. Provide a documented waste determination for resultant waste streams. Identify, label, handle, store, and dispose of hazardous waste or debris in accordance with federal, state, and local regulations, including 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, 40 CFR 265, 40 CFR 266, and 40 CFR 268.

Manage hazardous waste in accordance with the approved Hazardous Waste Management Section of the EPP. Store hazardous wastes in approved containers in accordance with 49 CFR 173 and 49 CFR 178. Hazardous waste generated within the confines of Government facilities is identified as being generated by the Government. Prior to removal of any hazardous waste from Government property, hazardous waste manifests must be signed by personnel from the Installation Environmental Office. Do not bring hazardous waste onto Government property. Provide the Contracting Officer with a copy of waste determination documentation for any solid waste streams that have any potential to be hazardous waste or contain any chemical constituents listed in 40 CFR 372-SUBPART D.

3.7.3.2 Hazardous Waste Disposal

3.7.3.2.1 Responsibilities for Contractor's Disposal

Provide hazardous waste manifest to the Installations Environmental Office for review, approval, and signature prior to shipping waste off Government property.

3.7.3.2.1.1 Services

Provide service necessary for the final treatment or disposal of the hazardous material or waste in accordance with 40 CFR 260, local, and state, laws and regulations, and the terms and conditions of the Contract within 60 days after the materials have been generated. These services include necessary personnel, labor, transportation, packaging, detailed analysis (if required for disposal or transportation, include manifesting or complete waste profile sheets, equipment, and compile documentation).

3.7.3.2.1.2 Samples

Obtain a representative sample of the material generated for each job done to provide waste stream determination.

3.7.3.2.1.3 Analysis

Analyze each sample taken and provide analytical results to the Contracting Officer. See paragraph WASTE DETERMINATION DOCUMENTATION.

3.7.3.2.1.4 Labeling

Determine the Department of Transportation's (DOT's) proper shipping names for waste (each container requiring disposal) and demonstrate to the Contracting Officer how this determination is developed and supported by the sampling and analysis requirements contained herein. Label all containers of hazardous waste with the words "Hazardous Waste" or other words to describe the contents of the container in accordance with 40 CFR 262.31 and applicable state or local regulations.

3.7.3.2.2 Contractor Disposal Turn-In Requirements

Hazardous waste generated must be disposed of in accordance with the following conditions to meet installation requirements:

a. Drums must be compatible with waste contents and drums must meet DOT requirements for 49 CFR 173 for transportation of materials.

b. Band drums to wooden pallets.

c. No more than three 55 gallon drums or two 85 gallon over packs are to be banded to a pallet.

d. Band using 1-1/4 inch minimum band on upper third of drum.

e. Provide label in accordance with 49 CFR 172.101.

f. Leave 3 to 5 inches of empty space above volume of material.

3.7.3.3 Universal Waste Management

Manage the following categories of universal waste in accordance with federal, state, and local requirements and installation instructions:

a. Batteries as described in 40 CFR 273.2

b. Lamps as described in 40 CFR 273.5

c. Mercury-containing equipment as described in 40 CFR 273.4

Mercury is prohibited in the construction of this facility, unless specified otherwise, and with the exception of mercury vapor lamps and fluorescent lamps. Dumping of mercury-containing materials and devices such as mercury vapor lamps, fluorescent lamps, and mercury switches, in rubbish containers is prohibited. Remove without breaking, pack to prevent breakage, and transport out of the activity in an unbroken condition for disposal as directed.

3.7.3.4 Electronics End-of-Life Management

Recycle or dispose of electronics waste, including, but not limited to, used electronic devices such computers, monitors, hard-copy devices, televisions, mobile devices, in accordance with 40 CFR 260-262, state, and local requirements, and installation instructions.

3.7.3.5 Disposal Documentation for Hazardous and Regulated Waste

Contact the Contracting Officer for the facility RCRA identification number that is to be used on each manifest.

Submit a copy of the applicable EPA and or state permit(s), manifest(s), or license(s) for transportation, treatment, storage, and disposal of hazardous and regulated waste by permitted facilities. Hazardous or toxic waste manifests must be reviewed, signed, and approved by the Contracting Officer before the Contractor may ship waste. To obtain specific disposal instructions, coordinate with the Installation Environmental Office.

3.7.4 Releases/Spills of Oil and Hazardous Substances

3.7.4.1 Response and Notifications

Exercise due diligence to prevent, contain, and respond to spills of hazardous material, hazardous substances, hazardous waste, sewage, regulated gas, petroleum, lubrication oil, and other substances regulated in accordance with 40 CFR 300. Maintain spill cleanup equipment and materials at the work site. In the event of a spill, take prompt, effective action to stop, contain, curtail, or otherwise limit the amount, duration, and severity of the spill/release. In the event of any releases of oil and hazardous substances, chemicals, or gases; immediately (within 15 minutes) notify the Installation Fire Department, the Installation Command Duty Officer, the Installation Environmental Office, the Contracting Officer and the state or local authority.

Submit verbal and written notifications as required by the federal (40 CFR 300.125 and 40 CFR 355), state, local regulations and instructions. Provide copies of the written notification and documentation that a verbal notification was made within 20 days. Spill response must be in accordance with 40 CFR 300 and applicable state and local regulations. Contain and clean up these spills without cost to the Government.

3.7.4.2 Clean Up

Clean up hazardous and non-hazardous waste spills. Reimburse the Government for costs incurred including sample analysis materials, clothing, equipment, and labor if the Government will initiate its own spill cleanup procedures, for Contractor- responsible spills, when: Spill cleanup procedures have not begun within one hour of spill discovery/occurrence; or, in the Government's judgment, spill cleanup is inadequate and the spill remains a threat to human health or the environment.

3.7.5 Mercury Materials

Immediately report to the Environmental Office and the Contracting Officer instances of breakage or mercury spillage. Clean mercury spill area to the satisfaction of the Contracting Officer.

Do not recycle a mercury spill cleanup; manage it as a hazardous waste for disposal.

3.7.6 Wastewater

3.7.6.1 Disposal of wastewater must be as specified below.

3.7.6.1.1 Treatment

Do not allow wastewater from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, and forms to enter water ways or to be discharged prior to being treated to remove pollutants. Dispose of the construction- related waste water by collecting and placing it in a retention pond where suspended material can be settled out or the water can evaporate to separate pollutants from the water. The site for the retention pond must be coordinated and approved with the Contracting Officer. The residue left in the pond prior to completion of the project must be removed, tested, and disposed of off- Government property in accordance with federal, state, and local laws and regulations. Backfill the area to the original grade, top-soiled, and seeded or sodded. Test the water in the retention pond for contaminants of concern and have the results reviewed and approved by the Contracting Officer prior to being discharged or disposed of off- Government property.

3.7.6.1.2 Surface Discharge

For discharge of ground water, obtain a state or federal permit specific for pumping and discharging ground water prior to surface discharging.

3.7.6.1.3 Land Application

Water generated from the flushing of lines after disinfection or disinfection in conjunction with hydrostatic testing must be land- applied in accordance with federal, state, and local laws and regulations for land application or discharged into the sanitary sewer with prior approval and notification to the Wastewater Treatment Plant's Operator.

3.8 HAZARDOUS MATERIAL MANAGEMENT

The Contractor shall submit to the Contracting Officer a list of all hazardous materials to be brought onto Tyndall AFB property prior to the on set of any work. The list shall include all paints, solvents, POL products, pesticides, etc., to be used during the duration of the contract. All newly identified requirements for hazardous material after the above list is submitted shall be coordinated with and approved by Tyndall AFB prior to bringing the material on tyndall property. An MSDS must be on hand for all hazardous material in use. All empty and unused hazardous material will be properly disposed of and removed from Tyndall AFB by the Contractor, when contract is completed.

Include hazardous material control procedures in the Safety Plan, in accordance with Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS. Address procedures and proper handling of hazardous materials, including the appropriate transportation requirements. Do not bring hazardous material onto Government property that does not directly relate to requirements for the performance of this contract. Submit an SDS and estimated quantities to be used for each hazardous material to the Contracting Officer prior to bringing the material on the installation. Typical materials requiring SDS

and quantity reporting include, but are not limited to, oil and latex based painting and caulking products, solvents, adhesives, aerosol, and petroleum products. Use hazardous materials in a manner that minimizes the amount of hazardous waste generated. Containers of hazardous materials must have National Fire Protection Association labels or their equivalent. Certify that hazardous materials removed from the site are hazardous materials and do not meet the definition of hazardous waste, in accordance with 40 CFR 261.

3.9 PREVIOUSLY USED EQUIPMENT

Clean previously used construction equipment prior to bringing it onto the project site. Equipment must be free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. Consult with the U.S. Department of Agriculture jurisdictional office for additional cleaning requirements.

3.10 CONTROL AND MANAGEMENT OF ASBESTOS-CONTAINING MATERIAL (ACM)

Manage and dispose of asbestos- containing waste in accordance with 40 CFR 61. In accordance with FAC 62-257 and 40 CFR 61.145, State notification must be made 10 working days prior to demolition or a replacement of a load-supporting structural member and a copy of this notice must be sent to 325 CEG/CEIEC. Manifests can only be signed by 325 CEG/CEIEC, Environmental Compliance. Manifest asbestos-containing waste and provide the signed copy from the approved disposal site to the Contracting Officer and 325 CEG/CEIEC.

3.11 CONTROL AND MANAGEMENT OF LEAD-BASED PAINT (LBP)

Manage and dispose of lead-contaminated waste in accordance with 40 CFR 745 and 40 CFR 260. Manifests can only be signed by 325 CEG/CEIEC, Environmental Compliance. Manifest lead-containing waste and provide the signed copy from the approved disposal site to the Contracting Officer and 325 CEG/CEIEC.

3.12 CONTROL AND MANAGEMENT OF POLYCHLORINATED BIPHENYLS (PCBS)

Manage and dispose of PCB-contaminated waste in accordance with 40 CFR 761. Manifests can only be signed by 325 CEG/CEIEC, Environmental Compliance. Manifest PCB-containing waste and provide the signed copy from the approved disposal site to the Contracting Officer and 325 CEG/CEIEC.

3.13 CONTROL AND MANAGEMENT OF LIGHTING BALLAST AND LAMPS CONTAINING PCBS AND MERCURY

Manage and dispose of Light Ballasts and lamps containing PCB and mercury waste in accordance with 40 CFR 761 and 40 CFR 260. Manifests can only be signed by 325 CEG/CEIEC, Environmental Compliance. Manifest PCB-containing waste and provide the signed copy from the approved disposal site to the Contracting Officer and 325 CEG/CEIEC.

3.14 MILITARY MUNITIONS

In the event military munitions, as defined in 40 CFR 260, are discovered or uncovered, immediately stop work in that area and immediately inform the Contracting Officer.

3.15 PETROLEUM, OIL, LUBRICANT (POL) STORAGE AND FUELING

POL products include flammable or combustible liquids, such as gasoline, diesel, lubricating oil, used engine oil, hydraulic oil, mineral oil, and cooking oil. Store POL products and fuel equipment and motor vehicles in a manner that affords the maximum protection against spills into the environment. Manage and store POL products in accordance with EPA 40 CFR 112, and other federal, state, regional, and local laws and regulations. Use secondary containments, dikes, curbs, and other barriers, to prevent POL products from spilling and entering the ground, storm or sewer drains, stormwater ditches or canals, or navigable waters of the United States. Describe in the EPP (see paragraph ENVIRONMENTAL PROTECTION PLAN) how POL tanks and containers must be stored, managed, and inspected and what protections must be provided. Storage of fuel on the project site must be in accordance with EPA, state, and local laws and regulations and paragraph OIL STORAGE INCLUDING FUEL TANKS.

3.15.1 Used Oil Management

Manage used oil generated on site in accordance with 40 CFR 279. Determine if any used oil generated while onsite exhibits a characteristic of hazardous waste. Used oil containing 1,000 parts per million of solvents is considered a hazardous waste and disposed of at the Contractor's expense. Used oil mixed with a hazardous waste is also considered a hazardous waste. Dispose in accordance with paragraph HAZARDOUS WASTE DISPOSAL.

3.15.2 Oil Storage Including Fuel Tanks

Provide secondary containment and overfill protection for oil storage tanks. A berm used to provide secondary containment must be of sufficient size and strength to contain the contents of the tanks plus 5 inches freeboard for precipitation. Construct the berm to be impervious to oil for 72 hours that no discharge will permeate, drain, infiltrate, or otherwise escape before cleanup occurs. Use drip pans during oil transfer operations; adequate absorbent material must be onsite to clean up any spills and prevent releases to the environment. Cover tanks and drip pans during inclement weather. Provide procedures and equipment to prevent overfilling of tanks. If tanks and containers with an aggregate aboveground capacity greater than 1320 gallons will be used onsite (only containers with a capacity of 55 gallons or greater are counted), provide and implement a SPCC plan meeting the requirements of 40 CFR 112. Do not bring underground storage tanks to the installation for Contractor use during a project. Submit the SPCC plan to the Contracting Officer for approval.

Monitor and remove any rainwater that accumulates in open containment dikes or berms. Inspect the accumulated rainwater prior to draining from a containment dike to the environment, to determine there is no oil sheen present.

3.16 INADVERTENT DISCOVERY OF PETROLEUM-CONTAMINATED SOIL OR HAZARDOUS WASTES

If petroleum-contaminated soil, or suspected hazardous waste is found during construction that was not identified in the Contract documents, immediately notify the Contracting Officer. Do not disturb this material until authorized by the Contracting Officer.

3.17 CHLORDANE

Evaluate excess soils and concrete foundation debris generated during the demolition of housing units or other wooden structures for the presence of chlordane or other pesticides prior to reuse or final disposal.

3.18 SOUND INTRUSION

Make the maximum use of low-noise emission products, as certified by the EPA. Blasting or use of explosives are not permitted without written permission from the Contracting Officer, and then only during the designated times. .

Keep construction activities under surveillance and control to minimize environment damage by noise. Comply with the provisions of the State of Florida rules.

3.19 POST CONSTRUCTION CLEANUP

Clean up areas used for construction in accordance with Contract Clause: "Cleaning Up". Unless otherwise instructed in writing by the Contracting Officer, remove traces of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. Grade parking area and similar temporarily used areas to conform with surrounding contours.

-- End of Section --

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
02/19

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 273	Standards for Universal Waste Management
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.2 DEFINITIONS

1.2.1 Co-mingle

The practice of placing unrelated materials together in a single container, usually for benefits of convenience and speed.

1.2.2 Construction Waste

Waste generated by construction activities, such as scrap materials, damaged or spoiled materials, temporary and expendable construction materials, and other waste generated by the workforce during construction activities.

1.2.3 Demolition Debris/Waste

Waste generated from demolition activities, including minor incidental demolition waste materials generated as a result of Intentional dismantling of all or portions of a building, to include clearing of building contents that have been destroyed or damaged.

1.2.4 Disposal

Depositing waste in a solid waste disposal facility, usually a managed landfill, regulated in the US under the Resource Conservation and Recovery Act (RCRA).

1.2.5 Diversion

The practice of diverting waste from disposal in a landfill, by means of eliminating or minimizing waste, or reuse of materials.

1.2.6 Final Construction Waste Diversion Report

A written assertion by a material recovery facility operator identifying

constituent materials diverted from disposal, usually including summary tabulations of materials, weight in short-ton.

1.2.7 Recycling

The series of activities, including collection, separation, and processing, by which products or other materials are diverted from the solid waste stream for use in the form of raw materials in the manufacture of new products sold or distributed in commerce, or the reuse of such materials as substitutes for goods made of virgin materials, other than fuel.

1.2.8 Reuse

The use of a product or materials again for the same purpose, in its original form or with little enhancement or change.

1.2.9 Salvage

Usable, salable items derived from buildings undergoing demolition or deconstruction, parts from vehicles, machinery, other equipment, or other components.

1.2.10 Source Separation

The practice of administering and implementing a management strategy to identify and segregate unrelated waste at the first opportunity.

1.3 CONSTRUCTION WASTE (INCLUDES DEMOLITION DEBRIS/WASTE)

Divert a minimum of 60 percent by weight of the project construction waste and demolition debris/waste from the landfill. Follow applicable industry standards in the management of waste. Apply sound environmental principles in the management of waste. (1) Practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction waste and demolition debris/waste from landfills and incinerators and to facilitate the recycling or reuse of excess construction materials.

1.4 CONSTRUCTION WASTE MANAGEMENT

Implement a construction waste management program for the project. Take a pro-active, responsible role in the management of construction construction waste, recycling process, disposal of demolition debris/waste, and require all subcontractors, vendors, and suppliers to participate in the construction waste management program. Establish a process for clear tracking, and documentation of construction waste and demolition debris/waste.

1.4.1 Implementation of Construction Waste Management Program

Develop and document how the construction waste management program will be implemented in a construction waste management plan. Submit a Construction Waste Management Plan to the Contracting Officer for approval. Construction waste and demolition debris/waste materials include un-used construction materials not incorporated in the final work, as well as demolition debris/waste materials from demolition activities or deconstruction activities. In the management of waste, consider the availability of viable markets, the condition of materials, the ability to provide material in suitable condition and in a quantity acceptable to

available markets, and time constraints imposed by internal project completion mandates.

1.4.2 Oversight

The Quality Control Manager, as specified in Section 01 45 00.00 10 QUALITY CONTROL, is responsible for overseeing and documenting results from executing the construction waste management plan for the project.

1.4.3 Special Programs

Implement any special programs involving rebates or similar incentives related to recycling of construction waste and demolition debris/waste materials. Retain revenue or savings from salvaged or recycling, unless otherwise directed. Ensure firms and facilities used for recycling, reuse, and disposal are permitted for the intended use to the extent required by federal, state, and local regulations.

1.4.4 Special Instructions

Provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the projects. Designation of single source separating or commingling will be clearly marked on the containers.

1.4.5 Waste Streams

Delineate waste streams and characterization, including estimated material types and quantities of waste, in the construction waste management plan. Manage all waste streams associated with the project. Typical waste streams are listed below. Include additional waste steams not listed:

a. Land Clearing Debris
b. Asphalt
c. Masonry and CMU
d. Concrete
e. Metals (e.g. banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, bronze, etc.)
f. Wood (nails and staples allowed)
g. Glass
h. Paper
i. Plastics (PET, HDPE,PVC,LDPE,PP,PS, Other)
j. Gypsum
k. Non-hazardous paint and paint cans
l. Carpet
m. Ceiling Tiles
n. Insulation
o. Beverage Containers

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance to Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Waste Management Plan; G

SD-06 Test Reports

Quarterly Reports

Annual Report

SD-11 Closeout Submittals

Final Construction Waste Diversion Report; S

1.6 MEETINGS

Conduct Construction Waste Management meetings. After award of the Contract and prior to commencement of work, schedule and conduct a meeting with the Contracting Officer to discuss the proposed construction waste management plan and to develop a mutual understanding relative to the management of the construction waste management program and how waste diversion requirements will be met.

The requirements of this meeting may be fulfilled during the coordination and mutual Understanding meeting outlined in Section 01 45 00.00 10 QUALITY CONTROL. At a minimum, discuss and document waste management goals at following meetings:

a. Preconstruction meeting.

b. Regular Quality Control meetings.

c. Work safety meeting (if applicable).

1.7 CONSTRUCTION WASTE MANAGEMENT PLAN

Submit Construction Waste Management Plan within 15 days after notice to proceed. Revise and resubmit Construction Waste Management Plan until it receives final approval from the Contracting Officer, in order for construction to begin. Execute demolition or deconstruction activities in accordance with Section 02 41 00 DEMOLITION. Manage demolition debris/waste or deconstruction materials in accordance with the approved construction waste management plan.

An approved construction waste management plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations or meeting project cumulative waste diversion requirement. Ensure all subcontractors receive a copy of the approved Construction Waste Management Plan. The plan demonstrates how to meet the project waste diversion requirement. Also, include the following in the plan:

a. Identify the names of individuals responsible for waste management and waste management tracking, along with roles and responsibilities on the project..

b. Actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.

c. Description of the regular meetings to be held to address waste management.

d. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of materials.

e. Name of landfill and/or incinerator to be used.

f. Identification of local and regional re-use programs, including non-profit organizations such as schools, local housing agencies, and organization that accept used materials such as material exchange networks and resale stores. Include the name, location, phone number for each re-use facility identified, and provide a copy of the permit or license for each facility.

g. List of specific materials, by type and quantity, that will be salvaged for resale, salvaged and reused on the current project, salvaged and stored for reuse on a future project, or recycled. Identify the recycling facilities by name, address, and phone number.

h. Identification of materials that cannot be recycled or reused with an explanation or justification, to be approved by the Contracting Officer.

i. Description of the means by which any materials identified in item (g) above will be protected from contamination.

j. Description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site).

k. Copy of training plan for subcontractors and other services to prevent contamination by co-mingling materials identified for diversion and waste materials.

l. Identification of at least 5 construction or demolition material streams for diversion.

m. Detailed plan and distribution of waste diversion between buildings, when project is a part of a campus.

n. Facilities or subcontractors offering construction waste transport on-site or off-site must ensure that proper shipping orders, bill of lading, manifests, or other shipping documents containing waste diversion information meet requirements of 40 CFR 273 Universal Waste Management, 49 CFR 173 Shippers - General Requirements for Shipments and Packagings, and 49 CFR 178 Specifications for Packaging. Individuals signing manifests or other shipping documents should meet the minimum training requirements.

o. List each supplier who deliver construction materials, in bulk, or package products in returnable containers or returnable packaging, or have take-back programs. List each program and the applicable material to actively monitor and track to assist in meeting waste diversion requirements on the project.

p. Identify any local jurisdiction requirements for waste management. Include those requirements, points of contact, etc.

Distribute copies of the waste management plan to each subcontractor, Quality Control Manager, and the Contracting Officer.

1.8 RECORDS (DOCUMENTATION)

1.8.1 General

Maintain records to document the types and quantities of waste generated and diverted though re-use, recycling and/or sale to third parties; through disposal to a landfill or incinerator facility. Provide explanations for any materials not recycled, reused or sold. Collect and retain manifests, weight tickets, sales receipts, and invoices specifically identifying diverted project waste materials or disposed materials.

1.8.2 Accumulated

Maintain a running record of materials generated and diverted from landfill disposal, including accumulated diversion rates for the project. Make records available to the Contracting Officer during construction or incidental demolition activities. Provide a copy of the diversion records to the Contracting Officer upon completion of the construction, incidental demolitions or minor deconstruction activities.

1.9 REPORTS

1.9.1 General

Maintain current construction waste diversion information on site for periodic inspection by the Contracting Officer. Include in the quarterly reports, annual reports and final reports: the project name, contract information, information for waste generated, diverted and disposed of for the current reporting period and show cumulative totals for the project. Reports must identify quantifies of waste by type and disposal method. Also include in each report, supporting documentation to include manifests, weigh tickets, receipts, and invoices specifically identifying the project and waste material type and weighted sum.

1.9.2 Quarterly Reporting

Provide cumulative reports at the end of each quarter (December, March, June, and September, corresponding with the federal fiscal year for reporting purposes). Submit quarterly reports not later than 15 calendar days after the preceding quarter has ended. Submit Quarterly Reports to the appropriate office or identified point of contact.

1.9.3 Annual Reporting

Provide a cumulative construction waste diversion report annually. Submit annual report not later than 30 calendar days after the preceding fourth quarter has ended. Provide copy of annual construction waste diversion report to the installation POC.

1.10 FINAL CONSTRUCTION WASTE DIVERSION REPORT

A Final Construction Waste Diversion Report is required at the end of the

project. Provide Final Construction Waste Diversion Report 60 days prior to the Beneficial Occupancy Date (BOD). The final Construction Waste Diversion Report must be included in the Sustainability eNotebook in accordance with Section 01 33 29 SUSTAINABILITY REPORTING.

1.11 COLLECTION

Collect, store, protect, and handle reusable and recyclable materials at the site in a manner which prevents contamination, and provides protection from the elements to preserve their usefulness and monetary value. Provide receptacles and storage areas designated specifically for recyclable and reusable materials and label them clearly and appropriately to prevent contamination from other waste materials. Keep receptacles or storage areas neat and clean.

Train subcontractors and other service providers to either separate waste streams or use the co-mingling method as described in the construction waste management plan. Handle hazardous waste and hazardous materials in accordance with applicable regulations and coordinate with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS and Section 02 81 00 TRANSPORTATION AND DISPOSAL OF HAZARDOUS MATERIALS. Separate materials by one of the following methods described herein:

1.11.1 Source Separation Method

Separate waste products and materials that are recyclable from trash and sort as described below into appropriately marked separate containers and then transport to the respective recycling facility for further processing. Deliver materials in accordance with recycling or reuse facility requirements (e.g., free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process). Separate materials into the category types as defined in the construction waste management plan.

1.11.2 Co-Mingled Method

Place waste products and recyclable materials into a single container and then transport to an authorized recycling facility, which meets all applicable requirements to accept and dispose of recyclable materials in accordance with all applicable local, state and federal regulations. The Co-mingled materials must be sorted and processed in accordance with the approved construction waste management plan.

1.11.3 Other Methods

Other methods proposed by the Contractor may be used when approved by the Contracting Officer.

1.12 DISPOSAL

Control accumulation of waste materials and trash. Recycle or dispose of collected materials off-site at intervals approved by the Contracting Officer and in compliance with waste management procedures as described in the waste management plan. Except as otherwise specified in other sections of the specifications, dispose of in accordance with the following:

1.12.1 Reuse

Give first consideration to reusing construction and demolition materials

as a disposition strategy. Recover for reuse materials, products, and components as described in the approved construction waste management plan. Coordinate with the Contracting Officer to identify onsite reuse opportunities or material sales or donation available through Government resale or donation programs. Sale of recovered materials is not allowed on the Installation.

1.12.2 Recycle

Recycle non-hazardous construction and demolition/debris materials that are not suitable for reuse. Track rejection of contaminated recyclable materials by the recycling facility. Rejected recyclables materials will not be counted as a percentage of diversion calculation. Recycle all fluorescent lamps, HID lamps, mercury (Hg) -containing thermostats and ampoules, and PCBs-containing ballasts and electrical components as directed by the Contracting Officer. Do not crush lamps on site as this creates a hazardous waste stream with additional handling requirements.

1.12.3 Compost

Consider composting on site if a reasonable amount of compostable materials will be available and a utilization of compostable material can be determined and appropriately planned for. Compostable materials include plant materials, sawdust and certain food scraps. Composting as a strategy must be explicitly addressed in the Construction Waste Management Plan submitted for approval to ensure it is feasible.

1.12.4 Waste

Dispose by landfill or incineration only those waste materials with no practical use, economic benefit, or recycling opportunity.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used. -- End of Section --

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SECTION 01 78 23

OPERATION AND MAINTENANCE DATA
08/15

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance with Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-10 Operation and Maintenance Data

O&M Database ; G

Training Plan ; G

Training Outline ; G

Training Content ; G

SD-11 Closeout Submittals

Training Video Recording ; G

Validation of Training Completion ; G

1.2 OPERATION AND MAINTENANCE DATA

Submit Operation and Maintenance (O&M) Data for the provided equipment, product, or system, defining the importance of system interactions, troubleshooting, and long-term preventive operation and maintenance. Compile, prepare, and aggregate O&M data to include clarifying and updating the original sequences of operation to as-built conditions. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit in accordance with this section and Section 01 33 00 SUBMITTAL PROCEDURES.

1.2.1 Package Quality

Documents must be fully legible. Operation and Maintenance data must be consistent with the manufacturer's standard brochures, schematics, printed instructions, general operating procedures, and safety precautions.

1.2.2 Package Content

Provide data package content in accordance with paragraph SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES. Comply with the data package requirements specified in the individual technical sections, including the content of the packages and addressing each product, component, and system designated for data package submission. Provide a Data Package as

specified in the individual technical section, for items that are commissioned.

1.2.3 Changes to Submittals

Provide manufacturer-originated changes or revisions to submitted data if a component of an item is so affected subsequent to acceptance of the O&M Data. Submit changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data within 30 calendar days of the notification of this change requirement.

1.2.4 Commissioning Authority Review and Approval

Submit the commissioned systems and equipment submittals to the Commissioning Authority (CxA) to review for completeness and applicability. Obtain validation from the CxA that the systems and equipment provided meet the requirements of the Contract documents and design intent, particularly as they relate to functionality, energy performance, water performance, maintainability, sustainability, system cost, indoor environmental quality, and local environmental impacts. The CxA communicates deficiencies to the Contracting Officer. Submit the O&M manuals to the Contracting Officer upon a successful review of the corrections, and with the CxA recommendation for approval and acceptance of these O&M manuals. This work is in addition to the normal review procedures for O&M data.

1.3 O&M DATABASE

Develop an editable, electronic spreadsheet based on the equipment in the Operation and Maintenance Manuals that contains the information required to start a preventive maintenance program. As a minimum, provide list of system equipment, location installed, warranty expiration date, manufacturer, model, and serial number.

1.4 OPERATION AND MAINTENANCE MANUAL FILE FORMAT

Assemble data packages into electronic Operation and Maintenance Manuals. Assemble each manual into a composite electronically indexed file using the most current version of Adobe Acrobat or similar software capable of producing PDF file format. Provide compact disks (CD) or data digital versatile disk (DVD) as appropriate, so that each one contains operation, maintenance and record files, project record documents, and training videos. Include a complete electronically linked operation and maintenance directory.

1.4.1 Organization

Bookmark Product and Drawing Information documents using the current version of CSI Masterformat numbering system, and arrange submittals using the specification sections as a structure. Use CSI Masterformat and UFGS numbers along with descriptive bookmarked titles that explain the content of the information that is being bookmarked.

1.4.2 CD or DVD Label and Disk Holder or Case

Provide the following information on the disk label and disk holder or case:

a. Building Number

b. Project Title

c. Activity and Location

d. Construction Contract Number

e. Prepared For: (Contracting Agency)

f. Prepared By: (Name, title, phone number and email address)

g. Include the disk content on the disk label

h. Date

i. Virus scanning program used

1.5 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

The following are a detailed description of the data package items listed in paragraph SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES.

1.5.1 Operating Instructions

Provide specific instructions, procedures, and illustrations for the following phases of operation for the installed model and features of each system:

1.5.1.1 Safety Precautions and Hazards

List personnel hazards and equipment or product safety precautions for operating conditions. List all residual hazards identified in the Activity Hazard Analysis provided under Section 01 35 26 GOVERNMENT SAFETY REQUIREMENTS. Provide recommended safeguards for each identified hazard.

1.5.1.2 Operator Prestart

Provide procedures required to install, set up, and prepare each system for use.

1.5.1.3 Startup, Shutdown, and Post-Shutdown Procedures

Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.

1.5.1.4 Normal Operations

Provide Control Diagrams with data to explain operation and control of systems and specific equipment. Provide narrative description of Normal Operating Procedures.

1.5.1.5 Emergency Operations

Provide Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Provide Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance and procedures for emergency operation of utility systems including required valve positions, valve locations and zones or portions of systems controlled.

1.5.1.6 Operator Service Requirements

Provide instructions for services to be performed by the operator such as lubrication, adjustment, inspection, and recording gauge readings.

1.5.1.7 Environmental Conditions

Provide a list of Environmental Conditions (temperature, humidity, and other relevant data) that are best suited for the operation of each product, component or system. Describe conditions under which the item equipment should not be allowed to run.

1.5.1.8 Operating Log

Provide forms, sample logs, and instructions for maintaining necessary operating records.

1.5.1.9 Additional Requirements for HVAC Control Systems

Provide Data Package 5 and the following for control systems:

a. Narrative description on how to perform and apply functions, features, modes, and other operations, including unoccupied operation, seasonal changeover, manual operation, and alarms. Include detailed technical manual for programming and customizing control loops and algorithms.

b. Full as-built sequence of operations.

c. Copies of checkout tests and calibrations performed by the Contractor (not Cx tests).

d. Full points list. Provide a listing of rooms with the following information for each room:

(1) Floor

(2) Room number

(3) Room name

(4) Air handler unit ID

(5) Reference drawing number

(6) Air terminal unit tag ID

(7) Heating or cooling valve tag ID

(8) Minimum cfm

(9) Maximum cfm

e. Full print out of all schedules and set points after testing and acceptance of the system.

f. Full as-built print out of software program.

g. Marking of system sensors and thermostats on the as-built floor plan

and mechanical drawings with their control system designations.

1.5.2 Preventive Maintenance

Provide the following information for preventive and scheduled maintenance to minimize repairs for the installed model and features of each system. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.

1.5.2.1 Lubrication Data

Include the following preventive maintenance lubrication data, in addition to instructions for lubrication required under paragraph OPERATOR SERVICE REQUIREMENTS:

a. A table showing recommended lubricants for specific temperature ranges and applications.

b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.

c. A Lubrication Schedule showing service interval frequency.

1.5.2.2 Preventive Maintenance Plan, Schedule, and Procedures

Provide manufacturer's schedule for routine preventive maintenance, inspections, condition monitoring (predictive tests) and adjustments required to ensure proper and economical operation and to minimize repairs. Provide instructions stating when the systems should be retested. Provide manufacturer's projection of preventive maintenance work-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft. For periodic calibrations, provide manufacturer's specified frequency and procedures for each separate operation.

a. Define the anticipated time required to perform each of each test (work-hours), test apparatus, number of personnel identified by responsibility, and a testing validation procedure permitting the record operation capability requirements within the schedule. Provide a remarks column for the testing validation procedure referencing operating limits of time, pressure, temperature, volume, voltage, current, acceleration, velocity, alignment, calibration, adjustments, cleaning, or special system notes. Delineate procedures for preventive maintenance, inspection, adjustment, lubrication and cleaning necessary to minimize repairs.

b. Repair requirements must inform operators how to check out, troubleshoot, repair, and replace components of the system. Include electrical and mechanical schematics and diagrams and diagnostic techniques necessary to enable operation and troubleshooting of the system after acceptance.

1.5.3 Repair

Provide manufacturer's recommended procedures and instructions for correcting problems and making repairs.

1.5.3.1 Troubleshooting Guides and Diagnostic Techniques

Provide step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

1.5.3.2 Wiring Diagrams and Control Diagrams

Provide point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation configuration and numbering.

1.5.3.3 Repair Procedures

Provide instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards.

1.5.3.4 Removal and Replacement Instructions

Provide step-by-step procedures and a list of required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Use a combination of text and illustrations.

1.5.3.5 Spare Parts and Supply Lists

Provide lists of spare parts and supplies required for repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead-time to obtain.

1.5.3.6 Repair Work-Hours

Provide manufacturer's projection of repair work-hours including requirements by type of craft. Identify, and tabulate separately, repair that requires the equipment manufacturer to complete or to participate.

1.5.4 Real Property Equipment

Provide a list of installed equipment furnished under this contract. Include all information usually listed on manufacturer's name plate. In the "EQUIPMENT-IN-PLACE LIST" include, as applicable, the following for each piece of equipment installed: description of item, location (by room number), model number, serial number, capacity, name and address of manufacturer, name and address of equipment supplier, condition, spare parts list, manufacturer's catalog, and warranty. Submit the final list 30 days after transfer of the completed facility.

Key the designations to the related area depicted on the contract drawings. List the following data:

RECORD OF DESIGNATED EQUIPMENT AND MATERIALS DATA				
Description	Specification Section	Manufacturer and Catalog, Model, and Serial Number	Composition and Size	Where Used

1.5.5 Appendices

Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

1.5.5.1 Product Submittal Data

Provide a copy of SD-03 Product Data submittals documented with the required approval.

1.5.5.2 Manufacturer's Instructions

Provide a copy of SD-08 Manufacturer's Instructions submittals documented with the required approval.

1.5.5.3 O&M Submittal Data

Provide a copy of SD-10 Operation and Maintenance Data submittals documented with the required approval.

1.5.5.4 Parts Identification

Provide identification and coverage for the parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing must show the index, reference, or key number that will cross-reference the illustrated part to the listed part. Group the parts shown in the listings by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice. Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog.

1.5.5.5 Warranty Information

List and explain the various warranties and clearly identify the servicing and technical precautions prescribed by the manufacturers or contract documents in order to keep warranties in force. Include warranty information for primary components of the system. Provide copies of warranties as required.

1.5.5.6 Extended Warranty Information

List all warranties for products, equipment, components, and sub-components whose duration exceeds one year. For each warranty listed, indicate the applicable specification section, duration, start date, end date, and the point of contact for warranty fulfillment. Also, list or reference the specific operation and maintenance procedures that must be performed to keep the warranty valid. Provide copies of warranties as required.

1.5.5.7 Personnel Training Requirements

Provide information available from the manufacturers that is needed for use in training designated personnel to properly operate and maintain the equipment and systems.

1.5.5.8 Testing Equipment and Special Tool Information

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components. Provide final set points.

1.5.5.9 Testing and Performance Data

Include completed prefunctional checklists, functional performance test forms, and monitoring reports. Include recommended schedule for retesting and blank test forms. Provide final set points.

1.5.5.10 Field Test Reports

Provide a copy of Field Test Reports (SD-06) submittals documented with the required approval.

1.5.5.11 Contractor Information

Provide a list that includes the name, address, and telephone number of the General Contractor and each Subcontractor who installed the product or equipment, or system. For each item, also provide the name address and telephone number of the manufacturer's representative and service organization that can provide replacements most convenient to the project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

1.6 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES

Provide the O&M data packages specified in individual technical sections. The information required in each type of data package follows:

1.6.1 Data Package 1

a. Safety precautions and hazards

b. Cleaning recommendations

c. Maintenance and repair procedures

d. Warranty information

e. Extended warranty information

f. Contractor information

g. Spare parts and supply list

1.6.2 Data Package 2

a. Safety precautions and hazards

b. Normal operations

c. Environmental conditions

d. Lubrication data

e. Preventive maintenance plan, schedule, and procedures

f. Cleaning recommendations

g. Maintenance and repair procedures

h. Removal and replacement instructions

i. Spare parts and supply list

j. Parts identification

k. Warranty information

l. Extended warranty information

m. Contractor information

1.6.3 Data Package 3

a. Safety precautions and hazards

b. Operator prestart

c. Startup, shutdown, and post-shutdown procedures

d. Normal operations

e. Emergency operations

f. Environmental conditions

g. Operating log

h. Lubrication data

i. Preventive maintenance plan, schedule, and procedures

j. Cleaning recommendations

k. Troubleshooting guides and diagnostic techniques

l. Wiring diagrams and control diagrams

m. Maintenance and repair procedures

n. Removal and replacement instructions

o. Spare parts and supply list

p. Product submittal data

q. O&M submittal data

r. Parts identification

s. Warranty information

t. Extended warranty information

u. Testing equipment and special tool information

v. Testing and performance data

w. Contractor information

x. Field test reports

1.6.4 Data Package 4

a. Safety precautions and hazards

b. Operator prestart

c. Startup, shutdown, and post-shutdown procedures

d. Normal operations

e. Emergency operations

f. Operator service requirements

g. Environmental conditions

h. Operating log

i. Lubrication data

j. Preventive maintenance plan, schedule, and procedures

k. Cleaning recommendations

l. Troubleshooting guides and diagnostic techniques

m. Wiring diagrams and control diagrams

n. Repair procedures

o. Removal and replacement instructions

p. Spare parts and supply list

q. Repair work-hours

r. Product submittal data

s. O&M submittal data

t. Parts identification

u. Warranty information

v. Extended warranty information

w. Personnel training requirements

x. Testing equipment and special tool information

y. Testing and performance data

z. Contractor information

aa. Field test reports

1.6.5 Data Package 5

a. Safety precautions and hazards

b. Operator prestart

c. Start-up, shutdown, and post-shutdown procedures

d. Normal operations

e. Environmental conditions

f. Preventive maintenance plan, schedule, and procedures

g. Troubleshooting guides and diagnostic techniques

h. Wiring and control diagrams

i. Maintenance and repair procedures

j. Removal and replacement instructions

k. Spare parts and supply list

l. Product submittal data

m. Manufacturer's instructions

n. O&M submittal data

o. Parts identification

p. Testing equipment and special tool information

q. Warranty information

r. Extended warranty information

s. Testing and performance data

t. Contractor information

u. Field test reports

v. Additional requirements for HVAC control systems

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 TRAINING

Prior to acceptance of the facility by the Contracting Officer for Beneficial Occupancy, provide comprehensive training for the systems and equipment specified in the technical specifications. The training must be targeted for the building maintenance personnel, and applicable building occupants. Instructors must be well-versed in the particular systems that they are presenting.. Training must include classroom or field lectures based on the system operating requirements. The location of classroom training requires approval by the Contracting Officer.

3.1.1 Training Plan

Submit a written training plan to the Contracting Officer for approval at least 60 calendar days prior to the scheduled training. Training plan must be approved by the Quality Control Manager (QC) or the Commissioning Authority (CxA) prior to forwarding to the Contracting Officer. Also, coordinate the training schedule with the Contracting Officer and QC or CxA. Include within the plan the following elements:

a. Equipment included in training

b. Intended audience

c. Location of training

d. Dates of training

e. Objectives

f. Outline of the information to be presented and subjects covered including description

g. Start and finish times and duration of training on each subject

h. Methods (e.g. classroom lecture, video, site walk-through, actual operational demonstrations, written handouts)

i. Instructor names and instructor qualifications for each subject

j. List of texts and other materials to be furnished by the Contractor that are required to support training

k. Description of proposed software to be used for video recording of training sessions.

3.1.2 Training Content

The core of this training must be based on manufacturer's recommendations and the operation and maintenance information. The QC or CxA is responsible for overseeing and approving the content and adequacy of the training. Spend 95 percent of the instruction time during the presentation on the OPERATION AND MAINTENANCE DATA. Include the following for each system training presentation:

a. Start-up, normal operation, shutdown, unoccupied operation, seasonal changeover, manual operation, controls set-up and programming, troubleshooting, and alarms.

b. Relevant health and safety issues.

c. Discussion of how the feature or system is environmentally responsive. Advise adjustments and optimizing methods for energy conservation.

d. Design intent.

e. Use of O&M Manual Files.

f. Review of control drawings and schematics.

g. Interactions with other systems.

h. Special maintenance and replacement sources.

i. Tenant interaction issues.

3.1.3 Training Outline

Provide the Operation and Maintenance Manual Files (Bookmarked PDF) and a written course outline listing the major and minor topics to be discussed by the instructor on each day of the course to each trainee in the course. Provide the course outline 14 calendar days prior to the training.

3.1.4 Training Video Recording

Record classroom training session(s) on video. Provide to the Contracting Officer two copies of the training session(s) in DVD video recording format. Capture within the recording, in video and audio, the instructors' training presentations including question and answer periods with the attendees. The recording camera(s) must be attended by a person during the recording sessions to assure proper size of exhibits and projections during the recording are visible and readable when viewed as training.

3.1.5 Unresolved Questions from Attendees

If, at the end of the training course, there are questions from attendees that remain unresolved, the instructor must send the answers, in writing, to the Contracting Officer for transmittal to the attendees, and the training video must be modified to include the appropriate clarifications.

3.1.6 Validation of Training Completion

Ensure that each attendee at each training session signs a class roster daily to confirm Government participation in the training. At the completion of training, submit a signed validation letter that includes a

sample record of training for reporting what systems were included in the training, who provided the training, when and where the training was performed, and copies of the signed class rosters. Provide two copies of the validation to the Contracting Officer, and one copy to the Operation and Maintenance Manual Preparer for inclusion into the Manual's documentation.

3.1.7 Quality Control Coordination

Coordinate this training with the QC or CxA in accordance with Section 01 45 00.00 10 QUALITY CONTROL.

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APPENDIX A

RFP CRITERIA DRAWINGS
(provided under separate cover)

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APPENDIX B

SID PACKAGE

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Fire Station #2

Tyndall Air Force Base, Florida

Solicitation No.: W9127819SFHZ0005

SID Package

Table of Contents

Tyndall Air Force Base

Fire Rescue Station 2

STRUCTURAL INTERIOR DESIGN (SID)
PROJECT NARRATIVE

FINISH SELECTIONS

The design and finish selections are based on the government's minimum standards and the request for proposal developed for this project. Finish schedules specific to each room location describing finishes for flooring, wall base, walls, ceilings, millwork and miscellaneous items will be provided. Per the RFP the selected color palette is "Neutral"; which consists of a range of paints and materials in the neutral color family accentuated by slate gray and warm tones. Typically, red is associated with strength, energy, warmth, and excitement. People tend to be more energized in a red room because they are stimulated and excited about the task at hand; gray is most associated with practicality and timeliness while warm colors are known to provoke feelings of security and comfort. Through use of this palette we are striving to create a calming and professional environment that will be an aesthetically pleasing and inviting environment for the employees of Tyndall Air Force Base.

The selected finishes will provide focus on low maintenance, longer life expectancy, sustainability, cleanability, and durable room finishes that are commercially standard for the industry and the functions specified. The completed interiors will be attractive, reflect quality standards, and avoid trendy color palettes. The colors selected are appropriate for each building type and coordinate with the building finishes for a cohesive design. Permanent fixtures within the buildings, such as millwork, will be neutral in tone so that it will sustain its usage as the surrounding elements may change in color and appearance. The finishes will be selected with regards to aesthetics, maintenance, durability, life safety and quality. Finishes throughout this facility will comply with applicable codes and regulations and will be selected with careful attention to function, long-term appearance retention, and budgetary concerns, while also upholding the updated standard. Materials and finishes shall support the health, safety and welfare of the occupants and support sustainable design practices. The use of environmentally friendly products has been specified wherever feasible.

INTERIOR SIGNAGE:

The interior signage will be shown on the drawings in accordance with the applicable UFC 3-120-01 Air Force Sign Standard but shall be coordinated with adjacent Tyndall AFB facilities for continuity. The interior room signage will allow for easy changeability of room functions and identification of occupants i.e. slots for user generated copy. Background of signage will have a plastic laminate sheet coordinating with building finishes. Emergency egress signs will be from same company as signage and directories with matching finishes. Signage will meet the requirements of UFC 03-120-01. Exact text for office signs shall be coordinated with the Users and the Contracting Officer.

EXTERIOR SIGNAGE:

The exterior signage will be shown on the drawings in accordance with the applicable UFC 3-120-01 Air Force Sign Standard but shall be coordinated with adjacent Tyndall AFB facilities for continuity. The exterior building signage with be a channel letter system with letter sizing being: 9" in height. The color of the building signage will be as specified on the drawings but shall coordinate with specified colors of the Air Force Reserve standards.

FLOORS:

Spaces, such as offices, dormitories and/or meeting spaces, are finished with carpet tile. A pattern utilizing porcelain tile will be installed in restrooms. Corridors and common areas with received a stained sealed concrete finish floor. The fitness room will receive rubber tile. The apparatus bays and supporting spaces and indoor range spaces, along with mechanical spaces will receive sealed concrete.

CEILINGS:

Where specified, acoustical ceiling system are standard suspended ceiling system using a white grid and 2-ft x 2-ft, beveled edge, angled tegular, lay-in panels. Gypsum board ceilings, where called for, will be painted flat white. Typical spaces shall have a ceiling height of no more than 9'-0" above finish floor. Kitchen, Fitness and Training room ceilings shall be 10'-0" above finish floor to accommodate the unique needs of these spaces. In the apparatus bays, apparatus bay support spaces, the underside of new roof deck and support structure is to be cleaned and prepared to receive primer coating and 2 coats of acrylic based paint finish.

DOORS:

All interior hollow metal doors and frames are painted. New solid core wood doors are transparent stained finish. In office and conference areas the doors are wood with half glass view windows or sidelights where possible.

Refer to RFP Appendix B and Section 01 10 10-11 for complete and detailed Structural Interior Design (SID) finishes and materials.

POINT OF CONTACT	Fire Station No. 2 Tyndall Air Force Base	PAGE 1
Mason & Hangar i5 design group	Tyndall AFB, Florida Project No.: XLWU193005	DATE 5/10/2019

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SID POINT OF CONTACT (SID) LIST	Fire Station No. 2 Tyndall Air Force Base	PAGE 1
Mason & Hangar i5 design group	Tyndall AFB, Florida Project No.: XLWU193005	DATE 5/10/2019

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Custom Building Products
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INTERIOR/EXTERIOR FINSH SCHEDULE	Fire Station No. 2	PAGE
Mason & Hangar	Tyndall Air Force Base	1
i5 design group	Tyndall AFB, Florida	DATE
	Project No: XLWU193005	7/19/2019

CODE	MATERIAL	MANUFACTURER	SERIES/COLOR
INTERIOR FINISHES			
ACT-1	ACOUSTICAL CEILING TILE	ARMSTRONG	#1774 DUNE
CG	CORNER GUARDS	ACROVYN	W262 DRIFTWOOD
CPT-1	CARPET TILE	MOHAWK GROUP	SHIRT II GT173, 695 SHARK SKIN
CPT-1	CARPET TILE	MOHAWK GROUP	DENIM HEM GT178, 937 HIPSTER
EPX-1	EPOXY FLOORING	DUR-A-FLEX	DUR-A-CHIP 5 COAT W/ MACRO CHIPS, COLOR: COBALT; ARMOR TOP COAT WITH GRIT
G-1	TILE GROUT	CUSTOM BUILDING PRODUCTS	#19 PEWTER
MAT-1	INTERLOCKING MAT FLOORING	AMERICAN FLOOR MATS	1/2" BLACK
PL-1	PLASTIC LAMINATE	WILSONART	7949K-18 ASAIN NIGHT
PL-2	PLASTIC LAMINATE	WILSONART	7957K-78 ZANZIBAR
PNT-1	PAINT	SHERWIN WILLIAMS	SW 7016 MINDFUL GRAY
PNT-2	PAINT	SHERWIN WILLIAMS	SW 6524 COMMADORE
PNT-3	PAINT	SHERWIN WILLIAMS	SW 7018 DOVETAIL
PNT-4	PAINT	SHERWIN WILLIAMS	SAFETY YELLOW
PNT-5	PAINT	SHERWIN WILLIAMS	SW 7757 HIGH REFLECTIVE WHITE
PNT-6	PAINT	SHERWIN WILLIAMS	SW 7016 MINDFUL GRAY
PNT-7	PAINT	SHERWIN WILLIAMS	SW 7019 GAUNTLET GRAY
RB-1	RUBBER BASE	ARMSTRONG	71 MID GRAY
S-1	SIGNAGE	APPENX	X-SITE CURVED SURFACE; (SG) SLATE GREY
SC-1	SEALED CONCRETE		
SS-1	SOLID SURFACE	LIVING STONE	L715 ECLIPSE
SS-2	SOLID SURFACE	DUPONT CORIAN	DEEP CLOUD
SS-3	SOLID SURFACE	LIVING STONE	L712 THUNDERCLOUD
SS-4	SOLID SURFACE	LIVING STONE	SOFT WHITE (SINK)
ST-1	DOOR STAIN	ARCHITECTURAL MASONITE	WHITE MAPLE; ESPRESSO 42-95
STC-1	STAINED CONCRETE	PROSOCO	CONSOLIDECK GEMTONE STAIN, COLOR WELSH SLATE
T-1	PORCELAIN TILE	DALTILE	AMBASSADOR AM34 JET SETTER DUSK; 12X48 TILE
T-2	PORCELAIN TILE	DALTILE	AMBASSADOR AM34 JET SETTER DUSK; 3X6 TILE
T-3	PORCELAIN TILE	DALTILE	COASTAL KEYSTONES TROPICAL THUNDER CK88; 2X1 BRICK JOINT
TB-1	PORCELAIN TILE BASE	DALTILE	AMBASSADOR AM34 JET SETTER DUSK; 6x12 COVE BASE
TP-1	TOILET PARTITIONS	BRADLEY CORP	2125 DOVE GRAY
WC-1	WALK OFF CARPET TILE	MOHAWK GROUP	FIRST STEP II GT315; 955 COBALT
WC-1	WALL COVERING	MDC STUDIO	FLEXIBLE SUBSTRATES SMOOTH FINISH; COMMERCIAL GRADE TYPE II FABRIC BACK WALL COVERING

INTERIOR/EXTERIOR FINSH SCHEDULE **Mason & Hangar** i5 design group	**Fire Station No. 2** **Tyndall Air Force Base** Tyndall AFB, Florida Project No: XLWU193005	PAGE 2 DATE 7/19/2019

CODE	MATERIAL	MANUFACTURER	SERIES/COLOR
EXTERIOR FINISHES			
	Aluminum Coping	Centria	Slate Gray #181
	Exterior Passage Door	Sherwin Williams	SW 7019 Gauntlet Grey
	Insulated Overhead Door	Thermacore Door	Beige
	Roof System 1	Firestone	Dark Bronze
	Brick Veneer	Acme Brick	Dove Gray
	CMU	Lee Building Products	H720 Dover Chocolate DK
	Aluminum Gutter and Downspouts	Kawneer Company	Dark Bronze No. 40 AA-M10C21A44
	Pre-Cast Concrete Cap	Barrasso & Sons	WAP-1
	Mortar- Brick 1	Brixment Co.	C-57 Twilight Gray
	Glazing	PPG Architectural Glass	Solargray
	Aluminum Windows	Kawneer Company	Clear Anodized Aluminum

INTERIOR FINISH LEGEND

MATERIAL	CODE	MANUFACTURER	SPECIFICATIONS	NOTES
ACOUSTICAL CEILING	ACT-1	ARMSTRONG	STYLE: "DUNE" ITEM#1774, 2'X2' X 5/8" THICK, ANGLED TEGULAR, 15/16" GRID	TYP. ACT
CORNER GUARDS	CG	ACROVYN	2" WIDE CORNER GUARDS, COLOR: W262 DRIFTWOOD	ALL OUTSIDE CORNERS
CARPET TILE	CPT-1	MOHAWK GROUP	SHIRT II GT 173: 695 SHARKSKIN	TRAINING AREAS; BRICK ASHLAR INSTALLATION METHOD
CARPET TILE	CPT-2	MOHAWK GROUP	DENIM HEM GT 178: 937 HIPSTER	DORM ROOMS & OFFICE AREAS; MONOLITHIC INSTALLATION METHOD
EPOXY FLOORING	EPX-1	DUR-A-FLEX	DUR-A-CHIP 5 COAT SYSTEM WITH MACRO CHIPS, COLOR: COBALT; ARMOR TOP COAT WITH GRIT	APPARATUS BAY FLOORING
TILE GROUT	G-1	CUSTOM BUILDING PRODUCTS	#19 PEWTER	ALL TILE IN ALL AREAS
INTERLOCKING MAT FLOORING	MAT-1	AMERICAN FLOOR MATS	INTERLOCKING MEGA LOCK RUBBER GYM TILES: BLACK, 1/2" THICK	FITNESS AREA
PLASTIC LAMINATE	PL-1	WILSONART	7947K-18 ASAIN NIGHT	RESTROOM VANITY SKIRT
PLASTIC LAMINATE	PL-2	WILSONART	7957K-78 ZANZIBAR	KITCHEN/LAUNDRY/ TRAINING CASEWORK AND WATCH DESK COUNTERTOP
PAINT	PNT-1	SHERWIN WILLIAMS	SW 7016 MINDFUL GRAY	FIELD PAINT
PAINT	PNT-2	SHERWIN WILLIAMS	SW 6524 COMMADORE	ACCENT PAINT
PAINT	PNT-3	SHERWIN WILLIAMS	SW 7018 DOVETAIL	ACCENT PAINT
PAINT	PNT-4	SHERWIN WILLIAMS	SAFETY YELLOW	BOLLARDS & SAFETY STRIPPING IN APPARATUS BAY
PAINT	PNT-5	SHERWIN WILLIAMS	HIGH REFLECTIVE WHITE	CEILINGS AND SOFFITS
PAINT	PNT-6	SHERWIN WILLIAMS	SW 7016 MINDFUL GRAY	EPOXY PAINT
PAINT	PNT-7	SHERWIN WILLIAMS	SW 7019 GAUNTLET GRAY	ALL STEEL DOOR FRAMES
QUARTZ	QZ-1	CAMBRIA	COLOR: DARON; DOUBLE TREELINE EDGE, 2CM THICK	RECEPTION DESK TRANSACTION TOP
RUBBER BASE	RB-1	ARMSTRONG	71 MID GRAY	WALL BASE ALL AREAS
SIGNAGE	S-1	APPENX	(SG) SLATE GREY; XSITE CURVED SUFACE SIGN STYLE, FUTURA BOOK TEXT STYLE	SIGN MESSAGE COLOR; ALL SIGNS THROUGHOUT
SEALED CONCRETE	SC-1			CONCRETE TO BE FINISHED WITH CLEAR EPOXY COATING
SOLID SURFACE	SS-1	LIVINGSTONE	L715 ECLIPSE	KITCHEN COUNTERTOP
SOLID SURFACE	SS-2	CORIAN	DEEP CLOUD	WINDOW SILLS
SOLID SURFACE	SS-3	LIVINGSTONE	L712 THUNDERCLOUD	DORM RESTROOM COUNTERTOP
SOLID SURFACE	SS-4	LIVINGSTONE	SOFT WHITE	INTEGRAL SINK COLOR FOR KITCHEN AND RESTROOMS; KITCHEN - DOUBLE BOWL SINK, RESTROOM - OVAL SINK
DOOR STAIN	ST-1	ARCHITECTURAL MASONITE	WHITE MAPLE; ESPRESSO 42-95	ALL INTERIOR DOORS THROUGHOUT
STAINED CONCRETE	STC-1	PROSOCO	CONSOLIDECK GEMTONE STAIN, COLOR: WELSH SLATE; FINISHED WITH PROSOCO DURASHEEN PROTECTIVE COAT	HIGH TRAFFIC AREAS
PORCELAIN TILE	T-1	DALTILE	AMBASSADOR AM34 JET SETTER DUSK; 12X48 TILE	RESTROOM FLOOR TILE
PORCELAIN TILE	T-2	DALTILE	AMBASSADOR AM34 JET SETTER DUSK; 3X6 TILE	RESTROOM WALL TILE
MOSAIC TILE	T-3	DALTILE	COASTAL KEYSTONES TROPICAL THUNDER CK88; 2X1 BRICK JOINT MOSAIC	KITCHEN BACKSPLASH
PORCELAIN TILE BASE	TB-1	DALTILE	AMBASSADOR AM34 JET SETTER DUSK S-43F9; 3X24 BULLNOSE	RESTROOM FLOOR TILE BASE
TOILET PARTITIONS	TP-1	BRADLEY CORP	2125 DOVE GRAY	
WALK OFF CARPET TILE	WC-1	MOHAWK GROUP	FIRST STEP II GT315; 955 COBALT	VESTIBULE WALKOFFCARPET; MONOLITHIC INSTALLATION METHOD
WALL COVERING	WC-1	MDC STUDIO	FLEXIBLE SUBSTRATES SMOOTH FINISH; COMMERCIAL GRADE TYPE II FABRIC BACKED WALLCOVERING	CUSTOM IMAGE GRAPHIC
WALL COVERING	WC-2	MDC STUDIO	FLEXIBLE SUBSTRATES SMOOTH FINISH; COMMERCIAL GRADE TYPE II FABRIC BACKED WALLCOVERING	CUSTOM IMAGE GRAPHIC
WALL COVERING	WC-3	MDC STUDIO	FLEXIBLE SUBSTRATES SMOOTH FINISH; COMMERCIAL GRADE TYPE II FABRIC BACKED WALLCOVERING	CUSTOM IMAGE GRAPHIC

EXTERIOR MATERIAL LEGEND

MATERIAL	MANUFACTURER	SPECIFICATIONS
ALUMINUM COPING	**CENTRIA**	**SLATE GRAY #181**
ALUMINUM GUTTERS & DOWNSPOUTS	**KAWNEER COMPANY**	**DARK BRONZE**
ALUMINUM WINDOW FRAME	**KAWNEER COMPANY**	**CLEAR ANODIZED ALUMINUM**
BRICK VENEER	**ACME BRICK**	**DOVE GRAY**
CMU	**LEE BUILDING PRODUCTS**	**H720 DOVER CHOCOLATE DK**
EXTERIOR PASSAGE DOOR	**SHERWIN WILLIAMS**	**SW 7019 GAUNTLET GREY**
GLAZING	**PPG ARCHITECTURAL GLASS**	**SOLARGRAY**
INSULATED OVERHEAD DOOR	**THERMACORE DOOR**	**MODEL 596 - SLATE GRAY**
MORTAR	**BRIXMENT CO.**	**C-57 TWILIGHT GRAY**
PRE-CAST CONCRETE CAP	**BARRASSO & SONS**	**WAP-1**
ROOF SYSTEM	**FIRESTONE**	**DARK BRONZE**

GENERAL NOTES - FINISH PLANS

SCALE: 1/2" = 1'-0"

1. REFER TO FINISH SCHEDULE, PLANS, DETAILS, AND SPECIFICATIONS FOR MORE INFORMATION
2. FINISHES SPECIFIED IS A BASIS OF DESIGN ONLY; ALL STRUCTURAL INTERIOR DESIGN FINISHES TO BE SIMILAR OR EQUAL TO FINISH AND MANUFACTURER'S PROVIDED IN FINISH LEGEND; ALL FINISH SELECTIONS TO BE PROVIDED WITH HARD SAMPLES SUBMITTALS SHOWING COLOR AND TEXTURE.
3. CENTER ALL TRANSITION STRIPS UNDER DOOR UNLESS NOTED OTHERWISE
4. TRANSITIONS BETWEEN FLOORING MATERIALS SHALL BE ACCOMPLISHED WITH THE USE OF ALUMINUM SCHLUTER TRANSITION STRIPS; CONTRACTOR IS RESPONSIBLE FOR DETERMINING REDUCER HEIGHT BETWEEN MATERIALS
5. PAINT ALL MISC. ITEMS TO MATCH WALL OR CEILING IN WHICH ITEM OCCURS
6. IN ALL RESTROOMS, WALLS TO BE A MOISTURE RESISTANT GYPSUM WALL BOARD W/ AN PNT-6 FINISH & PORCELAIN TILE WAINSCOT.
7. ALL CORNERS WHERE TILE MEETS TILE SHALL BE A MITERED JOINT
8. AT ALL OUTSIDE EDGES AND CORNERS WHERE TILE STOPS PROVIDE A T-2 BULLNOSE TILE TO PROVIDE A CLEAN STOPPING POINT
9. ALL EXTERIOR WINDOWS TO RECEIVE WHITE HORIZONTAL MINI BLINDS. BASIS OF DESIGN: HUNTER DOUGLAS 1" MODERN PRECIOUS METAL ALUMINUM BLINDS. BLINDS SHOULD NOT BE PLACED ON TRANSLUCENT PANELS
10. ALL CUSTOM WALL GRAPHICS TO BE COMMERCIAL GRADE TYPE II VINYL. FLEXIBLE SUBSTRATES, FINISH: SMOOTH. BASIS OF DESIGN: MDC STUDIO, 20 OZ/LYD. FABRIC BACKED WALLCOVERING. 54" WIDE PRINT WITH MINIMUM 6" IMAGE OVERHANG FOR TRIMMING AND FINISHING. FINAL IMAGE RESOLUTION TO BE 100-200 DPI. HANGING SURFACES TO BE CLEAN, SMOOTH, DRY, UNDAMAGED, FREE OF MOLD, MILDEW, GREASE AND STAINS, AND STRUCTURALLY INTACT, FINISHED TO A MINIMUM LEVEL OF 4 PRIOR TO INSTALLATION. DIGITAL IMAGE FILE AT APPROPRIATE RESOLUTION OF GRAPHIC TO BE PROVIDED TO CONTRACTOR UPON AWARD; REFER TO FINISH PLAN SHEET I-602 FOR LOCATIONS AND SHEET I-603 FOR IMAGE AND SIZES

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR FINISH: FLOORING	FLOOR FINISH: BASE	WALL FINISH: NORTH	WALL FINISH: EAST	WALL FINISH: SOUTH	WALL FINISH: WEST	CEILING	NOTES
100	DORM	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
101	RESTROOM	STC-1	TB-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	GYP/PNT-5	SEE TYPICAL RESTROOM WALL ELEVATION; SHEET I-603
102	DORM	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
103	DORM	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
104	RESTROOM	STC-1	TB-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	GYP/PNT-5	SEE TYPICAL RESTROOM WALL ELEVATION; SHEET I-603
105	DORM	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
106	DORM	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
107	RESTROOM	STC-1	TB-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	GYP/PNT-5	SEE TYPICAL RESTROOM WALL ELEVATION; SHEET I-603
108	DORM	CPT-2	RB-1	PNT-3	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
109	DORM	CPT-2	RB-1	PNT-3	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
110	RESTROOM	STC-1	TB-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	GYP/PNT-5	SEE TYPICAL RESTROOM WALL ELEVATION; SHEET I-603
111	DORM	CPT-2	RB-1	PNT-3	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
112	CORRIDOR	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	ACT-1	
113	DAYROOM	STC-1	RB-1	PNT-1	PNT-1	PNT-1	WC-2/PNT-3	ACT-1	SEE INTERIOR ELEVATIONS FOR WALL GRAPHIC IMAGE AND SIZE; SHEET I-603
114	KITCHEN	STC-1	RB-1	PNT-1	PNT-1	PNT-3/T-3	PNT-1	ACT-1	T-3 BACKSPLASH TILE AT ISLAND BEHIND KITCHEN; PNT-2 APPLIED TO BAR WALL ON SEAT SIDE
115	PANTRY	STC-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	ACT-1	
116	PATIO	SC-1						NONE	
117	CORRIDOR	STC-1	RB-1	PNT-3/WC-3	PNT-1	PNT-1	PNT-2	NONE	EXPOSED STRUCTURE; PAINT PNT-6
118	APPARATUS BAY	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
119	HOSE RACK	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
120	AGENT STORAGE	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
121	FIRE RISER	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
122	EQUIP WASH	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
123	INFECTIOUS CONTROL	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR FINISH: FLOORING	FLOOR FINISH: BASE	WALL FINISH: NORTH	WALL FINISH: EAST	WALL FINISH: SOUTH	WALL FINISH: WEST	CEILING	NOTES
124	EMS STORAGE	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
125	WORK ROOM	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
126	PPE STORAGE	EPX-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
127	LAUNDRY	STC-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
128	STORAGE	STC-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
129	FITNESS	MAT-1	RB-1	PNT-3	PNT-1	PNT-1	PNT-1	NONE	EXPOSED STRUCTURE; PAINT PNT-6
130	CHIEF OFFICE	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
130A	CHIEF CLOSET	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
131	CHIEF DORM	CPT-2	RB-1	PNT-3	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
132	CHIEF/SUPERVISOR BATH	STC-1	TB-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	GYP/PNT-5	SEE TYPICAL RESTROOM WALL ELEVATION; SHEET I-603
133	SHIFT SUPERVISOR DORM	CPT-2	RB-1	PNT-3	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
134	SHIFT SUPERVISOR OFFICE	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
135	PUBLIC RESTROOM	STC-1	TB-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	PNT-6/T-1	GYP/PNT-5	SEE TYPICAL RESTROOM WALL ELEVATION; SHEET I-603
136	LOBBY	STC-1	RB-1	PNT-3/WC-1	PNT-1	PNT-1	PNT-2	NONE	EXPOSED STRUCTURE PAINT PNT-6; SEE INTERIOR ELEVATIONS FOR WALL GRAPHIC IMAGE AND SIZE; SHEET I-603
137	VESTIBULE	WC-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	GYP/PNT-5	
138	DEPARTMENT TRAINING	CPT-1	RB-1	PNT-3	PNT-3	PNT-1	PNT-2	ACT-1	
139	COMPUTER TRAINING/TESTING	CPT-1	RB-1	PNT-3	PNT-1	PNT-1	PNT-2	ACT-1	
140	TRAINING STORAGE/LIBRARY	CPT-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	ACT-1	
141	CORRIDOR	STC-1	RB-1	PNT-3	PNT-1	PNT-1	PNT-1	NONE	EXPOSED STRUCTURE; PAINT PNT-6
142	MECHANICAL	SC-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
143	ELECTRICAL	SC-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6	NONE	EXPOSED STRUCTURE; PAINT PNT-6
144	BASE IT/COMM	SC-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	NONE	EXPOSED STRUCTURE; PAINT PNT-6
145	JAN	SC-1	RB-1	PNT-6	PNT-6	PNT-6	PNT-6/T-1	GYP/PNT-5	SEE TYPICAL RESTROOM WALL ELEVATION; SHEET I-603

US Army Corps of Engineers ®

MARK	REVISION	DATE

DESIGNED BY: CEMVK
DRAWN BY: CEMVK
CHECKED BY: CHRISTOPHER J. HOLLAND
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: MVF-98013
SUBMIT TO: KO
REVIEW BY: MVK
SIZE: ANSI D
FORM: CADTOOL

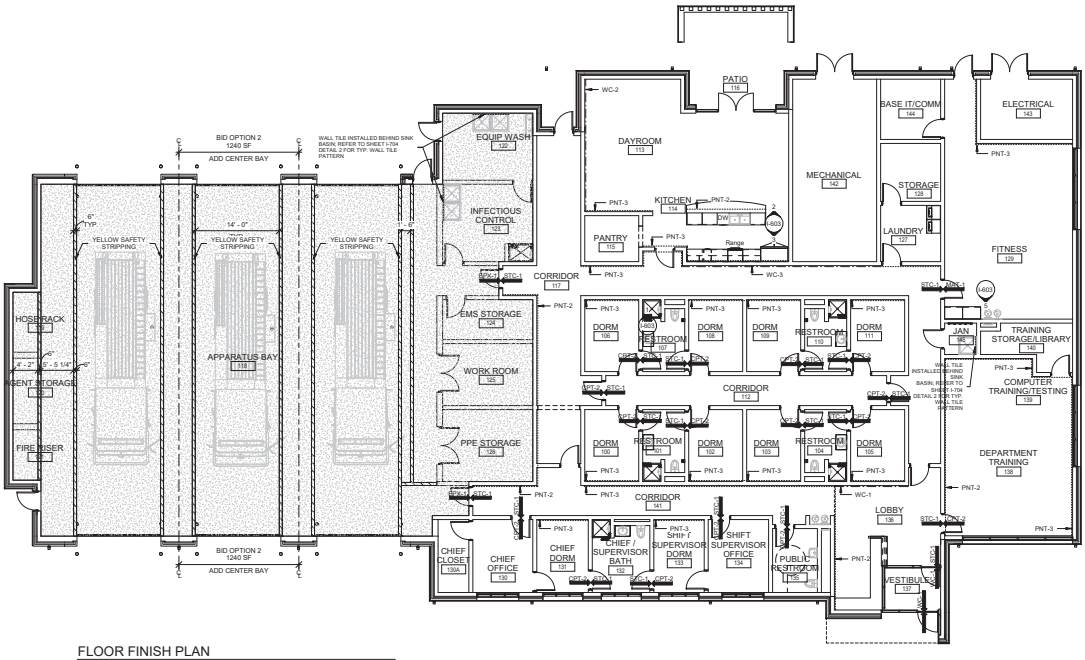
US ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

TYNDALL AFB, FLORIDA
CONSTRUCTION OPTIONS 42
FY 2016, PN:AJUV.F181003

FINISH LEGENDS & SCHEDULES

SHEET ID
I-601

INTERIORS I-601-



FLOOR FINISH PLAN

SCALE: 1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	REVISION	BY	DATE

US ARMY CORPS OF ENGINEERS
SOUTHERN DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

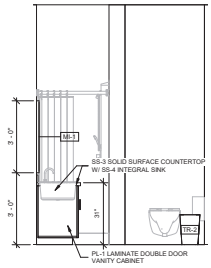
DESIGNED BY: CHECKED BY: DRAWN BY: REVIEWED BY: CHECKED BY: APPROVED BY:
DATE: JAN 01, 2016
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: 64BF-98013
SUBMIT TO: N/A
MAJOR COMMAND: N/A
SIZE: ANSI D
CAD FILE CODE:

TYNDALL AFB, FLORIDA
CONSTRUCT BASE FIRE STATION 62
FY 2016, PR:KAJV:U1B3G3

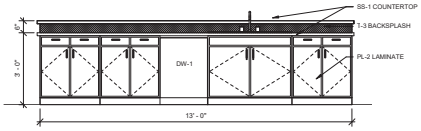
FINISH PLANS

SHEET ID
I-602

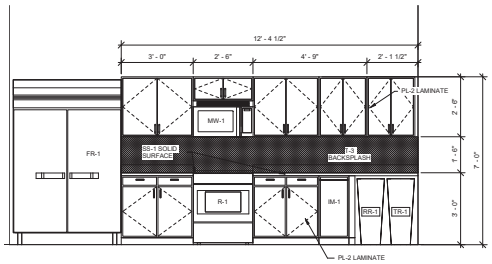
INTERIORS I-602-



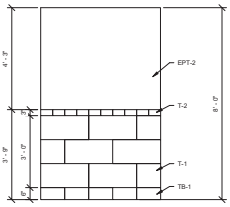
1 TYP. RESTROOM ELEVATION
1/2" = 1'-0"



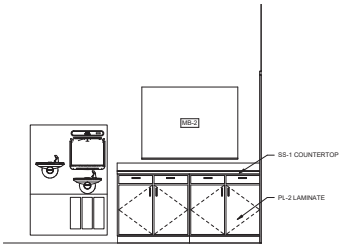
2 KITCHEN ISLAND ELEVATION
1/2" = 1'-0"



3 KITCHEN ELEVATION
1/2" = 1'-0"



4 TYPICAL RESTROOM WALL TILE ELEVATION
1/2" = 1'-0"



5 FITNESS CASEWORK ELEVATION
1/2" = 1'-0"

SCALE: 3/4" = 1'-0"

SCALE: 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	REVISION	BY	DATE

DESIGNED BY:
DRAWN BY:
DRAWING NO:
CHECKED BY:
SUBMITTED BY:
SUBMIT TO: KO
MAJOR: ARCHITECT
SIZE: ANSI D
DATE: 2013
CONTRACT NO:
SOLICITATION NO:
BUILT DATE: MAY 01, 2016
PROJECT NUMBER: 64FF-9601

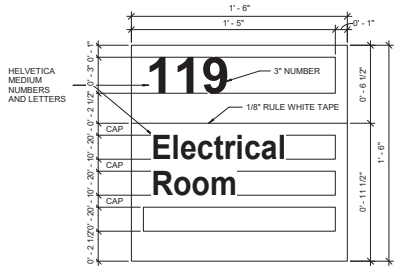
US ARMY CORPS OF ENGINEERS
SOUTHERN DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

TYNDALL AFB, FLORIDA
CONSOLIDATE TRAINING FACILITIES 2
FY 2016, PR NUMBER 68008

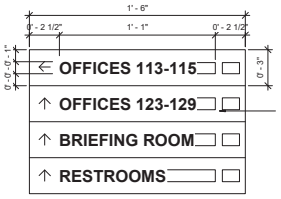
INTERIOR FINISH ELEVATIONS

SHEET ID
I-603

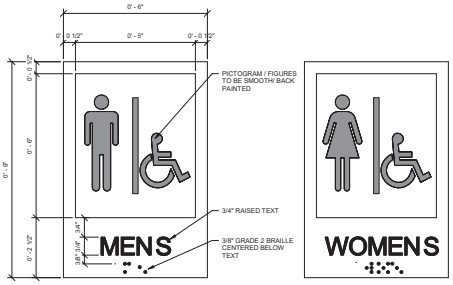
INTERIORS I-603-



6 SIGN E - EXTERIOR SIGN
3" = 1'-0"



4 SIGN D - DIRECTORY
3" = 1'-0"



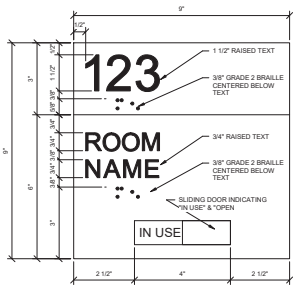
3 SIGN C - RESTROOM
6" = 1'-0"

SIGNAGE SCHEDULE

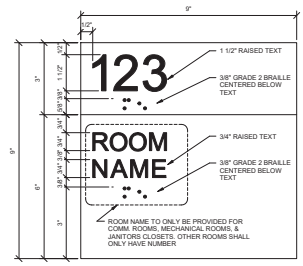
ROOM/SIGN #	ROOM NAME	SIGN TYPE
100	DORM	A
101	RESTROOM	-
102	DORM	A
103	DORM	A
104	RESTROOM	-
105	DORM	A
106	DORM	A
107	RESTROOM	-
108	DORM	A
109	DORM	A
110	RESTROOM	-
111	DORM	A
112	CORRIDOR	-
113	DAYROOM	A
114	KITCHEN	-
115	PANTRY	-
116	PATIO	-
117	CORRIDOR	-
118	APPARATUS BAY	A
119	HOSE RACK	-
120	AGENT STORAGE	-
121	FIRE RISER	-
122	EQUIP WASH	A

SIGNAGE SCHEDULE

ROOM/SIGN #	ROOM NAME	SIGN TYPE
123	INFECTIOUS CONTROL	A
124	EMS STORAGE	A
125	WORK ROOM	A
126	PPE STORAGE	A
127	LAUNDRY	A
128	STORAGE	-
129	FITNESS	A
130	CHIEF OFFICE	A
130A	CHIEF CLOSET	-
131	CHIEF DORM	A
132	CHIEF/SUPERVISOR BATH	-
133	SHIFT SUPERVISOR DORM	A
134	SHIFT SUPERVISOR OFFICE	A
135	PUBLIC RESTROOM	C
136	LOBBY	D
137	VESTIBULE	E
138	DEPARTMENT TRAINING	B
139	COMPUTER TRAINING/TESTING	-
140	TRAINING STORAGE/LIBRARY	A
141	CORRIDOR	-
142	MECHANICAL	E
143	ELECTRICAL	E
144	BASE IT/COMM	E
145	JAN	A



2 SIGN B - IN USE/OPEN ROOM
6" = 1'-0"

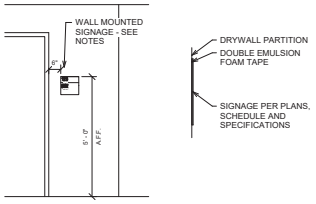


1 SIGN A - PERMANENT ROOM
6" = 1'-0"

GENERAL NOTES - SIGNAGE

SCALE: 1/2" = 1'-0"

1. REFER TO UFC AIR FORCE BASE GUIDELINES 3-120-0, AND ABA STANDARDS FOR SIGNAGE REQUIREMENTS.
2. SIGNAGE WITH TACTILE LETTERING MUST COMPLY WITH ANSI A117.1
3. CONFIRM ALL TEXT WITH END USER
4. ALL SIGNAGE TO BE WALL MOUNTED UNLESS NOTED OTHERWISE. REFER TO DETAIL 5 THIS SHEET FOR TYPICAL MOUNTED HEIGHTS
5. RESTROOM SIGNAGE WILL HAVE RAISED PICTOGRAMS FOR THE MALE AND FEMALE RESTROOMS AND THE UNIVERSAL SYMBOL FOR HANDICAP ACCESS AND RAISED BRAILLE BELOW.
6. REFER TO SIGNAGE PLANS, TYPICALS, AND SPECIFICATIONS FOR MORE INFORMATION.
7. PROVIDE SOFTWARE AND TRAINING FOR CHANGEABLE PAPER INSERT STRIPS TO BE EDITED ON CLIENTS COMPUTER. EXTRA STRIPS SHALL BE PROVIDED. MUST BE ABLE TO BE PRINTED ON A TYPICAL 8.5"x11" BLACK AND WHITE PRINTER
8. ALL FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS, AND SMOKE PARTITIONS OR ANY OTHER WALLS REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS MUST BE PERMANENTLY IDENTIFIED BY STENCILING (PAINT) OR SIGNAGE IDENTIFYING THE RATING IN HOURS (i.e. 1-HR) WITH LETTERS NOT LESS THAN 1/2" HIGH AT INTERVALS NO GREATER THAN 8'-0" WITH AT LEAST ONE SUCH SIGN PER WALL FOR WALLS LESS THAN 8'-0" HORIZONTALLY, AND MIN. 10" ABOVE SCHEDULED CEILING
9. PROVIDE BACK PANEL IF ANY SIGNS ARE INSTALLED ON GLASS.
10. ROOM NUMBERS LISTED IN SCHEDULE ARE GENERIC NUMBERS. ACTUAL ROOM NUMBERS TO BE LISTED ON SIGN ARE TO BE ESTABLISHED BY END USER.
11. RESTROOMS NOT LABELED AS MEN'S AND WOMEN'S IN FLOOR PLAN ARE TO HAVE A UNISEX PICTOGRAM INCLUDING BOTH THE MALE AND FEMALE AND THE HANDICAP SYMBOL
12. HELVETICA MEDIUM FONT SHALL BE USED FOR ALL HEADER COPY AND FOR DIRECTIONAL ARROWS
13. HELVETICA REGULAR FONT SHALL BE USED FOR ALL BODY COPY
14. GRAPHIC EMBLEMS MAY BE USED, EMBLEMS SHALL BE 4" X 4" LOCATED ON THE LEFT SIDE OF HEADER; EMBLEMS TO COMPLY WITH SECTION C.8 OF SID TECH. GUIDE SPECS.
15. COLORS OF INTERIOR SIGNS TO COORDINATE WITH BUILDING INTERIOR DESIGN SCHEME; TYP. DARK BACKGROUND AND WHITE GRAPHICS
16. ANY SIGNAGE TO BE MOUNTED ON A DEMOUNTABLE WALL SURFACE OR GLASS SURFACE TO HAVE PROPER MOUNTING HARDWARE
17. MOUNTING HARDWARE FOR DEMOUNTABLE WALL AND GLASS WALLS SIGNAGE TO BE THAT OF PERMANENT MOUNTS
18. MOUNTING HARDWARE TO CHAIN LINK FENCES TO BE THAT OF PERMANENT MOUNTING BRACKETS



MOUNTING DETAILS
SCALE: 1/2" = 1'-0"

SCALE: 6" = 1'-0"

SCALE: 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

BUILD IDIQ
JAN 01, 2016
SOLICITATION NO.
CONTRACT NO.
PROJECT NUMBER
P2018-0013
DESIGNER: CEMOB
CHECKER: TBD
DRAWER: TBD
CHECKER: TBD
SUBMIT TO: KO
NAVFAC ENGINEER
TBD
AHJS: D. FOOD

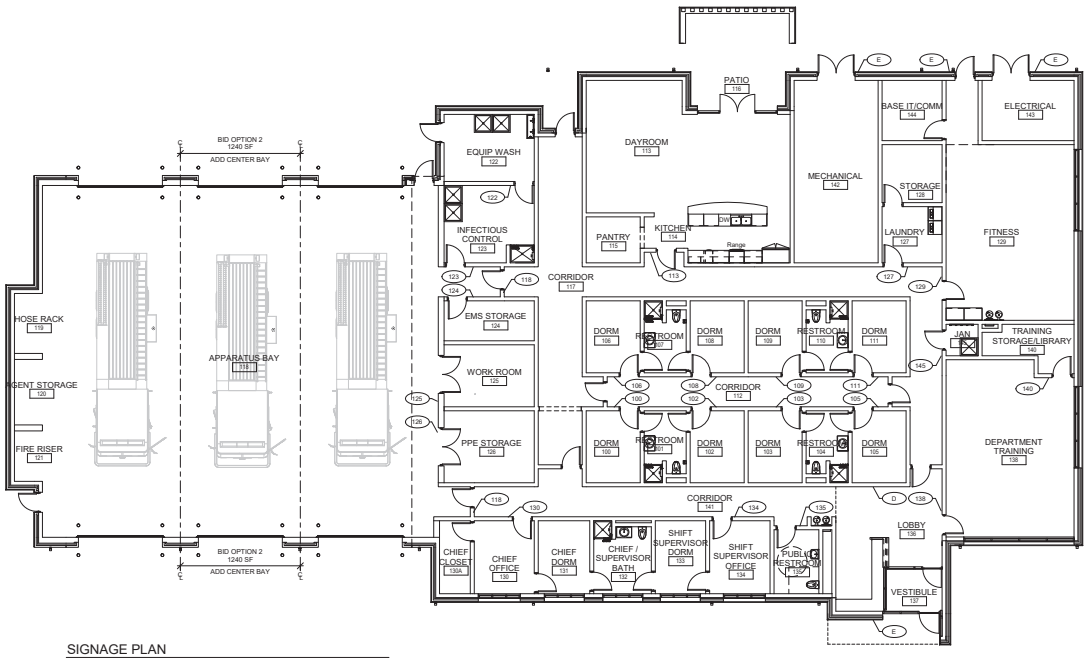
US ARMY CORPS OF ENGINEERS
COMMERCE BUILDING
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

TYNDALL AFB, FLORIDA
CONSTRUCT 3 DORMS, PHASE 2
FY 2018, PR NUM UVB0305

SIGNAGE SCHEDULE & TYPICALS

SHEET ID
I-801

INTERIORS I-801-



SIGNAGE PLAN

SCALE: 1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	REVISION	DATE

DESIGNED BY:
DRAWN BY:
REVIEWED BY:
CHECKED BY:
APPROVED BY:

DATE ISSUE:
JAN 11, 2018
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER:
MIP 98013
SIZE: ANSI D
CAD CODE:

US ARMY CORPS OF ENGINEERS
SAM, SOUTHERN DIVISION
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

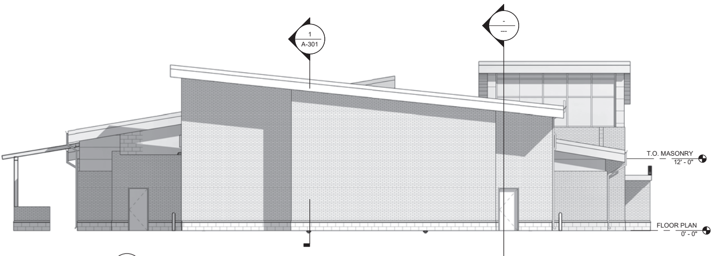
TYNDALL AFB, FLORIDA
CONTRACTOR HOUSING PHASE 2
FY 2016, PR:MUVJ18GI05

SIGNAGE PLAN

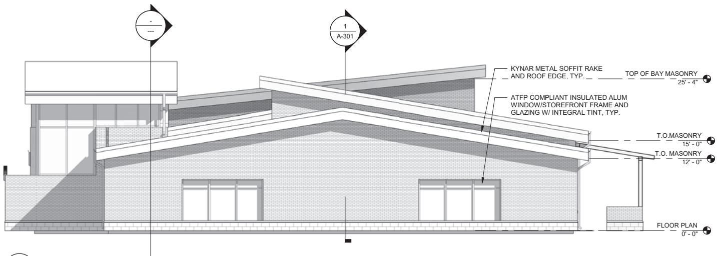
SHEET ID

I-802

INTERIORS I-802-

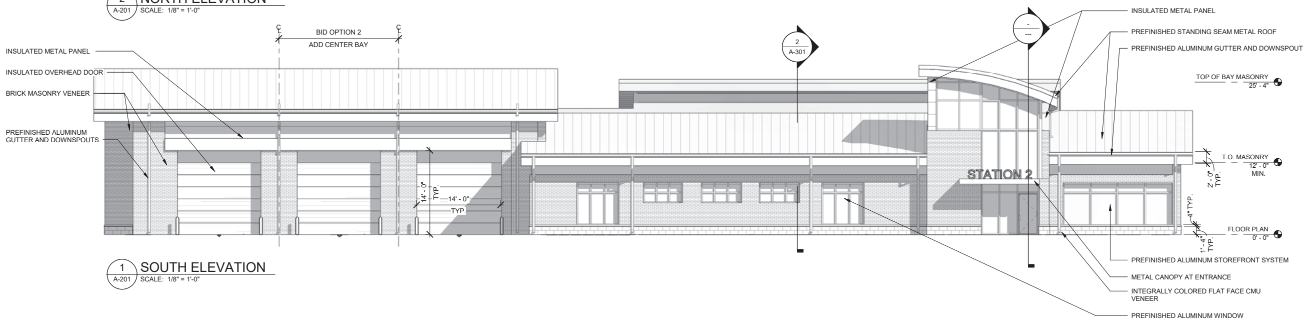


4 A-201 **WEST ELEVATION**
SCALE: 1/8" = 1'-0"



3 A-201 **EAST ELEVATION**
SCALE: 1/8" = 1'-0"

2 A-201 **NORTH ELEVATION**
SCALE: 1/8" = 1'-0"



1 A-201 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

US Army Corps
of Engineers ®

DATE	DESCRIPTION	MARK

US ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

DESIGN BY: J. HUNSUCKER	ISSUE DATE: JULY 2019
DRAWN BY: T. HOURIGAN	SOLICITATION NO.:
CHECKED BY: Q. BIAGI	CONTRACT NO.:
SUBMITTED BY: MASON & HANGAR	PROJECT NUMBER: MEF19013
SIZE: ANSI D	CAD CODE:

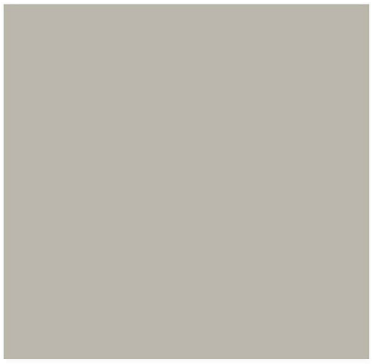
TYNDALL AFB, FL
CONSTRUCT FIRE STATION # 2
DESIGN-BUILD RFP
FY 2019, PNXLWU193005

ELEVATIONS

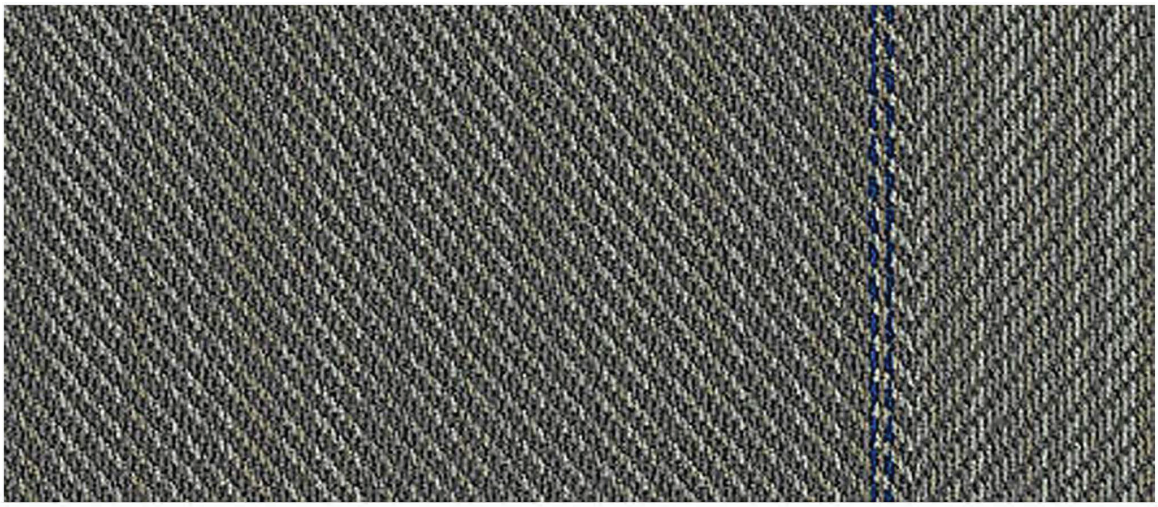
SHEET ID
A-201

Tyndall Air Force Base
Fire Rescue Station 2

PNT-3
Sherwin Williams
SW7018 Dovetail



PNT-1
Sherwin Williams
SW7016 Mindful Gray



CPT-2
Mohawk Group, Denim
Hem GT178, 937 Hipster

Offices
& Dormatories

Tyndall AFB, Florida
Task Order Number: **XLWU193005**

Tyndall Air Force Base
Fire Rescue Station 2

PNT-3
Sherwin Williams
SW7018 Dovetail

PNT-2
Sherwin Williams
SW6524 Commodore

PNT-1
Sherwin Williams
SW7016 Mindful Gray

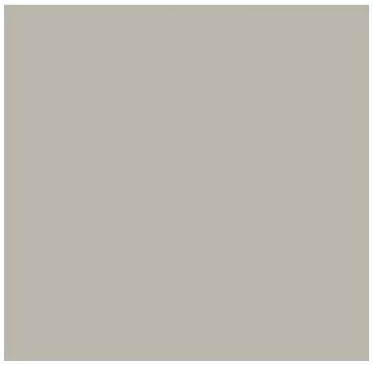
CPT-1
Mohawk Group, Shirt II GT 173, 695 Sharkskin

Testing & Training

Tyndall AFB, Florida
Task Order Number: XLWU193005

Tyndall Air Force Base
Fire Rescue Station 2

PNT-3
Sherwin Williams
SW7018 Dovetail



PNT-1
Sherwin Williams
SW7016 Mindful Gray

MAT
American Floor Mats
Interlocking Mega Lock Rubber Gym Tiles
Black 1/2" Thick

Fitness Area

Tyndall AFB, Florida
Task Order Number: XLWU193005

Tyndall Air Force Base
Fire Rescue Station 2

PNT-2
Sherwin Williams
SW6524 Commodore

STC-1
Prosoco, Welsh Slate

PNT-1
Sherwin Williams
SW7016 Mindful Gray

T-3
Daltile Coastal Keystones
Tropical Thunder CK88
2x1 Brick Joint Mosaic

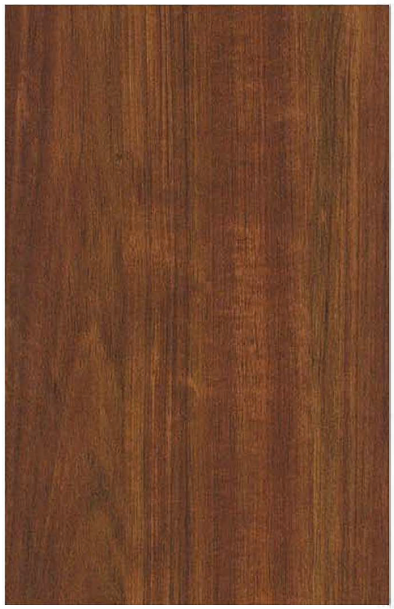
Kitchen & Dayroom

Tyndall AFB, Florida
Task Order Number: **XLWU193005**

Tyndall Air Force Base
Fire Rescue Station 2

PNT-3
Sherwin Williams
SW7018 Dovetail

SS-1
Livingstone
Eclipse



PL-1
Wilsonart
7957K-78 Zanzibar

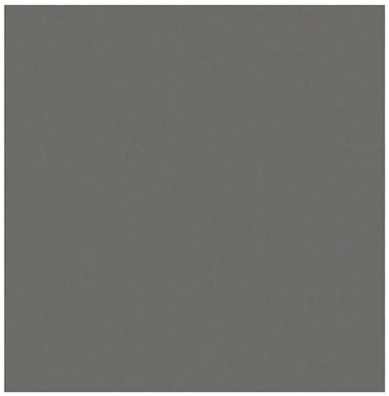
Kitchen
(Continued)

Tyndall AFB, Florida
Task Order Number: **XLWU193005**

Tyndall Air Force Base

Fire Rescue Station 2

STC-1
Prosoco, Welsh Slate



SS-3
Dupont Corian
Deep Cloud

G-1
Custom Building Products
#19 Pewter

BATHROOM PARTITIONS
Bradley Corp, 2125 Dove Gray

T-1, T-2, TB-1
Daltile Ambassador AM34
Jet Setter Dusk, 12x48

Restrooms

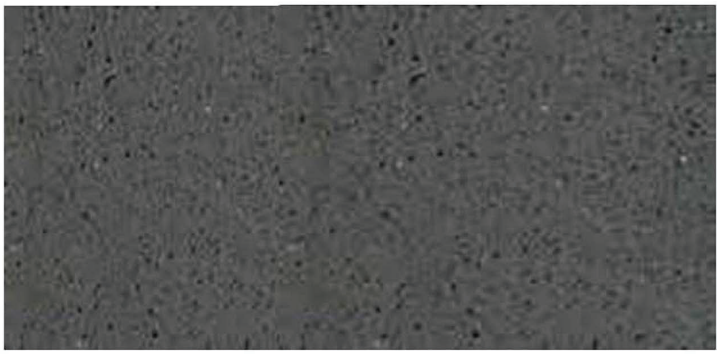
Tyndall AFB, Florida
Task Order Number: XLWU193005

Tyndall Air Force Base
Fire Rescue Station 2

PNT-3
Sherwin Williams
SW7018 Dovetail

PNT-2
Sherwin Williams
SW6524 Commodore

PNT-1
Sherwin Williams
SW7016 Mindful Gray



STC-1
Prosoco, Welsh Slate

WC-1
Mohawk Group, First Step II
GT315, 955 Cobalt

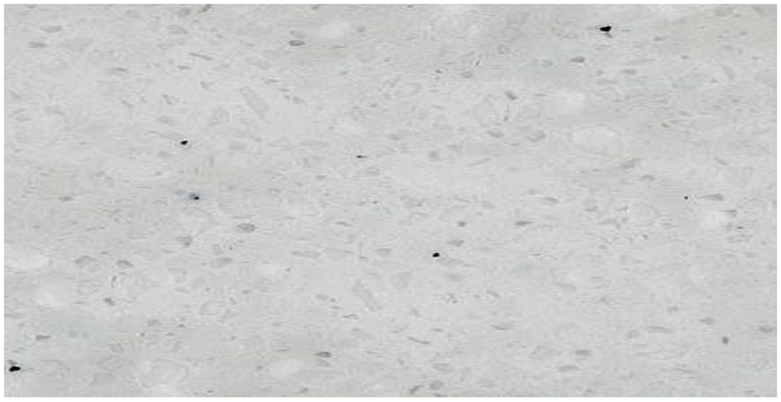
Corridors & Vestibule

Tyndall AFB, Florida
Task Order Number: **XLWU193005**

Tyndall Air Force Base
Fire Rescue Station 2

EPX-1
Dur-A-Flex
Cur-A-Chip Cobalt

PL-2
Wilsonart
Asian Night 7947K-18



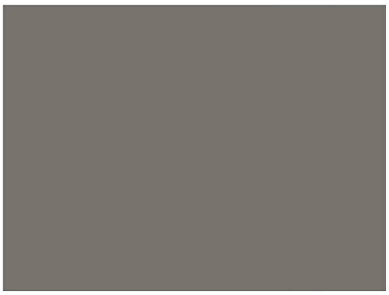
SS-4
Livingstone
Discover Series, Thundercloud

SID Additions

Tyndall AFB, Florida
Task Order Number: **XLWU193005**

Tyndall Air Force Base

Fire Rescue Station 2



PNT-7
Sherwin Williams SW7019
Gauntlet Gray

PNT-4
Sherwin Williams SW7757
High Reflective White

ST-1
Architectural Masonite
White Maple
Espresso 42-95

S-1
Appenx, Slate Grey

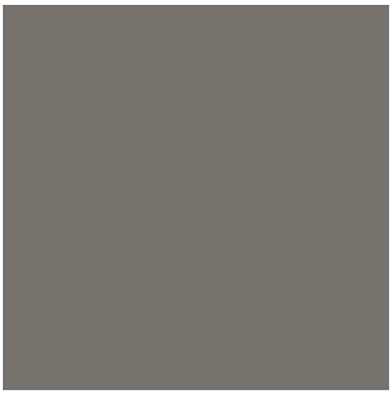
RB-1
Armstrong
71 Mid Gray

ACT-1
Armstrong Dune

Ceilings, Doors & Rubber Base

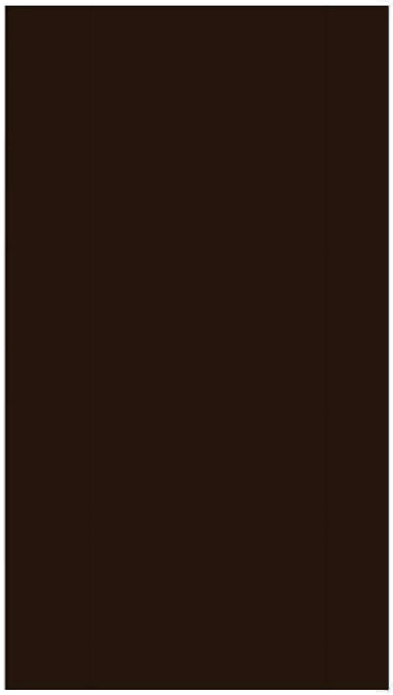
Tyndall AFB, Florida
Task Order Number: **XLWU193005**

Tyndall Air Force Base
Fire Rescue Station 2



EXTERIOR PASSAGE DOOR
Sherwin Williams
SW7-19 Gauntlet Grey

WINDOW GLAZING
PPG Architectural Glass
Solar Gray



ALUMINUM WINDOWS
Kawneer Company
Dark Bronze

Exterior

Mason&Hanger
A Day & Zimmermann Company

Tyndall AFB, Florida
Task Order Number: XLWU193005

Tyndall Air Force Base
Fire Rescue Station 2

CMU
Lee Building Products
H720 Dover Chocolate DK

MORTAR
Brixment Co.
C-57 Twilight Gray

BRICK VENEER
Acme Brick
Dove Gray

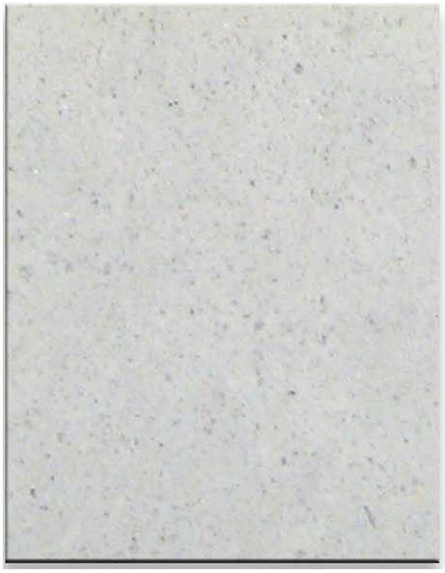
Exterior

Mason&Hanger
A Day&Zimmermann Company

Tyndall AFB, Florida
Task Order Number: XLWU193005

Tyndall Air Force Base
Fire Rescue Station 2

ALUMINUM COPING
Centria
Slate Gray #181



CONCRETE CAP
Barrasso & Sons
WAP-1

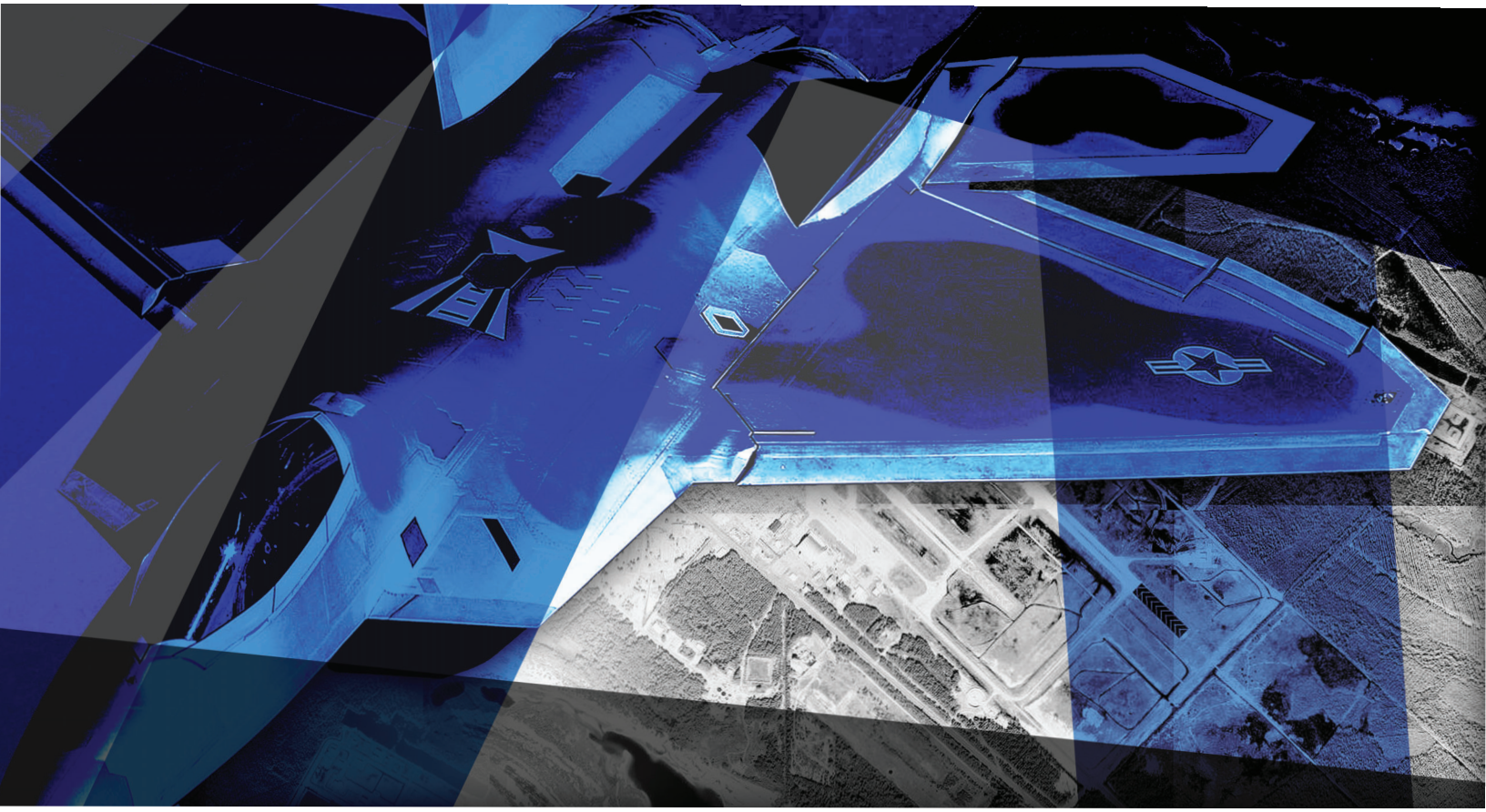
OVERHEAD DOOR
Thermacore
Model 59 - Terra Bronze

Exterior

Tyndall AFB, Florida
Task Order Number: XLWU193005


LOCKHEED MARTIN
NORTHROP GRUMMAN
F-35 LIGHTNING II
F-35


TYNDALL
RESCUE
FIRE
CRASH



APPENDIX C

FF&E PACKAGE

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Fire Station #2

Tyndall Air Force Base, Florida

Solicitation No.: W9127819SFHZ0005

FF&E Package

Table of Contents

Tyndall Air Force Base

Fire Rescue Station 2

FF&E PROJECT NARRATIVE

The project will consist of construction documentation of a new Satellite Fire Station at Tyndall AFB. The scope of the construction includes open office administrative space, day room/lounge area, dorm rooms, training and fitness areas, and an apparatus bay with support spaces.

INTERIOR DESIGN
Furniture, Fixtures, & Equipment (FF&E)

The furniture design for these facilities is based on the provided scope of work and will be further defined by thorough consultation with the users to establish requirements best suited to their needs. Selections will be made based on functionality, durability, and cost-effectiveness.

The FF&E package includes the design, selection, specification, color coordination and procurement documentation of the required items necessary to meet the functional, operational, sustainability, and aesthetic needs of the facility. The FF&E package will include placement plans, ordering and finish information on all freestanding furnishings and accessories, and will be coordinated with the Structural Interior Design (SID) interior finish materials. The selection of furniture style, function and configuration will be coordinated with the CID defined requirements from the Design Team.

Furniture for the facilities will consist of, but not be limited to, the furnishings list by area below; to be procured in accordance with Bid Option Selections; if the bid option for FF&E is accepted, all FF&E will be procured and installed by the contractor (CFCI); if the bid option for FF&E is not accepted, all FF&E will be procured by the government and installed by the contractor (GFCI). Equipment such as computer related software, TV's, VCR's, video projectors, faxes, printers, copiers, ovens, ranges, refrigerators, washers, dryers and fire extinguishers will be procured and installed by the government (GFGI).

Finishes for the furniture will be selected to compliment the interior architecture finishes of the building.

The SID and FF&E packages will be fully coordinated and will demonstrate a thorough understanding of the activity requirements to develop an optimum, functional, professional, working environment consistent with quality commercial interior design.

INTERIOR FURNISHINGS

The interior spaces will provide appropriate and professional, durable finishes that are both functional and aesthetically pleasing.

Furnishings are specified from Kimball, Dreamseat, RT London, Source International, Tennsco and Penco, Gear Grid, and Life Fitness. Products selected provide a cost effective and attractive furnishings solution to meet the RFP requirements and the needs of those working in the Air Force Base at Tyndall.

Office furniture was selected from Kimball Office due to the variety, functionality and cost effectiveness Kimball offers its clients. Offices match in regard to color tones of woods and fabrics. Bedroom furniture was selected from RT London due to the modern look, variety of product choices and durability of its products. The bedrooms offer the firefighters a comfortable, private home feel while they are serving their community. Storage furniture was selected from Tennsco and Penco/Gear Grid due to the durability and functionality of the equipment offered. The shelving, workbenches, and lockers provide the base with sufficient and long-lasting storage needs, with cost effectiveness in mind. Life Fitness was selected to supply the fitness equipment by the end user due to durability and performance Life Fitness presents its users.

The selected finishes provide focus on low maintenance, longer life expectancy, sustainability, cleanability, and durable room finishes that are commercially standard for the industry and the functions specified. The completed interiors will be

attractive, reflect quality standards and avoid trendy color palettes. The colors selected are appropriate for each building type and coordinate with the building finishes for a cohesive design.

Below outlines the individual room furnishing requirements for each area, which can be coordinated with the included interiors drawings and meet the RFP requirements provided:

DORMITORY MODULES – (8 TYPICAL DORM ROOMS + 2 CHIEF DORM ROOMS)
Living/Bedroom Area - FFE Furnishings for each dorm room to include: Twin XL captain's beds with 2-drawer under bed storage unit and headboard; innerspring mattress; airman table desks with separate locking drawer pedestal; airman desk chairs; nightstands; (2) freestanding single door wardrobes. Each room will have one trash receptacle.
Bathroom - FFE Furnishings include one trash receptacle.

COMMON/PUBLIC AREAS -- FIRST FLOOR
Offices- As part of the FFE furnishings, provide U-Shaped worksurface, box/box/file locking pedestals. Provide one ergonomic task chair, fully adjustable and two guest chairs with arms. Office to receive one large magnetic glass marker board unit and one 7-gallon waste receptacle.
Training Rooms – As part of the FFE furnishings, provide (10) nesting flip top training tables to sit 2 persons each with (1) fixed instructors table and task chair on casters. (4) stationary tables with wire management and (4) task chairs to be provided for computer testing. (1) large trash receptacle and (1) large recycling receptacle to be included as part of the FFE.
Dayroom – As part of the FFE furnishings, provide (6) reclining theatre lounge chairs w/ (1) side table at each chair and (1) trash receptacle. A 48"x72" dining table to seat 8 persons will be provided. An outdoor picnic table will be provided in the outdoor patio area.
Kitchen –The kitchen will include an eat-in counter height table with (5) counter height stools. (1) of each kitchen equipment listed, including commercial refrigerator, range, microwave, dishwasher, and garbage disposal. (1) large trash receptacle and (1) large recycling receptacle to be included as part of the FFE.
Fitness – Provide fitness equipment not limited to treadmills, ellipticals, bicycles, adjustable benches, plate weights and dumbbell weights as part of the FFE. Equipment list provided by end user to meet the needs of the satellite fire station personnel.
Accessible Toilet Room – As part of the FFE furnishings, provide one 7-gallon free standing waste receptacle with liner and top opening.
Pantry – Provide adjustable metal storage shelving as part of the FFE. Overall length of shelving to be 20'-0". Each section to be 18" deep and 72" high with adjustable shelves and locking doors.
Apparatus Bay – Provide adjustable metal storage shelving as part of the FFE. Each section to include adjustable shelves and locking doors. Provide steel stationary tables as part of the FFE. Provide perforated metal PPE lockers as part of the FFE. Provide tank storage racks as part of the FFE.

Refer to Order Data Sheets in RFP Appendix C, Section 01 10 10 - 11 and the drawings for complete details of all FFE items. The FFE will be bid as a bid option as listed in the Bidding Schedule as listed below.
Base Bid – N/A to FFE
Bid Option No. 1 – All FFE items not limited to outdoor site furnishings, kitchen equipment and window treatments.

POINT OF CONTACT	Fire Station No. 2 Tyndall Air Force Base	PAGE 1
Mason & Hangar i5 design group	Tyndall AFB, Florida Project No.: XLWU193005	DATE 5/10/2019

USACE Project Manager

Name:	Nicole Griffin	Clyde Ashley Jr
Position:	CESAM-PM-AF	CESAM-EN-GC
Organization:	USACE - Mobile	USACE - Mobile
Mailing Address:	Mail: P.O. Box 2288 Mobile, AL 36628	Fed EX: 109 St. Joseph St. Mobile, AL 36602
Office/Cell:	251-694-4634	251-690-2621
Email:	Lashaunda.N.Griffin@usace.army.mil	clyde.m.ashley.jr@usace.army.mil

End User Representative

Name:	Ramon Sellers
Position:	CES/CEPM
Organization:	USAF
Mailing Address:	119 Alabama Ave Tyndall AFB, FL 32403
Office/Cell:	850-283-4595
Email:	ramon.sellers.ctr@us.af.mil

AFCEC Program Manager

Name:	Vistasp, Jijina
Position:	MILCON Program Manaer
Organization:	AFCEC/CFFA
Mailing Address:	3515 S. General Mcmullen San Antonio, TX 78226
Office/Cell:	
Email:	

Architect and Designer of Record

Name:	Chris Lowe	Bill Nieport
Position:	Project Manager	Project Manager
Organization:	Mason & Hangar	Tetra Tech
Mailing Address:	300 W Vine St, Suite 1300 Lexington, KY 40507	2000 Warrington Way, Suite 245 Louisville, KY 40222
Office/Cell:	859-280-3563	502-569-9007
Email:	chris.lowe@masonandhangar.com	bill.nieport@tetratech.com

FFE POINT OF CONTACT (POC) LIST	Fire Station No.2	PAGE
	Tyndall Air Force Base	1
Mason & Hangar	Tyndall AFB, Florida	DATE
i5 design group	Project No.: XLWU193005	5/10/2019

Great American Art
POC: Steve Whitney
Phone: 800-314-0434
Email: admin@greatamericanart.com
GSA Contract: GS-03F-048CA

Tennsco
POC: Crystal Proctor
Phone: 615-446-8000
Email: cproctor@tennsco.net
GSA Contract: GS-27F-017GA, GS-06F-0032K

Source International Design
POC: Laura Rosen
Phone: 404-314-0425
Email: lrosen@rsreps.net
GSA Contract: GS-27F-002CA

Kimball Office
POC: Kara Fultz
Phone: 502-807-6347
Email: kara.fultz@kimball.com
GSA Contract: GS-03F-059DA

Clarus Glassboards
POC: Kevin Froehlich
Phone: 888-813-7414
Email: kevin@clarus.com
GSA Contract: GS-27F-0060X

Life Fitness
POC: Timothy Ghilain
Phone: 847-288-3440
Email: militarysales@lifefitness.com
GSA Contract: GS-01F120DA

Gear Grid
POC: Jeff Anderson
Phone: 888-643-6694
Email: jeffa@geargrid.com
GSA Contract: GS-27F-0008T

RT London Furniture
POC: Greg Winer
Phone: 616-364-4800
Email: gwiner@rtlondon.com
GSA Contract: GS-27F-0016P

Dreamseat
POC: Phil Catalani
Phone: 631-656-1066
Email: pcatalani@dreamseat.com
GSA Contract:

Landscape Forms
POC:
Phone: 269-381-0396
Email: contracta@landscapeforms.com
GSA Contract: GS-03F-115AA

ITEM CODE INDEX SHEET	Fire Station #2 Tyndall Air Force Base	PAGE
Mason & Hangar	Tyndall AFB, Florida	1 DATE
i5 design group	Project No.: XLWU193005	7/19/2019

CODE	DESCRIPTION	MANUFACTURER
SEATING		
CH-1	Dayroom Reclining Chair	DREAMSEAT
CH-2	Dining/Dorm Room Chair	SOURCE INTERNATIONAL
CH-3	Dining Room Stool	SOURCE INTERNATIONAL
CH-4	Nesting Task Chair	KIMBALL OFFICE
CH-5	Office Executive Chair	DREAMSEAT
CH-6	Waiting Room Chair	KIMBALL OFFICE
CH-7	Office Guest Chair	KIMBALL OFFICE
TABLES		
PO-1	Private Office Desk	KIMBALL OFFICE
T-1	Side Table	KIMBALL OFFICE
T-2	Testing Table	KIMBALL OFFICE
T-3	Steel Work Table	TENNSCO
T-4	Training Table	KIMBALL OFFICE
T-5	Training Table	KIMBALL OFFICE
T-6	Dining Table	KIMBALL OFFICE
LT-1	Laundry Folding Table	SOLO MATIC
DORMS		
BED-1	Twin XL Dorm Bed	RT LONDON
ST-1	Underbed Storage	RT LONDON
MAT-1	Twin XL Mattress	RT LONDON
NS-1	Nightstand	RT LONDON
WD-1	Wardrobe	RT LONDON
D-1	Pedestal Desk	RT LONDON
FILES		
BK-1	Bookcase	KIMBALL OFFICE
MC-1	Metal Storage Cabinet	TENNSCO
SH-1	Pantry Shelving	TENNSCO
SH-2	Industrial Shelving	TENNSCO
LK-1	PPE Storage Lockers	GEAR GRID
SHELVING		
B-1	Outdoor Picnic Table	LANDSCAPE FORMS
MB-1	Large Marker Board	CLARUS GLASSBOARDS
MB-2	Small Marker Board	CLARUS GLASSBOARDS
TB-1	Small Tack Board	CLARIDGE PRODUCTS
TS-1	Tank Storage Rack	BAUER COMPRESSORS
TR-1	Large Trash Receptacle	RUBBER MAID
TR-2	Small Trash Receptacle	RUBBER MAID
RR-1	Recycling Receptacle	RUBBER MAID

ITEM CODE INDEX SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 2
Mason & Hangar i5 design group	Tyndall AFB, Florida Project No.: XLWU193005	DATE 7/19/2019

EQUIPMENT		
R-1	Freestanding Gas Range	FRIGIDAIRE
DW-1	Dishwasher	FRIGIDAIRE
MW-1	Over the Range Microwave	FRIGIDAIRE
FR-1	Commercial Refrgerator	GE
SWD-1	Washer/Dryer Combo	WHIRLPOOL
GD-1	Garbarge Disposal	in-sink-erator
IM-1	Ice Maker	Viking
WORK OUT EQUIPMENT		
WOE-1	Treadmill	Life Fitness
WOE-2	Elliptical	Life Fitness
WOE-4	Three Tier Dumbbell Rack	Life Fitness
WOE-5	Olympic Flat Bench	Life Fitness
WOE-7	Stand Alone Half Rack	Life Fitness
WOE-8	Medicine Ball Storage Rack	Life Fitness
WOE-9	Upright Bicycle	Life Fitness
WOE-10	Hanging Club Mat	Life Fitness
WOE-11	Metal Wall Mounted Rack	Life Fitness
W-1	Dumbbell Weight	Life Fitness
W-2	Dumbbell Weight	Life Fitness
W-3	Dumbbell Weight	Life Fitness
W-4	Dumbbell Weight	Life Fitness
W-5	Dumbbell Weight	Life Fitness
W-6	Dumbbell Weight	Life Fitness
W-7	Dumbbell Weight	Life Fitness
W-8	Dumbbell Weight	Life Fitness
W-9	Dumbbell Weight	Life Fitness
W-10	Dumbbell Weight	Life Fitness
W-11	Dumbbell Weight	Life Fitness
W-12	Dumbbell Weight	Life Fitness
W-13	Dumbbell Weight	Life Fitness
W-14	Dumbbell Weight	Life Fitness
W-15	Dumbbell Weight	Life Fitness
W-16	Medicine Ball	Life Fitness
W-17	Medicine Ball	Life Fitness
W-18	Medicine Ball	Life Fitness
W-19	Medicine Ball	Life Fitness
W-20	Medicine Ball	Life Fitness

ITEM CODE INDEX SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 3
Mason & Hangar i5 design group	Tyndall AFB, Florida Project No.: XLWU193005	DATE 7/19/2019

W-21	Olympic Plate Weight	Life Fitness
W-22	Olympic Plate Weight	Life Fitness
W-23	Olympic Plate Weight	Life Fitness
W-24	Olympic Plate Weight	Life Fitness
W-25	Olympic Plate Weight	Life Fitness
W-26	Olympic Plate Weight	Life Fitness
W-27	Lock Jaws	Life Fitness
W-28	Gym Bar	Life Fitness
W-29	Curl Bar	Life Fitness

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 1
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **BED-1**

FURNITURE ITEM: Twin XL Dorm Bed				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	RT London
ADDRESS:	1642 Broadway Ave NW
CITY,STATE,ZIP:	Grand Rapids, MI 49504
PHONE:	616-364-4800
FAX	
EMAIL:	Gwiner@rtlondon.com
CONTACT NAME:	Greg Winer

PRODUCT NAME: Storage Bed Twin XL

MODEL NUMBER: Maxwell MWBEZZB252-Y

ITEM DESCRIPTION:

Twin XL bed with woodbox headboard consisting of shelf unit & LED task light and power outlets; bolt on spring deck; wood post footboard w/ wood panel

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 88"W X 42"D X 56"H

FINISHES:

Chassis: Wood

Maduro Maple

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY 10**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
100	Dorm	1		
102	Dorm	1		
103	Dorm	1		
105	Dorm	1		
106	Dorm	1		
108	Dorm	1		
109	Dorm	1		
111	Dorm	1		
133	Chief Dorm	1		
131	Shift Supervisor Dorm	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 2
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **ST-1**

FURNITURE ITEM: Underbed Storage				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	RT London
ADDRESS:	1642 Broadway Ave NW
CITY,STATE,ZIP:	Grand Rapids, MI 49504
PHONE:	616-364-4800
FAX	
EMAIL:	Gwiner@rtlondon.com
CONTACT NAME:	Greg Winer

PRODUCT NAME: Large Single Drawer Storage

MODEL NUMBER: Essentials ES463

ITEM DESCRIPTION:

Underbed large single drawer stacker unit, solid wood veneer construction; pull bar hardware

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 26"W X 24"D X 14.5"H

FINISHES:

Chassis: Wood

Maduro Maple

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY 20**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
100	Dorm	2		
102	Dorm	2		
103	Dorm	2		
105	Dorm	2		
106	Dorm	2		
108	Dorm	2		
109	Dorm	2		
111	Dorm	2		
133	Chief Dorm	2		
131	Shift Supervisor Dorm	2		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 3
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **MAT-1**

FURNITURE ITEM: Twin XL Mattress				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	RT London
ADDRESS:	1642 Broadway Ave NW
CITY,STATE,ZIP:	Grand Rapids, MI 49504
PHONE:	616-364-4800
FAX	
EMAIL:	Gwiner@rtlondon.com
CONTACT NAME:	Greg Winer

PRODUCT NAME: Twin XL Mattress

MODEL NUMBER: Quilted Chorus Plus MTQUCP3980

ITEM DESCRIPTION:

Mattress consisting of 2" soft quilt foam, 1" densified pad, continuous 600 coil foam encased spring, 2" base foam head to toe lacing

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 39"W X 80"L

FINISHES:

White

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY 10**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
100	Dorm	1		
102	Dorm	1		
103	Dorm	1		
105	Dorm	1		
106	Dorm	1		
108	Dorm	1		
109	Dorm	1		
111	Dorm	1		
133	Chief Dorm	1		
131	Shift Supervisor Dorm	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 4
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **NS-1**

FURNITURE ITEM: Nightstand				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	RT London
ADDRESS:	1642 Broadway Ave NW
CITY,STATE,ZIP:	Grand Rapids, MI 49504
PHONE:	616-364-4800
FAX	
EMAIL:	Gwiner@rtlondon.com
CONTACT NAME:	Greg Winer

PRODUCT NAME: 2 Drawer Nightstand

MODEL NUMBER: Essentials ESNSZZC220-Y

ITEM DESCRIPTION:

2 Drawer nightstand made of solid wood veneer construction and a laminate top; bar pull hardware; wood base

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 32"W x 18"d x 20"H

FINISHES:

Chassis: Wood

Maduro Maple

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY 10**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
100	Dorm	1		
102	Dorm	1		
103	Dorm	1		
105	Dorm	1		
106	Dorm	1		
108	Dorm	1		
109	Dorm	1		
111	Dorm	1		
133	Chief Dorm	1		
131	Shift Supervisor Dorm	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 5
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WD-1**

FURNITURE ITEM: Wardrobe				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	RT London
ADDRESS:	1642 Broadway Ave NW
CITY,STATE,ZIP:	Grand Rapids, MI 49504
PHONE:	616-364-4800
FAX	
EMAIL:	Gwiner@rtlondon.com
CONTACT NAME:	Greg Winer

PRODUCT NAME: 2 Door Wardrobe

MODEL NUMBER: Essentials ESWAZZB5510-Y

ITEM DESCRIPTION:

2 door clothes wardrobe w/ 30" high upper storage section w/ adjustable shelft and lower hanging section w/ adjustable shelf; solid wood veneer construction, bar pull hardware; wood base

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 24"W x 24"D x 84"H

FINISHES:

Chassis: Wood

Maduro Maple

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY 20**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
100	Dorm	2		
102	Dorm	2		
103	Dorm	2		
105	Dorm	2		
106	Dorm	2		
108	Dorm	2		
109	Dorm	2		
111	Dorm	2		
133	Chief Dorm	2		
131	Shift Supervisor Dorm	2		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 6
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **D-1**

FURNITURE ITEM: Pedestal Desk				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	RT London
ADDRESS:	1642 Broadway Ave NW
CITY,STATE,ZIP:	Grand Rapids, MI 49504
PHONE:	616-364-4800
FAX	
EMAIL:	Gwiner@rtlondon.com
CONTACT NAME:	Greg Winer

PRODUCT NAME: Pedestal Desk

MODEL NUMBER: Essentials ED068

ITEM DESCRIPTION:

Open end single pedestal desk; solid wood veneer with box/box/file storage and pencil drawer; bar pull hardware; wood base

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 44"W X 24"S X 29"H

FINISHES:

Chassis: Wood

Maduro Maple

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY 10**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
100	Dorm	1		
102	Dorm	1		
103	Dorm	1		
105	Dorm	1		
106	Dorm	1		
108	Dorm	1		
109	Dorm	1		
111	Dorm	1		
133	Chief Dorm	1		
131	Shift Supervisor Dorm	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 7
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **CH-1**

FURNITURE ITEM: Reclining Chair				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Dreamseat Commercial Furniture
ADDRESS:	60 Austin Blvd.
CITY,STATE,ZIP:	Commack, NY 17725
PHONE:	631-656-1066 ext. 61
FAX:	
EMAIL:	Pcatalani@dreamseat.com
CONTACT NAME:	Phil Catalani

PRODUCT NAME: Home Theatre Recliner

MODEL NUMBER: XZ418301RHTBLK

ITEM DESCRIPTION:

Leather Home Theater recliner chair with drink holders

DIMENSIONS: provide overall plus width, height, arm height, etc

43"h x 36"w x 40"d (22"d standard, 68"d reclined)

FINISHES:

Upholstery:	Back-	Black Leather
	Seat-	Black Leather

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **6**

RM #	Room Name	QTY		EXT. PRICE
113	Day Room	6		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 8
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **CH-2**

FURNITURE ITEM: Dining Chair/Dorm Chair				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Source International Design
ADDRESS:	17 Gilmore Drive
CITY,STATE,ZIP:	Sutton, MA 01590
PHONE:	800-722-0474
FAX:	
EMAIL:	cr@sourceinternationaldesign.com
CONTACT NAME:	Customer Sales

PRODUCT NAME: Cache Out

MODEL NUMBER: 768-FL-CA-BL-CA-7674-1-PG

ITEM DESCRIPTION:

Stackable upholstered seat with wooded back dining room chair with arms and on glides

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 19 5/8" W x 31 3/4" H x 22" D

FINISHES:

Frame:	Metal-	BLK Matte Black
Upholstery:	Back-	Painted Wood- 7674 Charcoal
	Seat-	Brisa Original Quicksilver

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **16**

RM #	Room Name	QTY		EXT. PRICE
100	Dorm	1		
102	Dorm	1		
103	Dorm	1		
105	Dorm	1		
106	Dorm	1		
108	Dorm	1		
109	Dorm	1		
111	Dorm	1		
113	Dayroom Dining	8		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 9
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **CH-3**

FURNITURE ITEM: Dining Stool				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Source International Design
ADDRESS:	17 Gilmore Drive
CITY,STATE,ZIP:	Sutton, MA 01590
PHONE:	800-722-0474
FAX:	
EMAIL:	cr@sourceinternationaldesign.com
CONTACT NAME:	Customer Sales

PRODUCT NAME: Cache Out Stool

MODEL NUMBER: 768-STL30-BL-CA-7674-1-PG

PHOTO:

ITEM DESCRIPTION:

Wood back, upholstered seat, dining room stool with arms and on glides

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 22.5" W x 44" H x 22.5" D

FINISHES:

Frame:	Metal-	BLK Matte Black
Upholstery:	Back-	Painted Wood- 7674 Charcoal
	Seat-	Brisa Original Quicksilver

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **6**

RM #	Room Name	QTY		EXT. PRICE
114	Dayroom Kitchen	6		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 10
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **CH-4**

FURNITURE ITEM: Nesting Task Chair				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Flip

MODEL NUMBER:

ITEM DESCRIPTION:

Nesting chair with mesh back, fixed arms, carpet casters, and upholstered seat; Grade F Fabric

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 35" x 24" x 23"

FINISHES:

Frame:	Chrome	
Upholstery:	Back-	Flip Mesh Black
	Seat-	Brisa Original Quicksilver

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **20**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
138	Department Training	16		
139	Computer Training/Testing	4		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 11
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **CH-5**

FURNITURE ITEM: Executive Chair				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Dreamseat Commercial Furniture
ADDRESS:	60 Austin Blvd.
CITY,STATE,ZIP:	Commack, NY 17725
PHONE:	631-656-1066 ext. 61
FAX:	
EMAIL:	Pcatalani@dreamseat.com
CONTACT NAME:	Phil Catalani

PRODUCT NAME: Executive Task Chair

MODEL NUMBER: XZ402PNU

PHOTO:

ITEM DESCRIPTION:

Executive chair with upholstered seat and back with arms on casters

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 38"-43"h x 26"w x 23"d

FINISHES:

Upholstery:	Back-	Black Leather
	Seat-	Black Leather

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **4**

RM #	Room Name	QTY		EXT. PRICE
134	Chief Office	1		
130	Shift Supervisor Office	1		
136	Lobby	2		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 12
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **CH-6**

FURNITURE ITEM: Waiting Room Chair				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Beo Lounge

MODEL NUMBER:

ITEM DESCRIPTION:

Fully upholstered lounge chair with upholstered enclosed arms on fixed wood legs; Fabric Grade F

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 32" x 25 1/2" x 29 1/2"

FINISHES:

Frame: Sedona Cherry

Upholstery: Back- Brisa Original Quicksilver

Seat- Brisa Original Quicksilver

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY		EXT. PRICE
136	Lobby	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 13
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **CH-7**

FURNITURE ITEM: Office Guest Chair				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Tucker

MODEL NUMBER:

ITEM DESCRIPTION:

Side chair with fixed wood arms on wood legs with upholstered seat and back; Fabric Grade G

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 32" x 25 1/2" x 29 1/2"

FINISHES:

Frame: Sedona Cherry

Upholstery: Back- Carnegie Brick Lane 6400 51

Seat- Carnegie Brick Lane 6400 51

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

TOTAL QUANTITY **4**

RM #	Room Name	QTY		EXT. PRICE
134	Chief Office	2		
130	Shift Supervisor Office	2		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 14
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **PO-1**

FURNITURE ITEM: Private Office Desk				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

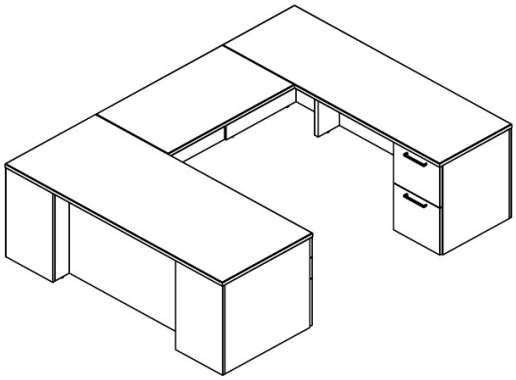
SOURCE:

NAME:	Kimball Office
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47549
PHONE:	615-975-9260
FAX:	
EMAIL:	Kara.Fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Priority

MODEL NUMBER:

PHOTO:



ITEM DESCRIPTION:

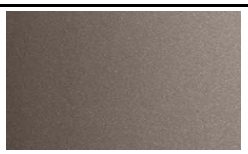
8'x6' U-shaped TFL Freestanding Desk w/ matching vinyl edge banding
(1) BBF in desk & (1) FF in credenza storage components
(1) pencil drawer
All storage compartments to be lockable

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 8'-0" x 6'-0"

FINISHES:

Frame:	Trim Paint-	Platinum Metallic
Laminate:	Laminate Chassis-	Sedona Cherry
	Laminate Worksurface-	Storm 460


LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY		EXT. PRICE
134	Chief Office	1		
130	Shift Supervisor Office	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 15
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WS-1**

FURNITURE ITEM: Workstation				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

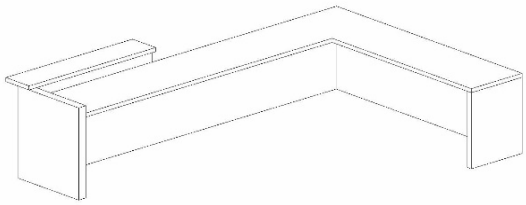
SOURCE:

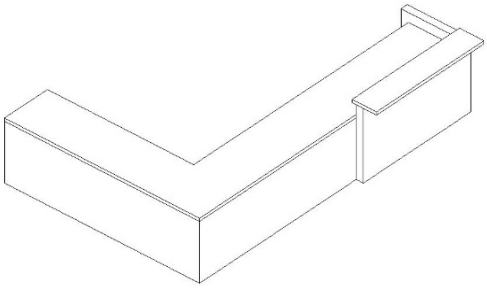
NAME:	Kimball Office
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47549
PHONE:	615-975-9260
FAX:	
EMAIL:	Kara.Fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Priority

MODEL NUMBER:

PHOTO:





ITEM DESCRIPTION:

L-shaped TFL Freestanding Workstation w/ matching vinyl edge banding
(2) BBF & (1) FF storage components
Transaction Countertop to be provided at indicated location
All storage compartments to be lockable

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 8'-0" x 6'-0"

FINISHES:

Frame:	Trim Paint-	Platinum Metallic
Laminate:	Laminate Chassis-	Sedona Cherry
Worksurface:	Transaction-	Storm 460
	Working-	Storm 460



LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY		EXT. PRICE
136	Lobby	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 16
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **T-1**

FURNITURE ITEM: Side Table				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Priority

MODEL NUMBER:

ITEM DESCRIPTION:

Square shaped 26" x 26"x 20 1/2" occasional table, plastic laminate top and chassis

DIMENSIONS: provide overall plus width, height, arm height, etc

26" x 26" x 20 1/2"

FINISHES:

Frame: Sedona Cherry

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **7**

RM #	Room Name	QTY		EXT. PRICE
136	Lobby	1		
113	Dayroom	6		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 17
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **T-2**

FURNITURE ITEM: Testing Table				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Dock Base & Xsede Top

MODEL NUMBER:

ITEM DESCRIPTION:

Training table with HPL top and matching edge vinyl banding on a pair metal blade legs

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 36" x 30" x 28"

FINISHES:

Worksurface: Sedona Cherry

Frame: Platinum Metallic

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY		EXT. PRICE
139	Computer Training/Testing Room	4		
		TOTAL PRICE		

TOTAL QUANTITY **4**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 18
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **T-3**

FURNITURE ITEM: Steel Work Table				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Tennsco Corp.
ADDRESS:	201 Tenssco Dr
CITY,STATE,ZIP:	Dickson, TN 37055-3003
PHONE:	334-798-1616
FAX:	
EMAIL:	gwilson@tennsco.com
CONTACT NAME:	Gretchen Wilson

PRODUCT NAME: Steel Top Adjustable Workbench

MODEL NUMBER: WBA-1-3672S

PHOTO:

ITEM DESCRIPTION:

Steel work table with adjustable steel legs, 12 gauge steel top with raised lip edge

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 36"W x 72"L x 33.5"T

FINISHES:

Worksurface: Medium Gray (2)

Frame: Medium Gray (2)

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **3**

RM #	Room Name	QTY		EXT. PRICE
122	Equip Wash	1		
124	EMS Storage	1		
125	Workroom	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 19
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **T-4**

FURNITURE ITEM: Training Table				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Dock

MODEL NUMBER:

ITEM DESCRIPTION:

Training table with HPL fixed top and matching vinyl edge banding on blade stationary t-legs with carpet casters

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 60" x 24" x 28"

FINISHES:

Worksurface: Sedona Cherry

Frame: Platinum Metallic

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)		TOTAL QUANTITY		1
RM #	Room Name	QTY		EXT. PRICE
138	Department Training	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 20
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **T-5**

FURNITURE ITEM: Training Table				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Dock

MODEL NUMBER:

PHOTO:

ITEM DESCRIPTION:

Nesting training table with HPL flip top and matching vinyl edge banding on blade t-legs on carpet casters

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 60" x 24" x 28"

FINISHES:

Worksurface: Sedona Cherry

Frame: Platinum Metallic

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **8**

RM #	Room Name	QTY		EXT. PRICE
138	Department Training	8		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 21
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **T-6**

FURNITURE ITEM: Dining Table				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Dock

MODEL NUMBER: 74K275828CFYL, 74K4872SRT

PHOTO:

ITEM DESCRIPTION:

Standard height rectangular table on blade y-base with HPL laminate top and matching vinyl edge banding; use cinder leg base

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 48" x 72"

FINISHES:

Worksurface: Sedona Cherry

Legs: Platinum Metallic

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY		EXT. PRICE
113	Dayroom Dining	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 22
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **LT-1**

FURNITURE ITEM: Laundry Folding Table				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Sol-o-matic /Caco Manufacturing Corporation
ADDRESS:	P.O. Box 263129
CITY,STATE,ZIP:	Houston, Texas USA 77207
PHONE:	1-800-633-6718
FAX:	713-644-8490
EMAIL:	email@solomatic.com
CONTACT NAME:	

PRODUCT NAME: Fiberglass Folding Table

MODEL NUMBER: TFD-244U w/ TR-2F

ITEM DESCRIPTION:

Fiberglass folding table w/ shelf and garment hangers

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 48"W x 24"D x 34"H

FINISHES:

Top: Starlight

Frame: Black

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)		**TOTAL QUANTITY**		**1**
RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
127	Laundry Room	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 23
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **BK-1**

FURNITURE ITEM: Bookcase				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Priority

MODEL NUMBER:

ITEM DESCRIPTION:

Freestanding TFL laminate bookcase with adjustable shelves

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 36"W x 16"D x 67"H

FINISHES:

Frame:

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **9**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
140	Training Storage/Library	5		
130A	Chief Closet	4		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 24
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **CR-1**

FURNITURE ITEM: Credenza				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Priority

MODEL NUMBER:

ITEM DESCRIPTION:

Freestanding TFL laminate media storage credenza with three doors and three drawers; adjustable shelving behind doors

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 36"W x 16"D x 67"H

FINISHES:

Frame: Sedona Cherry

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name
113	Dayroom

TOTAL QUANTITY **1**

QTY	UNIT PRICE	EXT. PRICE
1		
TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 25
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **B-1**

FURNITURE ITEM: Outdoor Table				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Landscape Forms Inc
ORDERING ADDRESS:	7800 E Michigan Ave
CITY,STATE,ZIP:	Kalamazoo, MI 49048-9506
PHONE:	269-381-0396
FAX:	
EMAIL:	contracta@landscapeforms.com
CONTACT NAME:	

PRODUCT NAME: Multiplicity Picnic Table

MODEL NUMBER: *Backless Straight Bench*
Standard Table

ITEM DESCRIPTION:

Outdoor picnic table built of prefinish anodized cast aluminum support framing with wood slate table and seat surfaces

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 35L X 95W X 29D
bench: 23W X 18D X 95W

FINISHES:

Aluminum
Wood

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
116	Patio	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 26
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **MC-1**

FURNITURE ITEM: Metal Storage Cabinet				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Tennsco Corp.
ADDRESS:	201 Tenssco Dr
CITY,STATE,ZIP:	Dickson, TN 37055-3003
PHONE:	334-798-1616
FAX:	
EMAIL:	gwilson@tennsco.com
CONTACT NAME:	Gretchen Wilson

PRODUCT NAME: Metal Storage Cabinet

MODEL NUMBER: J2478SU

PHOTO:

ITEM DESCRIPTION:

Welding steel heavy duty, jumbo storage cabinet with open shelving and lockable doors

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 48"W x 24"D x 78"H

FINISHES:

Frame: Medium Gray

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY 3**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
124	EMS Storage	3		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 27
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **SH-1**

FURNITURE ITEM: Pantry Shelving				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Tennsco Corp.
ADDRESS:	201 Tenssco Dr
CITY,STATE,ZIP:	Dickson, TN 37055-3003
PHONE:	334-798-1616
FAX:	
EMAIL:	gwilson@tennsco.com
CONTACT NAME:	Gretchen Wilson

PRODUCT NAME: Deluxe Traditional Cabinet

MODEL NUMBER: 7818-KA

ITEM DESCRIPTION:

Welded steel cabinet (16 gauge) with 5 open steel shelves behind locking solid metal doors; keyed alike

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 36"W x 18"D x 78"H

FINISHES:

Frame: Medium Gray

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **6**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
115	Pantry	6		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 28
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **SH-2**

FURNITURE ITEM: Industrial Shelving				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Tennsco Corp.
ADDRESS:	201 Tenssco Dr
CITY,STATE,ZIP:	Dickson, TN 37055-3003
PHONE:	334-798-1616
FAX:	
EMAIL:	gwilson@tennsco.com
CONTACT NAME:	Gretchen Wilson

PRODUCT NAME: Industrial Shelving

MODEL NUMBER: BU-482472CS

ITEM DESCRIPTION:

Heavy Duty open steel shelving unit consisting of 4 decked shelves with corrugated metal

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 48"W x 24"D x 72"H

FINISHES:

Frame: Medium Gray

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **7**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
125	Workroom	4		
128	Storage	3		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 29
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **SH-3**

FURNITURE ITEM: Open Shelving Unit				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Kimball International, Inc.
ADDRESS:	1600 Royal Street
CITY,STATE,ZIP:	Jasper, IN 47546
PHONE:	502-807-6347
FAX:	
EMAIL:	kara.fultz@kimball.com
CONTACT NAME:	Kara Fultz

PRODUCT NAME: Priority

MODEL NUMBER:

ITEM DESCRIPTION:

Freestanding TFL laminate open shelving unit with adjustable shelves

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 36"W x 16"D x 67"H

FINISHES:

Frame: Sedona Cherry

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
113	Dayroom	6		
		TOTAL PRICE		

TOTAL QUANTITY **6**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 30
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **LK-1**

FURNITURE ITEM: PPE Storage Lockers				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Gear Grid, LLC
ADDRESS:	670 15TH St. SW
CITY,STATE,ZIP:	Forest Lake, MN 55025-1309
PHONE:	651-464-4468
FAX:	
EMAIL:	reneea@geargrid.com
CONTACT NAME:	Jeff Anderson

PRODUCT NAME: Free Standing Tubular Wall w/ Mounted Lockers

MODEL NUMBER: FSTFW

ITEM DESCRIPTION:

Stationary open front metal lockers mounted to tubular wall system; (1) secure box per locker, (1) hang bar per locker, power bar mounted to top of tubular wall system

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 60"T X 9 1/2"D

FINISHES:

Red - Anti Corrosive Primer

[redacted]

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) / **TOTAL QUANTITY**

RM #	Room Name	QTY		EXT. PRICE
126	PPE Storage	2		
	Locker Run - 7 Openings			
	Secure Box	16		
	Hang Bar Kit	16		
	see cost estimate for break out of price quote			
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 31
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **MB-1**

FURNITURE ITEM: Small Marker Board				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Clarus Glassboards
ORDERING ADDRESS:	7537 Jack Newell Blvd. N
CITY,STATE,ZIP:	Fort Worth, TX 76118
PHONE:	888-813-7414
FAX:	
EMAIL:	kevin@clarus.com
CONTACT NAME:	Kevin Froehlich

PRODUCT NAME: Glassboard Float

MODEL NUMBER: GB-PW-M-4872-F

ITEM DESCRIPTION:

Wall mounted white magnetic marker board

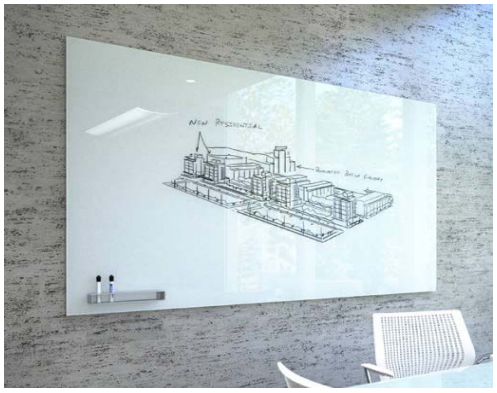
DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 48"h x 72"l

FINISHES:

White

PHOTO:



LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
138	Department Training	1		
113	Dayroom	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 32
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **MB-2**

FURNITURE ITEM: Small Marker Board				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Clarus Glassboards
ORDERING ADDRESS:	7537 Jack Newell Blvd. N
CITY,STATE,ZIP:	Fort Worth, TX 76118
PHONE:	888-813-7414
FAX:	
EMAIL:	kevin@clarus.com
CONTACT NAME:	Kevin Froehlich

PRODUCT NAME: Glassboard Float

MODEL NUMBER: GB-PW-M-3648-F

ITEM DESCRIPTION:

Wall mounted white magnetic marker board

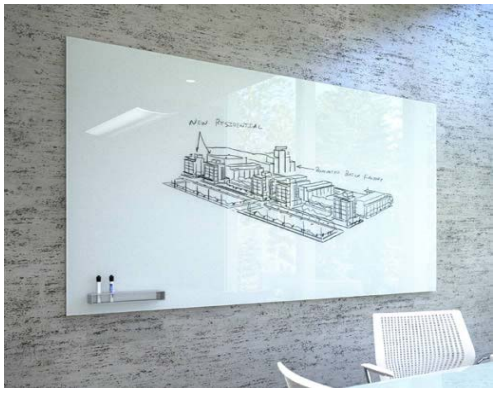
DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 36"h x 48"l

FINISHES:

White

PHOTO:



LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **4**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
134	Chief Office	1		
130	Shift Supervisor Office	1		
114	Kitchen	1		
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 33
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **TB-1**

FURNITURE ITEM: Small Tack Board				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Claridge Products & Equipment, Inc.
ORDERING ADDRESS:	601 HWY 62 65S
CITY,STATE,ZIP:	Harrison, AR 72601-6148
PHONE:	870-743-2200
FAX:	
EMAIL:	jgrant@claridgeproducts.com
CONTACT NAME:	

PRODUCT NAME: A Series Tackboard

MODEL NUMBER: 953A

ITEM DESCRIPTION:

1-1/4" aluminum frame cord tack board to accept pins and thumbtacks

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 36"h x 60"l

FINISHES:

Cork

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
114	Kitchen	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 34
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **TS-1**

FURNITURE ITEM: Air Tank Vertical Storage Rack				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Bauer Compressors, Inc.
ADDRESS:	1328 Azalea Garden Rd.
CITY,STATE,ZIP:	Norfolk, VA 23502-1944
PHONE:	757-857-8743
FAX:	
EMAIL:	brenda.allen@bauercomp.com
CONTACT NAME:	Brenda Allen

PRODUCT NAME: Air Storage

MODEL NUMBER: HC6000-4

ITEM DESCRIPTION:

Vertically configured welded steel storage racks; includes check valves and pressure gauges; holds (2) tanks

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 35"L x 26"W x 65"H

FINISHES:

Standard

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **5**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
118	Apparatus Bay	5		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 35
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **MI-1**

FURNITURE ITEM: Medicine Cabinet w/ Mirror & Shelf				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Complete Packaging & Shipping Supplies Inc.
ADDRESS:	83 Bennington Ave
CITY,STATE,ZIP:	Freeport, NY 11520-3913
PHONE:	800-374-3978
FAX:	
EMAIL:	govsales@completepackage.com
CONTACT NAME:	

PRODUCT NAME: Bradley Corp. Surface Mounted Medicine Cabinet & Stainless Steel Shelf

MODEL NUMBER: 175-11 & 9099-18000

ITEM DESCRIPTION:

Surfaced mounted stainless steel medicine cabinet to include full 1/4" glass mirror door, (3) adjustable shelves, (1) fixed shelf, reversible hinges and necessary hardware; Surface mounted stainless steel shelf

DIMENSIONS: provide overall plus width, height, arm height, etc

Cabinet: 17 1/8" x 30 5/8" x 4"
Shelf: 6.25"D x 18"W

FINISHES:

Stainless Steel

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **6**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
132	Chief/Supervisor Bath	1		
135	Public Restroom	1		
101	Restroom	1		
104	Restroom	1		
107	Restroom	1		
110	Restroom	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 36
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **MI-2**

FURNITURE ITEM: Mirror				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Maple Amherst Associates, Inc.
ADDRESS:	876 Maple Road
CITY,STATE,ZIP:	Williamsville, NY 14221-3242
PHONE:	716-688-4488
FAX:	
EMAIL:	hectors876@yahoo.com
CONTACT NAME:	

PRODUCT NAME: Door Mirror

MODEL NUMBER: 20-6230

ITEM DESCRIPTION:

Full-length door mounted mirror w/ framed edge

DIMENSIONS: provide overall plus width, height, arm height, etc

13"W X 49"H

FINISHES:

Frame: White Plastic

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **10**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
131	Shift Supervisor Dorm	1		
133	Chief Dorm	1		
100	Dorm	1		
102	Dorm	1		
103	Dorm	1		
105	Dorm	1		
106	Dorm	1		
108	Dorm	1		
109	Dorm	1		
111	Dorm	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 37
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **TR-1**

FURNITURE ITEM: Large Trash Receptacle				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	W.W. Grainger, Inc.
ADDRESS:	100 Grainger Parkway
CITY,STATE,ZIP:	Lake Forest, IL 60045-5202
PHONE:	800-468-8326
FAX	
EMAIL:	fedgovsupport@grainger.com
CONTACT NAME:	

PRODUCT NAME: Trash Receptacle

MODEL NUMBER: 007-356988BE

ITEM DESCRIPTION:

Durable and crack resistant 23 gallon trash receptacle.

DIMENSIONS: provide overall plus width, height, arm height, etc

30 7/8"H x 16 1/2"L x 15 1/2"W

FINISHES:

Beige

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **5**

RM #	Room Name	QTY		EXT. PRICE
114	Dayroom - Kitchen	1		
122	Equip Wash	1		
123	Infectious Control	1		
129	Fitness	1		
138	Department Training	1		
		Total Price		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 38
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **TR-2**

FURNITURE ITEM: Small Trash Receptacle				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	W.W. Grainger, Inc.
ADDRESS:	100 Grainger Parkway
CITY,STATE,ZIP:	Lake Forest, IL 60045-5202
PHONE:	800-468-8326
FAX	
EMAIL:	fedgovsupport@grainger.com
CONTACT NAME:	

PRODUCT NAME: Trash Receptacle

MODEL NUMBER: RCP 2955 BEI

ITEM DESCRIPTION:

Durable and crack resistant 7 gallon trash receptacle.

DIMENSIONS: provide overall plus width, height, arm height, etc

15"H x 14 3/8"L x 10 1/4"W

FINISHES:

Beige

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **20**

RM #	Room Name	QTY		EXT. PRICE
100	Dorm	1		
101	Restroom	1		
102	Dorm	1		
103	Dorm	1		
104	Restroom	1		
105	Dorm	1		
106	Dorm	1		
107	Restroom	1		
108	Dorm	1		
109	Dorm	1		
110	Restroom	1		

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 38a
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **TR-2**

111	Dorm	1		
113	Dayroom	1		
130	Shift Supervisor Office	1		
131	Shift Supervisor Dorm	1		
132	Chief/Supervisor Bath	1		
133	Chief Dorm	1		
134	Chief Office	1		
135	Public Restroom	1		
136	Lobby	1		
		Total Price		

REMARKS:	*Manufacturer and model describe Basis of Design. Other equal products are acceptable.*	SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 39
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **RR-1**

FURNITURE ITEM: Recycling Receptacle				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	W.W. Grainger, Inc.
ADDRESS:	100 Grainger Parkway
CITY,STATE,ZIP:	Lake Forest, IL 60045-5202
PHONE:	800-468-8326
FAX	
EMAIL:	fedgovsupport@grainger.com
CONTACT NAME:	

PRODUCT NAME: Recycling Bin

MODEL NUMBER: FG356973BLUE

ITEM DESCRIPTION:

Durable and crack resistant 23 gallon recycling receptacle.

DIMENSIONS: provide overall plus width, height, arm height, etc

30 7/8"H x 16 1/2"L x 15 1/2"W

FINISHES:

Blue

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY		EXT. PRICE
138	Training Room	1		
114	Kitchen	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 40
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **SWD-1**

FURNITURE ITEM: Stackable Washer/Dryer Unit				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Gold Coast Appliances, Inc.
ADDRESS:	54 Glen Cove Rd
CITY,STATE,ZIP:	Greenvale, NY 11548-1006
PHONE:	516-625-0800
FAX:	
EMAIL:	albert@goldcoastappliances.com
CONTACT NAME:	

PRODUCT NAME: 27" Electric Laundry Center

MODEL NUMBER: Whirlpool WETLV27FW

ITEM DESCRIPTION:

Vented stainless steel electric top load washer; 2.6 cu.ft. washer capacity, 5.9 cu. Ft. dryer capacity; 4 wash cycles, 6 dry cycles; agitator included

DIMENSIONS: provide overall plus width, height, arm height, etc

27W x 76H x 31.5D

FINISHES:

White

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
127	Laundry	2		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 41
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **R-1**

FURNITURE ITEM: Gas Range				DATE:	
FSC GROUP:		SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Complete Packaging & Shipping Supply
ADDRESS:	83 Bennington Ave
CITY,STATE,ZIP:	Freeport, NJ 11520-3913
PHONE:	
FAX:	
EMAIL:	
CONTACT NAME:	

PRODUCT NAME: 30" Freestanding Gas Range

MODEL NUMBER: Frigidaire FFGF3024RS

ITEM DESCRIPTION:

5 cu.ft. freestanding gas range; stainless steel exterior w/ quick boil heating elements; one-touch self clean action; store-more storage drawer; adjustable height legs; large capacity cooking area

DIMENSIONS: provide overall plus width, height, arm height, etc

30W x 26D x 47H

FINISHES:

Stainless Steel

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY		EXT. PRICE
114	Dayroom - Kitchen	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 42
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **DW-1**

FURNITURE ITEM: Dishwasher				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME: Complete Packaging & Shipping Supply
ADDRESS: 83 Bennington Ave
CITY,STATE,ZIP: Freeport, NJ 11520-3913
PHONE:
FAX:
EMAIL:
CONTACT NAME:

PRODUCT NAME: Built In Dishwasher

MODEL NUMBER: Frigidaire FFBD2408NS

ITEM DESCRIPTION:

60 dB, 4 cycles built in dishwasher; energy star rating; standard PVC rack system

DIMENSIONS: provide overall plus width, height, arm height, etc

24W x 25D x 35H

FINISHES:

Stainless Steel

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY		EXT. PRICE
114	Dayroom - Kitchen	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 43
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **MW-1**

FURNITURE ITEM: Microwave Hood				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME: Complete Packaging & Shipping Supply
ADDRESS: 83 Bennington Ave
CITY,STATE,ZIP: Freeport, NJ 11520-3913
PHONE:
FAX:
EMAIL:
CONTACT NAME:

PRODUCT NAME: Over the Range Microwave

MODEL NUMBER: Frigidaire MWV150KB

ITEM DESCRIPTION:

1.5 CU.FT. over the range microwave; 14" dia. Glass turntable, (4) auto cook setting, (1) interior vent, ductless installation, (1) exterior light, (1) exterior exhaust fan with 2 fan settings; stainless steel exterior finish

DIMENSIONS: provide overall plus width, height, arm height, etc

1.5 CT.FT.

FINISHES:

Stainless Steel

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY		EXT. PRICE
114	Dayroom -Kitchen	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 44
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **FR-1**

FURNITURE ITEM: Commercial Refrigerator				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Blue Air Commercial Refrigeration
ADDRESS:	223 W Rosecrans Ave
CITY,STATE,ZIP:	Gardena, CA 90248-1831
PHONE:	310-808-0102
FAX:	
EMAIL:	james@blueairinc.com
CONTACT NAME:	

PRODUCT NAME: Commercial Reach In Refrigerator

MODEL NUMBER: Blue Air 49 cu.ft. - BSR49

ITEM DESCRIPTION:

49 cu.ft. two-door stainless steel commercial reach in refrigerator with 8 adjustable shelves; self closing doors; digital temp controls; LED interior lighting; on lockable casters

DIMENSIONS: provide overall plus width, height, arm height, etc

27W x 76H x 31.5D

FINISHES:

White

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
114	Dayroom - Kitchen	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 45
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **GD-1**

FURNITURE ITEM: Garbage Disposal				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Central Products, LLC
ADDRESS:	7750 Georgetown Rd
CITY,STATE,ZIP:	Indianapolis, IN 46268-4135
PHONE:	317-238-8453
FAX:	
EMAIL:	nathang@centralrestaurant.com
CONTACT NAME:	

PRODUCT NAME: Food Waste Disposer

MODEL NUMBER: In-Sink-Erator LC 50

ITEM DESCRIPTION:

1/2 HP light duty disposer, stainless steel construction, fits 3-4" sink openings, standard wall switch operation

DIMENSIONS: provide overall plus width, height, arm height, etc

FINISHES:

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY		EXT. PRICE
114	Dayroom Kitchen	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 46
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **IM-1**

FURNITURE ITEM: Ice Maker				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Star Creations, Inc. dba AJ Madison
ADDRESS:	3605 13th Ave
CITY,STATE,ZIP:	Brooklyn, NY 11218-3707
PHONE:	718-732-4989
FAX:	
EMAIL:	al@ajmadison.com
CONTACT NAME:	Albert Cohen

PRODUCT NAME: Undercounter Ice Maker

MODEL NUMBER: Viking FGIM515

ITEM DESCRIPTION:

15" Ice Maker with 26 lbs storage capacity, 65 lbs daily production; clear square ice cubes; water quality sensor and LED control panel

DIMENSIONS: provide overall plus width, height, arm height, etc

15"W x 24"D

FINISHES:

Stainless Steel

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY		EXT. PRICE
114	Kitchen	1		

TOTAL QUANTITY **1**

TOTAL PRICE

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 47
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WOE-1**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Treadmill

MODEL NUMBER: Integrity Series - INTDX

ITEM DESCRIPTION:

24" handrails; cast aluminum side rails and end caps; stainless steel vent detail; bluetooth and wireless capabilities; 21 workout options; easily moveable; X Console; navigation capabilities

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 80"L X 37"W X 62.25"H

running surface - 60"x22"

FINISHES:

Titanium Storm

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 48
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WOE-2**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Elliptical

MODEL NUMBER: Integrity Series - INXDX

ITEM DESCRIPTION:

Ergonomic design racing handlebars; self leveling, non-slip pedals; bluetooth and wireless capabilities; 21 workout options; confort curve saddle seat; easily moveable; X Console; navigation capabilities

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 88"L X 31"W X 65"H

FINISHES:

Titanium Storm

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		$0.00

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 49
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WOE-4**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	

PRODUCT NAME: Three Tier Dumbbell Rack

MODEL NUMBER: Hammer Strength - FW-DR3

ITEM DESCRIPTION:

3 Tier dumbbell weight rack; holds (1) set of 5lbs-50lbs weights

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 90"L X 24"W X 32"H

FINISHES:

Frame: Platinum (PLT)

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*
**does not

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 50
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WOE-5**

FURNITURE ITEM: Workout Equipment

DATE:

FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Olympic Flat Bench

MODEL NUMBER: Hammer Strength - FW-FB

ITEM DESCRIPTION:

Stationary 11-guage steel frame bench on rubber feet, powder coated finish

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 52"L X 50"W X 50"H

FINISHES:

Upholstery:	Black (BLK)
Frame:	Platinum (PLT)

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

TOTAL QUANTITY **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*
**does not

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 51
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WOE-7**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Half Rack

MODEL NUMBER: Hammer Strength Elite Stand Alone - HDLHRL

ITEM DESCRIPTION:

Stationary 11-guage steel frame bench on rubber feet, powder coated finish, space efficient for unrestricted movements, design includes: anvil bracing, spider gusset, and hammerlocks

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 57"L X 67"W X 96"H

FINISHES:

Upholstery:	Black (BLK)
Frame:	Platinum (PLT)

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
	Miscellaneous Items:			
	Dock N Lock			
	Spotter Platforms			
	Pullup Nuetrals			
	Stand Alone Storage			
		TOTAL PRICE		

REMARKS: **does not *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 52
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WOE-8**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

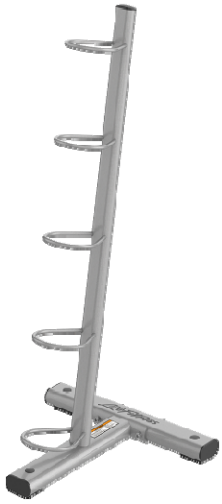
SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Medicine Ball Rack

MODEL NUMBER: Hammer Strength - OS-MBS

PHOTO:



ITEM DESCRIPTION:

Stationary 11-guage steel frame on rubber feet, ability to hold (5) medicine balls 10.5" dia, powder coated finish

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 65"L X 39"W X 55"H

FINISHES:

Frame: Platinum (PLT)

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.* **does not

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 53
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **WOE-11**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Upright Bicycle

MODEL NUMBER: Integrity Series - INCDX

ITEM DESCRIPTION:

Ergonomic design racing handlebars; self leveling, non-slip pedals; bluetooth and wireless capabilities; 21 workout options; confort curve saddle seat; easily moveable; X Console; navigation capabilities

DIMENSIONS: provide overall plus width, height, arm height, etc

OVERALL 43.5"L X 21"W X 59.5"H

FINISHES:

Titanium Storm

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*
**does not

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 54
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-1**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

5 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 55
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-2**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

10 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 56
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-3**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

15 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 57
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-4**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

20 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 58
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-5**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

25 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 59
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-6**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

30 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 60
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-7**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

35 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 61
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-8**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

40 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 62
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-9**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

45 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **2**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 63
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-10**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

50 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 64
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-11**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

55 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 65
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-12**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

60 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 66
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-13**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

65 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 67
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-14**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

70 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 68
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-15**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Dumbbell Weight

MODEL NUMBER: Hammer Dumbbell - HSDB

ITEM DESCRIPTION:

12-sided urethane dumbbells, 1-1/4" dia. handle size, weight range from 5-50 lbs.

DIMENSIONS: provide overall plus width, height, arm height, etc

75 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	2		
		TOTAL PRICE		

TOTAL QUANTITY **2**

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 69
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-16**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Medicine Ball

MODEL NUMBER: Hammer Strength 10 lb

ITEM DESCRIPTION:

The Hammer Strength Medicine Ball offers a unique look and great function. The rugged design and textured surface aids in grip and durability. Size of ball will vary by weight.

DIMENSIONS: provide overall plus width, height, arm height, etc

10 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 70
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-17**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Medicine Ball

MODEL NUMBER: Hammer Strength 12 lb

ITEM DESCRIPTION:

The Hammer Strength Medicine Ball offers a unique look and great function. The rugged design and textured surface aids in grip and durability. Size of ball will vary by weight.

DIMENSIONS: provide overall plus width, height, arm height, etc

12 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 71
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-18**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Medicine Ball

MODEL NUMBER: Hammer Strength 15 lb

ITEM DESCRIPTION:

The Hammer Strength Medicine Ball offers a unique look and great function. The rugged design and textured surface aids in grip and durability. Size of ball will vary by weight.

DIMENSIONS: provide overall plus width, height, arm height, etc

15 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 72
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-19**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Medicine Ball

MODEL NUMBER: Hammer Strength 18 lb

ITEM DESCRIPTION:

The Hammer Strength Medicine Ball offers a unique look and great function. The rugged design and textured surface aids in grip and durability. Size of ball will vary by weight.

DIMENSIONS: provide overall plus width, height, arm height, etc

18 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 73
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-20**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Medicine Ball

MODEL NUMBER: Hammer Strength 8 lb

ITEM DESCRIPTION:

The Hammer Strength Medicine Ball offers a unique look and great function. The rugged design and textured surface aids in grip and durability. Size of ball will vary by weight.

DIMENSIONS: provide overall plus width, height, arm height, etc

8 lbs

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 74
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-21**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Plate Weight

MODEL NUMBER: Hammer Olympic Plate Weight - HSOP

ITEM DESCRIPTION:

12-sided urethane plates, opposed handle openings, weight range includes 2.5, 5, 10, 25, 35, 45 lbs.

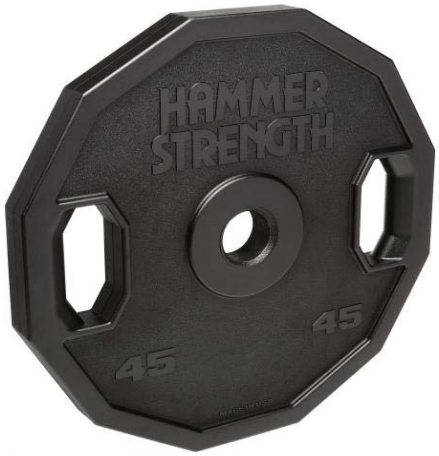
DIMENSIONS: provide overall plus width, height, arm height, etc

45 lbs

FINISHES:

Black Urethane

PHOTO:



LOCATION OF ITEM/QUANTITY (BY ROOM)

TOTAL QUANTITY **8**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	8		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 75
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-22**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Plate Weight

MODEL NUMBER: Hammer Olympic Plate Weight - HSOP

ITEM DESCRIPTION:

12-sided urethane plates, opposed handle openings, weight range includes 2.5, 5, 10, 25, 35, 45 lbs.

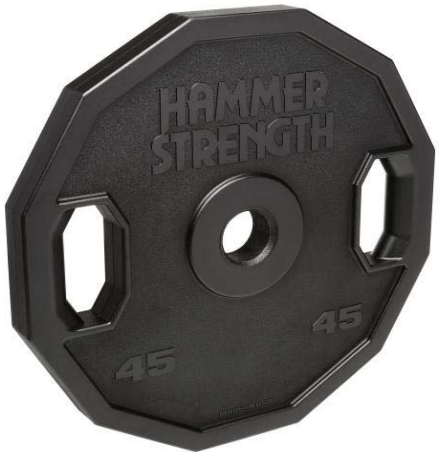
DIMENSIONS: provide overall plus width, height, arm height, etc

35 lbs

FINISHES:

Black Urethane

PHOTO:



LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **4**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	4		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 76
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-23**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Plate Weight

MODEL NUMBER: Hammer Olympic Plate Weight - HSOP

ITEM DESCRIPTION:

12-sided urethane plates, opposed handle openings, weight range includes 2.5, 5, 10, 25, 35, 45 lbs.

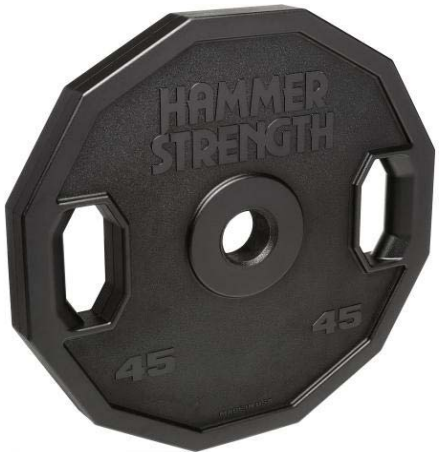
DIMENSIONS: provide overall plus width, height, arm height, etc

25 lbs

FINISHES:

Black Urethane

PHOTO:



LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **4**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	4		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 77
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-24**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Plate Weight

MODEL NUMBER: Hammer Olympic Plate Weight - HSOP

ITEM DESCRIPTION:

12-sided urethane plates, opposed handle openings, weight range includes 2.5, 5, 10, 25, 35, 45 lbs.

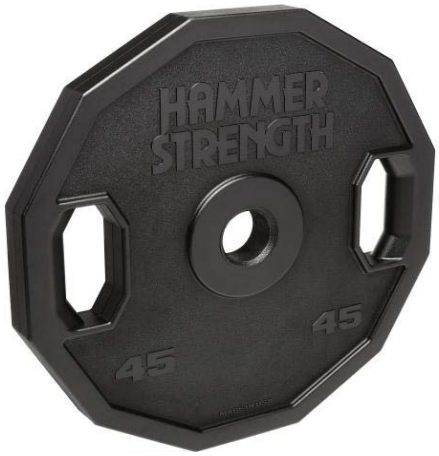
DIMENSIONS: provide overall plus width, height, arm height, etc

10 lbs

FINISHES:

Black Urethane

PHOTO:



LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **4**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	4		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 78
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-25**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Plate Weight

MODEL NUMBER: Hammer Olympic Plate Weight - HSOP

ITEM DESCRIPTION:

12-sided urethane plates, opposed handle openings, weight range includes 2.5, 5, 10, 25, 35, 45 lbs.

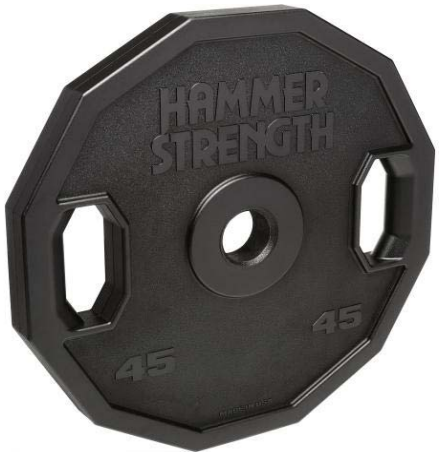
DIMENSIONS: provide overall plus width, height, arm height, etc

5 lbs

FINISHES:

Black Urethane

PHOTO:



LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **4**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	4		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 79
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-26**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Plate Weight

MODEL NUMBER: Hammer Olympic Plate Weight - HSOP

ITEM DESCRIPTION:

12-sided urethane plates, opposed handle openings, weight range includes 2.5, 5, 10, 25, 35, 45 lbs.

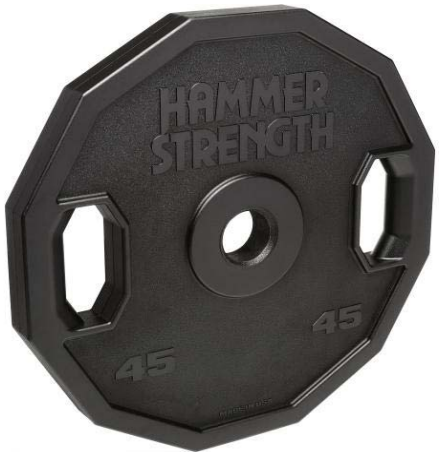
DIMENSIONS: provide overall plus width, height, arm height, etc

2.5 lbs

FINISHES:

Black Urethane

PHOTO:



LOCATION OF ITEM/QUANTITY (BY ROOM)

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	4		

TOTAL QUANTITY **4**

TOTAL PRICE

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 80
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-27**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Lock Jaws

MODEL NUMBER: Hammer Strength ACC-CL

ITEM DESCRIPTION:

Cam lock gym bar lock jaws

DIMENSIONS: provide overall plus width, height, arm height, etc

FINISHES:

Black Urethane

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **4**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	4		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 81
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-28**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Barbell Weight

MODEL NUMBER: Hammer Barbell EZCurl - HSBB

ITEM DESCRIPTION:

Chrome gym bar with a 45lb weight limit to be used weightlifting and powerlifting

DIMENSIONS: provide overall plus width, height, arm height, etc

7' length

FINISHES:

Hard Chrome

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

FF&E ORDER DATA SHEET	Fire Station #2 Tyndall Air Force Base	PAGE 82
Mason & Hangar **i5 design group**	Tyndall AFB, Florida Project No.: XLWU193005	**ITEM CODE** **W-29**

FURNITURE ITEM: Workout Equipment				DATE:	
FSC GROUP:	PART	SIN	MOL	EXPIRATION DATE:	GSA CONTRACT NO. :

SOURCE:

NAME:	Life Fitness
ORDERING ADDRESS:	9525 Bryn Mawr Ave.
CITY,STATE,ZIP:	Rosemont, IL 60018
PHONE:	815-954-8444
FAX:	
EMAIL:	timothy.ghilain@lifefitness.com
CONTACT NAME:	Timothy Ghilain

PRODUCT NAME: Barbell Weight

MODEL NUMBER: Hammer Barbell EZCurl - HSBB

ITEM DESCRIPTION:

Chrome curl bar with a 25lb weight limit to be used for weightlifting and multi-use purposes

DIMENSIONS: provide overall plus width, height, arm height, etc

4.5' length

FINISHES:

Hard Chrome

PHOTO:

LOCATION OF ITEM/QUANTITY (BY ROOM) — **TOTAL QUANTITY** **1**

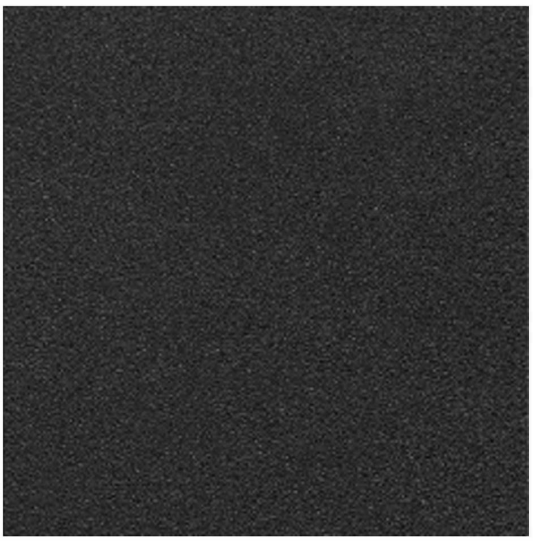
RM #	Room Name	QTY	UNIT PRICE	EXT. PRICE
129	Fitness	1		
		TOTAL PRICE		

REMARKS: *Manufacturer and model describe Basis of Design. Other equal products are acceptable.*

SPECIAL INSTRUCTIONS:

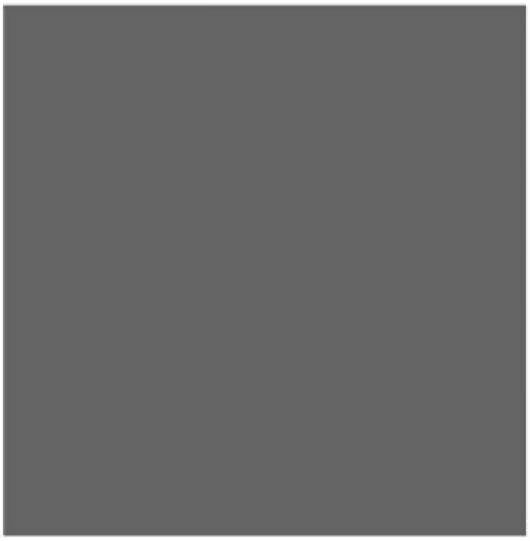
Tyndall Air Force Base

Fire Rescue Station 2



CH-2, CH-3
Source Metal BLK Matte Black

BED-1, NS-1, WD-1, D-1
RT London
Maduro Maple



CH-2, CH-3
Source Painted Wood Finish
7674 Charcoal

FF&E

Tyndall AFB, Florida
Task Order Number: XLWU193005

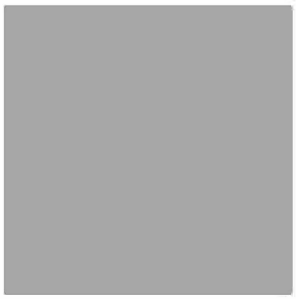
Tyndall Air Force Base
Fire Rescue Station 2

MB-1
Clarus Glassboards White Magnetic

SH-1, SH-2, MC-1
Medium Gray

LK-1
Gear Grid
Red

PO-1, WS-1, T-6
Kimball Office
Platinum Metallic



PO-1, WS-1
Kimball Office
Storm 460

PO-1
Kimball Office
Fuse 10323 Graphite

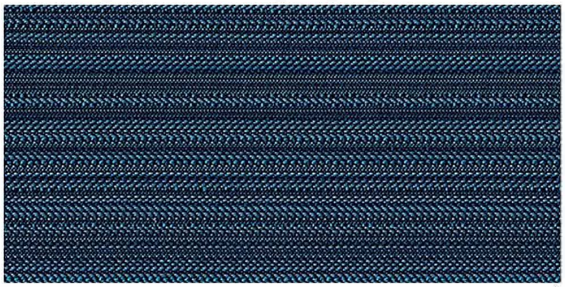
FF&E

Tyndall AFB, Florida
Task Order Number: XLWU193005

Tyndall Air Force Base
Fire Rescue Station 2

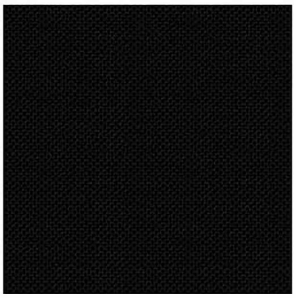
CH-2, CH-3, CH-4, CH-6
Ultrafabrics
Brisa Quicksilver

CH-1, CH-5
Dream Seat
Black Leather



CH-7
Carnegie
Brick Lane 6400 51

CH-6, CH-7, PO-1, BK-1, T-1, T-2, T-4, T-5, T-6, WS-1, SH-3, CR-1
Kimball Office, Sedona Cherry



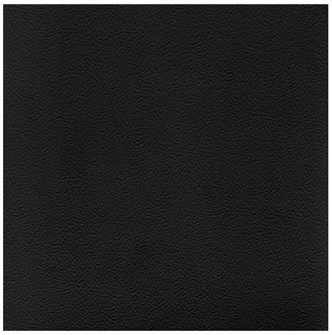
CH-4
Mesh Black

FF&E

Tyndall AFB, Florida
Task Order Number: XLWU193005

Tyndall Air Force Base

Fire Rescue Station 2



WOE-3, WOE-5, WOE-7
Life Fitness
Black Leather

WOE-1-WOE-11
Life Fitness
Platinum Metallic

WOE-1-WOE-11
Life Fitness
Titanium Storm Metallic

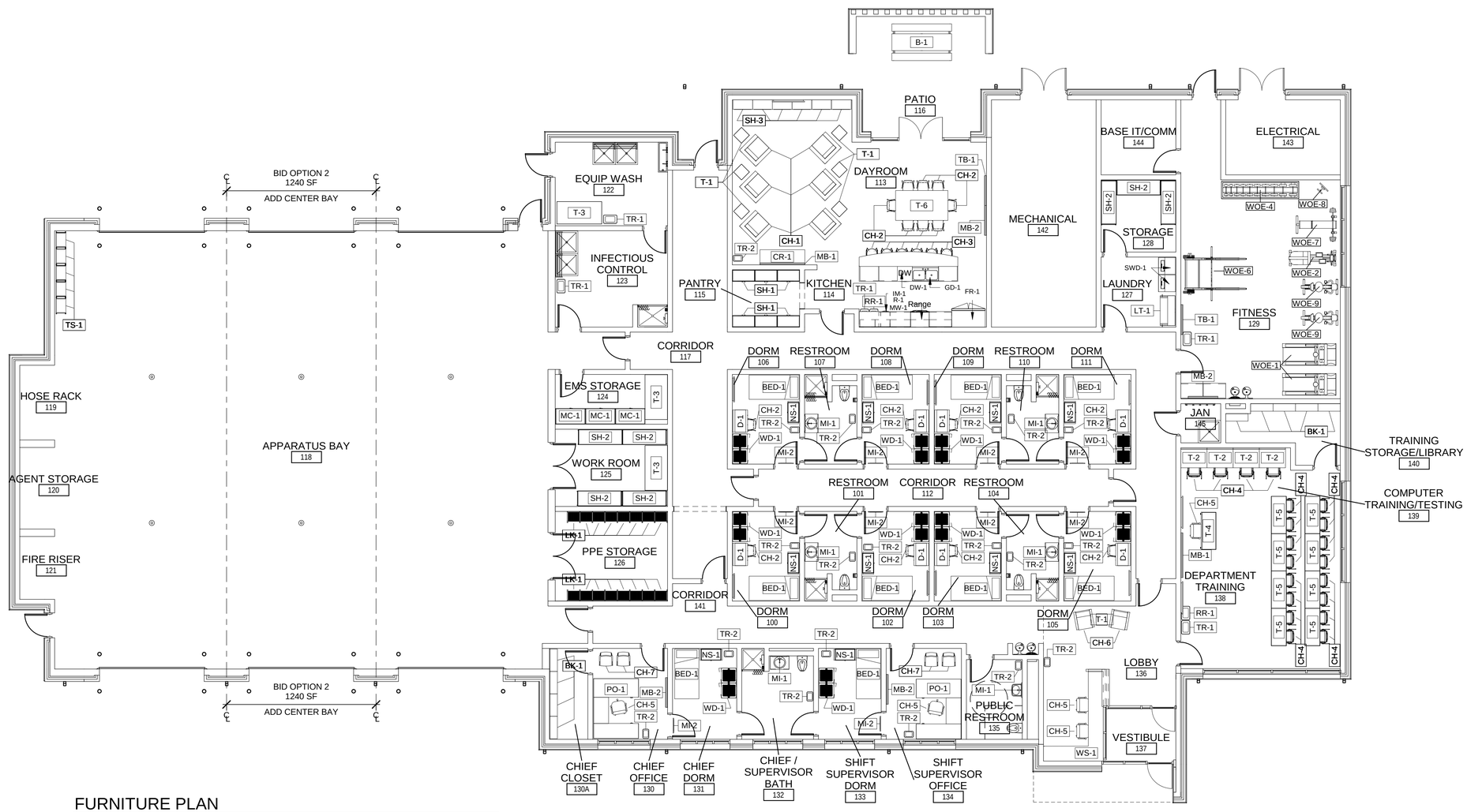
FF&E

Tyndall AFB, Florida
Task Order Number: XLWU193005

GENERAL NOTES - FURNITURE

SCALE: 1/2" = 1'-0"

1. FURNTIURE PLANS ARE FOR REFERENCE ONLY
2. IF BID OPTION NO. 1 IS ACCEPTED - ALL FF&E TO BE CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED; IF BID OPTION NO. 1 IS NOT ACCEPTED - ALL FF&E TO BE GOVERNMENT FURNISHED AND CONTRACTOR INSTALLED
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCEPTABLE CLEARANCES BETWEEN FURNITURE AND WALLS TO ALLOW FOR POWER TO BE SUPPLIED TO FURNITURE
4. FURNITURE SPECIFIED IS A BASIS OF DESIGN ONLY; FURNITURE BEING BID SHOULD REFERENCE SALIANT FEATURES THROUGHOUT CID PACKAGE TO BASE FURNITURE SELECTIONS PER MANUFACTURER



FURNITURE PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

0 4' 8' 16'

SCALE: 1/8"=1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: AUG 2019
SOLICITATION NO.: W912T8-19-SH-20005
CONTRACT NO.:
PROJECT NUMBER: MEP-19013
CAD CODE:

DESIGN BY: C.BEYER
DRAWN BY: M.ARMISTEAD
CHECKED BY: B.NEPORT
REVIEWED BY: MASON & HANGAR
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

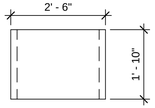
TYNDALL AFB, FLORIDA
CONSOLIDATE FIRE STATION #2
FY 2019, PNXLWU193005

FURNITURE PLAN

SHEET ID

I-101

INTERIORS I-101-

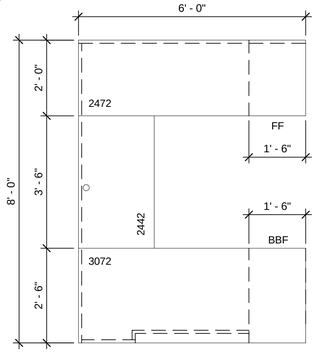


DESCRIPTION:

23"X30"X28" FREESTANDING OPEN SHELVING UNIT
TFL LAMINATE FINISH - ALL SURFACES
MODESY BACK PANEL TO BE INCLUDED

19 SH-3 OPEN SHELVING

1/2" = 1'-0"



EXECUTIVE OFFICE (TRADITIONAL STYLE DESK)
DESCRIPTION:
U-SHAPED DESK
MINIMUM ROOM SIZE REQUIRED 150 SF (W/ GUEST CHAIRS)
PLASTIC LAMINATE WOOD GRAIN FOR TOPS & CHASSIS
TRADITIONAL HARDWARE PULLS
TRADITIONAL EDGE MOLDING
GROMMETS ON WORKSURFACE
STORAGE:
(1) B/B/F PEDESTAL (2 SMALL DRAWERS + 1 FILE DRAWER), W/ PENCIL TRAY,
HANGING RAILS, LOCKS
(1) F/F PEDESTAL (2 FILE DRAWERS)

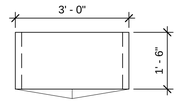
18 PO-1 PRIVATE OFFICE DESK

1/2" = 1'-0"

PLAN SYMBOL		
PLAN KEY	MI-2	MI-1
DESCRIPTION	MIRROR	MEDICINE CABINET & SHELF
DESCRIPTION	18W X 60L FULL LENGTH DOOR MOUNTED MIRROR W/ FRAMED EDGE	18W X 30L SURFACE MOUNTED MEDICINE CABINET W/ 1/4" GLASS MIRROR DOOR W/ (3) ADJUSTABLE SHELVES AND (1) FIXED SHELF; SURFACE MOUNTED SHELF

PLAN SYMBOL			
PLAN TAG	TR-1	TR-2	RR-1
DESCRIPTION	TRASH BIN	TRASH BIN	RECYCLE BIN
MANUFACTURER	RUBBER MAID	RUBBER MAID	RUBBER MAID
FINISH	BEIGE	BEIGE	BLUE

PLAN SYMBOL							
PLAN KEY	CH-1	CH-2	CH-3	CH-4	CH-5	CH-6	CH-7
DESCRIPTION	RECLINING CHAIR	DINING CHAIR	DINING STOOL	TASK CHAIR	EXECUTIVE CHAIR	RECEPTION CHAIR	GUEST CHAIR
UPHOLSTERY OPTION	UPHOLSTERED BACK UPHOLSTERED SEAT	PLASTIC BACK PLASTIC SEAT	PLASTIC BACK PLASTIC SEAT	MESH BACK UPHOLSTERED SEAT	UPHOSLTERED BACK UPHOLSTERED SEAT	UPHOSLTERED BACK UPHOLSTERED SEAT	UPHOSLTERED BACK UPHOLSTERED SEAT
DESCRIPTION	NON-WOOD FRAME STATIONARY LEGS	NON-WOOD CHAIR WITH SLED BASE & GLIDES	NON-WOOD CHAIR WITH SLED BASE & GLIDES	NON-WOOD TASK CHAIR WITH ARMS AND CASTERS	NON-WOOD EXECUTIVE WITH ARMS AND CASTERS	NON-WOOD FRAME STATIONASRY LEGS	WOOD FRAME STATIONASRY LEGS

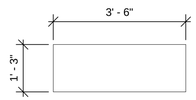


DESCRIPTION:

36X18X78 OPEN SHELVING UNIT
5 ADJUSTABLE SHELVES
LOCKABLE SOLID METAL DOORS (KA)
STEEL FRAME W/ STEEL SHOULDER RIVETS

17 SH-1 PANTRY SHELVING

1/2" = 1'-0"

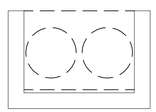


DESCRIPTION:

42"L x 15"D x 60"T
PLASTIC LAMINATE WOOD GRAIN OPTION FOR TOPS & CHASSIS
(4) SHELF BOOKCASE

16 BK-1 BOOKCASE

1/2" = 1'-0"

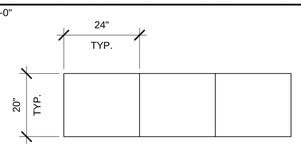


DESCRIPTION:

35"W X 26"D X 65"H
METAL WALL MOUNTED RACKS
1 RACK STORES 4 AIR TANKS VERTICALLY

15 TS-1 TANK STORAGE RACK

1/2" = 1'-0"

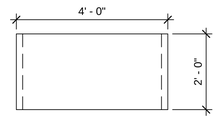


DESCRIPTION:

24"W X 20"D PERFORATED METAL LOCKERS WITH SHELVES
HANGER ROD
SMALL LOCKABLE METAL STORAGE BOX
3 FT. CLEARANCE IN FRONT OF LOCKERS (TYP.)
6" CLEARANCE OFF THE FLOOR (TYP.)
GANG LOCKERS TOGETHER WITH FREESTANDING TUBULAR WALL PROVIDED BY MANUFACTURER
ELECTRICAL RACEWAY TO BE ATTACHED TO TOP OF FREESTANDING TUBULAR WALL

14 LK-1 PPE LOCKERS

1/2" = 1'-0"

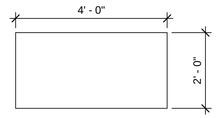


DESCRIPTION:

48"X24"X72" OPEN SHELVING UNIT
STEEL FRAME W/ STEEL SHOULDER RIVETS

13 SH-2 INDUSTRIAL SHELVING

1/2" = 1'-0"

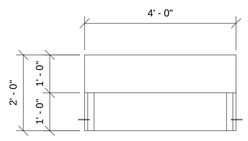


DESCRIPTION:

48"X24"X78" METAL STORAGE CABINET
COLD ROLLED CARBON STEEL CONSTRUCTION
LOCKING CABINET DOORS
5 SHELVES (MIN 400LB WEIGHT LIMIT)
DIE CAST HANDLES

12 MC-1 METAL STORAGE CABINET

1/2" = 1'-0"

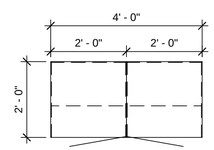


DESCRIPTION:

48"x24"x34" FIBERGLASS LAUNDRY FOLDING TABLE
SQUARE TUBULAR STEEL LEGS
UPPER SHELF
DUAL HANGING RACKS

11 LT-1 LAUNDRY FOLDING TABLE

1/2" = 1'-0"

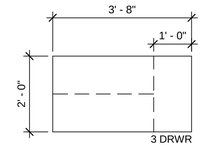


DESCRIPTION:

24x24x72 SINGLE DOOR TWO DRAWER WARDROBE
LOCKABLE DOORS
TRADITIONAL PULLS
WOOD VENEER OR HIGH PRESSURE LAMINATE WOOD GRAIN FINISH
SOLID WOOD DOOR, AND SIDE PANELS

10 WD-1 DORM WARDROBE

1/2" = 1'-0"

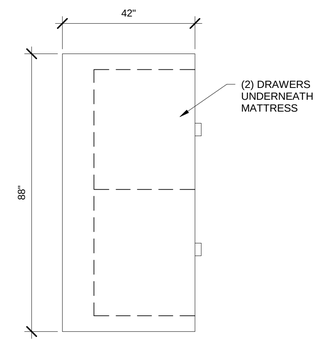


DESCRIPTION:

44x24x29 PEDESTAL DESK
THREE DRAWER AND CENTER PULL OUT PENCIL DRAWER
TRADITIONAL PULLS
WOOD VENEER OR HIGH PRESSURE LAMINATE WOOD GRAIN FINISH
SOLID WOOD DRAWERS, DOOR, AND SIDE PANELS

9 D-1 DORM DESK

1/2" = 1'-0"

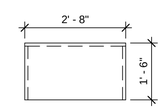


DESCRIPTION:

42"x88" CAPTAINS DORM ROOM BED
2 DRAWER STORAGE BELOW MATTRESS
SOLID WOOD MATERIAL: MAPLE
SLEEP 1 PERSON

8 BED-1 CAPTAINS BED TWIN XL

1/2" = 1'-0"

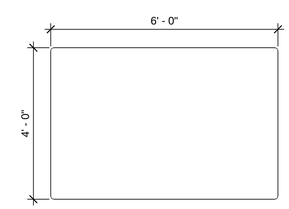


DESCRIPTION:

32X18X20 RECTANGULAR TWO DRAWER DRESSER
TRADITIONAL PULLS
WOOD VENEER OR HIGH PRESSURE LAMINATE WOOD GRAIN FINISH
SOLID WOOD DRAWERS AND SIDE PANELS

7 NS-1 DORM NIGHTSTAND

1/2" = 1'-0"

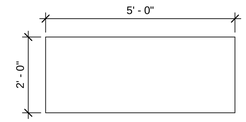


DESCRIPTION:

SOFT RECTANGULAR SHAPED 48" x 72" FIXED HEIGHT TABLE
SEATS: (6) 24" WIDE CHAIRS
HIGH PRESSURE LAMINATE WOOD GRAIN
TRADITIONAL (TXT) STYLE
TABLE BASE: T-BLADE LEGS

6 T-6 DINING TABLE

1/2" = 1'-0"

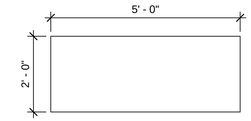


DESCRIPTION:

RECTANGULAR SHAPED 18" x 60" FIXED HEIGHT FLIP TOP NESTING TABLE
PLASTIC LAMINATE FINISH TOP (TO MATCH PO-1 DESK)
TABLE BASE: METAL LEGS ON CASTERS
SEATS 2 CHAIRS PER TABLE

5 T-5 TRAINING TABLE

1/2" = 1'-0"

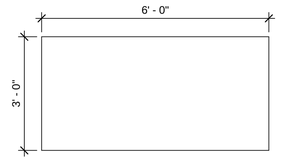


DESCRIPTION:

RECTANGULAR SHAPED 24" x 60" FIXED HEIGHT TABLE
PLASTIC LAMINATE FINISH TOP (TO MATCH PO-1 DESK)
TABLE BASE: METAL LEGS ON CASTERS
SEATS 2 CHAIRS PER TABLE

4 T-4 TRAINING TABLE

1/2" = 1'-0"

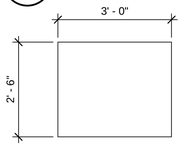


DESCRIPTION:

RECTANGULAR SHAPED 36" x 72" FIXED HEIGHT TABLE
STAINLESS STEEL TOP & CHASSIS
TABLE BASE: METAL LEGS ON CASTERS

3 T-3 INDUSTRIAL TABLE

1/2" = 1'-0"

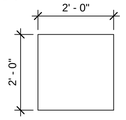


DESCRIPTION:

RECTANGULAR SHAPED 30" x 36" FIXED HEIGHT TABLE
PLASTIC LAMINATE FINISH TOP (TO MATCH PO-1 DESK)
TABLE BASE: METAL LEGS ON CASTERS
SEATS 1 CHAIR PER TABLE

2 T-2 TESTING TABLE

1/2" = 1'-0"



DESCRIPTION:

SQUARE SHAPED 24" x 24" FIXED HEIGHT TABLE
PLASTIC LAMINATE FINISH TOP AND LEGS

1 T-1 SIDE TABLE

1/2" = 1'-0"

0 1' 2' 4'

SCALE: 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: AUG 2019
SOLICITATION NO.: W912T8-19-SH-20005
CONTRACT NO.:
PROJECT NUMBER: MEF-19013
CAD CODE:

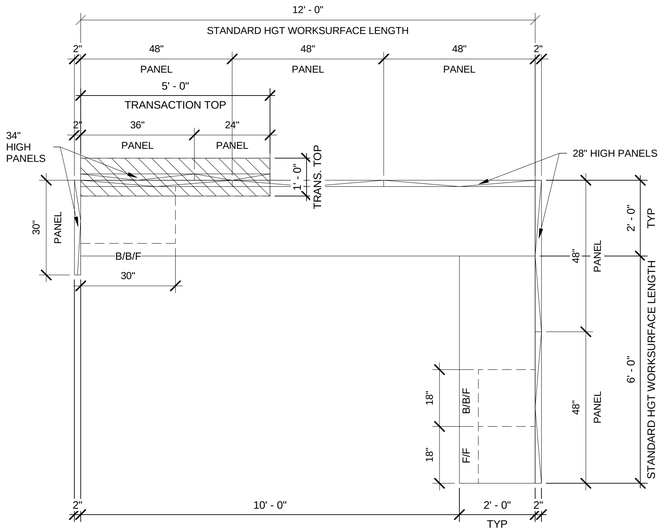
DESIGN BY: C.BEVER
DRAWN BY: M.ARMISTEAD
CHECKED BY: B.WEIPORT
REVIEWED BY: MASON & HANGAR
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

TYNDALL AFB, FLORIDA
CONSTRUCT FIRE STATION #2
FY 2019, PNXLWUI193005

FURNITURE TYPICALS

SHEET ID
I-102

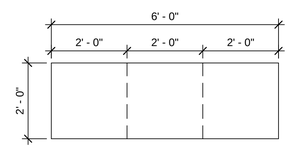


STANDARD COMPONENTS PER CUBICLE:

L-SHAPED WORKSURFACE
POWERED PANELS AS SHOWN
(2) DUPLEX RECEPTACLES (6 plug in points)
(1) VOICE & DAA QUAD PORT PER CUBICLE
ALL TFL LAMINATE SURFACES, METAL CONNECTORS
WORKSURFACES AS SHOWN - TFL LAMINATE WITH MATCHING EDGE
PVC WIRE MANAGEMENT SYSTEM AT WALL SIDE
(ALLOWS WIRE TO PASS STRAIGHT DOWN AND RUN IN A CHANNEL IF NECCESSARY)
PANEL TILES - TFL LAMINATE FINISH

STORAGE:
(2) B/B/F (2 SMALL DRAWER + 1 LARGE DRAWER) WITH LOCKS, PENCIL TRAY, AND RAILS
(1) F/F (2 Large drawers), WITH LOCKS AND RAILS
SEATING NOT INCLUDED

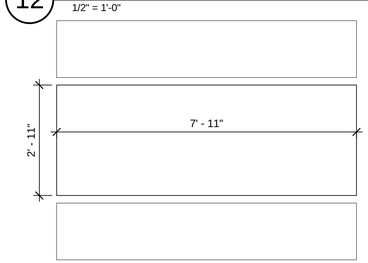
11 WS-1 RECEPTION WORKSTATION
1/2" = 1'-0"



DESCRIPTION:

72X24X36 FREESTANDING MEDIA CREDENZA
THREE DRAWERS AND DOORS WITH ADJUSTABLE SHELVING STORAGE
WOOD VENEER OR HIGH PRESSURE LAMINATE WOOD GRAIN FINISH
SOLID WOOD DRAWERS, DOOR, AND SIDE PANELS

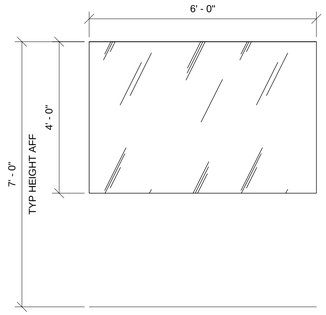
12 CR-1 CREDENZA
1/2" = 1'-0"



DESCRIPTION:

35X95X29 OUTDOOR PICNIC TABLE
ANODIZED ALUMINUM FRAMING
WOOD SLATE TABLE AND SEAT SURFACE

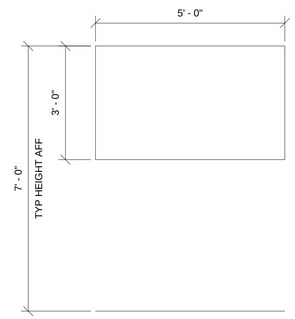
10 B-1 OUTDOOR TABLE
1/2" = 1'-0"



DESCRIPTION:

48"x72" CLARUS FLOAT MAGNETIC GLASS BOARD
COLOR: C100 PURE WHITE

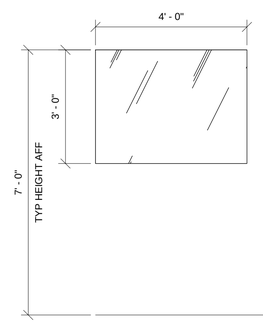
9 MB-1 GLASS BOARD
1/2" = 1'-0"



DESCRIPTION:

36"x60" ALUMINUM FRAMED CORK MATERIAL
TACK BOARD

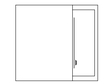
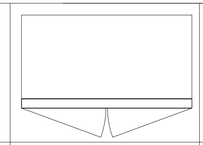
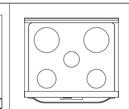
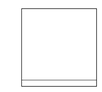
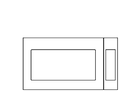
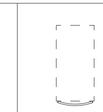
8 TB-1 TACK BOARD
1/2" = 1'-0"



DESCRIPTION:

36"x48" CLARUS FLOAT MAGNETIC GLASS BOARD
COLOR: C100 PURE WHITE

7 MB-2 GLASS BOARD
1/2" = 1'-0"

PLAN SYMBOL							
ITEM CODE	SWD-1	RF-1	R-1	DW-1	MW-1	IM-1	GD-1
ITEM NAME	STACKABLE WASHER/DRYER UNIT	FULLREFRIGERATOR	GAS RANGE	BUILT IN DISHWASHER	MICROWAVE HOOD	ICE MAKER	FOOD WASTER DISPOSER
DESCRIPTION	VENTED, ELECTRICAL TOP LOAD WASHER AND DRYER; 3.9 CU.FT. WASHER, 5.5 CU.FT. DRYER	10 CU.FT. APARTMENT SIZE REFRIGERAOTR; (2) CRISPER DRAWERS, ADJUSTABLE SHELVES, FULL WIDTH FREEZER	5 CU.FT. FREESTANDING GAS RANGE, 4 COIL BURNERS, SELF CLEAN ACTION, STORE MORE STORAGE DRAWER	60dB, 4 CYCLE BUILT IN DISHWASHER; STANDARD PVC RACK SYSTEM	1.5 CU.FT. OVER THE RANGE MICROWAVE; 14" DIA. TURNTABLE, (4) AUTO COOK SETTINGS, (1) INTERIOR LIGHT AND (1) EXTERIOR LIGHT, (2) EXHAUST FAN SETTINGS	50 LB.STORAGE CAPACITY, UNDERCOUNTER ICE MACHINE; FLIP UP DOOR, ICE SCOOP INCLUDED	1/2 HP LIGHT CAPACITY FOOD DISPOSER; FITS 3-4" SINK HOLES, STAINLESS STEEL CONSTRUCTION, WALL SWITCH OPERATED; MOUNTING HARDWARE INCLUDED

KITCHEN EQUIPMENT LEGEND
SCALE: 1/2" = 1'-0"

DESCRIPTION:

43.5"L X 21"W X 59.5"H UPRIGHT BICYCLE
ERGONOMIC DESIGN RACING HANDLEBARS
SELF LEVELING, NON-SLIP PEDALS
BLUETOOTH AND WIRELESS CAPABILITIES
21 WORKOUT OPTIONS; CONFORT CURVE SADDLE SEAT
EASILY MOVEABLE
X CONSOLE
NAVIGATION CAPABILITIES

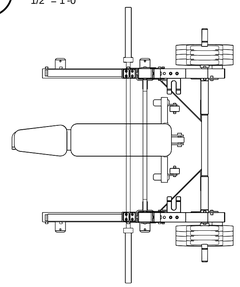
6 WOE-9 WORKOUT EQUIPMENT
1/2" = 1'-0"

DESCRIPTION:

MEDICINE BALL RACK
STATIONARY 11-GUAGE STEEL FRAME
BENCH ON RUBBER FEET
POWDER COATED FINISH
SPACE EFFICIENT FOR UNRESTRICTED MOVEMENTS
DESIGN INCLUDES: STORAGE CAPACITY FOR (5) BALLS

SEE ORDER DATA SHEETS FOR PLATE WEIGHT SPECIFICATIONS

5 WOE-8 WORKOUT EQUIPMENT
1/2" = 1'-0"

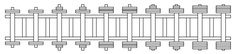


DESCRIPTION:

57"L X 67"W X 96"H HALF RACK
STATIONARY 11-GUAGE STEEL FRAME BENCH ON RUBBER FEET
POWDER COATED FINISH
SPACE EFFICIENT FOR UNRESTRICTED MOVEMENTS
DESIGN INCLUDES: ANVIL BRACING, SPIDER GUSSET, AND HAMMERLOCKS

53"L X 32"W X 18"H ADJUSTABLE BENCH
STATIONARY 11-GA STEEL FRAME
FULLY ADJUSTABLE ON RUBBER FEET
POWDER COATED FINISH

4 WOE-6 & WOE-7 WORKOUT EQUIPMENT
1/2" = 1'-0"

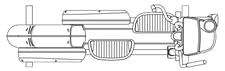


DESCRIPTION:

90"L X 25"W X 33"H THREE TIER DUMBBELL RACK
STATIONARY 11-GA. STEEL FRAME
HOLDS (1) FULL SET OF 5-50 LBS WEIGHTS

SEE ORDER DATA SHEETS FOR DUMBBELL WEIGHT SPECIFICATIONS

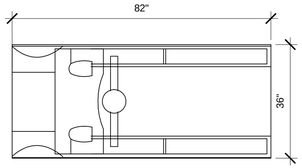
3 WOE-4 WORKOUT EQUIPMENT
1/2" = 1'-0"



DESCRIPTION:

88"L X 31"W X 65"H ELLIPTICAL
ERGONOMIC DESIGN RACING HANDLEBARS
SELF LEVELING, NON-SLIP PEDALS
BLUETOOTH AND WIRELESS CAPABILITIES
21 WORKOUT OPTIONS
CONFORT CURVE SADDLE SEAT
EASILY MOVEABLE
X CONSOLE
NAVIGATION CAPABILITIES

2 WOE-2 WORKOUT EQUIPMENT
1/2" = 1'-0"



DESCRIPTION:

80"L X 37"W X 62.25"H TREADMILL
24" HANDRAILS
CAST ALUMINUM SIDE RAILS AND END CAPS
STAINLESS STEEL VENT DETAIL
BLUETOOTH AND WIRELESS CAPABILITIES
21 WORKOUT OPTIONS; EASILY MOVEABLE
X CONSOLE
NAVIGATION CAPABILITIES

1 WOE-1 WORKOUT EQUIPMENT
1/2" = 1'-0"

0 1' 2' 4'
SCALE: 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: C.BEYER
DRAWN BY: M.ARMISTEAD
CHECKED BY: B.NIEPORT
SUBMITTED BY: MASON & HANGAR
SIZE: ANSI D
CAD CODE:
ISSUE DATE: AUG 2019
SOLICITATION NO.: W912T8-19-R-H-0002
CONTRACT NO.: W912T8-19-C-H-0005
PROJECT NUMBER: MEF-19013

US ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

TYNDALL AFB, FLORIDA
CONSTRUCT FIRE STATION, H-2
FY 2019, PNXLWU193005

FURNITURE TYPICALS

SHEET ID
I-103

APPENDIX D

TYNDALL HYDRANT FLOW BEACON BEACH ROAD

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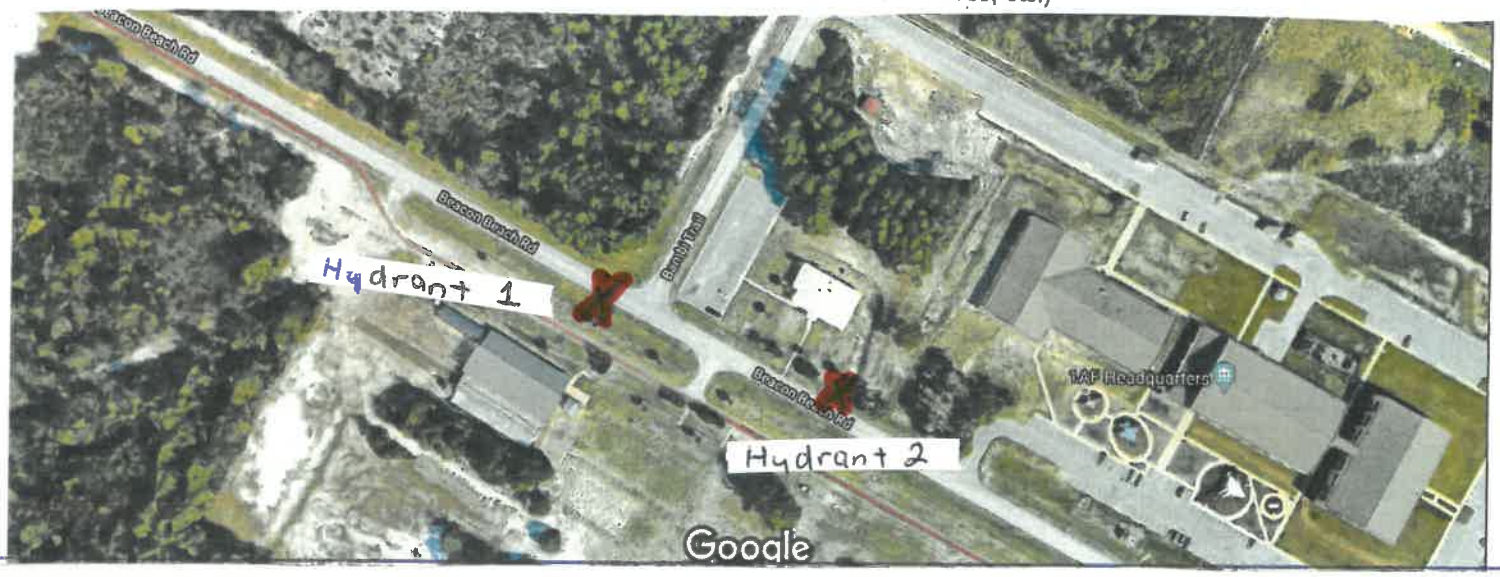
FLOW TEST INFORMATION SHEET

AMERICAN FIRE SPRINKLER ASSOCIATION, INC.

1. Reason for Test: Bid Information ☐ Design Base ☐
   Other _____
2. Location of Property Beacon Bch Rd. (Address) Tyndall AFB (City) FL. (State) Bay (County)
3. Date & Time of Test: Date: 5-21-19 Time: 9:00 (am) (pm)
4. Test Conducted by: Ashley Anderson (Name) Service Tech (Title) AFPS (Affiliation)
5. Test Witnessed by: Blane Parks (Name) Service Tech (Title) AFPS (Affiliation)
6. Source of Water Supply: Gravity ☑ Pump ☐ Other: _____
7. Name of Water District Tyndall Fire District Tyndall
8. Is water supply provided with PRV STA's Yes ☐ No ☑
   (If so what is PRV outlet setting? _____ PSIG
9. **Area Map:** (Draw Sketch showing property location; bounding streets and names, north arrow, hydrant locations and identification numbers, distances from hydrants to property elevations of hydrants and property floors or grade, all water mains and sizes and interconnection valves, etc.)

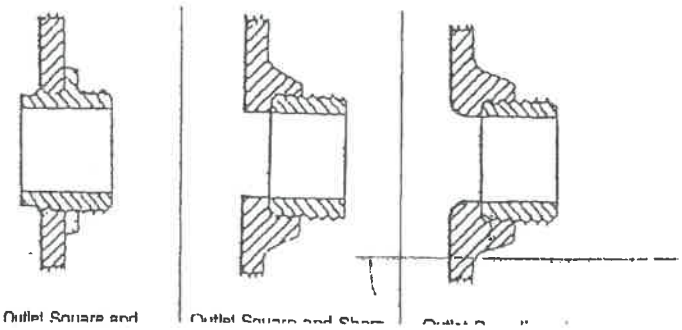


FLOW AT HYDR. NO.	STATIC AT HYDR NO.	STATIC PSIG	RESIDUAL PSIG	FLOW GPM	OUTLET COEFFICIENT	ADJUSTED GPM
#1				50	0.90	1186
#2		65	50			

11. See reverse side for graph

12. Signed _____

Witness _____



Form No. 102
American Fire Sprinkler Association, Inc.
11325 Pegasus, Suite S-220

WATER FLOW TEST SUMMARY SHEET

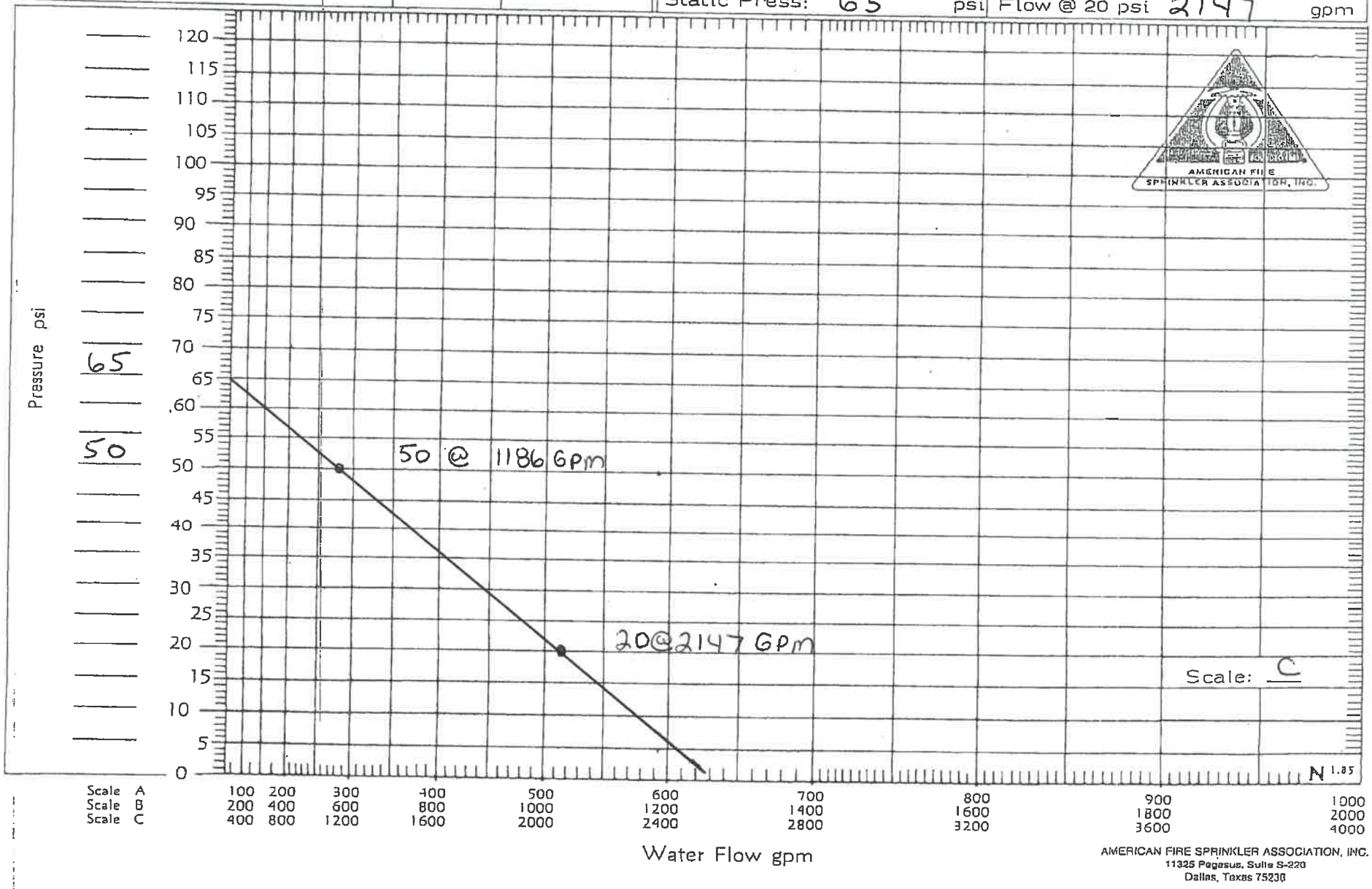
Hydrant No.	Outlet I.D. inches	Pitot Press. psi	Flow gpm	Residual psi
1	2 1/2	50	1186	
2	2 1/2			50
3				
Total Flow				

Date: 5-21-19 Time: 0900 Cont. No.

Cont. Name: Mason and Hanger

Address: Beacon Beach Rd / Bambi Trail Tyndall AFB. FL.

Static Press: 65 psi Flow @ 20 psi 2147 gpm



AMERICAN FIRE SPRINKLER ASSOCIATION, INC.
11325 Pegasus, Suite S-220
Dallas, Texas 75230

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APPENDIX E

GEOTECHNICAL BORINGS

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Geotechnical Exploration Report
Construct Fire Station #2
Tyndall AFB, Bay County, Florida

1. References:

a. ASTM D1586 Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils
b. ASTM D2488 Description and Identification of Soils (Visual-Manual)
c. EM 1110-1-1804 Geotechnical Investigations
d. EM 1110-2-1907 Soil Sampling
e. NAVFAC DM 7.1 – Soil Mechanics
f. Mobile District Design Manual
g. UFC 3-220-01 Geotechnical Engineering

2. Site and Subsurface Conditions:

a. Introduction and Project Data

This report provides the results of the subsurface exploration for the site of the proposed Construct Fire Station #2 project at Tyndall AFB in Bay County, Florida. The purpose of this report is to provide site specific soils data for the subject project. No recommendations or interpretations of the data collected are included in this report.

The proposed project will consist of constructing a new structural fire station capable of housing 3 fire-fighting vehicles and an EMS squad. The facility will provide space for maintenance, administration, physical fitness, training, and living quarters for fire fighters. Site improvements will also include new drive and parking pavements, and stormwater ponds to treat and control stormwater runoff. Construction materials and specifics of the planned building were not available during this effort.

Should any questions arise concerning this report, please contact James R. McConnell, Geotechnical Design Section, at (251) 694-3651. This office should be notified if there are any significant changes in the scope and/or siting of this project.

b. Existing Site Surface Conditions

The project site is located in the northwestern part of Tyndall AFB, at the northwest corner of the intersection of Beacon Beach Road and Dejarnette Drive (Bambi Trail). The coordinates for the general site location are 30.080339° N, -85.615592° W. The proposed site is currently moderately to heavily vegetated. Several of the larger pine trees on the subject site were broken off (due to Hurricane Michael) at the time of our first site visit. Based on review of historical aerial images, the site appears to have been undeveloped for the past 20+ years.

The site is bordered to the south and east by Bambi Trail, to the south and west by Beacon Beach Road, and to the north and west by wooded areas. The figure below provides a recent aerial image of the project site with test boring locations.

Figure 1 – Construct Fire Station #2 Recent Aerial Image

At the time of our field work, the site appeared to be relatively flat. Based on the grading plan provided, surface elevations range from approximately +23 feet to +26 feet across the site.

c. Geotechnical Investigation.

The U.S. Army Corps of Engineers (USACE) Mobile District Core Drill team performed a subsurface investigation at the Fire Station #2 site in June of 2019. The investigation consisted of performing the following procedures/tests in general accordance with methods listed and at the quantities specified:

- Performing two (2) borings (NFS-01-19 and NFS-02-19) advanced to depths of 30 feet below ground surface (bgs) in the proposed new building area. The Standard Penetration Test (SPT) was performed continuously to a depth of 30 feet bgs.

Borings were taken with a truck-mounted drill rig and advanced using the auger drilling and mud rotary drilling techniques. SPT sampling was performed continuously using a 1-3/8 inch I.D. (2 inch O.D.) split-barrel sampler, in which the sampler is driven at 1.5 foot intervals into the soil by repetitive blows of a 140 pound hammer dropped from a height of 30 inches. The number of blows necessary to advance the sampler for each 6 inch interval is recorded. The standard penetration resistance, or "N" value, is the sum of the blows required for the second and third drives. The hole is then cleaned or reamed to the top of the next interval to be sampled and the procedure is repeated. This test was performed in general accordance with ASTM D1586. Split-barrel samples were visually classified in the field then placed into plastic jars which were sealed with a Teflon-lined cap.

The table below summarizes the test boring locations and depths, ground surface elevations, and depths and elevations of groundwater encountered. A boring location plan is provided in the Appendix of this report which illustrates the locations of all borings. The boring logs are also provided in the Appendix.

Table 1: Soil Boring Data

Boring Location	Boring Depth ft-bgs	Groundwater Depth ft-bgs	Ground Surface Elevation ft-NAVD88	Groundwater Elevation ft-NAVD88	Latitude	Longitude
NFS-01-19	30	1.6	+25.0	+23.4	30.080517	-85.615809
NFS-02-19	30	1.9	+26.0	+24.1	30.080423	-85.615336

d. Subsurface Conditions

Based on the June 2019 subsurface exploration and previous subsurface explorations near this project site, the subsurface soil profile generally consists of 4 to 6 inches of organic laden sands [SP/PT], underlain by very loose to loose poorly graded fine sand, with varying amounts of silt [SP, SP-SM] to a depth of 10.5 feet, underlain by medium dense to very dense poorly graded, fine sands [SP] to the boring termination depth of 30 feet below ground surface (bgs). A tree root was encountered at test boring NFS-01-19 at a depth of approximately 2.3 to 2.7 feet bgs.

The table below summarizes the soil conditions found at the test boring locations. If conditions vary significantly from the soils encountered in our test borings, the Geotechnical Design Section should be contacted.

Table 2: General Subsurface Soil Profile

Stratum No.	Typical Depth (feet bgs)		Soil Descriptions and USCS Classifications	Range of SPT "N" Blow Counts
	From	To		
1	0	0.5	4 to 6 inches of organic laden Sand [SP/PT]	N/A
2	0.3	10.5	Very loose to loose poorly graded fine SAND, with varying amounts of silt [SP, SP-SM]	2 to 10
3	6	30*	Medium dense to very dense poorly graded fine SAND [SP]	14 to 52

Notes:
* Indicates boring termination depth of deepest test boring

At the time of our field exploration, a stabilized groundwater table was encountered at depths ranging from 1.6 feet to 1.9 feet bgs at test boring locations NFS-01-19 and NFS-02-19, respectively. Groundwater levels will fluctuate seasonally under the influences of local rainfall, river/drainage systems and nearby construction activity.

e. Contamination of the Groundwater and Soil

The project site contains contaminated soil and groundwater as described in section 3.10 of the Design Analysis report. Please review the referenced report for detailed information.

GEOTECHNICAL EXPLORATION REPORT APPENDICES

APPENDIX A

Boring Location Plan and Boring Logs

APPENDIX 'A' - LOGS OF BORINGS AND TEST DATA

GENERAL NOTES:

1. GROUNDWATER DEPTHS OR ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER ENCOUNTERED ON THE DATES SHOWN. ABSENCE OF GROUNDWATER DATA ON CERTAIN BORINGS IMPLIES THAT NO DATA IS AVAILABLE, BUT DOES NOT NECESSARILY MEAN THAT GROUNDWATER WILL NOT BE ENCOUNTERED AT THE LOCATIONS. GROUNDWATER ELEVATIONS VARY AND SEEPAGE ABOVE THE DEPTHS OR ELEVATIONS SHOWN CAN BE EXPECTED AT ANY TIME.

2. WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL MINOR VARIATIONS IN CHARACTERISTICS OF THE SUBSURFACE MATERIALS ARE ANTICIPATED AND, IF ENCOUNTERED, SUCH VARIATIONS WILL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THE DESCRIPTION SHOWN WITH THE LOGS OR PROFILES.

3. SOILS ARE CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM, ASTM-D-2487, CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES.

4. DRIVING RESISTANCES (BLOW COUNTS OR N VALUES) ARE DETERMINED WITH A STANDARD SPLIT SPOON SAMPLER (1-3/8" I.D.) AND A 140-LB DRIVING HAMMER WITH A 30" DROP UNLESS OTHERWISE NOTED ON THE BORING LOGS. N VALUES SHOWN NUMERICALLY ON THE LOGS ARE THE SUM OF BLOWS FOR THE LOWER TWO OF THREE 0.5-FOOT DRIVES THAT MAKE UP THE 1.5-FOOT STANDARD PENETRATION TEST, EXCEPT WHEN REFUSAL OCCURS. REFUSAL OF THE SPLITSPOON IS DEFINED AS 50 BLOWS IN LESS THAN A 0.5-FOOT DRIVE. REFUSAL IS SHOWN ON THE LOGS AS INDICATED IN THE FOLLOWING EXAMPLES:

50/0.3' - INDICATES 50 BLOWS (REFUSAL) AFTER 0.3' PENETRATION IN THE FIRST DRIVE.

20, 50/0.2' - INDICATES 20 BLOWS IN THE FIRST DRIVE AND REFUSAL AFTER 0.2' PENETRATION IN THE SECOND DRIVE.

20, 85/0.8' - INDICATES 20 BLOWS IN THE FIRST DRIVE, 35 BLOWS IN THE SECOND DRIVE AND REFUSAL (50 BLOWS) AFTER 0.3' PENETRATION IN THE THIRD DRIVE.

5. "MAX SIZE" OF GRAVEL OR ROCK FRAGMENTS SHOWN ON THE BORING LOGS REPRESENTS THE MAXIMUM SIZE OF MATERIAL RECOVERED IN THE DRIVE SAMPLER AND/OR CORE BARREL OR OBSERVED FROM AUGERING UNLESS OTHERWISE NOTED. NOTE THAT THE MAXIMUM LOGGED SIZE OF GRAVEL OR ROCK FRAGMENTS IS LIKELY TO BE SMALLER THAN THE MAXIMUM SIZE OF THE IN-PLACE MATERIAL, ESPECIALLY WHEN THE MAXIMUM LOGGED SIZE IS MORE THAN APPROXIMATELY ONE-HALF THE DIAMETER OF THE DRIVE SAMPLER OR CORE BARREL, OR MORE THAN ONE-THIRD THE DIAMETER OF THE AUGER.

6. CLASSIFICATIONS SHOWN IN COLUMN D OF THE BORING LOG FORM ARE THE DRILLING INSPECTOR'S FIELD VISUAL CLASSIFICATION OF SAMPLES UNLESS OTHERWISE INDICATED ON THE LOG. WHEN AVAILABLE, LABORATORY CLASSIFICATIONS OF SAMPLES ARE SHOWN IN COLUMN G (REMARKS COLUMN) UNLESS OTHERWISE INDICATED.

SOIL CLASSIFICATION LEGEND

COARSE-GRAINED SOILS - MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE

GW	WELL GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
GP	POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
SW	WELL GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
SM	SILTY SANDS, SAND-SILT MIXTURES
SM-H	SAME AS ABOVE WITH HIGH LIQUID LIMIT
SC	CLAYEY SANDS, SAND-CLAY MIXTURES
SC-H	SAME AS ABOVE WITH HIGH LIQUID LIMIT

NOTE: DUAL CLASSIFICATIONS, E.G. SP-SM, GP-GM, ML-CL AND SM-SC, ARE SHOWN BY PLACING BOTH SYMBOLS SIDE BY SIDE.

FINE-GRAINED SOILS - MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE

ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SANDY SILTS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDS OR SILTY SOIL, PLASTIC SILTS
OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY
OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS
	BITUMEN, ASPHALT, OR ASPHALTIC CONCRETE
	CONCRETE

ROCK CLASSIFICATION LEGEND

SANDSTONE

SILTSTONE OR CLAYSTONE

SHALE

CEMENTED SHALE

LIMESTONE

DOLOMITE

SCHIST

PHYLLITE

QUARTZITE

NOT SAMPLED OR
SAMPLE NOT RECOVERED

RHYOLITE

BASALT

GRANITE

GNEISS

CONGLOMERATE

CHERT

COAL

SHELL, SHELL FRAGMENTS,
OR SHELL-SOIL MIXTURE
CONSISTING MOSTLY OF SHELL

WOOD

VOID (CAVITY,
OPEN JOINT, ETC.)

ABBREVIATIONS

@	AT
ACCUM	ACCUMULATED
ALT	ALTERNATING
ANG	ANGULAR
APPROX.	APPROXIMATE (LY)
ARGIL	ARGILLACEOUS
AUG	AUGER
AVG	AVERAGE
B.A.	BASE OF ALLUVIUM
B.I.	BREAKAGE INTERVAL
B.O.H.	BOTTOM OF HOLE
BBL	BARREL
BDD	BED (ED) (DING)
BDR	BEDROCK
BENT.	BENTONITIC
BGE	BEIGE
BKY	BLOCKY
BL	BLACK (ISH)
BLD	BOULDER
BR	BROWN (ISH)
BREC.	BRECCIATED
BRK	BROKEN. BREAKAGE
C.D.	CORRECTED DEPTH
CAL	CALCITE. CALCAREOUS
CARB	CARBONACEOUS
CAV	CAVITY
CBL	COBBLE
CEM	CEMENT
CHT	CHERT
CIRCLE.	CIRCULATION
CLY	CLAYEY
CMT'D	CEMENTED
CNTR (S)	CONCENTRATION (S)
COMP	COMPACT
CONC	CONCRETE
CONCR	CONCRETIONS
CONGL	CONGLOMERATE
CONT.	CONTINUED
CR'D	CRUSHED
CRM	CRUMBLY
CSE	COARSE
CTD	COATED
D.	DENSE
d.	DEPTH
D.A.	DRILL ACTION
D.T.	DRILL TIME
D.W.L.	DRILL WATER LOSS
D.W.R.	DRILL WATER RETURN
DECOM	DECOMPOSED
DIAG	DIAGONAL
DIS.	DISSEMINATED
DK	DARK
DOL.	DOLOMITE. DOLOMITIC
DRL	DRILLING
DSTG	DISINTEGRATE (D)
EL	ELEVATION
ENC	ENCOUNTERED
EST	ESTIMATE (D)
EXCL	EXCLUDING
EXTR	EXTREMELY
F.	FINE (LY)
F.R.	FLUID RETURN
F/T	FISHTAILED
FE	IRON
FERR	FERRUGINOUS
FIS	FISSILE
FLD	FILLED
FM	FORMATION

ABBREVIATIONS

FOLIA.	FOLIATION
FOS	FOSSIL (IFEROUS)
FRAC	FRACTURE
FRAG	FRAGMENT (S)
G.W.	GROUNDWATER
GEN.	GENERALLY
GLAU	GLAUCONITE (ITIC)
GR	GRAY (ISH)
GRA	GRAIN (ED)
GRAD	GRADATIONAL
GRN	GREEN (ISH)
GRT	GROUT
GVL	GRAVEL (LY)
GYP	GYPSUM
H/A	HIGH ANGLE
H/B	HAMMER BREAK
HD	HARD
HI	HIGH (LY)
HLD	HEALED
HMR	HAMMER
HOR	HORIZONTAL
HYD	HYDRAULIC
INCL	INCLUDING (ED)
INDT	INDURATED
INIT	INITIAL (LY)
INTBDD	INTERBED (DED)
INTLAM	INTERLAMINATED
IRR	IRREGULAR (LY)
JT'S	JOINT'S
JTD	JOINTED
L.C.	LOSE CORE
L.D.W.	LOST DRILL WATER
L/A	LOW ANGLE
LAB.	LABOR
LAM	LAMINATED. LAMINA (NAE)
LAY.	LAYER
LEA	LEACHED
LGE	LARGE
LIG	LIGNITIC
LIT	LITTLE
LL	LIQUID LIMIT
LN. (S)	LENSE (S)
LO	LOOSE
LS	LIMESTONE
LT	LIGHT
MAS	MASSIVE
MAX	MAXIMUM
MECH	MECHANICAL
MED	MEDIUM
MIC	MICACEOUS
MIN	MINIMUM
MINR	MINERALIZED (IZATION)
MIX.	MIXTURE
MOD	MODERATE (D)
MOT	MOTTLED (ING)
MST	MOIST
MTL	MATERIAL
MTX	MATRIX
N/A	NOT APPLICABLE
N/E	NOT ENCOUNTERED
N/R	NO RECOVERY
NOD.	NODULE
NUM	NUMEROUS
OB	OVERBURDEN (UNCLASSIFIED)
OBS	OBSERVED
OCC	OCCASIONAL (LY)
OOL	OOLITE. OOLITIC
OP	OPEN (ED)
OR	ORANGE

ABBREVIATIONS

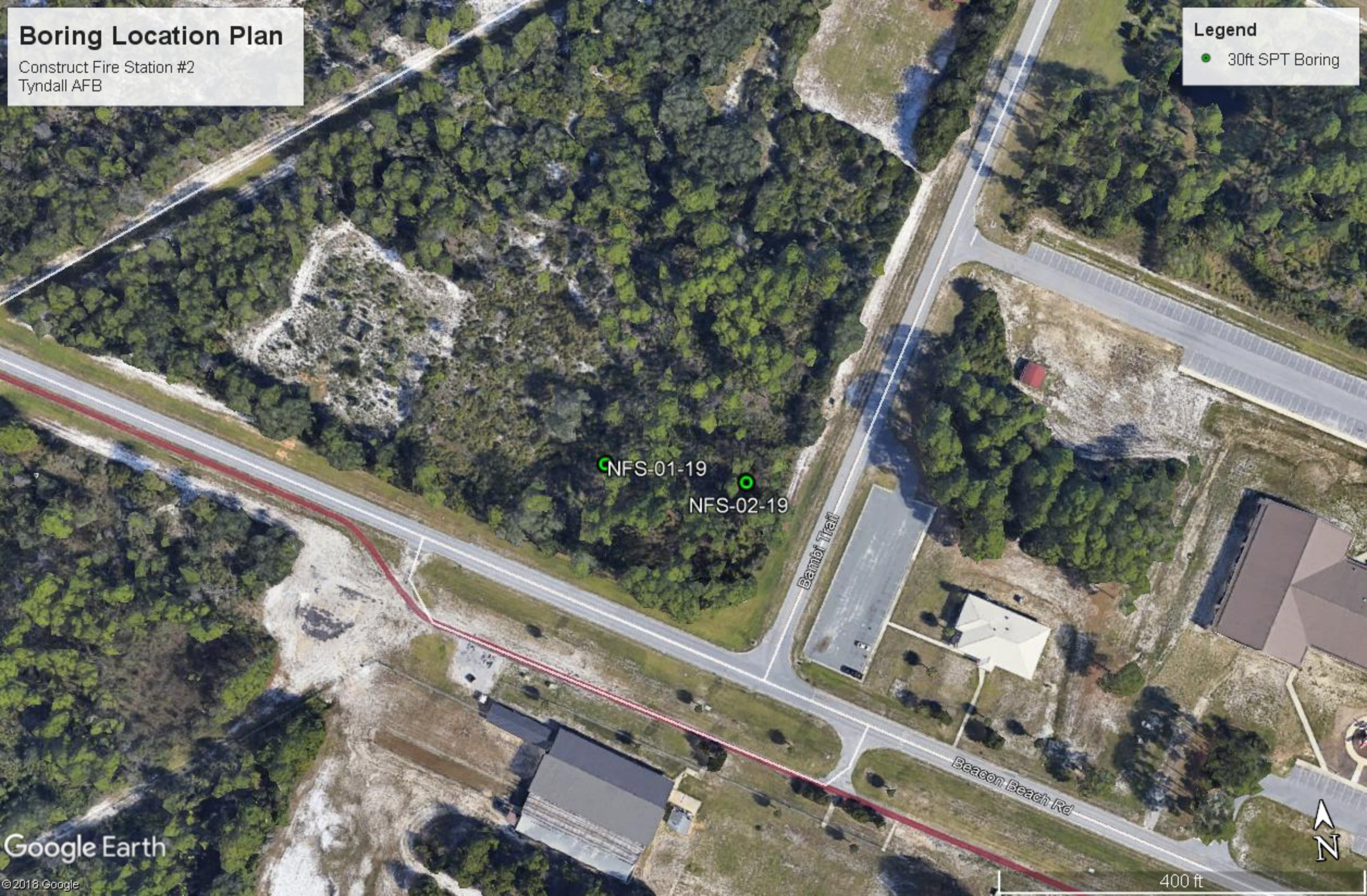
ORG	ORGANIC
P.S.I.	POUNDS/SQ. IN.
P.T.	PRESSURE TEST
PART.	PARTIALLY
PCS	PIECES
PERTRO	PETROLEUM, PETROLIFEROUS
PHOS	PHOSPHATE (PHOROUS)
PI	PLASTICITY INDEX
PIT	PIT (TED) (TING)
PKT (S)	POCKET (S)
PL	PLASTIC LIMIT
PLA	PLATY
PLAS	PLASTIC
PLN	PLANE
PNK	PINK
PR	POORLY
PRED	PREDOMINATED
PRESS	PRESSURE
PROB	PROBABLE (ABILITY)
PTC	PARTICLES
PTG	PARTING
PUR	PURPLE
QTZ	QUARTZ
QTZE	QUARTZITE
R.Q.D.	ROCK QUALITY DESIGNATION
RBL	RUBBLE
RD	RED (DISH)
REC	RECOVERY
RECEM	RECEMENTED
RND	ROUND (ED)
RTS	ROOTS
S/S	SPLIT
SAP	SAPROLITE
SAT	SATURATED
SCAT.	SCATTEREDLY
SCH (S)	SCHIST (OS)
SD	SAND
SDY	SANDY
SH	SHALE
SI	SILT
SIS	SILTSTONE
SIY	SILTY
SL	SLIGHT (LY)
SLCES	SILICEOUS
SLICK.	SLICKENSIDE
SML	SMALL
SO	SOFT
SOL	SOLUTION (ED) (ING)
SPG	SPECIFIC GRAVITY
SPT	STANDARD PENETRATION TEST
SPT	STANDARD SPLITSPOON
SS	SANDSTONE
ST	STRAIN (ED) (ING)
STF	STIFF
STR	STRUCTURE
STRG	STRINGER
STYL	STYLOLITE (OLITIC)
SUR	SURFACED
T.F.R.	TOP OF FIRM ROCK
T.O.R.	TOP OF ROCK
T.S.R.	TOP OF SOUND ROCK
TEXT.	TEXTURE
THK	THICK
THN	THIN
TI	TIGHT
TN	TAN (NISH)
TR	TRACE
TRP	TRIPOLI

ABBREVIATIONS

UD	UNDISTUBED
UL	UNACCOUNTABLE LOSS
UNACC	UNACCOUNTABLE
UNWEA	UNWEATHERED
V/	VERY
VERT	VERTICAL
VGY	VUGGY
W.C.	WATER CONTENT
W.L.	WATER LEVEL
W/	WITH
W/H	WEIGHT OF HAMMER
W/R	WEIGHT OF ROD
WD	WOOD
WEA	WEATHERED
WG	WEIGH
WHT	WHITE
X-BDD	CROSS-BEDDED
XL	CRYSTAL
XLN	CYRSTALLINE
YEL	YELLOW

Boring Location Plan

Construct Fire Station #2
Tyndall AFB



Project I.D. **FLN00414** Boring Designation **NFS-01-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	SHEET 1 OF 3 SHEETS

PROJECT Construct Fire Station #2 Hurlburt Field, FL		**LAT/LONG COORDINATES** LAT = 30.080517 LONG = -85.615809	
		STATE PLANE COORDINATES X = 1,615,594 Y = 394,680	
DATE OF BORING	*STARTED* 06-18-19 / *COMPLETED* 06-19-19	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Florida North - U.S. Survey Ft.	*HORIZ.* NAD83 / *VERT.* NAVD88
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	*TOP OF BORING* 25.0 Feet / *GROUND WATER* 23.4 Feet
NAME & TITLE OF FIELD INSPECTOR John Guice, Geologist	**NAME OF DRILLER** Eddie Woods	**MANUFACTURER'S DESIGNATION OF DRILL** CME-75	☒ AUTO HAMMER ☐ MANUAL HAMMER
DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	*DISTURBED* 20 / *UNDISTURBED (UD)* 0
TOTAL DEPTH OF BORING 30.0 Feet		**TOTAL RECOVERY FOR BORING** 83 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 0.5 FT.	N-VALUE
25.0	0.0									
			(SP) SAND, poorly-graded, nonplastic, very loose, mostly fine-grained sand-sized quartz, trace plant debris, trace organic matter, moist, 5YR 5/1 gray At El. 24.7 Ft., discontinue plant debris, discontinue organic matter	60	1		SPT Sampler	At El. 24 Ft. Cleaned borehole with 6" flight auger between sampling intervals to a depth of 3 feet	1, 1, 1	2
			From El. 22.7 to 22.3 Ft., loose Root from 2.3-2.7'	87	2		SPT Sampler		2, 2, 3	5
22.0	3.0		(SP) SAND, poorly-graded, nonplastic, loose, wet, 5YR 4/3 reddish brown	93	3		SPT Sampler	At El. 22 Ft. Set 6" steel casing to a depth of 3 feet and switched to mud rotary with a 5.5" fishtail bit	2, 2, 5	7
			At El. 20.0 Ft., nonplastic, loose, wet, 5YR 5/1 gray	93	4		SPT Sampler		1, 3, 4	7
				80	5		SPT Sampler		3, 3, 4	7
				87	6		SPT Sampler		3, 4, 6	10
				80	7		SPT Sampler		2, 4	

0 1 2 3 4 5 6 7 8 9 10

DRILLING LOG (Cont. Sheet)	INSTALLATION: Mobile District		SHEET 2 OF 3 SHEETS
PROJECT: Construct Fire Station #2	COORDINATE SYSTEM/DATUM: State Plane - Florida North - U.S. Survey Ft.	HORIZONTAL: NAD83	VERTICAL: NAVD88
LOCATION COORDINATES: X = 1,615,594 Y = 394,680	ELEVATION TOP OF BORING: 25.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 0.5 FT.	N-VALUE
				80	7		SPT Sampler		6	10
			At El. 14.5 Ft., medium	87	8		SPT Sampler		3, 5, 9	14
				87	9		SPT Sampler		4, 8, 13	21
				87	10		SPT Sampler		8, 13, 17	30
				80	11		SPT Sampler		4, 11, 16	27
				80	12		SPT Sampler		6, 10, 15	25
				80	13		SPT Sampler		6, 12, 18	30
				80	14		SPT Sampler		5, 11, 18	29
				73	15		SPT Sampler		5, 11, 17	28
			At El. 2.0 Ft., dense	93	16		SPT Sampler		9, 13	32

DRILLING LOG (Cont. Sheet)	INSTALLATION: Mobile District		SHEET 3 OF 3 SHEETS
PROJECT: Construct Fire Station #2	COORDINATE SYSTEM/DATUM: State Plane - Florida North - U.S. Survey Ft.	HORIZONTAL: NAD83	VERTICAL: NAVD88
LOCATION COORDINATES: X = 1,615,594 Y = 394,680	ELEVATION TOP OF BORING: 25.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 0.5 FT.	N-VALUE
				93	16		SPT Sampler		19 19	
0.5	24.5								9	34
			(SP) SAND, poorly-graded, nonplastic, dense, wet, 5YR 4/3 reddish brown	93	17		SPT Sampler		14 20	
				80	18		SPT Sampler		8 14 20	34
			At El. -2.0 Ft., nonplastic, dense, wet, 5YR 4/2 dark reddish gray	80	19		SPT Sampler		11 20 28	48
-5.0	30.0			80	20		SPT Sampler		11 16 30	46

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Borehole grouted with 3 bags of portland cement then topped off with cuttings.

3. Surface elevations estimated from Google Earth.

4. 6" steel casing driven to a depth of 3 feet after obtaining 1.5-3.0' sample.

140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.).

Project I.D. **FLN00414** Boring Designation **NFS-02-19**

DRILLING LOG	**DIVISION** South Atlantic	**INSTALLATION** Mobile District	**SHEET** 1 **OF** 3 **SHEETS**

PROJECT Construct Fire Station #2 Hurlburt Field, FL		**LAT/LONG COORDINATES** LAT = 30.080423 LONG = -85.615336	
		STATE PLANE COORDINATES X = 1,615,743 Y = 394,644	
DATE OF BORING	***STARTED*** 06-20-19 / ***COMPLETED*** 06-20-19	**COORDINATE SYSTEM/DATUM/UNITS** State Plane - Florida North - U.S. Survey Ft.	***HORIZ.*** NAD83 / ***VERT.*** NAVD88
DRILLING AGENCY Corps of Engineers - CESAM		**ELEVATIONS**	***TOP OF BORING*** 26.0 Feet / ***GROUND WATER*** 24.1 Feet
NAME & TITLE OF FIELD INSPECTOR John Guice, Geologist	**NAME OF DRILLER** Eddie Woods	**MANUFACTURER'S DESIGNATION OF DRILL** CME-75	☒ **AUTO HAMMER** ☐ **MANUAL HAMMER**
DIRECTION OF BORING ☒ **VERTICAL** ☐ **INCLINED**	**DEG. FROM VERTICAL** / **BEARING**	**SIZE AND TYPE OF BIT** See Remarks	
THICKNESS OF OVERBURDEN N/A		**TOTAL NUMBER CORE BOXES** 0	
DEPTH TO TOP OF ROCK N/A		**TOTAL SAMPLES**	***DISTURBED*** 20 / ***UNDISTURBED (UD)*** 0
TOTAL DEPTH OF BORING 30.0 Feet		**TOTAL RECOVERY FOR BORING** 88 %	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 0.5 FT.	N-VALUE
26.0	0.0									
24.5	1.5		(SP) SAND, poorly-graded, nonplastic, very loose, mostly fine-grained sand-sized quartz, some plant debris, some organic matter, moist, 5YR 4/1 dark gray At El. 25.5 Ft., discontinue plant debris, discontinue organic matter	93	1		SPT Sampler	At El. 25 Ft. Cleaned borehole with 6" flight auger between sampling intervals to a depth of 3 feet	1, 1, 1	2
23.0	3.0		(SP-SM) SAND, poorly-graded with silt, nonplastic, very loose, wet, 5YR 3/2 dark reddish brown	100	2		SPT Sampler		1, 1, 1	2
			(SP) SAND, poorly-graded, nonplastic, loose, wet, 5YR 4/1 dark gray From El. 22.9 to 22.5 Ft. Root.	87	3		SPT Sampler	At El. 23 Ft. Set 6" steel casing to a depth of 3 feet and switched to mud rotary with a 5.5" fishtail bit	1, 2, 3	5
				87	4		SPT Sampler		2, 3, 3	6
			At El. 19.5 Ft., medium	87	5		SPT Sampler		6, 8, 12	20
				93	6		SPT Sampler		4, 7, 11	18
				73	7		SPT Sampler		4, 7	

DRILLING LOG (Cont. Sheet)	INSTALLATION: Mobile District		SHEET 2 OF 3 SHEETS
PROJECT: Construct Fire Station #2	COORDINATE SYSTEM/DATUM: State Plane - Florida North - U.S. Survey Ft.	HORIZONTAL: NAD83	VERTICAL: NAVD88
LOCATION COORDINATES: X = 1,615,743 Y = 394,644	ELEVATION TOP OF BORING: 26.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 0.5 FT.	N-VALUE
				73	7		SPT Sampler		9	16
				87	8		SPT Sampler		4, 9, 15	24
			At El. 13.5 Ft., dense	87	9		SPT Sampler		5, 12, 18	30
				80	10		SPT Sampler		6, 13, 24	37
				87	11		SPT Sampler		6, 14, 23	37
				80	12		SPT Sampler		4, 11, 24	35
				93	13		SPT Sampler		8, 15, 21	36
				80	14		SPT Sampler		6, 12, 19	31
			At El. 4.5 Ft., medium	93	15		SPT Sampler		11, 12, 18	30
				87	16		SPT Sampler		11, 12	30

DRILLING LOG (Cont. Sheet)	INSTALLATION: Mobile District		SHEET 3 OF 3 SHEETS
PROJECT: Construct Fire Station #2	COORDINATE SYSTEM/DATUM: State Plane - Florida North - U.S. Survey Ft.	HORIZONTAL: NAD83	VERTICAL: NAVD88
LOCATION COORDINATES: X = 1,615,743 Y = 394,644	ELEVATION TOP OF BORING: 26.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	ADVANCEMENT METHOD	DRILLING REMARKS	BLOWS/ 0.5 FT.	N-VALUE
				87	16		SPT Sampler		18 18	
			At El. 1.5 Ft., dense	93	17		SPT Sampler		11 20 24	44
				93	18		SPT Sampler		8 16 23	39
				93	19		SPT Sampler		8 17 30	47
			At El. -3.0 Ft., very dense	87	20		SPT Sampler		12 20 32	52
-4.0	30.0									

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Borehole grouted with 3 bags of portland cement then topped off with cuttings.

3. Surface elevations estimated from Google Earth.

4. 6" steel casing driven to a depth of 3 feet after obtaining 1.5-3.0' sample.

140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.).

APPENDIX F

ENVIRONMENTAL IMPACT ANALYSIS FORM 813
AND
MISCELLANEOUS ENVIRONMENTAL DOCUMENTATION

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REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol
RCS:

INSTRUCTIONS: *Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).*

SECTION I - PROPONENT INFORMATION

1. TO *(Environmental Planning Function)*	2. FROM *(Proponent organization and functional address symbol)*	2a. TELEPHONE NO.
325 CEI	1Lt Alexander J. Baldwin 325 CENP	283-3851

3. TITLE OF PROPOSED ACTION
Construct New Fire Station Facility

4. PURPOSE AND NEED FOR ACTION *(Identify decision to be made and need date)*
See continuation sheet

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES *(DOPAA) (Provide sufficient details for evaluation of the total action.)*
See continuation sheet

6. PROPONENT APPROVAL *(Name and Grade)*	6a. SIGNATURE	6b. DATE
1Lt Alexander Joel Baldwin 283-3851	Alex Baldwin	20190206

SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY *(Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = unknown effect)*	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE *(Noise, accident potential, encroachment, etc.)*	☐	☒	☐	☐
8. AIR QUALITY *(Emissions, attainment status, state implementation plan, etc.)*	☐	☒	☐	☐
9. WATER RESOURCES *(Quality, quantity, source, etc.)*	☐	☒	☐	☐
10. SAFETY AND OCCUPATIONAL HEALTH *(Asbestos/radiation/chemical exposure, explosives safety quantity-distance, bird/wildlife aircraft hazard, etc.)*	☐	☒	☐	☐
11. HAZARDOUS MATERIALS/WASTE *(Use/storage/generation, solid waste, etc.)*	☐	☒	☐	☐
12. BIOLOGICAL RESOURCES *(Wetlands/floodplains, threatened or endangered species, etc.)*	☐	☒	☐	☐
13. CULTURAL RESOURCES *(Native American burial sites, archaeological, historical, etc.)*	☐	☒	☐	☐
14. GEOLOGY AND SOILS *(Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*	☐	☒	☐	☐
15. SOCIOECONOMIC *(Employment/population projections, school and local fiscal impacts, etc.)*	☐	☒	☐	☐
16. OTHER *(Potential impacts not addressed above.)*	☐	☒	☐	☐

SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17. ☒ PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # A.2.3.11 ; OR
☐ PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.

18. REMARKS
See attached

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION *(Name and Grade)*	19a. SIGNATURE	19b. DATE
Jose J Cintron, GS-12	CINTRON.JOSE.J.1182275146 Digitally signed by CINTRON.JOSE.J.1182275146 Date: 2019.02.08 07:09:35 -06'00'	20190207

4.0 Purpose and Need for Action

The purpose of this proposed action is to Construct a two bay crash/fire rescue station utilizing economical design and construction methods to accommodate the mission of the facility. A primary facility for the base crash rescue/structural fire station and capable of housing a full accompaniment of fire vehicles is required. Site location must consider response time to both automotive and structural emergencies. The facility will house fire-fighting vehicles and require 2 bays. The facility will also provide space for maintenance, administration, physical fitness, training and living quarters for fire fighters.

Due to the Hurricane Michael, the existing Fire Station in housing sustained damage and needs major restoration work. However, the existing installation perimeter fence-line is being moved to no longer enclose the housing portion of the base. By moving and constructing a new fire station on Beacon Beach Road, the Tyndall Fire Department will be better able to respond to emergencies on the support (south) side of base, maintain security requirements by staying within the new perimeter fence, and it is a more cost effective option to construct a new fire station rather than fix the existing station.

5.0 Description of the Proposed Action and Alternatives (DOPAA)

Proposed Action: Construct a two bay crash/fire rescue station (see attached for location). Supporting facilities include utilities, pavements, communications support, emergency generator, site improvements, and soil remediation. Facilities will be designed as permanent construction in accordance with the DoD Unified Facilities Criteria (UFC) 1-200-01, General Building Requirements and UFC 1-200-02, High Performance and Sustainable Building Requirements. This project will comply with DoD Antiterrorism/force protection requirements per UFC 4-010-01. It is estimated that construction and demolition activities associated with the Proposed Action would be initiated during FY10 and would be completed within 2 years from the initiation of construction activities. Any debris generated from the demolition of these facilities would be disposed of according to the appropriate federal and state laws and regulations. The new building will occupy about 17,751 gross square feet. The proposed action would include street modifications, parking areas, curbs and gutters, sidewalks, grading, surface and storm drainage, and landscaping where appropriate. The proposed action would incorporate pollution prevention, energy, and water conservation and water quality initiatives into all facilities and activities where practicable. The objectives of the initiatives would be to improve waste reduction and management practices; energy efficiency and energy conservation practices; water resource conservation and management (e.g., drought tolerant plants); and recycling and reuse practices. Recyclable waste generated during construction would be recycled according to the type of material.

Alternative 1: Repair the existing facility that was damaged as a result of the hurricane. This option was considered and was found to not be a reasonable alternative. The cost to repair the facility exceeded 75% of plant replacement value.

No Action Alternative: Status Quo- Under the No Action alternative, the new fire station would not be constructed. If a new crash/fire rescue station is not constructed, response times to life threatening emergencies will be severly degraded from increase response times due to geographic location of the existing crash/fire rescue station. The existing Fire Station #2 will then need to be repaired, which is not a cost efficient option for the Air Force, and government equipment and personnel will be housed outside the new base perimeter fence-line which puts assets at an increase risk of theft.

5.1 Affected Environment

Tyndall AFB is located 13 miles east of the City of Panama City located in Bay County, Florida. The installation sits on a peninsula bisected by US Highway 98. The base is approximately 18 miles long and 3 miles wide and is surrounded by water to the north, west, and south. Tyndall AFB sits in the southeast corner of Bay County, encompassing approximately 29,000 acres.

The noise environment at Tyndall AFB primarily consists of noise created from aircraft operations. Other sources of noise include vehicle noise, routine operation of equipment and machinery (e.g., generators; heating, ventilation, and air conditioning), and operation of construction equipment. Noise associated with the operation of machinery on construction sites is typically short-term, intermittent, and highly localized.

The area is in attainment for National Ambient Air Quality Standard parameters which are regulated by the State of Florida, DEP. The regulated substances are: particulate matter larger than 10 microns (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), ozone (O_3), and lead (Pb). Tyndall AFB is identified as a minor source of air emissions based on air permitting regulations, and currently operates under Minor Source Air Operation Permit 0050024-016-AF, issued by the FDEP on September 30, 2015.

The majority of acreage on Tyndall AFB is devoted to open space, accounting for over 60 percent of the installation. Airfield uses, industrial uses, and recreational uses each account for approximately 8 to 9 percent of the installation acreage.

Vegetation found on Tyndall AFB is consistent to that within the eco-region described above. Much of the historical vegetation of Tyndall AFB has been altered by past human activity. The native vegetation of the installation has been impacted by agricultural and silvicultural activities that occurred prior to the base's inception. Biological surveys of the area found nine distinct vegetation areas dominated by: Mesic/Wet Slash flatwoods, Natural Longleaf Pine, Sand Pine Scrub, Maritime Hardwood Hammock, Coastal Upland, Tidal Salt Marsh, Slash Scrub, and Freshwater Wetlands (Wet prairie, Basin Swamp, Baygall, and Floodplain Swamps) which are intermixed and found throughout the installation. The Tyndall AFB INRMP provides detailed descriptions of each of these communities.

Wildlife at Tyndall AFB is consistent with those expected to occur in the various habitats and vegetative communities described above. Common species observed on the installation include white-tailed deer (*Odocoileus virginianus*), mourning dove (*Zenaida macroura*), wood duck (*Aix sponsa*), marsh rabbit (*Sylvilagus palustris*), gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), and coyote (*Canis latrans*) (FFWCC 2005).

A total of 22 listed plant species, including one federally-listed species, have been documented on and in the immediate vicinity of Tyndall AFB. Most of the plant species at Tyndall AFB occur on the barrier islands or within wetlands where interaction with the military mission are minimal.

Listed Plant Species Documented at Tyndall AFB or in the Immediate Vicinity

Common Name	Scientific Name	Federal Status	State Status	Habitat
Violet-flowered Butterwort	*Pinguicula ionantha*	T	E	Cypress domes
Chapman's Crownbeard	*Verbesina chapmanii*		T	Wet prairie
Large-leafed Jointweed	*Polygonella macrophylia*	C	T	Scrub
Southern Milkweed	*Asclepias viridula*	C	T	Wet prairie
Chapman's Butterwort	*Pinguicula planifolia*	C	T	Wet prairie
Drummond's Yellow-eyed Grass	*Xyris drummondii*	C		Wet prairie, flatwoods
Godfrey's Golden Aster	*Chrysopsis godfreyi*	C	E	Dunes
Gulf Coast Lupine	*Lupinus westianus*	C	T	Scrub, dunes
Harper's Yellow-eyed Grass	*Xyris scabrifolia*		T	Wet prairie
Quillwort Yellow-eyed Grass	*Xyris isoetifolia*	C	E	Wet prairie
Karst Pond Yellow-eyed Grass	*Xyris longisepala*		E	Upland lake shoreline
Apalachicola Dragonhead	*Physostegia godfreyi*		T	Wet prairie
Bog Tupelo	*Nyssa urisne*	C		Wet prairie
Decumbent Pitcher Plant	*Sarracenia purpurea*		T	Wet prairie, bogs
Dew Thread Sundew	*Drosera filiformis*		E	Wet prairie
Giant Water Dropwort	*Oxypolis greenmanii*		E	Wet prairie, ditches
Henry's Spider Lily	*Hymenocallis henryae*	C	E	Cypress stringers
Parrot Pitcher Plant	*Sarracenia psittacina*		T	Wet prairie, bogs
Southern Red Lily	*Lilium catesbaei*		T	Wet prairie
Spoon-leafed Sundew	*Drosera intermedia*		T	Wet prairie
Thick-leaved Water Willow	*Justica crassifolia*	C	E	Wet prairie
White-flowered Wild Petunia	*Ruellia noctiflora*		E	Wet prairie
Note: E= Endangered, T= Threatened, and C= Consideration encouraged.				

A total of 27 listed animal species have been documented on or in the vicinity of Tyndall AFB.

Listed Animal Species Documented at Tyndall AFB or in its Immediate Vicinity

Common Name	Scientific Name	Federal Status	State Status	Habitat
REPTILES				
American Alligator	*Alligator mississippiensis*	T(S/A)	SSC	Lakes, marshes
Atlantic Loggerhead Sea Turtle	*Caretta caretta*	T	T	Marine, barrier island
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*	E	E	Marine
Leatherback Sea Turtle	*Dermochelys coriacea*	E	E	Marine, barrier island
Green Sea Turtle	*Chelonia mydas*	E	E	Marine, barrier island
Alligator Snapping Turtle	*Macroclemys temmincki*	C	SSC	Freshwater lakes
Gopher Tortoise	*Gopherus polyphemus*	C	SSC	Longleaf & sand pine
Gulf Salt Marsh Snakes	*Nerodia clarkia clarkii*	C		Needless grass
BIRDS				
Southeastern American Kestrel	*Falco sparverius paulus*	C	T	Open habitat
Osprey	*Pandion haliaetus*		SSC	Coastline, lakes
Peregrine Falcon	*Falco peregrinus tundrius*	C	E	Open habitats
Little Blue Heron	*Egretta caerulea*		SSC	Marshes, ponds, lakes
Tricolor Heron	*Egretta tricolor*		SSC	Marshes, ponds
Reddish Egret	*Egretta rufescens*		SSC	Marshes, coastline
Snowy Egret	*Egretta thula*		SSC	Marshes, lakes, ponds
Black Skimmer	*Rhychops niger*		SSC	Shoreline
American Oystercatcher	*Haematopus palliates*		SSC	Shoreline
Least Tern	*Sterna antillarum*		T	Barrier island, shores
White Ibis	*Eudocimusalbus*		SSC	Marshes, lakes
Brown Pelican	*Pelecanus occidentalis*		SSC	Barrier island, bays
Piping Plover	*Charadrius melodus*	T/CH	T	Barrier island
Snowy Plover	*Charadrius alexandrinus*	C	T	Barrier island
MAMMALS				
West Indian Manatee	*Trichechus manatus*	E	E	Marine
Choctawhatchee Beach	*Peromyscus polionotus*	E/CH	E	Barrier island

Mouse	*allophrys*			
St. Andrew Beach Mouse	*Peromyscus polionotus peninsularis*	E/CH	E	Barrier island
Florida Black Bear	*Ursus americanus floridanus*	C	T	Swamps, forests
FISH				
Gulf Sturgeon	*Acipenser oxyrhyichus desotoi*	T/CH	SSC	Marine, large rivers
Note: E= Endangered, T= Threatened, T(S/A)= Threatened by similarity of appearance, SSC= Species of Special Concern, CH= Critical habitat designation, and C= Consideration encouraged.				

Approximately 40 percent of Tyndall AFB is estimated to be wetland habitat. Federal agencies are directed to avoid new construction in wetlands, unless the agency finds there is no practicable alternative to construction in the wetlands, and the proposed construction incorporates all possible measures to limit harm to the wetland.

Previous investigations have resulted in the recording of 104 archaeological sites on Tyndall AFB property. Boundary delineation and NRHP-eligibility determinations remain incomplete for many of these sites. The SHPO has concurred with NRHP-eligibility determinations for 35 archaeological sites managed by Tyndall AFB. Seventeen sites are considered eligible, three potentially eligible, and fifteen sites ineligible for inclusion in the NRHP.

During the Cold War, Tyndall AFB played multiple roles in military defense and training. Of the buildings proposed for demolition, 2 (Buildings 1282 and 1283) are considered Cold War-era facilities and should be evaluated for NRHP eligibility by a qualified archeologist. Consultation with SHPO is required prior demolishing these buildings.

Hazardous material use and management at Tyndall AFB are regulated under the Toxic Substance Control Act, Occupational Safety and Health Administration (OSHA), Emergency Planning and Community Right-to-Know Act, and Air Force Occupational Safety and Health Standards. The regulations require personnel using hazardous materials to be trained in the application, management, handling, and storage of material; know the location of material safety data sheets (MSDSs) for all hazardous materials that they are using; and wear the correct personal protective equipment required for materials that are being used.

Current operations at Tyndall AFB require the use of hazardous materials in varying quantities. Hazardous materials are used by military personnel and on-base contractors throughout the base. The location of hazardous materials, procedures and equipment at Tyndall AFB used to prevent and clean up a release, and actions to be taken in the event of a release are located in the Tyndall AFB Hazardous Material Emergency Planning and Response Plan and the Tyndall AFB Spill Prevention Control and Countermeasure Plan.

There is a MMRP site located near the proposed construction activities. This site (SR170) is the Stationary Target Range.

5.2 Anticipated Environmental Issues

- Use of hazardous material
- Generation of solid waste
- Short-term air emissions during construction
- Short-term increases in sediment to storm water during construction

5.3 Environmental Impacts

Air Quality:

Tyndall AFB is in an attainment area for National Ambient Air Quality Standard. The FESOP permit for Tyndall AFB will not be violated by the implementation of the proposed project. Temporary minor exhaust emissions would occur in the immediate vicinity of the construction. Fugitive dust would be controlled at the sites using best management practices (BMPs), such as periodic watering of cleared areas and stockpiled materials and mulching or vegetative cover for the cleared areas. The air quality in the area would not be significantly impacted by the proposed project.

Noise

The primary sources of ambient noise at Tyndall AFB include military aircraft, vehicular traffic, and construction activities. The primary sources of noise in the project area include use of the existing combat arms range, and aircraft operations on the airfield east of the range.

Water Resources:

Potential impact would be short-term and manageable through implementation of a SWPPP along with the incorporation of BMPs for sediment control during construction. Implementation of these actions would minimize potential impacts to water quality. No major disturbances in the natural flow, discharge, and recharge of surface water resources would be expected as a result of the Proposed Action. Implementation of Proposed Action is not expected to impact the quality of groundwater at Tyndall AFB or the surrounding area.

The Proposed Action would be expected to disturb over one acre of soil. The projects would require submission of a Notice of Intent under the General Permit for Stormwater Discharge from Large and Small Construction Activities to the FDEP, and creation and implementation of a SWPPP. Construction of facilities which would include extensions or connections of potable water lines would require permits from the FDEP (for lines greater than 12 inches in diameter). Construction of facilities which would include extensions or connections of sanitary sewer lines would require permits from the FDEP

The short-term increase in potable water usage would be due to dust suppression activities. Long-term increase in potable water usage would potentially be from installation of air conditioning systems, landscaping of new turf areas and ornamental landscaping, and installation of other water utilizing devices associated with new facilities. There is currently sufficient potable water capacity at Tyndall AFB and Bay County to accommodate this increase in potable water consumption.

Soil Impact:

Under the Proposed Action, construction and demolition activities, such as removal, grading, excavating, and recontouring of the soil, would result in soil disturbance. The soils in the vicinity of the proposed construction have been altered over time, and the project areas have been permanently disturbed over the years. Impacts would include an increase in soil erosion that would be minimized through the implementation of BMPs to reduce soil loss. As a result of prior disturbance and development in the project areas, the Proposed Action would not be expected to have any adverse impacts.

There is one Environmental Restoration Program (ERP) site located within the boundary of construction activities. Site SR-170, Stationary Target Range, undergoing a contamination study. Metals (lead, antimony, arsenic) and polycyclic aromatic hydrocarbons (PAHs) contaminated soils and groundwater have been identified as potential contaminants at SR-170**.** During Proposed Action activities, monitoring wells must be protected and if wells need to be removed, Tyndall AFB Environmental Element must be contacted. By following the attached guidelines to work on site SR-170, proposed construction activities are not expected to impact the ERP site.

Biological Resources:

The construction site provides low quality habitat for wildlife due to its location and current condition. The site is located adjacent to an active combat arms range, which is a source of regular human activity and noise disturbance to wildlife that may occur at the site. Therefore, the proposed action would not adversely affect any federally-protected species. Proposed action would not be sited in the 100-years floodplain or wetlands.

Cultural Resources Impact:

Proposed action would not impact known archeological sites. If cultural resources are encountered, survey and evaluations of NRHP-eligibility by a qualified cultural resource professional and SHPO concurrence with eligibility determinations must be conducted.

Hazardous Materials/Waste:

The use of hazardous materials during the implementation of the Proposed Action is expected to be limited to construction vehicle maintenance (fuel, oils, and lubricants) activities and construction materials (adhesives, sealants, etc.). These materials would be required to be properly contained, manifested, and managed in accordance with all

federal, state, and local regulations, AFIs, and DoD Directives. Authorization from the Tyndall AFB Hazardous Materials Office would need to be acquired prior to use of hazardous materials.

Solid Waste

Construction activities associated with the Proposed Action would result in a short-term increase in solid waste generated at Tyndall AFB. It is assumed that all projects would be completed within 2 years of their start date and that generation of solid waste would be spread out over each year of construction. The contractor would be responsible for disposing of solid waste in accordance with all federal, state, and local laws.

Cumulative Impact:

Project size may impact existing NPDES permit, but permit modification can be accomplished thought coordination with FDEP. Cumulative effects to soils from increased erosion and sedimentation rates would be minor. No cumulative loss of productivity would be expected, given the high permeability and low soil fertility associated with most of these soils.

The Proposed Project would not contribute to the loss of native vegetation. Proposed Action would not result in significant cumulative effects to native wildlife species. Proposed action would not be sited within the 100-year floodplain No further direct or indirect impacts to the proposed area would occur as a result of this proposed action. The scope and size of this action will not add to the past, present or foreseeable future.

5.4 Environmental Requirements

Solid Waste

If any solid waste is generated, it must be managed in accordance with the AFI 32-7042 and the Tyndall AFB Solid Waste Management Plan.

Pollution Prevention

All projects must be designed to limit Air Force environmental liability. Project design engineers must consider the environmental implications of all projects during the design phase and strive to develop designs that minimize or eliminate environmental liability. The Pollution Prevention Act of 1990, 42 U.S.C. §13101(b), established a National policy to prevent or reduce pollution at the source. Pollution prevention approaches should be applied to all potential pollution generating activities. A pollution prevention environmental analysis should be performed early in the design phase of all projects to develop a design that results in the lowest feasible level of environmental impact and liability. The analysis should focus on potential pollution that may result from the proposed project and must make recommendations that promote pollution prevention measures whenever feasible. Where pollution cannot be prevented, the environmental

analysis must make recommendations that promote recycling, energy recovery, treatment, and environmentally safe waste disposal practices.

Soil

Prior to and during construction, implement all erosion and sediment control measures (Best Management Practices) required to retain sediment on-site and to prevent violations of state water quality standards; implement additional best management practices as necessary and correct any erosion or shoaling that causes adverse impacts to the water resources. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven days after the construction activity in that portion of the site has temporarily or permanently ceased.

Digging/Excavation

Prior to any digging, an Excavation permit will be required. An Air Force Form 103, BCE Work Clearance Request, will be required.

Air Quality

Activities with potential for adverse effect on air quality must be performed in accordance with applicable federal, state, and local air quality regulations and Air Force Policy. Tyndall AFB is located in an attainment area therefore; a conformity determination is not required.

Hazardous Waste Disposal

The proposed action may generate small quantities of hazardous materials/wastes. Disposal of hazardous waste must be completed in accordance with Tyndall AFB Hazardous Waste Management Plan. Additionally, management of hazardous waste must be completed in accordance with 40 CFR 260-279. Hazardous waste transportation and disposal shall be coordinated through 325 CES/CEIE. The transportation and disposal facilities shall be approved by 325 CES/CEIE prior to their use. Manifests shall be signed only by 325 CES/CEIE. Drums shall be disposed of within 90 days of placing the first drop in the container.

Hazardous Material Management

Tyndall AFB is required to report chemicals such as (but not limited to) compressed gases, adhesives, aerosol cans, sealants, paints, lubricants, solvents, oils, cleaners, degreasers and pesticides. Copies of manufacturer-specific Material Safety Data Sheets and AF Form 3952 must be submitted to the HAZMO office. After submission, CEIE will notify the Project Manager of the reportable chemicals and of any special instructions. CEIE must be notified if anything changes from the original submittal (i.e. new chemical is added, size of container or unit of issue changes or if the manufacturer changes).

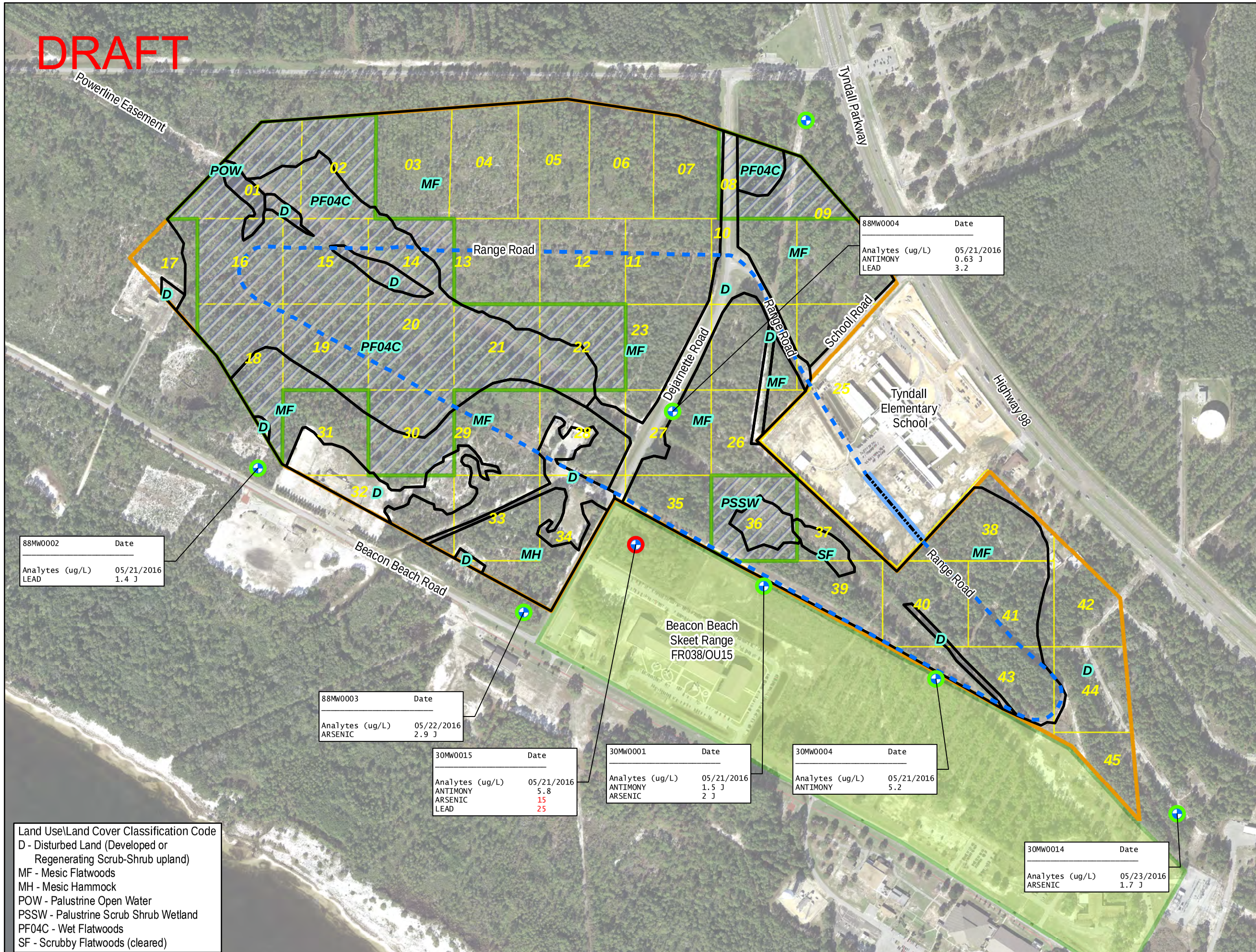
5.5 List of required permits

Stormwater and Construction Generic Permit

5.6 CATEX Statement

The proposed project will not adversely impact Tyndall AFB environmental attributes; therefore, qualifies for Categorical Exclusions (CATEX) A2.3.11 as defined in 32 CFR 989, Appendix B. This is "Action similar to other actions which have been determined to have an insignificant impact in a similar setting as established in an EA resulting in a FONSI." The Environmental Assessment for the AOC and First Air Force Headquarters/Air Force Forces Center, Dated May 2004 is the Air Force approved document which forms the basis for using this CATEX. The proposed action is a small construction project in the same general area and is much less in scope than the federal projects evaluated in the EA. 325 CES/CEIE has conducted an evaluation of subject EA to ensure the document is still valid in accordance with 32 CFR 989.20 (c). As part of the re-evaluation, CEIE personnel conducted an onsite survey and found that the affected environment as well as the environmental consequence has not changed since the EA was prepared. Therefore, we find the EA valid and acceptable.

1. The methodology/analytical approach previously used is appropriate for the proposed action.
2. The direct and indirect impacts of the proposed action are not significantly different than those identified in the existing document.
3. The proposed action would not change the previous analysis of cumulative impacts.
4. Public involvement in the previous analysis provides appropriate coverage for the proposed action.
5. There has been no significant change in circumstances or significant new information relevant to the proposed action.
6. The proposed action is a construction project in the same general area with similar affected environment and is much less in scope than the federal projects evaluated in the existing document.
7. The project evaluated in the EA includes a reinforced concrete floor lab, structural steel frame, brick masonry fascia, standing seam metal roof, pavements, road work, communication networking, and landscaping. The proposed action includes concrete floor slab, masonry fascia, standing seam metal roof, pavements, road work, communication networking, and landscaping. Both projects follow the Air Force unified facility criteria.



LEGEND

- Monitoring Well Locations
- Analytes reported at concentrations ABOVE Maximum Contaminant Levels
- Analytes reported at concentrations BELOW Maximum Contaminant Levels
- Stationary Target Range SR170 Site Boundary (Approximate)
- FR038 Site Boundary (Approximate)
- Approximate Location of Former Range Road
- Former Range Road Removed During 2009 TCRA
- Land Use\Land Cover Areas
- 5-Acre Sample Grid
- Wetland Areas

Maximum Contaminant Levels

ANALYTES	(ug/L)
ANTIMONY	6
ARSENIC	10
LEAD	15

Notes:
Only analytes with reported concentrations above the laboratory method detection limit are shown by monitoring well.

J - Reported quantitation value is estimated.

N

0 500 1,000
Feet

SOURCE
1) Bay County, 2016
2) USDA/NRCS, Digital Ortho Quad County Mosaic-Color Infrared,

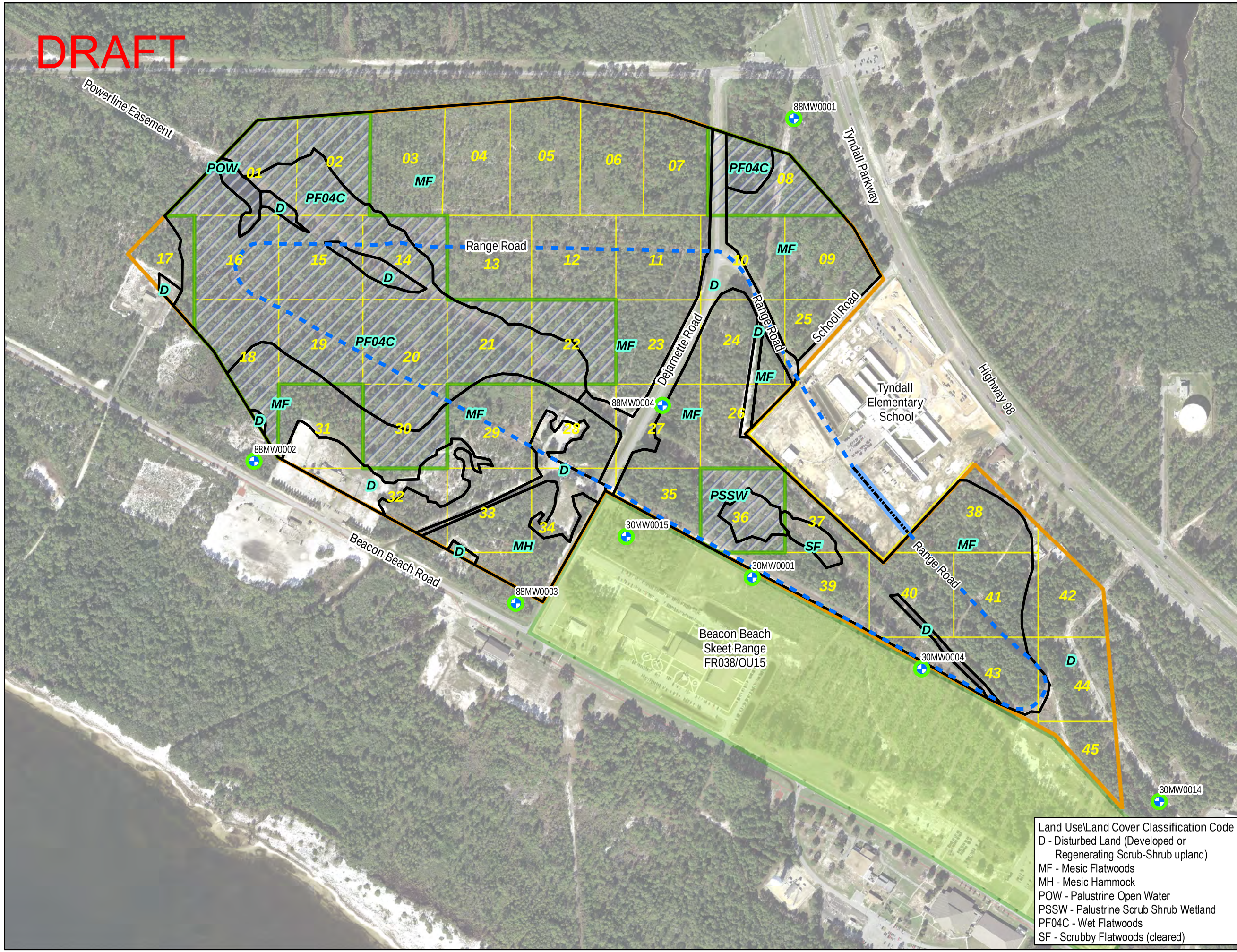
Coordinate System: NAD 1983 StatePlane Florida North FIPS 0903 Feet
Vertical Coordinate System: North American Vertical Datum 1988 Feet

WESTON SOLUTIONS

FIGURE 9
STEP 1 GROUNDWATER LABORATORY RESULTS METALS DETECTIONS
STATIONARY TARGET RANGE – SR170
TYNDALL AFB, FLORIDA

DATE	PROJECT NO	SCALE
AUGUST, 2016	20077.490.120.0200	AS SHOWN

FILE: I:\GIS Project Files\20077_USAF AFCEE\Tyndall PBR\SR170\mxd\Data Brief\Figure 9 Metal Detections in Groundwater.mxd 4:21:46 PM 8/2/2016 wilderj



LEGEND

- Monitoring Well Locations
- Analytes reported at concentrations BELOW Laboratory Detection Limits
- Stationary Target Range SR170 Site Boundary (Approximate)
- FR038 Site Boundary (Approximate)
- Approximate Location of Former Range Road
- Former Range Road Removed During 2009 TCRA
- Land Use\Land Cover Areas
- 5-Acre Sample Grid
- Wetland Areas

Notes:
PAHs were not reported above laboratory method detection limits in samples collected in May 2016 from monitoring wells shown.

N

0 500 1,000
Feet

SOURCE
1) Bay County, 2016
2) USDA/NRCS, Digital Ortho Quad County Mosaic-Color Infrared,

Coordinate System: NAD 1983 StatePlane Florida North FIPS 0903 Feet
Vertical Coordinate System: North American Vertical Datum 1988 Feet

Land Use\Land Cover Classification Code
D - Disturbed Land (Developed or Regenerating Scrub-Shrub upland)
MF - Mesic Flatwoods
MH - Mesic Hammock
POW - Palustrine Open Water
PSSW - Palustrine Scrub Shrub Wetland
PF04C - Wet Flatwoods
SF - Scrubby Flatwoods (cleared)

WESTON SOLUTIONS

FIGURE 10
STEP 1 GROUNDWATER LABORATORY RESULTS
PAHS DETECTIONS
STATIONARY TARGET RANGE – SR170
TYNDALL AFB, FLORIDA

DATE	PROJECT NO	SCALE
AUGUST, 2016	20077.490.120.0200	AS SHOWN

FILE: I:\GIS Project Files\20077_USAF AFCEE\Tyndall PBR\SR170\mxd\Data Brief\Figure 10 PAH Detections in Groundwater.mxd 4:22:49 PM 8/2/2016 wilderj

APPENDIX G

AIR FORCE SUSTAINABILITY REQUIREMENTS SCORE SHEET (UPDATED JAN 2017) FOR HPSB (unedited version For Information Only)

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Air Force Sustainability Requirements Scoresheet

HPSB COMPLIANCE (Updated Jan 2017)

* required entry

SURVEY INCOMPLETE

General Information		INCOMPLETE	
		Project ID (e.g. ABCD12345)	*
		Real Property Unique ID (RPUID)	*
		Facility Number	*
		Building Name	*
		Installation	*
		City	
		State	
		CONUS	
		MAJCOM	
		Construction Agent	*
		AFCEC DM/CM (Last Name, First Name)	*
		PA	*
		Building Size (SF)	*
		Program Year (FY####)	*
		Project Phase	*
		Design Started (MM/DD/YY)	*
		BOD (MM/DD/YY)	*
		Guiding Principles Compliance Certification Method	*
		Date Project Registered (MM/DD/YY)	
		Date Project Certified (MM/DD/YY)	
	0%	HPSB Compliant	
	0%	Energy Efficiency Achieved (% below ANSI/ASHRAE/IESNA Standard 90.1-2013)	
	2017V1	Scoresheet version	

Air Force Sustainability Requirements Scoresheet

HPSB COMPLIANCE (Updated Jan 2017)

* required entry

Color Coding: See Instructions Tab for more detail	
Drop-Down Box	Yes or N/A
No Entry Required	No
Custom Entry	Recommended not Required

90.1-2013

HPSB I: Employ Integrated Design Principles (UFC 1-200-02 para 2-2)					
Total Points	0	INCOMPLETE	Possible Points	2	
	HPSB I.1	**Integrated Design**		1	*
	HPSB I.2	**Commissioning**		1	*
HPSB II: Optimize Energy Performance (UFC 1-200-02 para 2-3)					
Total Points	0	INCOMPLETE	Possible Points	5	
	HPSB II.1	**Energy Efficiency**		1	
			Reduce energy use 30% below ANSI/ASHRAE/IESNA Standard 90.1-2013 or IECC, or if not - achieve maximum energy efficiency that is lifecycle cost effective		*
			Insert percentage below ANSI/ASHRAE/IESNA Standard 90.1-2013 or IECC, in terms of energy use (e.g. 32)		*
			Insert building energy intensity (kBtu/yr-sqft) calculated IAW 10 CFR 433		*
			Roof Attributes (Recommended)		
			Select roof types (Check below)		
			☐ Cool roof ☐ Solar electric ☐ Solar Passive ☐ Green roof ☐ Solar thermal		
		Energy Efficient Products		1	
					*
	HPSB II.2	**On-site Renewable Energy**		1	
			Installed renewable energy elements or projects were not lifecycle cost effective		*
			Renewable energy types (check below)		
			☐ Solar PV ☐ Geothermal ☐ Hydro ☐ Waste to Energy ☐ Solar CP ☐ GSHP ☐ Wind ☐ Renewables were not lifecycle cost effective ☐ Solar Thermal Electric		
			Insert generation capacity (kW)		*
			Insert percentage of total building		*
	HPSB II.3	**On-site Renewable Energy - Solar Hot Water Heater System**		1	
			Installed solar hot water heater system or found installation not lifecycle cost effective		*
			Insert generation capacity (MMBtu/yr)		*
			Insert percentage of demand		*
	HPSB II.4	**Metering**		1	
			Electric Metering: Select N/A if no service		*
			Natural Gas Metering: Select N/A if no service		*
			Steam Metering: Select N/A if no service		
HPSB III: Protect and Conserve Water (UFC 1-200-02 para 2-4)					
Total Points	0	INCOMPLETE	Possible Points	6	
	HPSB III.1	**Indoor Water**		1	*
		Indoor Water Metering		1	*
	HPSB III.2	**Outdoor Water**		1	*
		Outdoor Water Metering		1	*
	HPSB III.3	**Alternative Water**		1	*
	HPSB III.4	**Stormwater Management (LID Documentation per UFC 3-210-10)**		1	
			Change in Impervious Area (SF)		*
			Pre-Award Cost Estimate ($)		*
			Project addressed EISA 438		*
			EISA Technical Constraints		
			☐ Retaining stormwater impact receving water flow ☐ Shallow bedrock, contaminated soil, high ground water table, underground utilities ☐ Soil infiltration capacity limited ☐ Site too small to infiltrate significant volume ☐ Non-potable water demand to small ☐ Structural, plumbing, and other mods not feasible ☐ State or local restrict water harvesting ☐ State or local restrict use of green infrastructure or LID ☐ Other		
			Percent Increase in Stormwater Runoff for 95 Percentile Storm (%) -or- Percent Increase in Stormwater Runoff from continuous simulation model, published data, studies, or other established tools (Reference UFC 3-210-10 Figure 2-1 Implementation of EISA Section 438)		
			LID Features Locations		
			Integrated Management Practices Employed		

Air Force Sustainability Requirements Scoresheet

HPSB COMPLIANCE (Updated Jan 2017)

* required entry

- ☐ Bio-Retention
- ☐ Dry Wells
- ☐ Filter Strips
- ☐ Grassed Swells
- ☐ Infiltration Trench
- ☐ Inlet Pollution Removal Device
- ☐ Permeable Pavement/Pavers
- ☐ Rain Barrels/Cisterns
- ☐ Soil Amendments
- ☐ Tree Box Filters
- ☐ Vegetated Buffers
- ☐ Vegetated Roof
- ☐ Other

	Final LID Construction Cost ($)
	Post Construction Analysis (Name of DOR)

HPSB IV: Enhance Indoor Environmental Quality (UFC 1-200-02 para 2-5)					
Total Points	0	INCOMPLETE	Possible Points	8	
	HPSB IV.1	**Thermal Comfort**		1	*
	HPSB IV.2	**Ventilation**		1	*
	HPSB IV.3	**Daylighting**		1	*
	HPSB IV.4	**Moisture Control**		1	*
	HPSB IV.5	**Low Emitting Materials**		1	*
	HPSB IV.6	**Protect Indoor Air Quality during Construction**		1	*
	HPSB IV.7	**Environmental Tobacco Smoke Control**		1	
	HPSB IV.8	**Occupant Health and Wellness**		1	*
HPSB V: Reduce Environmental Impact of Materials (UFC 1-200-02 para 2-6)					
Total Points	0	INCOMPLETE	Possible Points	5	
	HPSB V.1	**Recycled Content**		1	*
	HPSB V.2	**Biologically-based Products**		1	*
	HPSB V.3	**Ozone Depleting Substances**		1	
	HPSB V.4	**Waste and Materials Management - Recycling**		1	*
	HPSB V.5	**Waste and Materials Management - Divert 60% from Disposal**		1	
		60% or greater diverted			*
		Insert percentage diverted from landfill			*
HPSB VI: Address Climate Change Risk (UFC 1-200-02 para 2-7)					
Total Points	0	INCOMPLETE	Possible Points	1	
	HPSB VI.1	**Address Climate Change Risk**		1	*
			Possible Points	**27**	
0	**Federal Requirements - Yes or N/A**				
0	**Federal Requirements - No**				
0%	**Percentage of Federal Requirements Met**				

APPENDIX H

GCEC PARKING LOT LIGHTING – FOR COORDINATION

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Luminaire Schedule

Symbol	Qty	Label	Arrangement	LLD	LDD	Amber Factor	LLF	Description	Lum. Watts	Total Watts	Lum. Lumens
	5	N4-T4W	SINGLE	0.960	0.950	0.250	0.228	NVN-AF-04-LED-U-T4W-600 (Prorated to Amber)	129	645	16250

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts @ Grade	Illuminance	Fc	0.43	0.8	0.2	2.15	4.00

Luminaire Location Summary

LumNo	Label	X	Y	Z	Orient	Tilt
1	N4-T4W	229	419.5	30	270	0
2	N4-T4W	386.5	402.5	30	270	0
3	N4-T4W	178	337	30	0	0
4	N4-T4W	180	185	30	0	0
5	N4-T4W	265.5	185	30	180	0

EATON

Applications Engineering
1121 Highway 74 South
Peachtree City, GA 30269

tel no: 770-486-4751

fax no: 770-486-4599

e-mail:
mkt-lightingapplications@eaton.com

SHE

1 PROV

LEG

Project Name:
TAFB - Fire Station and Indoor Shooting Range Parking

Client:
Leland McCully
SouthCon

Drawn By:
JR

Date:
5/28/2019

Project No:
1900776B.AGI