

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE J	PAGE OF PAGES 1 3
2. AMENDMENT/MODIFICATION NO. 0003	3. EFFECTIVE DATE 30-Aug-2024	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable)
6. ISSUED BY CODE US ARMY ENGINEER DISTRICT, FORT WORTH ATTN: CESWF-CT 819 TAYLOR ST, ROOM 2A19 P.O. BOX 17300 FORT WORTH TX 76102-0300	W9126G	7. ADMINISTERED BY (If other than item 6) CODE See Item 6		
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		X	9A. AMENDMENT OF SOLICITATION NO. W9126G24R10BP	
		X	9B. DATED (SEE ITEM 11) 23-Jul-2024	
			10A. MOD. OF CONTRACT/ORDER NO.	
			10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended.				
Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. ACCOUNTING AND APPROPRIATION DATA (If required)				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).				
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)				
The Solicitation for Republic of Singapore Air Force (RSAF) Facility Renovations for F-16 and F-35 Ebbing NGB, Fort Smith, AR, is amended as follows. See SF30 Continuation Sheet(s) NOTE: Proposal receipt date has been changed from 6 Sep 2024, at 4:00 pm CT, to 10 Sep 2024 at 10:00am CT.				
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
		TEL:	EMAIL:	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)		

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES**CHANGES TO SOLICITATION W9126G24R10BP****CHANGES TO THE PROJECT TABLE OF CONTENTS****TOC PROJECT TABLE OF CONTENTS**

-Added Attachment I

CHANGES TO DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

1. The following sections are being replaced and bearing the notation W9126G24R10BP-0003.

00 21 16 INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

-Updated Factor 2 page limit in table to allow 8 double sided pages.

-Removed Factor 4 – Sustainability in its entirety.

00 22 16 SELECTION PROCEDURES

-Updated Factor 2 page limit to allow 8 double sided pages.

-Removed Factor 4 – Sustainability in its entirety.

CHANGES TO THE SPECIFICATIONS

2. Replacement Sections: Replace the following section with the accompanying new section of the same number and title bearing the notation W9126G24R10BP-0003.

01 10 00 STATEMENT OF WORK

-Part 3.6.5.3a, CHANGE “Relocation of the water entry to Compressor/Fire Riser (Mech) 008 is an option acceptable solution.”

-Part 3.6.5.3, ADD “f. Drain oily waste to the oil/water separator, if provided; otherwise, drain to the sanitary sewer system in accordance with UFC 3-420-01 C-3.4.4.”

-Part 3.2.8, ADD “Curbs and Gutters” paragraph.

-Part 3.3.1.1k, CHANGE “Renovate the existing sleeping room restroom, labeled Room 117 on the concept plans, to provide the minimum plumbing fixtures in accordance with UFC 3-420-01.”

-Part 3.3.1.2o, CHANGE “Disassemble, and remove, and dispose of all existing equipment and materials in the paint booth room. Provide new finishes – refer to the Room Data Sheets for additional information. Replace the existing paint exhaust/ventilation fans in kind. All ductwork associated with the paint room exhaust system is to be removed and replaced with new ductwork. Repair to ductwork that is associated with the replacement of the fans and connection to the new paint booth. Disconnect all infrastructure from the existing paint booth. capping and protecting during construction, and prepare all existing building/infrastructure systems for connection by Government.”

-Part 3.3.5.1.3, CHANGE “The minimum gauge for panels is 20-gauge, (.032-inch) thick 24-gauge or greater. Meet deflection and wind load requirements per ASCE 7-22. Provide continuous roof insulation over the entire roof area. Insulation must meet or exceed the requirements of the International Energy Code, Air Force High Performance Building requirements, and all federal mandates.

-Part 3.3.5.6, DELETE “Curbs and Gutters” paragraph.

-Part 3.3.6, ADD “3.3.6.4 Bird Abatement” paragraph.

-Part 3.3.7.1.5, ADD “Use epoxy grout.” to end of paragraph.

CHANGES TO THE ATTACHMENTS

3. Replace the following attachments bearing the notation W9126G24R10BP-0003.

ATTACHMENT B CONCEPT DESIGN DRAWINGS

-Update Sheets CS101, B201 I-100, B216 AE101, B216 IF101, and B218 IF101.

ATTACHMENT C ROOM DATA SHEETS

- Replaced in its entirety.

ATTACHMENT I GEOTECHNICAL REPORT

-Attachment I is being added to the solicitation. It includes the Government Geotechnical Report for Ebbing ANGB Hangar 200 for information only.

End of Summary of Changes

PROJECT TABLE OF CONTENTS**DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

00 00 02 RFP LETTER
 00 10 00 CONTRACT LINE ITEM SCHEDULE
 00 21 00 CLAUSES AND PROVISIONS
 00 21 16 INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS
 00 21 30 SITE VISITS
 00 22 16 SELECTION PROCEDURES
 00 45 00 REPRESENTATIONS AND CERTIFICATIONS
 00 72 00 CONTRACT CLAUSES
 00 73 00 SPECIAL CONTRACT REQUIREMENTS

DIVISION 01 - GENERAL REQUIREMENTS

01 00 00.00 44 DESIGN AND CONSTRUCTION SCHEDULE
 01 00 50 FORMS AND ATTACHMENTS
 01 10 00 STATEMENT OF WORK
 01 14 00.00 46 WORK RESTRICTIONS (SWL)
 01 15 10.10 46 AT/OPSEC SITE SECURITY REQUIREMENTS
 01 22 00.00 10 PRICE AND PAYMENT PROCEDURES
 01 30 00 ADMINISTRATIVE REQUIREMENTS
 01 32 01.00 10 PROJECT SCHEDULE
 01 33 00 SUBMITTAL PROCEDURES
 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)
 01 33 29 SUSTAINABILITY REQUIREMENTS AND REPORTING
 01 35 10.00 46 SPECIAL PROJECT PROCEDURES FOR EBBING FIELD
 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS
 01 35 29.13 HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES FOR
 CONTAMINATED SITES
 01 42 00 SOURCES FOR REFERENCE PUBLICATIONS
 01 45 00 QUALITY CONTROL
 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)
 01 45 35 SPECIAL INSPECTIONS
 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS
 01 56 00.00 46 DUST CONTROL
 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS
 01 71 23.00 44 SURVEY, LAYOUT, AND OTHER DATA
 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
 01 78 00 CLOSEOUT SUBMITTALS
 01 78 23 OPERATION AND MAINTENANCE DATA
 01 78 24.00 10 FACILITY DATA REQUIREMENTS
 01 91 00.15 BUILDING COMMISSIONING

ATTACHMENTS

ATTACHMENT A INDUSTRY AND MILITARY CRITERIA AND GOVERNING CODES
 ATTACHMENT B CONCEPT DESIGN DRAWINGS
 ATTACHMENT C ROOM DATA SHEETS
 ATTACHMENT D SITE PHOTOS
 ATTACHMENT E HYDRANT FLOW TEST RESULTS
 ATTACHMENT F AS-BUILTS (ISSUED SEPARATELY)
 ATTACHMENT G MAIN RAMP APRON CLEARANCE
 ATTACHMENT H LIST OF PYRO ROOM CONTENTS

<AM#0003> ATTACHMENT I GEOTECHNICAL REPORT </AM#0003>

-- End of Project Table of Contents --

Section 00 21 16 - Instructions, Conditions, and Notices to Offerors

PART I – GENERAL INFORMATION

A. INQUIRIES

OFFEROR'S QUESTIONS AND COMMENTS

Questions and/or comments relative to these documents should be submitted via e-mail to:

Contract Specialist – Primary POC

Lindsay Chvilicek

Email: lindsay.m.chvilicek@usace.army.mil

Phone: (817) 408-5319

With a courtesy copy to the Contracting Officer

Nicholas Johnston

Email: nicholas.i.johnston@usace.army.mil

Phone: (817) 866-1006

BIDDER INQUIRY

Technical inquiries and questions relating to proposal procedures or bonds are to be submitted via:

Bidder Inquiry in ProjNet at <http://www.projnet.org/projnet>

To submit and review bid inquiry items, bidders will need to be a current registered user or self-register into system. To self-register go to web page, click BID tab select Bidder Inquiry, select agency USACE, enter Key for this solicitation listed below, and your e-mail address, click login.

Fill in all required information and click create user. Verify that information on next screen is correct and click continue.

From this page you may view all bidder inquiries or add inquiry.

Bidders will receive an acknowledgement of their question via email, followed by an answer to their question after it has been processed by our technical team.

The Solicitation Number is: **W9126G24R10BP**

The Bidder Inquiry Key: **M2UXXU-X44Q2X**

Last day to submit ProjNet questions is seven (7) calendar days prior to proposal due date in order to ensure adequate time is allotted to form an appropriate response and

amend the solicitation, if necessary. If the system is not closed in a timely manner, an inquiry posted within seven calendar days of the receipt of proposals will still be regarded as untimely and will not be afforded a substantive response.

Offerors are requested to review the specification in its entirety, review the Bidder Inquiry System for answers to questions prior to submission of a new inquiry. The call center operates weekdays from 8AM to 5PM U.S. Central Time Zone. The telephone number for the Call Center is 800-428-HELP.

Offers will NOT be publicly opened. Information concerning the status of the evaluation and/or award will NOT be available after receipt of proposals.

Oral explanations or instructions are not binding. Any information given to an Offeror which impacts the solicitation and/or offer will be given in the form of a written amendment to the solicitation.

As this is a competitive negotiation acquisition, there is no public bid opening, and no information will be given out as to the number of Offerors or the results of the competition until all awards are made.

B. DIRECTIONS FOR SUBMITTING PROPOSALS

1. Electronic copies of each volume shall be submitted through the Solicitation Module of the Procurement Integrated Enterprise Environment (PIEE) suite at <https://piee.eb.mil/>.

Proposals submitted by mail or hand carried will not be evaluated. Proposals sent through proprietary or third-party File Transfer Protocol (FTP) sites or DoD SAFE will not be retrieved. It is the responsibility of the Offeror to confirm receipt of proposals. All proposals received after the exact time specified for receipt shall be treated as late submissions and will not be considered except under facts and circumstances allowed by the Federal Acquisition Regulation (FAR). There are 10 general steps a vendor must follow in order to use PIEE application modules. A complete list can be viewed at the following site:

<https://piee.eb.mil/xhtml/unauth/web/homepage/vendorGettingStartedHelp.xhtml#step5>

For instructions on how to post an offer, please refer to the Posting Offer demo: https://pieetraining.eb.mil/wbt/sol/Posting_Offer.pdf.

It is the Offeror's responsibility to obtain written confirmation of receipt of all electronic files of the full proposal by the Fort Worth District Contracting office. In the event that the Solicitation Module is down, the alternate method for proposal submission is via email to: lindsay.m.chvilicek@usace.army.mil or the PCO, nicholas.i.johnston@usace.army.mil.

The Offeror must obtain prior approval from the Contracting Officer:

nicholas.i.johnston@usace.army.mil to use the alternate submission method. Offerors are responsible for ensuring electronic copies are virus-free and shall run an anti-virus scan before submission.

Electronic copies of each volume shall be compatible with the following software products: Adobe Acrobat Reader 11 and Microsoft Office Suite 2016. Narrative portions of the proposal shall be in Adobe Acrobat portable document file (pdf) searchable text format. The Offeror shall not embed sound or video (e.g., MPEG) files into the proposal files. Electronic files shall be clearly identified for each volume, section, and item.

2. DELIVERY of hard copies and/or CD-ROMs of offers, modifications thereto, or cancellations of offers will NOT be accepted.

3. FACSIMILE OFFERS, modifications thereto, or cancellations of offers will NOT be accepted.

Only the PIEE submitted proposals will be accepted and evaluated by the Government.

C. NIST GUIDANCE: Please NOTE this solicitation requires offerors to enter a National Institute of Standards and Technology (NIST) score in the Supplier Performance Risk System (SPRS) prior to award of this solicitation.

D. PROPOSAL EXPENSES AND PRE-CONTRACT COSTS: This Request for Proposal (RFP) does not commit the Government to pay as a direct charge any costs incurred by the Offeror in the preparation and submission of its proposal or revisions. A stipend is not authorized for unsuccessful offerors.

E. SITE VISIT: Pursuant to Contract Clause "FAR 52.236-3, Site Investigation and Conditions Affecting the Work," prospective offerors will be permitted to inspect the site where services are to be performed and to satisfy themselves as to all general and local conditions that may affect the cost of performance of the Contract to the extent such information is reasonably obtainable. Offerors are urged and expected to inspect the site where the work will be performed. Reference Section 00 21 30 for site visit details.

PART II – PROPOSAL INSTRUCTIONS

A. PROPOSAL SUBMISSION REQUIREMENTS AND INSTRUCTIONS

1. PROPOSAL FORMAT & GENERAL INSTRUCTIONS

a. Submit only the electronic files specifically authorized and/or required elsewhere in this section. Do not submit excess information, to include audio-visual materials, electronic media, etc. All pages shall be numbered.

b. Although hard copies are not accepted, each file shall be clearly indexed, and logically assembled. Font size shall be 12 or larger. An unusual font style, such as script or condensed print, shall not be used for any submission. All page margins shall be at least one (1) inch wide, but may include headers and footers of the solicitation, project title, and company. Pages shall be formatted to print on 8 ½ by 11 inch paper, unless another paper size is specifically authorized elsewhere in this section for a particular submission. Spreadsheets, drawings, and schedule diagrams must fit to 11x17 inch paper size unless specifically authorized in this section for a particular submission. Offerors shall prepare proposals in the English language. Proposals shall be in a narrative format, organized and titled so that each section of the proposal follows the order and format of the factors. Information presented should be organized so as to pertain to only the evaluation factor in the section that the information is presented. Information pertaining to more than one evaluation factor should be repeated in each section for each applicable factor. Electronic files shall be Microsoft Windows compatible. Files shall be submitted in their native format (i.e., doc, xls, ppt, etc.), or if in pdf format, shall be in searchable text. If the electronic files are of a size at which they must be compressed (zipped), they shall be compressed into one zipped folder.

c. Interested parties shall submit responses no later than the date specified on the solicitation document. The time & date of proposal receipt will be the delivery time & date recorded within PIEE. Do not assume that electronic submission will occur instantaneously. Large files may take some time to upload. Offerors should time their upload effort with prudence by not waiting until the last few minutes—this will allow for unexpected delays in the transmittal process and troubleshooting. Proposal submission difficulties should be coordinated with the PIEE Service Desk at 1-866-618-5988. Offerors are encouraged to keep a copy of the upload confirmation for their record. Submissions received after the deadline will be considered late.

d. “Confidential” projects cannot be submitted to demonstrate capability unless all the information required for evaluation as specified herein can be provided to the Government as part of the Offeror’s technical proposal. Offerors that include in their proposals information that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, must be clearly marked in accordance with the instructions at FAR 52.215-1, Instructions to Offerors—Competitive Acquisition”, paragraph (e), “Restriction on disclosure and use of data”.

e. Proposal revisions shall be submitted as page replacements with revised text readily identifiable, e.g., bold face print or underlining. The source of the revision or

amendment, e.g., Error, Omission or Clarification shall be included and be annotated for each revision. Proposal replacement pages shall be numbered and clearly marked “REVISED”, with the date of revision.

f. All offerors are required to bookmark their proposal in order to assist with the evaluation of proposals.

g. The following volumes of material shall be submitted:

Volume	Title	Digital Copies	Maximum Pages
I	Technical	1	See below
	Factor 1	1	<ul style="list-style-type: none"> - 3 projects with one double sided each (total of 3 double sided) - Supplemental Narrative – 1 double sided - TOTAL of 4 double sided as noted above for this factor
<AM#0003>	Factor 2	1	- 4- 8 double sided </AM#0003>
<AM#0002>	Factor 3	1	- 6 15 double sided </AM#0002>
<AM#0003>	Factor 4	4	4 double sided </AM#0003>
	Factor 5	1	- 8 double sided
	Factor 6	1	- No page limit
II	Offeror's Certifications and Price	1	- No page limit

NOTE: Page limitations, where specified in the RFP, shall be considered a maximum. Pages that exceed the required page limitations will not be evaluated. Additional pages over the maximum allowed will be removed or not read and will not be evaluated by the Government.

h. Proposal Formats/sections

(1) Cover Page. Include the title of the solicitation, solicitation number, offeror name and date of the submittal.

(2) Table of Contents. Each volume of the proposal shall contain a detailed table of contents. If more than one Adobe PDF file is used for a volume, the complete table of contents shall be included in each. Any materials submitted but not required by this solicitation (such as company brochures) shall be relegated to appendices.

(3) All information intended to be evaluated as part of the Technical Proposal must be submitted as part of Volume I. Do not cross-reference similar material in the

Technical & Price Proposal, or vice versa. **No dollar amounts from Volume II are to be included in Volume I.**

(4) Offerors are advised to follow the PIEE instructions for uploading files. Additional instructions/guidance can be found at https://pieetraining.eb.mil/wbt/sol/Posting_Offer.pdf

(5) Interested parties shall submit responses no later than the date specified on the solicitation document. **The time & date of proposal receipt will be the delivery time & date recorded within PIEE suite at <https://piee.eb.mil/>.** Do not assume that electronic submission will occur instantaneously. Large files may take some time to upload. Offerors should time their upload effort with prudence by not waiting until the last few minutes—this will allow for unexpected delays in the transmittal process and troubleshooting. It is the offeror's responsibility to obtain written confirmation of receipt of all electronic files of the full proposal by the Fort Worth District Contracting office. In the event that the Solicitation Module is down, the alternate method for proposal submission is via email to: lindsay.m.chvilicek@usace.army.mil ONLY. The Offeror must obtain prior approval from the Contracting Officer: nicholas.i.johnston@usace.army.mil to use the alternate submission method. Offerors are responsible for ensuring electronic copies are virus-free and shall run an anti-virus scan before submission.

i. Joint Venture and LLC Proposal Requirements

(1) A copy of the joint venture agreement shall be submitted with the proposal. Failure to comply with the foregoing requirements may eliminate the proposal from further consideration. If this is an 8(a) or HUBZone joint venture, the Offeror shall ensure that it complies with the applicable requirements of 13 CFR Part 124 and 13 CFR Part 126, respectively.

(2) A small business joint venture offeror must submit, with its offer, the representation required in Section 00 45 00, Representations and Certifications, and paragraph (c) of FAR solicitation provision 52.219-1, Small Business Program Representations, in accordance with 52.204-8(d) for the following categories:

- (a) Small business;
- (b) Service-disabled veteran-owned small business;
- (c) Women-owned small business (WOSB) under the WOSB Program;
- (d) Economically disadvantaged women-owned small business under the WOSB Program; or
- (e) Historically underutilized business zone small business

(3) When proposing as an LLC, the offeror must submit a copy of the operating agreement which clearly demonstrates the authority to bind the LLC.

j. Bonds Format: Offerors shall submit bid bonds (Standard Form 24) in

electronic format. Electronic copies of bid bonds shall be included in Volume II: Offerors Certifications and Price under Tab F. Hard copies of bid bonds with the raised seal are no longer required to be mailed in at this time and are not to be sent to the contracting office. Verification of Bid Bonds with sureties will be completed during the evaluation process and before award. Bid bond submissions shall be due by the proposal due date and time. Offerors are responsible for the accurate submission of the Bid Bonds with all signatures and seals applied.

2. PROPOSAL FILES

a. **Format:** The submission shall be clearly indexed and logically assembled. Each volume shall be clearly identified and shall begin at the top of a page. All pages of each volume shall be appropriately numbered and identified by the complete company name, date and Request for Proposal (RFP) number in the header and/or footer.

b. The following additional restrictions apply:

File Packaging: Files submitted to PIEE shall be named as follows:

W9126G24R10BP_ *COMPANY NAME* _VOLUME I

W9126G24R10BP_ *COMPANY NAME* _VOLUME II

c. Content Requirement.

(1) All volumes must be submitted as separate volumes/files as outlined in paragraph 2b above. Do not cross-reference similar material in the Technical and Price Proposals, or vice versa.

(2) Both volumes of the proposal must be received by the closing date and time set for receipt of proposals.

(3) Do not include exceptions to the terms and conditions of the solicitation in either the Technical, or Price Proposals. Should the offer include any standard company terms and conditions that conflict with the terms and conditions of the solicitation, the offer may be determined “unacceptable” and thus ineligible for award. Should the offeror have any questions related to specific terms and conditions, these should be resolved prior to the submission of the offer.

(4) The data criteria specified for each factor identified herein, shall be submitted as part of the proposal.

3. BID GUARANTEE. A Bid Guarantee will be required with this proposal:

52.228-1 BID GUARANTEE (SEP 1996) – See above.

4. DISCUSSIONS. The Government intends to evaluate proposals and award a contract without discussions with Offerors, in accordance with FAR 52.215-1,

Instructions to Offerors—Competitive Acquisitions. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary.

If discussions are held, the Government may engage in a broad give and take with each Offeror in the competitive range, in accordance with FAR 15.306 (d). The Government will provide the Offeror an advance agenda for the discussions. During discussions, the Government may ask the Offeror to further explain its proposal and to answer questions about it.

Upon conclusion of discussion, those Offerors will be afforded an opportunity to submit their proposal revisions for final evaluation and selection.

In addition to the other proposal information, the Contracting Officer shall use this information in making an affirmative responsibility determination for award to the Successful Offerors, in accordance with FAR Part 9. Failure to achieve an affirmative responsibility determination will make the Offeror ineligible for award.

5. COST OR PRICING DATA. Offerors are not required to submit Cost or Pricing Data with their offers.

End of Section 00 21 16

Section 00 22 16 – Selection Procedures

PART I. EVALUATION AND RATING SYSTEM

The Government will evaluate the proposals in accordance with the evaluation criteria described herein, using the evaluation rating systems outlined in this section. Price information will be evaluated for fairness, reasonableness, and for material unbalancing, as described herein. This evaluation will be conducted in accordance with FAR Part 15.

Keep in mind that mere promises to comply with contractual requirements are insufficient basis for a favorable rating; evidence is required in support of any statements relating to promised performance.

A. DEFINITIONS

Significant Strength. An aspect of an Offeror's proposal with appreciable merit or will exceed specified performance or capability requirements to the considerable advantage of the Government during contract performance.

Strength. An aspect of an offeror's proposal with merit or will exceed specified performance or capability requirements to the advantage of the Government during contract performance.

Weakness. A flaw in the proposal that increases the risk of unsuccessful contract performance. See FAR 15.001.

Significant Weakness. A flaw in the proposal that appreciably increases the risk of unsuccessful contract performance. See FAR 15.001.

Deficiency. A material failure of a proposal to meet a government requirement or a combination of significant weaknesses in a proposal that increases the risk of unsuccessful contract performance to an unacceptable level. See FAR 15.001.

Uncertainty. Any aspect of a non-cost/price factor proposal for which the intent of the offeror is unclear (e.g., more than one way to interpret the offer or inconsistencies in the proposal indicating that there may have been an error, omission or mistake).

B. BASIS OF AWARD

The Contracting Officer will award a firm fixed-price contract to the responsible Offeror whose proposal the Source Selection Authority determines conforms to the solicitation, is fair and reasonable with regard to pricing, and whose proposal offers the best overall value to the Government, considering the price and non-price factors described herein. All evaluation factors, other than price, when combined, are considered significantly more important than the price; however, the Contract award may not exceed the cost limitation described in the solicitation. The intent of this solicitation is to obtain the best value proposal within the contract cost limitation.

There is no obligation to approach or match the contract cost limitation in the offer. As part of the evaluation, the Government will evaluate proposals relative to the minimum

standards in the RFP to determine if they offer additional value to the Government. In addition, innovations in proposals will be evaluated to determine if creative ideas of the Offeror are a better value to the Government compared to the minimum criteria. After the Government evaluates and rates each proposal, the Source Selection Authority (SSA) will compare proposals to determine which proposal represents the best value for award.

The Government reserves the right to accept other than the lowest priced offer or to reject all offers. The Government will not award a contract to an Offeror whose proposal contains a deficiency, as defined in FAR 15.001. If there is a lower priced, conforming offer(s), the SSA must determine that the added value of a more expensive proposal would justify award to that Offeror.

VOLUME I: TECHNICAL PROPOSAL

This volume shall be organized into the following sections:

Location	Factor	Description	Relative Importance
TAB A		COVER PAGE	NOT RATED
TAB B	Factor 1	PAST PERFORMANCE	Most Important Factor, more important than all other factors
TAB C	Factor 2	DESIGN TECHNICAL	2nd Most Important Factor, less important than Factor 1
TAB D	Factor 3	TECHNICAL SOLUTIONS	3rd Most Important Factor, less important than Factors 1 and 2
<AM#0003> TAB E	Factor 4	SUSTAINABILITY	4th Most Important Factor, less important than Factors 1, 2 & 3 </AM#0003>
TAB F	Factor 5	SUMMARY SCHEDULE	<AM#0003>5 th 4th Most Important Factor, less important than Factors 1, 2, & 3, & 4 </AM#0003>
TAB G	Factor 6	SMALL BUSINESS PARTICIPATION	Least Important Factor

TAB A: COVER PAGE

Include the title of the solicitation, solicitation number, offeror name and date of the

submittal.

TAB B: FACTOR 1 – PAST PERFORMANCE

1. Submission Requirements:

Narrative: Submit no more than three projects. Each projects Past Performance Worksheet will not exceed one page double sided. Provide a narrative that describes the following past performance requirements:

- a. The Offerors shall demonstrate past performance through the submission of similar projects, using the Construction – Past Performance Assessment Worksheet (Attachment 3). Information provided shall demonstrate recent and relevant past performance.
- b. If the Offeror is a Joint Venture, Limited Liability Corporation (LLC), Partnership, Teaming Arrangement, or Parent company/subsidiary/affiliate as identified in the offeror's proposal, provide past performance information for construction projects relevant to each of the proposed roles on this project. If any firm has multiple functions or divisions, limit the project examples to those performed by the division or unit submitting the offer.
- c. If projects were design-build, identify them as such. Submit no more than three projects completed or substantially completed within five years from the date of this solicitation that best represent the experience similar to the scope of work for this solicitation.
- d. One of the three projects submitted for past performance may be a current construction project with at least 70% construction progress completed. However, the remaining projects submitted for past performance must be completed or substantially completed within five years. If Offeror is proposing as a Joint Venture (JV), LLC, Partnership and/or Teaming Arrangement and past performance cannot be provided as such, each partner shall submit past performance information, with no more than three projects each. The page count for each Past Performance Assessment Worksheet shall not exceed two pages.
- e. The Past Performance Questionnaire (PPQ) (Attachment 4) is included in the solicitation is provided for the Offeror to submit to the client for each project the Offeror included for Factor 1, Past Performance that does not have an interim or final CPARS evaluation or is a non-Federal Government project. Ensure correct phone numbers and email addresses are provided for the client point of contact. Completed PPQs should be submitted with your proposal. If the Offeror is unable to obtain a completed PPQ from a client for a project(s) before proposal closing date, the Offeror should complete and submit with the proposal the first page of the PPQ, which will provide contract and client information for the respective project(s). Offerors should follow-up with clients/references to ensure timely submittal of questionnaires. If any negative past performance information is received to which the Offeror has not an opportunity to respond, the contractor will be given an opportunity to provide rebuttal. If the client requests, questionnaires may be submitted directly to the Government's point of

contact, Lindsay Chvilicek, via e-mail at lindsay.m.chvilicek@usace.army.mil prior to proposal closing date.

f. Offerors shall not incorporate by reference into their proposals PPQ's previously submitted for other RFPs. However, this does not preclude the Government from utilizing previously submitted PPQ information in the past performance evaluation.

g. Do not request PPQs on projects that have interim or final CPARS evaluations. If an interim or final CPARS evaluation exists and a PPQ is provided for the same project, the CPARS evaluation will be reviewed as the official past performance record for the project, and the PPQ will not be considered by the Source Selection Board or the Source Selection Authority.

h. For USACE or other DoD projects which are underway but do not yet have an interim or final CPARS evaluation, one PPQ per contract may be submitted; to be considered, the PPQ shall be signed by either the Primary Contracting Officer (PCO), Administrative Contracting Officer (ACO) or Contracting Officer Representative (COR) for the contract.

i. Offerors are not required to submit any additional past performance information. The Government will utilize CPARS, and any other information deemed relevant to assess confidence in the Offeror's ability to perform. Offerors may submit information on past performance issues and corrective actions taken to prevent these issues from reoccurring. Discuss whether these corrective actions have been implemented on contracts awarded subsequent to the performance issues, the effectiveness of the corrective actions, and POC information for the subsequent contracts.

j. In addition to the above, the Government may review any other sources of information for evaluation of past performance. Other sources may include, but are not limited to, past performance information retrieved through the Contractor Performance Assessment Reporting System (CPARS), using all CAGE/UEI numbers of team members (Partnership, joint venture, teaming arrangement, or parent company/subsidiary/affiliate) identified in the offeror's proposal, inquires of owner representative(s), Federal Awardees Performance and Integrity Information System (FAPIS), Electronic Subcontract Reporting System (eSRS), and any other known sources not provided by the offeror. While the Government may elect to consider data from other sources, the burden of providing detailed, current, accurate and complete past performance information rests with the Offeror.

k. Demonstrate the experience of the offeror and/or proposed team on projects same/similar in SIZE, SCOPE, and COMPLEXITY to that described in the solicitation. Offerors shall identify and describe the relevancies for each of the projects submitted compared to the scope of this project. The Government will evaluate the information provided in making the relevancy determination. Projects demonstrating experience in new or renovation construction projects consisting of a large warehouses, barracks, hangars, large battalion headquarters, office complexes or similar facility type including Design Build will be considered more relevant.

l. The Offeror may provide a supplemental narrative (not project lists), not to exceed two pages, explaining how any corporate past performance that is not directly related to the specific projects above is applicable to this project and how the Government will benefit.

2. Evaluation Criteria:

a. The Government will evaluate the Offeror's record of past performance to ascertain the probability of successfully performing the required efforts of the Solicitation projects to be procured. There are three aspects to the past performance evaluation: recency, relevancy, and confidence.

b. The first aspect of the past performance evaluation is the recency of the past performance. Recent means 70% or more of the contract has been completed and performance occurred within five (5) years of the solicitation issuance date. Based on this criteria, an Offeror's past performance submissions will be determined either "recent" or "not recent." Submissions deemed not recent will not be evaluated further.

c. Once a project is determined to be recent, the second aspect of the past performance evaluation is the relevance of the Offeror's present/past performance information.

d. Past performance submissions deemed recent, but not relevant, will not be evaluated further.

e. The Government will evaluate the Offeror's past performance to determine how relevant the past performance is to the project under consideration. Past performance on the projects identified in the project forms will receive more consideration than past performance provided in the supplemental narrative. The Government will place greater value on projects performed as a prime contractor than as a subcontractor, depending upon overall role and relevancy considerations.

f. More relevant past performance will typically be a stronger predictor of future success and have more influence on the past performance confidence assessment than past performance of lesser relevance.

g. Contracts with lower degrees of relevance will not be as strong of predictors of likely future contract performance success and will typically have less influence on the final past performance confidence rating.

h. Contracts that have little or no relevance typically do not influence the performance confidence rating; however, any contracts with adverse past performance could reflect larger company-wide concerns and may have impact upon the past performance confidence rating.

i. Past performance submissions with any of the Armed services or other agencies within Department of Defense (DOD) will have more influence on past performance

confidence assessment than past performance with other partners and agencies.

j. The burden of providing detailed recent and relevant past performance information rests with the Offeror. However, the Government reserves the right to verify the information on projects submitted for evaluation, and to review CPARS, or other Government project appraisal systems, for information on other projects performed by the Offeror whether submitted as part of a proposal or not. The Government also reserves the right to contact project clients/customers, or other references.

k. For any adverse performance information found and considered for which the Offeror has not had an opportunity to address, the Offeror will be afforded an opportunity to clarify or address.

3. Confidence Evaluation Criteria:

a. After past performance submissions are determined recent and relevant, the quality of the recent and relevant past performance will be rated for the overall confidence assessment. If a CPARS record and PPQ-0 exist for a particular project and the ratings conflict; the CPARS record shall govern.

b. The SSEB will review the past performance information available, to include CPARS and other past performance information deemed relevant, to determine the quality and usefulness as it applies to performance confidence assessment. If any firm has multiple functions or divisions, the Government will only evaluate past performance of the division or unit submitting the offer. If the Government cannot establish the Offeror's relevant past performance, it reserves the right to utilize the Past Performance Questionnaire to conduct telephone interviews on any source it deems relevant to the evaluation. Owners/references may be asked to comment on items such as quality of construction, timeliness, management of the work, subcontractor management, including timely payment to subs or suppliers, safety, level of support for such things as as-built documentation, O&M manuals, training, correcting construction errors, warranty work, etc. If negative information is received regarding past performance, the offeror will be notified and given an opportunity to provide information on the problems encountered and the offeror's corrective actions. The Government's evaluation is not limited to past performance information on the cited example projects.

c. In determining the performance confidence rating for Past Performance, the degree of relevancy of all of the considered efforts; the overall performance record of the offeror on each contract assessed; number and severity of problems and the demonstrated effectiveness of corrective actions taken (not just planned or promised); and trend data will be considered. Contracts with higher degrees of relevance will typically have a greater influence on the final performance confidence rating. Contracts with lower degrees of relevance will typically have less influence on the final performance confidence rating; however, any contracts with adverse past performance could reflect larger company-wide concerns and may impact the past performance confidence rating. Contracts which are comparatively more recent may be better predictors of likely future success than older contracts. The resulting relevant/recent

assessment conclusions will then be combined, along with the assessed quality of performance on prior contracts, to arrive at a single performance confidence rating for the Past Performance Factor.

d. The confidence rating will be established based on the past performance of the firms or that of its predecessor, if applicable. An entity may not establish past performance based on the past performance of its key personnel apart from that of the entity. If the Government does not obtain past performance information and cannot establish a past performance record for the Offeror through other sources, a rating of Unknown (Neutral) confidence will be assigned.

e. In the case of offerors for which there is no information on past contract performance or where past contract performance information is not available, the offeror will not be evaluated favorably or unfavorably on the factor of past contract performance and will be given a "Neutral Confidence" rating.

f. Although the SSEB may not rate an offeror that lacks recent, relevant past performance favorably or unfavorably with regard to past performance, the SSA may determine that a "Substantial Confidence" or "Satisfactory Confidence" past performance rating is worth more than a "Neutral Confidence" past performance rating in a best value tradeoff.

g. If negative past performance information is received on any PPQ, the Offeror will be given an opportunity to provide input as required by FAR part 15. CPARS that are part of the official record will be utilized as if the Offeror has already had an opportunity to respond.

TAB D: FACTOR 2 – DESIGN TECHNICAL

1. Submission Requirements:

<AM#0003>Narrative (NTE four eight </AM#0003> double-sided pages): Provide a narrative that describes the following design technical requirements:

Offerors shall submit narratives and drawings to describe the firm's unique technical design solution. These elements must reinforce each other and be self-explanatory in presenting the offeror's technical solution.

The narrative shall cover all features of the proposed design for all disciplines. The Offeror shall make a statement that their design complies with the most current regulations, standards, codes, and Design Requirements (Section 01 10 00). The narrative shall include but not necessarily be limited to the following:

a. General Approach – Describe the processes, procedures, and/or techniques that will be utilized to complete the design and construction on schedule. Describe the general phasing approach of design and construction. Indicate any intent to fast-track portions of the work, why this is an advantage to the government, and how this will be accomplished. The Offeror shall also describe how they intend to phase the work to

utilize the minimal laydown areas available. At a minimum the offeror shall acknowledge the limited access to laydown space and outline their means and methods for dealing with these constraints.

b. Identify your proposed onsite project staffing by position, to include, as a minimum: Superintendent, Site Safety and Health Officer (SSHO), and Construction Quality Control (CQC) Manager. Refer to the following Specification Sections for requirements: 01 32 01.00 10 Project Schedule; 01 35 26 Governmental Safety Requirements; 01 45 00.00 10 Quality Control. Information may be provided in narrative format, table(s), and/or organizational chart(s). Identification of specific individuals and/or resumes is not required nor desired as part of this submission but shall be submitted after award as required by the specifications.

c. Describe how the Prime Contractor, Superintendent, CQC Manager, Safety Manager, Construction PM, Designer of Record, and key subcontractors interact during both design and construction.

d. Describe how the DB team coordinates amongst each other and the process that will be used for quality control and quality assurance. Describe how the design/build team interacts/coordinates with outside agencies or public entities (The Fort Smith Air Field Manager, utility companies and local jurisdictions, etc.) during design and construction.

e. The Government will evaluate the Offeror's understanding of renovation projects of this scope and nature. To include the unique requirements of this facility as portrayed in your discussion of design, demolition and construction intent, including but not limited to design procedures/processes, proposed method of construction (i.e. utilities, building design), construction operations (i.e. Requests for Information (RFIs) and Submittal requirements), and quality control process for design and construction. Failure to provide the government with a clear process for working through this design, demolition and construction and a failure to acknowledge the unique challenges a renovation of this nature has will be considered a deficiency by the government.

2. Evaluation Criteria:

a. The Government will evaluate how the prime contractor, designers, and key subcontractors plan to interact during design and construction. The Government will also evaluate how the design/build team plans to interact and coordinate with outside agencies or public entities (AFCEC, USACE, local authority's having jurisdiction and utility companies, etc.) during design and construction. The offeror should provide a clear plan that is easily understandable with effective means of communication with all of these parties. Failure to provide a clear understandable communication plan will be evaluated as a deficiency.

b. Demonstrates a clear understanding of all tasks listed in the Statement of Work that will yield the required results in the required time frame with least impact to continued operation.

c. Demonstrates a clear understanding of existing operations and the ability to

continue operations with the least impact.

TAB D: FACTOR 3 – TECHNICAL SOLUTIONS

This factor considers the types of building systems, especially engineered systems, and their basis of design.

1. Submission Requirements:

<AM#0002> Narrative (NTE six 15 double-sided pages):</AM#0002> Provide technical approach narratives, both qualitative and quantitative, defining the elements of the proposal. The proposed building systems shall meet all applicable codes, standards and criteria as prescribed in the Statement of Work. Narrative should focus on maintenance considerations, energy consumption, and suitability of the proposed systems for the expected usage.

a. Wall Sections & Details: Provide typical building sections, wall sections and appropriate details depicting material quality.

b. The minimum acceptable level of quality for finishes suitable for the expected population and usage. This is an aircraft hangar; the hangar space should have durable finishes that are not easily damaged. Office spaces should have finishes appropriate for the intent of the space. Finishes for office space should be esthetically pleasing, but they shall be economically suitable for the spaces.

c. Mechanical Systems: Describe how the mechanical systems selected provide for a highly efficient environmental control system including information about provisions for indoor air quality in the office spaces and maintenance for the entire project.

d. Plumbing Systems: Describe how the plumbing systems selected provide for a highly efficient water system. The Offeror shall also describe how they plan to provide efficient dispersion of hot water as necessary to break rooms, bathrooms and throughout any other building spaces that may require hot water.

e. Electrical Systems: Describe how the electrical power and lighting systems selected provide for a highly efficient electrical system.

f. Electronic and Communications Systems: Describe how the electronic and communications requirements will be addressed and what features will be provided in the proposed project.

g. Site Utilities and Site Systems: Describe how the site utility systems selected provide for an efficient system. Include information regarding coordination with privatized utility providers where applicable.

h. Interoperability: Describe how systems integrated into the new facilities which require connection and interface with existing Installation wide systems will be accommodated in the proposed project. Narrative should address the following systems

as minimum: Fire Alarm, Telephone, Cable Television, Utility Monitoring & Control System, Mass Notification and privatized utility companies where applicable.

i. Secure Area: Describe how the Special Access Program Facility (SAPF) will be designed and constructed in accordance with relevant standards and regulation to include the Intelligence Community Directive (ICD) / Intelligence Community Standards (ICS) 705 standards and F-35 Facility Requirements Document (RFD).

j. ATFP Considerations: Describe how the proposed materials, systems, and designs address the mandatory building ATFP requirements included in the UFC.

k. Fire Protection/Life Safety Considerations: Describe how Life Safety will be addressed and what fire protection features will be accommodated in the proposed project. Describe fall protection systems.

2. Evaluation Criteria:

a. Demonstrates that the systems and components provide value to the Government and addresses the requirements of the solicitation.

b. The Government will evaluate the information provided for completeness, coordination, approach, aesthetics, technical problem solving, appropriate use of materials, maintainability, and adherence to this solicitation. The Government will evaluate the Offeror's technical solution and narratives for completeness and compliance with Section 01 10 00 requirements. Failure to submit any of the identified narratives, drawings and or organizational chart included in Technical Approach will be evaluated as a deficiency.

c. The offeror may provide roofing upgrades to include the use of IDPM style roofs for the flat roofs and standing metal seam roofs for any pitches 3:1 or greater would be considered a significant strength.

~~<AM#0003> **TAB E: FACTOR 4 – SUSTAINABILITY**~~

~~Sustainability considers, environmental stewardship, and lowered life cycle expenses.~~

~~The Government will evaluate the systems and components proposed in terms of warranties provided, maintenance considerations (frequency, estimated cost, access, equipment locations), operability (ease of use, placement of control features, simplicity), durability (withstand troop usage, ease of cleaning), sustainability, and energy consumption (HVAC, lighting, power).~~

1. Submission Requirements:

Narrative (NTE four (4) double-sided pages): ~~Provide a narrative that describes the following sustainability requirements:~~

~~a. Demonstrates a strategy to fully comply with the Federal High Performance and~~

~~Sustainable Building (HPSB) Guiding Principles (GPs) as specified in the Unified Facilities Criteria 1-200-02 verified by an approved Third Party Certification. The facility shall comply with the Air Force Sustainable Design and Development (SDD) Implementing Guidance, 2 JUN 2011 and the AFCEC A GRAM 17-01, dated February 2017.~~

~~b. Demonstrates a strategy to meet or exceed the requirements of the Guiding Principles Compliance Verification per UFC 2-200-02 Criteria, as administered by the Green Building Initiative.~~

~~c. Demonstrates a strategy to meet or exceed the requirements of Public Law 109-58, Energy Policy Act (EPAcT) 2005, 8 Aug 05.~~

~~d. Demonstrates the understanding of the extents to which UFC 3-210-10, Low Impact Development, current edition, apply to the project.~~

~~e. Demonstrates the understanding of the extents to Guiding Principles for Sustainable Federal Buildings by the Council on Environmental Quality on February 26, 2016 as they apply to the subject project.~~

~~f. Energy Conservation: Describe the strategy to achieve 30% energy savings over the International Energy Conservation Code (IECC) baseline in accordance with UFC 1-200-02 and Energy Policy Act (EPAcT) of 2005 in the proposed project.~~

~~2. Evaluation Criteria:~~

~~a. Demonstrates an ability to meet the requirements of Green Building Initiative Guiding Principles Compliance Verification per UFC 1-200-02.~~

~~b. Demonstrates a strategy and capability to meet a minimum of 30% energy savings from the IECC baseline.~~

~~c. Demonstrates an ability to prepare a Life-cycle Cost Analysis (LCCA) in accordance with CFR Title 10 Part 436, Subpart A and MIST Handbook 135.~~

~~d. Provides an overall demonstrable approach to resource conservation in the areas of material, energy, and water. **Factor 4 removed in its entirety. Remaining factors not renumbered** </AM#0003>~~

TAB F: FACTOR 5 – SUMMARY SCHEDULE

Proposed Contract Duration - The firm shall propose the contract duration for the project, not to exceed the maximum contract duration specified in the CLIN Schedule.

1. Submission Requirements:

Narrative (NTE eight double-sided pages total for the narrative and schedule, 11x17 inch pages are allowed for the summary level schedule and will be counted as a single page): Provide a narrative that describes the following summary schedule requirements:

a. Proposed Contract Duration: The Offeror shall propose the overall contract duration to include all activities identified in the CLIN Schedule not to exceed the maximum contract duration as identified in Section 01 00 00.00 44. The Offeror may propose a phased turnover for features of work if advantageous to the government. The government is requiring the turnover of Building 216 by 30 June of 2026 though the contractor may propose a phased turnover of other facilities as well and the government would evaluate this to determine if this approach is a benefit the government.

b. Summary Schedule: Offerors shall submit a summary level schedule for construction. This project has no options associated with it. This summary schedule will, after contract award, be replaced with a project schedule as required by Section 01 32 01.00 10: Project Schedule. The summary schedule shall be task oriented, indicating the number of calendar days, after notice to proceed, by which milestones are to be achieved. Offeror may use a critical path or other method of his choice; however, schedules shall be graphically represented and shall include, as a minimum, Activity ID, Activity Description, Original Duration, early start and early finish dates, and total float for each activity. The proposed schedule shall include an activity that shows the proposed overall contract duration in calendar days. Give attention to the following features:

(1) Show activities for each feature of work, this includes all CLINS, in sufficient detail to demonstrate an understanding of the scope of work and to substantiate the reasonableness and realism of the proposed duration.

(2) Show submittal preparation and review/approval activities for long lead items to demonstrate an understanding of the submittal process and minimum review times for Government approved submittals.

(3) Show activities and/or milestones for coordination with privatized utility providers during construction, to demonstrate your understanding of the coordination requirements for the contract.

(4) Show turnover of the project within the overall period of performance with Building 216 being turned over by 30 June 2026. Identify any proposed phased turnovers. The time to complete the project and turnover to the Government must consider the requirement for the Contractor's CQC completion inspection and the subsequent joint Contractor-Government turnover inspection.

(5) Show closeout activities, to include the Red Zone meeting, record drawings, and O&M manuals to demonstrate your understanding of the closeout requirements of the contract.

(6) Critical Path: Indicate the anticipated overall critical path on the schedule. The overall schedule shall include key milestones and tasks in succession and duration to project completion.

(7) Describe the approach to address risks that may impact completing the project within the required duration. Clearly describe each risk, mitigation strategy, and

detail an innovative approach if applicable. At a minimum, the narrative shall address long lead items, supply, labor, and logistical risks in current market conditions.

2. Evaluation Criteria:

a. Proposed Contract Duration: The proposed contract duration will become the contractually binding duration for the project at award. The Government will evaluate the contract duration as proposed by the Offeror herein and on the Price Proposal Schedule, not to exceed the maximum allowed duration listed in Section 01 00 00.00 44. ~~<AM#0002> This duration shall also include all options. </AM#0002>~~ In assessing the reasonableness of the proposed contract duration, the Government may take into account how well the proposed summary schedule supports the proposed duration, as well as use other information, such as, but not limited to, independent judgment concerning logic, constraints, and typical construction durations. A proposed contract duration shorter than the maximum allowed duration, or proposed phasing providing for early turnover of facilities, will receive additional rating consideration, provided the schedule is realistic and deemed to be achievable. The Government will consider an unreasonably condensed contract duration, which places additional cost or schedule risk on the Government, or which may create a risk of contract or performance failure, as a significant weakness or a deficiency, depending upon the evaluators' judgment.

b. Summary Schedule:

(1) The Government will evaluate the schedule to assess the strength of understanding of the project scope for integrated design and construction, restrictions which must be considered in the schedule e.g., sequencing of work, long lead items, Government review periods for construction plan approvals and other Government approved construction submittals, closeout activities, etc. A schedule with Government submittal review periods shorter than the minimum specified review period for Government approved construction plans will be considered deficient and will be rated unacceptable.

(2) The Government will evaluate the strength of understanding of events associated with coordinating design submittals, reviews and incorporating review comments, the Offeror's capability to schedule the complete project within the proposed contract duration and the reasonableness and realism of the schedule.

(3) The Government will evaluate the design packaging plan for logic, reasonableness, how it facilitates meeting the proposed contract duration and how it facilitates the Government's ability to timely perform its design reviews. A schedule with Government design review periods shorter than the minimum specified review periods for design submittals will be considered deficient and will be rated unacceptable. The packaging plan shall minimize risk to the Contractor and to the Government for tear-out and coordination for reviews. A schedule that offers advantage(s) to the Government over one that merely indicates an adequate understanding of the scope, restrictions, major milestones, and general understanding of the various events that can affect start and completion of construction will receive additional consideration. Failure to provide a schedule that meets the **880 day** Period of Performance (POP) required will be

considered a deficiency for this factor. Failure to provide for the turnover of Building 216 by 30 June 2026 will also be considered a deficiency for this factor. (Assume start of POP at NTP issued 30 days after award).

(4) The Government will evaluate the processes, procedures, and/or techniques that will be utilized in order to complete construction on schedule. This may be presented as a flow chart, narrative or by any other means in the proposal the Offeror chooses that allows the governments evaluation team to clearly understand the intent of the Offeror. Failure to provide this will be evaluated as a deficiency. Failure to provide a clear and easily understandable process for this will be evaluated as a weakness.

(5) The Government will evaluate the Offeror’s risk mitigation strategies to achieve successful contract performance within the contract period of performance. Narratives failing to identify and address potential long lead items, general market material supply, labor, or logistical risks in current market conditions shall be evaluated as a deficiency. The Government will evaluate whether the risk mitigation strategies are realistic and demonstrates an understanding of how to effectively reduce project risks as it relates to contract performance and schedule.

NOTE: ALL NON-PRICED FACTORS FROM VOLUME 1, WHEN COMBINED, ARE SIGNIFICANTLY MORE IMPORTANT THAN PRICE

TABLE 1 - COMBINED TECHNICAL/RISK RATINGS

Rating	Description
Outstanding	Proposal demonstrates an exceptional approach and understanding of the requirements and contains multiple strengths and/or at least one significant strength, and risk of unsuccessful performance is low.
Good	Proposal indicates a thorough approach and understanding of the requirements and contains at least one strength or significant strength, and risk of unsuccessful performance is low to moderate.
Acceptable	Proposal meets requirements and indicates an adequate approach and understanding of the requirements, and risk of unsuccessful performance is no worse than moderate.
Marginal	Proposal has not demonstrated an adequate approach and understanding of the requirements, and/or risk of unsuccessful performance is high.
Unacceptable	Proposal does not meet requirements of the solicitation and, thus, contains one or more deficiencies and is unawardable, and/or risk of performance is unacceptably high.

TABLE 2 - Technical Risk Ratings

Adjectival Rating	Description
Low	Proposal may contain weakness(es) which have low potential to cause disruption of schedule, increased cost, or degradation of performance. Normal contractor emphasis and normal Government monitoring will likely be able to overcome any difficulties.
Moderate	Proposal contains a significant weakness or combination of weaknesses which may have a moderate potential to cause disruption of schedule, increased cost, or degradation of performance. Special contractor emphasis and close Government monitoring will likely be able to overcome any difficulties.
High	Proposal contains a significant weakness or combination of weaknesses which is likely to have high potential to cause significant disruption of schedule, increased Cost, or degradation of performance. Special contractor emphasis and close Government monitoring will unlikely be able to overcome any difficulties.
Unacceptable	Proposal contains a deficiency or a combination of significant weaknesses that causes an unacceptable level of risk of unsuccessful performance.

Table 3 - Past Performance Relevancy Ratings	
Rating	Definition
Very Relevant	Present/past performance effort involved essentially the same scope and magnitude of effort and complexities this solicitation requires.
Relevant	Present/past performance effort involved similar scope and magnitude of effort and complexities this solicitation requires.
Somewhat Relevant	Present/past performance effort involved some of the scope and magnitude of effort and complexities this solicitation requires.
Not Relevant	Present/past performance effort involved little or none of the scope and magnitude of effort and complexities this solicitation requires.

TABLE 4 - Performance Confidence Assessments	
Rating	Definition
Substantial Confidence	Based on the offeror's recent/relevant performance record, the Government has a high expectation that the offeror will successfully perform the required effort.
Satisfactory Confidence	Based on the offeror's recent/relevant performance record, the Government has a reasonable expectation that the offeror will successfully perform the required effort.
Neutral Confidence	No recent/relevant performance record is available, or the offeror's performance record is so sparse that no meaningful confidence assessment rating can be reasonably assigned. The Offeror may not be evaluated favorably or unfavorably on the factor of past performance.

Limited Confidence	Based on the offeror's recent/relevant performance record, the Government has a low expectation that the offeror will successfully perform the required effort.
No Confidence	Based on the offeror's recent/relevant performance record, the Government has no expectation that the offeror will be able to successfully perform the required effort.

TAB G: FACTOR 6 – SMALL BUSINESS PARTICIPATION PROPOSAL

All offerors, regardless of size status, are required to complete a Small Business Participation Proposal. In accordance with DFARS 215.304(c)(i), the government will evaluate Small Business Participation in source selections for unrestricted acquisitions that require use of FAR 52.219-9, Small Business Subcontracting Plan and is required for this procurement. Offerors shall articulate within their Small Business Participation Proposal how they intend to meet the Small Business Participation Proposal criteria outlined in the solicitation.

1. Submission Requirements:

Narrative: (No page limit for this Factor): Provide a narrative that describes the following Small Business Participation Proposal requirements and criteria:

All offerors shall complete and submit a Small Business Participation Proposal using the format template, Attachment 1 at the end of this section.

Nothing precludes an offeror from further demonstrating their extent of commitment to using small businesses beyond what has been required by this solicitation.

2. Criteria:

a. The Government requirement will evaluate the level of proposed participation of small businesses in the performance to determine which offeror proposes the best value in terms of the contract relative to the percentages and criteria established herein. Failure to submit a Small Business Participation Proposal will be evaluated as a deficiency.

b. All offerors shall articulate the extent to which Small Businesses (SB), Small, Disadvantaged Businesses (SDB), Women-Owned Small Businesses (WOSB), HZ Small Businesses (HZ), Veteran-Owned Small Businesses (VOSB) and Service-Disabled, Veteran-Owned Small Businesses (SDVOSB) that are specifically identified in the proposal.

c. Extent of participation of Small Business firms in terms of percentages based on the total value of the offeror's proposal of the acquisition and the extent to which the proposal meets or exceeds small business participation percentages detailed in paragraph below.

d. Large businesses may achieve their small business participation commitments through subcontracting to small businesses. Small businesses may achieve their small business participation commitments through their own performance/participation as a

prime or through a joint venture, teaming arrangement, and subcontracting to other small businesses.

e. The minimum small business participation percentages are:

- SB: 28% based on total value of proposal
- SDB: 5% based on total value of proposal
- WOSB: 5% based on total value of proposal
- HZ: 3% based on total value of proposal
- VOSB: 5% based on total value of proposal
- SDVOSB: 5% based on total value of proposal

f. Offeror shall describe the extent of commitments to identify firms (if any) in place for this solicitation. Enforceable commitments are weighed more heavily than non-enforceable commitments.

Enforceable commitments must include:

- (1) Firm must be a small business
- (2) Socioeconomic category of the small business
- (3) Services/supplies to be provided by the small business
- (4) Specificity to the subject requirement by indicating the solicitation number on the document
- (5) Legible signature blocks and signatures from BOTH parties authorized to sign on behalf of their respective firm to demonstrate acknowledgement of the business relationship
- (6) Small business firm must be identified on the Small Business Participation Proposal as appropriate

g. The offeror shall describe the use of small business firms providing the following information:

- (1) Name of each small business, include each socio-economic category
- (2) Complexity and variety of work to be performed by small business
- (3) Percentage of work performed by each firm

h. Offerors failing to identify, or severely limit, the supplies/services to be performed may be evaluated as a weakness or deficiency.

i. Past performance of the offerors in complying with the requirements of the clause FAR 52.219-8, Utilization of Small Business Concerns or 52.219-9, Small Business Subcontracting Plan. The Offeror shall provide a narrative describing compliance to small business. The Government will evaluate based on one and/or a combination of the following:

- (1) Reporting of small business performance in CPARS

- (2) History of prompt payments to small business subcontractors
 - (3) Reporting of small business performance in eSRS.
 - (4) Documentation from customers demonstrating use/support of small businesses
 - (5) Documentation of other information to substantiate the use of small business demonstrating the total small business contract completion by the small business prime and/or subcontracting to other small business.
 - (6) Documentation from federal agency customers demonstrating the use/support of small business and/or information substantiating the use of small business subcontractors may be evaluated more favorably.
 - (7) Small Business compliance reviews
 - (8) DCMA Small Business Subcontracting Program reviews
- j. Offerors are encouraged to submit proof of awards, accolades, or similar type documentation received for their current and/or past support of small businesses. The offeror is not limited to the examples provided.
- k. The Government reserves the right to review additional information outside of the evaluation criteria below.
- l. Material submitted in support of the Small Business Participation Proposal shall be logically assembled and organized to facilitate evaluation. The use of hyperlinks in lieu of incorporating information into the proposal remains prohibited. Do not cross-reference materials as the Government will not look to obtain information in support of an offeror's Small Business Participation Proposal from other volumes or within the Small Business Subcontracting Plan (if applicable).
- m. Offerors shall not submit a hybrid plan that includes a combination of elements from a Small Business Participation Proposal (in accordance with DFARS PGI 215.304) and elements of a Small Business Subcontracting Plan (in accordance with FAR 52.219-9) as the two are distinctly different. Doing so will result in a weakness.

3. Evaluation:

a. The submitted Small Business Participation Proposal will utilize the ratings as described in Table 5, Small Business Rating Method based on the following:

(1) Extent of participation of Small Business firms in terms of percentages and the extent to which the proposal meets or exceeds the small business participation percentages as detailed in paragraph above as outlined in the solicitation. Offerors providing less than the percentages outlined above may be evaluated as a weakness or deficiency.

(2) The Government will verify the total value of the offeror's proposal to ensure percentages are consistent as identified in the solicitation. If an offeror's value of their total proposal is inconsistent with the percentages outline in the Small Business Participation Proposal, it may result in a weakness or deficiency.

(3) Extent to which Small Business firms, as defined in FAR Part 19 (Small Business (SB), Small, Disadvantaged Business (SDB), Women-Owned Small Business (WOSB), HUBZone Small Business (HZ), Veteran-Owned Small Business (VOSB) and Service-Disabled, Veteran-Owned Small Business (SDVOSB), are specifically identified in the proposal. The Government will evaluate the firms specifically identified by the Offeror in the submitted Small Business Participation Proposal.

(4) Extent of commitment to use the identified firms. The Government will evaluate the types of commitments in place (if any) for this specific acquisition (small business prime, written contract, verbal, enforceable, non-enforceable, joint ventures, mentor-protégé, teaming agreements, partnership letters of commitment(s), etc.). Enforceable commitments as defined in paragraph above, may be evaluated more favorably than non-enforceable commitments.

(5) Extent to identify the complexity and variety of work small business firms are to perform. The Government will evaluate the meaningful elements of the type and complexity of work to be performed by small business. Offerors failing to identify, or severely limit, the supplies/services to be performed may be evaluated as a weakness or deficiency.

(6) Extent of past performance of the offerors in complying with the requirements of the clauses at FAR 52.219-8 *Utilization of Small Business Concerns* or 52.219-9 *Small Business Subcontracting Plan*. The Government will evaluate based on one and/or a combination of the following:

- (a) Reporting of small business performance in CPARS
- (b) History of prompt payments to small business subcontractors
- (c) Reporting of small business performance in eSRS
- (d) Documentation from customers demonstrating use/support of small businesses
- (e) Documentation of other information to substantiate the use of small business demonstrating the total small business contract completion by the small business prime and/or subcontracting to other small business
- (f) Documentation from federal agency customers demonstrating the use/support of small business and/or information substantiating the use of small business subcontractors may be evaluated more favorably

(g) SBA compliance reviews

(h) DCMA Small Business Subcontracting Program reviews

(7) Offerors with no prior contracts containing FAR clause 52.219-8, and whether negative information has been reported concerning the Offeror's past compliance with FAR 52.219-8 alongside any explanation to address the negative information.

(8) Extent of documentation from federal agency customers demonstrating the use/support of small business and/or information substantiating the use of small business subcontractors may be evaluated more favorably.

b. The government reserves the right to review additional information outside of offer's proposal.

c. The offeror's Small Business Participation Proposal will be evaluated based on Table 5, Small Business Rating Method

=====

Table 5. Small Business Rating Method

Adjectival Rating	Description
Outstanding	Proposal indicates an exceptional approach and understanding of the small business objectives.
Good	Proposal indicates a thorough approach and understanding of the small business objectives.
Acceptable	Proposal indicates an adequate approach and understanding of small business objectives.
Marginal	Proposal has not demonstrated an adequate approach and understanding of the small business objectives.
Unacceptable	Proposal does not meet small business objectives.

VOLUME II: CERTIFICATIONS AND PRICE PROPOSAL

Location	Description
TAB A	The Proposal Cover Sheet
<AM#0001> TAB B	Signed Standard Form 1155 & Acknowledgement of Amendments </AM#0001>
TAB C	Price (FACTOR 7)
TAB D	Section 00 45 00 – Representations and Certifications
TAB E	Joint Venture and LLC (If Applicable)
TAB F	Bid Guarantee (Bid Bond)
TAB G	Financial Information and Bonding Capability
TAB H	Subcontracting Plan (other than small businesses only)

General Instructions. In accordance with Federal Acquisition Regulation (FAR) 15.402 and 15.403-1, certified cost or pricing data are not required based on the fact that adequate competition is expected for this procurement. Information other than certified cost or pricing data may be provided in contractor format providing that sufficient information is made available. Information submitted shall be prepared following the instruction in FAR 15.403-5. If after receipt of proposals the Contracting Officer determines that there is insufficient information available to determine price reasonableness and none of the exceptions at FAR 15.403-1 apply, the Offeror may be required to submit cost or pricing data.

Additionally, in the event that adequate competition is not obtained, the Contracting Officer may incorporate FAR 52.215-20 entitled, "Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data," into the solicitation and request a Certificate of Current Cost or Pricing Data.

There are no page limitations for this volume. Proposal information included in this volume which is not directly related to Price will be disregarded.

TAB A – The proposal cover sheet (Attachment 2) is required by FAR 52.215-1 (c)(2) and must be submitted by all offerors. The format for the proposal cover sheet is as follows:

1. Solicitation Number
2. The name, mailing address, telephone and e-mail address.

3. A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item.

4. Names, titles, telephone and email address of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

5. Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority unless that evidence has been previously furnished to the issuing office.

Offerors should ensure UEI number and CAGE Code are all included for both the Contractor and Designer. UEI number will be used to access CPARS data. Offerors should also provide any other assigned number that identifies them in the CPARS database. If a separate UEI has been created for a Joint Venture (JV) UEI must also be submitted. Also provide any other UEI that identify individual member firms in the JV.

~~<AM#0001> TAB B Standard Form 1155 and acknowledgement of all amendments (Block 19), completed and signed by authorized individual(s) of the offeror. Offers submitted in the name of a Joint Venture must be signed in accordance with the terms and conditions specified in the joint venture agreement as evidenced in the proposal. Signed statement acknowledging each amendment by number. </AM#0001>~~

TAB C: FACTOR 7 – Price . Proposed price schedule is to be completed in its entirety by all offerors to include the Subtotals and Totals section as found in Section 00 10 00 - Solicitation, Contract Line-Item Number (CLIN) Schedule.

TAB D - Section 00 45 00 – Representations and Certifications. Confirm that the Offeror's representations and certifications have been completed in the Online Representations and Certifications Application (ORCA) in accordance with FAR 52.204-8. Submit the representations and certifications not covered by ORCA that are included in Section 00 45 00 of this solicitation, under this tab.

TAB E - Joint Venture and LLC, if applicable. See Section 00 21 00 paragraph F.1.d. Note to 8(a)—SBA must approve a joint venture agreement prior to the award of an 8(a) contract on behalf of the joint venture.

TAB F - Offerors shall provide a fully executed Bid Bond as required by FAR Clause 52.228-1, Bid Guarantee *electronically in Tab F*. This requirement is to be completed regardless of Bid Bond requirement submission located in other parts of these instructions.

For the purposes of this Request for Proposal, please note that IAW FAR 28.001:

“Bond means a written instrument executed by a bidder or contractor (the “principal”), and a second party (the “surety” or “sureties”) (except as provided in FAR 28.204), to assure fulfillment of the principal's obligations to a third party (the “obligee” or “Government”), identified in the bond. If the principal's obligations are not met, the bond assures payment, to the extent stipulated, of any loss sustained by the obligee.”

Bonds shall therefore be executed in the name of the legal entity, whether a joint venture, partnership or the Prime Contractor of an informal teaming arrangement, with whom the Government would enter into a contract for a successful offeror. The entity named on the bond must be able to acquire bonding capacity on its own merits, and not as the result of indemnification from a subcontractor or third party.

TAB G - Financial Information & Bonding Capability (e.g. past three years financial statements, annual reports, Dun & Bradstreet Ratings and/or number, etc.) Provide a list of all current contracts with a value above \$35 Million, total dollar value, award date, anticipated completion, performance and payment bond amount.

TAB H - Subcontracting Plan shall be prepared in accordance with FAR 52.219- Electronic Subcontracting Reporting System (eSRS) located at <http://esrs.gov>. Instructions for completion of requisite forms, as well as guidance on coordinating and preparing for all compliance reviews by Federal agencies can be found at this website. Offerors are to ensure subcontractors agree to submit to ESRS. This will be evaluated for acceptability in accordance with AFARS Appendix DD. Either the contracting officer, the small business representative, or both, shall evaluate and rate the subcontracting plan as “acceptable” or “unacceptable,” in the context of this particular procurement. To receive an “Acceptable” rating, the contractor must satisfy all requirements of 52.219-9 and AFARS Appendix DD. Failure to receive subcontracting plan rating of acceptable could jeopardize the offeror’s selection for contract award.

Compliance. Failure to comply with the RFP requirements for Price information may result in an adverse assessment of an offeror’s proposal and reduce or eliminate its chance of being selected for award. Offerors shall ensure that the information presented in this volume is consistent and correlates with the information contained in the other proposal volumes.

End of Section 00 22 16

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Section 00 22 16
Attachments 1 - 4

ATTACHMENT 1
SMALL BUSINESS PARTICIPATION COMMITMENT DOCUMENT

All Offerors (both large and small businesses) are required to complete a Small Business Participation Commitment Document to be evaluated under Small Business Participation Evaluation Factor. The Offeror shall articulate how the Offeror intends to meet the small business objectives described in the Small Business Evaluation Factor.

Small Business Participation Commitment Document (Form)

(a) Check the applicable size and categories for the PRIME offeror only -- Check all applicable boxes:

- Other than Small Business
- Historically Black Colleges or Universities and Minority Institutions (HBCU/MI)
- American Native Corporation (ANC)
- Small Business Prime; also categorized as a
- Small Disadvantaged Business (SDB)
- Woman-Owned Small Business (WOSB)
- Historically Underutilized Zone (HUB Zone) Small Business
- Veteran Owned Small Business (VOSB)
- Service Disabled Veteran Owned Small Business (SDVOSB)

(b) Submit the total combined percentage of work to be performed by both large and small businesses (include the percentage of work to be performed both by Prime and Subcontractors):

Example: If Prime proposes a price of \$1,000,000, and small business (es) will provide \$250,000 in services/supplies as a prime or subcontractor, the percent (%) planned for small businesses is 25%; and 75% for large business equaling 100%.

Total Percentage planned for Large Business(es)	_____ %
Total Percentage planned for Small Business (es)	_____ %
Total	_____ % (Must Equal 100%)

(c) Please indicate the total percentage of participation to be performed by each type of subcategory small business.

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The percentage of work performed by Small Businesses that qualify in multiple small business categories may be counted in each category:

Example: ACME Corporation (WOSB and SDVOSB) performing 2%; and Williams Group (SDB, HUBZone Small Business and WOSB) performing 3%. Results equate to: SDB 3%; HUBZone 3%; WOSB 5%; SDVOSB 2%; VOSB 2%;). SDVOSBs are also VOSBs automatically; however, VOSBs are not automatically SDVOSBs.

HBCU/Minority Institutions	_____ %
American Native Corporation And Indian Tribe SB	_____ %
Small Disadvantaged Business	_____ %
Woman Owned Small Business	_____ %
HUBZone Small Business	_____ %
Veteran Owned Small Business	_____ %
Service-Disabled Veteran Owned Small Business	_____ %

(d) List principal supplies/services to be performed by Small Businesses:

Example: If a Small Business qualifies also as a WOSB and a SDVOSB, and the Offeror may add them to each category below in which the SB entity qualifies.

Name of Company	Type of Supply/Service
Small Business	
_____	_____
_____	_____
Alaska Native Corporation	
_____	_____
_____	_____

Small Disadvantaged Business

_____	_____
_____	_____

Woman Owned Small Business

_____	_____
_____	_____

HUBZone

_____	_____
_____	_____

Veteran Owned Small Business

_____	_____
_____	_____

SDVOSB

_____	_____
_____	_____

HBCU/MCI

_____	_____
_____	_____

(e) Describe the extent of commitment to use small businesses (for example, what types of commitments if any, are in place for this specific acquisition either – small business prime, written contract, verbal, enforceable, non- enforceable, joint venturing, mentor- protégé, etc.)

Narrative (Limited to one page):

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ATTACHMENT 2 PROPOSAL COVER SHEET

Solicitation Number	
Firm	
Address	
Phone	
Fax	
Email	
UEI Number	
Cage Code	

Also provide any other assigned number that identifies the member firm(s) in the CPARS database. If a separate UEI has been created for a joint venture (J-V) it must also be submitted. Provide a UEI number for each company identified in any proposed Contractor-subcontractor association of firms. If the firm is a joint venture or contractor- subcontractor association of firms, list the individual firms and briefly describe the nature of the association. Provide UEI for each.

Firm 1 _____ Nature of Association _____ UEI _____

Firm 2 _____ Nature of Association _____ UEI _____

Firm 3 _____ Nature of Association _____ UEI _____

Authorized Negotiators IAW FAR 52.215-11 - The Offeror represents that the following persons are authorized to negotiate on its behalf with the Government in connection with this Request for Proposals (RFP).

Name:

Title:

Email:

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Statement specifying extent of agreement with all terms as specified in cover sheet instruction #3 above: _____

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Attachment 3

PAST PERFORMANCE ASSESSMENT WORKSHEET

(To be completed for each project submitted)

CONSTRUCTION OR PRIME CONTRACTOR		PROJECT #	
Offeror:			
Project and Location:			
Was this project performed by the division or unit of the company submitting the offer for W9126G24R10BP:			
Owner:			
Owner's Point of Contact for Reference:		Telephone:	
Awarded Construction Cost:		Final Construction Cost:	
Explain Cost Growth, if any:			
Date of Award:	Original Completion Date:	Revised Completion Date:	Percent Complete:
Explain Time Growth, if any:			
General Scope of Construction and Offeror's Role:			
Work Your Company Self-Performed:		Extent and Type of Work You Subcontracted Out:	
Describe extent of relevancy and complexity of the project. <u>RELEVANCY</u> :			
Provide any additional narrative to support relevancy assessment (in terms of scope, magnitude and complexity as compared to the scope of the solicitation).			

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Your Performance Evaluation by Owner, if known:

**Attachment 4
Past Performance Questionnaire**

NAVFAC/USACE PAST PERFORMANCE QUESTIONNAIRE (Form PPQ-0)

CONTRACT INFORMATION (Contractor to complete Blocks 1-4)

1. Contractor Information

Firm Name:

CAGE Code:

Address:w518ea

DUNs Number:

Phone Number:

Email Address:

Point of Contact:

Contact Phone Number:

2. Work Performed as: Prime Contractor Sub Contractor Joint Venture Other
(Explain)

Percent of project work performed:

If subcontractor, who was the prime (Name/Phone #):

3. Contract Information

Contract Number:

Delivery/Task Order Number (if applicable):

Contract Type: Firm Fixed Price Cost Reimbursement Other (Please specify):

Contract Title:

Contract Location:

Award Date (mm/dd/yy):

Contract Completion Date (mm/dd/yy):

Actual Completion Date (mm/dd/yy):

Explain Differences:

Original Contract Price (Award Amount):

Final Contract Price (to include all modifications, if applicable):

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Explain Differences:

4. Project Description:

Complexity of Work High Med Routine

How is this project relevant to project of submission? (*Please provide details such as similar equipment, requirements, conditions, etc.*)

CLIENT INFORMATION (Client to complete Blocks 5-8)

5. Client Information

Name:

Title:

Phone Number:

Email Address:

6. Describe the client's role in the project:

7. Date Questionnaire was completed (mm/dd/yy):

8. Client's Signature:

NOTE: NAVFAC/USACE REQUESTS THAT THE CLIENT COMPLETES THIS QUESTIONNAIRE AND SUBMITS DIRECTLY BACK TO THE OFFEROR. THE OFFEROR WILL SUBMIT THE COMPLETED QUESTIONNAIRE TO USACE WITH THEIR PROPOSAL AND MAY DUPLICATE THIS QUESTIONNAIRE FOR FUTURE SUBMISSION ON USACE SOLICITATIONS. CLIENTS ARE HIGHLY ENCOURAGED TO SUBMIT QUESTIONNAIRES DIRECTLY TO THE OFFEROR. HOWEVER, QUESTIONNAIRES MAY BE SUBMITTED DIRECTLY TO USACE. PLEASE CONTACT THE OFFEROR FOR USACE POC INFORMATION. THE GOVERNMENT RESERVES THE RIGHT TO VERIFY ANY AND ALL INFORMATION ON THIS FORM.

ADJECTIVE RATINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE
CONTRACTOR'S PERFORMANCE

RATING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective.	To justify an Exceptional rating, identify multiple significant events and state how they were of benefit to the Government. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also, there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with some minor problems for which corrective actions taken by the contractor were effective.	To justify a Very Good rating, identify a significant event and state how it was a benefit to the Government. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets contractual requirements. The contractual performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.	To justify a Satisfactory rating, there should have been only minor problems, or major problems the contractor recovered from without impact to the contract/order. There should have been NO significant weaknesses identified. A fundamental principle of assigning ratings is that contractors will not be evaluated with a rating lower than Satisfactory solely for not performing beyond the requirements of the contract/order.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being evaluated reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	To justify Marginal performance, identify a significant event in each category that the contractor had trouble overcoming and state how it impacted the Government. A Marginal rating should be supported by referencing the management tool that notified the contractor of the contractual deficiency (e.g., management, quality, safety, or environmental deficiency report or letter).

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(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.	To justify an Unsatisfactory rating, identify multiple significant events in each category that the contractor had trouble overcoming and state how it impacted the Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g., management, quality, safety, or environmental deficiency reports, or letters).
(N) Not Applicable	No information or did not apply to you contract	Rating will be neither positive nor negative

TO BE COMPLETED BY CLIENT

PLEASE CIRCLE THE ADJECTIVE RATING WHICH BEST REFLECTS YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

EEXCELLENT VGVERY GOOD SSATISFACTORY MMARGINAL UUNSATISFACTORY NNEUTRAL
--

1. QUALITY:						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N

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2. SCHEDULE/TIMELINESS OF PERFORMANCE:	
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. <i>(If liquidated damages were assessed or the schedule was not met, please address below)</i>	E VG S M U N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E VG S M U N
3. CUSTOMER SATISFACTION:	
a) To what extent were the end-users satisfied with the project?	E VG S M U N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E VG S M U N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E VG S M U N
d) Overall customer satisfaction	E VG S M U N
4. MANAGEMENT/ PERSONNEL/LABOR	
a) Effectiveness of on-site management, including management of subcontractors, suppliers, materials, and/or labor force?	E VG S M U N
b) Ability to hire, apply, and retain a qualified workforce to this effort	E VG S M U N
c) Government Property Control	E VG S M U N
d) Knowledge/expertise demonstrated by contractor personnel	E VG S M U N
e) Utilization of Small Business concerns	E VG S M U N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E VG S M U N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution, and response to Government changes	E VG S M U N
h) Effectiveness of overall management (including the ability to effectively lead, manage and control the program)	E VG S M U N
5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E VG S M U N

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c) If this is/was a government cost-type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (underruns or overruns)	E	VG	S	M	U	N
d) Is the Contractor's accounting system adequate for management and tracking of costs? <i>If no, please explain in the Remarks section.</i>	Yes			No		
e) If this is/was a government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? <i>Indicate if show cause or cure notices were issued, or any default action in the comment section below.</i>	Yes			No		
f) Have there been any indications that the contractor has had any financial problems? <i>If yes, please explain below.</i>	Yes			No		
6. SAFETY/SECURITY						
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the user's rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E	VG	S	M	U	N
b) The contractor complied with all security requirements for the project and personnel security requirements.	E	VG	S	M	U	N
7. GENERAL						
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM, or Contracting Officer in a timely manner regarding urgent contractual issues).	E	VG	S	M	U	N
b) Compliance with contractual terms/provisions (<i>explain if specific issues</i>)	E	VG	S	M	U	N
c) Would you hire or work with this firm again? (<i>If no, please explain below</i>)	Yes			No		
d) In summary, provide an overall rating for the work performed by this contractor.	E	VG	S	M	U	N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk (please attach additional pages if necessary).

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End of Section 00 22 16 Attachments

01 10 00

AMENDMENT #0002
AMENDMENT #0003

STATEMENT OF WORK – DESIGN / BUILD REQUEST FOR PROPOSAL (D/B RFP)

PART 1 PROJECT DESIGN CRITERIA

All applicable Federal, State and industry standards, including those not referenced, constitute design criteria for this project. This scope of work presents requirements for various renovations in five facilities located at Ebbing Air National Guard Base (ANGB) in Fort Smith, Arkansas. The five facilities are B201, B202, B214, B216, and B218.

1.1 Design Requirements

Comply with the requirements stated in this Scope of Work document and all applicable codes and regulations. Reference to Attachment A for a list of Industry and Military Criteria and Governing Codes. Comply with versions that are the most current at the time of the solicitation of this design-build contract. In the event of a conflict between requirements, the most stringent applies. The complete library of Unified Facilities Criteria (UFC) and Unified Facilities Guide Specifications (UFGS) is located at: <http://www.wbdg.org>. Also reference the United States Army Corps of Engineers (USACE) Engineering Construction Bulletins (ECBs) at <http://www.wbdg.org/ffc/dod/engineering-and-construction-bulletins-ecb> for recent updates.

1.1.1 Design Criteria

Facility design, materials, equipment, and installation must be in accordance with the requirements of listed codes, design manuals and military criteria (see Attachment A), and in conjunction with industry standard criteria, material and efficient practices. The latest version of building codes may be used as design guides as long as there are no conflicts between standards. In the event of conflicts, the Military and Industry standards take precedence. The building design and the materials selected must meet the specifications set forth in this Request for Proposal (RFP). Contractor is responsible for the code compliance, technical accuracy and coordination of all designs, drawings, specifications, and other documents or publications upon which the design and construction are based.

1.2 Design Submittal

Provide electronic design files for the project as part of design and construction responsibilities. Follow all guidelines, references, and indications in this report when preparing a bid proposal and when designing the five facilities at Ebbing ANGB. Deliver drawings, specifications, calculations, and details as required for a complete construction document package.

PART 2 GENERAL

2.1 General Conditions

Provide all supervision, labor, materials, equipment, supplies, and transportation necessary to perform the work specified within this Design Build Request for Proposal (DB RFP). The Contractor must be the architect/engineer and constructor of record on this project. For design and construction, utilize an integrated approach that meets the requirements of this RFP while, at the same time is cost effective and establishes synergy among the systems and spaces applicable to the structures as a whole. The design of all architectural and engineering features must be accomplished, reviewed, and approved by professionals licensed to practice in their respective professional field in the United States. Deliver a complete design and do not assume that the provided design criteria and drawings in this solicitation alleviate responsibility of performing any additional design as required to produce a complete set of construction documents.

Employ all design and construction criteria, including but not limited to industry and military criteria and governing codes, from the most current version of the reference that aligns with the date of issue of the solicitation for the design-build contract. The exception to this is if a Unified Facilities Criteria (UFC) document references a specific date of issue of a code or guide referenced therein.

The magnitude of construction for this project is \$25M - \$100M.

2.2 General Facility Descriptions

Construct the five facilities at Ebbing ANGB in accordance with all current and applicable codes. This includes, but is not limited to, accessibility complying with the Architectural Barriers Act (ABA), life safety, fire separations, energy, OSHA, Unified Facilities Code (UFC), and building codes, etc. A brief description of each building is listed below. A detailed description of the scope of work follows this section and is organized by technical discipline. Reference Attachment C for additional requirements.

Building 201 is an existing fire station being repurposed as a storage warehouse facility in support of the F-16 mission. The existing facility is 9,563 gross square feet. The exterior façade requires minor repairs and modification. The interior requires extensive demolition of non-load bearing walls and finishes. Remove and replace all interior finishes.

Building 202 is an existing three-bay hangar with administrative and support spaces. The hangar was originally designed in 2008 to support the A-10 mission and has since been decommissioned. The goal of this project is to renovate the 30,098 gross square foot facility to support the F-16 mission and to restore the three hangar bays to their original functions (Bay 1: Fuel Cell, Bay 2: General Purpose Maintenance, and Bay 3: Wash Bay). As part of this project, renovate existing support functions for current mission needs. The exterior façade requires minor repair. The existing interior configuration is to remain; however, minor modifications are required to meet current code requirements and specific mission needs. Remove and replace the majority of the interior finishes.

Building 214 will be repurposed to an engine repair shop and requires overall repair and renovations of the entire 12,962 SF facility. On the exterior, replace translucent panels and exterior doors. Replace roof. Repair and repaint the existing canopies located to the west and provide a new metal roof. The interior requires minor reconfiguration and the inclusion of a new conditioned parachute room.

Building 216 was originally designed as shop facility with the interior configured with large shop spaces, classroom, office, and support spaces. Renovate and restore to its original function the 17,500 gross square foot facility in support of the F-16 and F-35 missions. The exterior requires minor repair and modification. Provide an approximately 1,400 gross square foot addition to accommodate a distinguished visitor's (DV) meeting area. Add a screen wall on the south side of the sidewalk from the parking lot to the building to screen the view of the service vehicle parking area. This facility will have two secure areas; the first a United States Secret Clearance Access Area in accordance with DoDM 5200.01 V3, and the other to provide Special Access Program Facility (SAPF) space for F-35 secure operations in accordance with the Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities – IC Tech Spec for ICD/ICS 705 (ICD705) and the F-35 Lightning II Functional Requirements Document (FRD). Refer to Room Data Sheets and Conceptual Drawings. Selective demolition of interior partitions and modification of structural walls are required to create the spatial relationships of the new mission's program.

Building 218 was originally a 3,359 gross square foot low-slope pre-engineered metal building (PEMB). A 4,420 gross square foot addition was constructed circa the early 2000's. The facility will be extensively repaired and renovated. The original facility with a low slope roof is susceptible to water infiltration. Field observations show no air/vapor barrier has been installed in the original facility wall system and the roof system requires replacement. Remove and replace the exterior envelope (roof panels, metal wall panels, doors, and windows) to meet current codes and prevent further water infiltration. Reconfigure partition walls for the new layout. Design a hardened pyro room to meet material explosive classification as defined within Section 3.7.13 of this RFP. The existing addition requires minor repair work and replacement of damaged glazing

PART 3 TECHNICAL REQUIREMENTS

3.1 General

See below for the building locations and Attachment C for the project location. Coordinate construction limits with Base Civil Engineer Squadron to minimize impact on Base operations. Provide fencing and/or barriers to secure the work area from the airfield, apron, and sunshades.

3.1.1 Existing Conditions

3.1.1.1 Site

This project consists of the renovation of five (5) buildings (B201, B202, B214, B216, and B218) at Ebbing ANGB, Fort Smith, Arkansas.



Figure 3.1.1.1-1 - Building Locations

3.1.1.2 Surface Conditions

- 3.1.1.2.1 Building 201 is an existing fire station. It is currently bordered by aircraft or vehicular concrete pavement on the south and east sides. The north and west sides are primarily concrete sidewalks, bordered by areas of lawn.
- 3.1.1.2.2 Building 202 is bordered on the north, east, and south sides by aircraft or vehicular concrete pavement, and on the west by concrete sidewalks and vehicular pavement. There is an area of lawn on the west side of Building 202.
- 3.1.1.2.3 Building 214 is bordered on the north, east, and west sides by concrete vehicular pavement. The area to the south is lawn.
- 3.1.1.2.4 Building 216 is bordered on its north side by a rectangular concrete flume that separates it from a parking lot and an area of lawn. The east side is bordered by concrete sidewalk that separates it from the lawn area. The concrete flume continues down the east side of the building, separating it from Building 218. The south side of the building is bordered by concrete pavement, with a section having a landscaped strip adjacent to the building. The southern portion of the west side is adjacent to the service yard parking area. The northern portion of the west side is a landscaped area. The landscaped area is separated from an elevated parking area by a V-shaped concrete channel that connects to the rectangular concrete flume. The primary access to Building 216 is from steps from the elevated parking lot.
- 3.1.1.2.5 Building 218 is bordered on the north side by a landscaped area and parking lot. The northern portion of the east side is landscaped, changing to concrete pavement for the south east area. The south side is concrete pavement and the west side is the landscaped area and drainage flume separating Building 218 from Building 216.

3.1.1.3 Utility Services

All of the buildings currently have utility services. Existing utility service information was provided by Ebbing ANGB GIS data. Only Buildings 202 and 216 have fire water service. There are no known deficiencies in utility services.

3.1.1.4 Drainage

The site currently drains by surface and storm drain. Add splash blocks to all downspouts that discharge to grade. Replace the V-shaped channel at Building 216 with a rectangular flume in the area of the addition to improve drainage. Reroute existing downspouts in the area of the Building 216 addition to the flume.

3.1.1.5 Fire Hydrants

Adequate fire hydrants are available to serve the facilities. All buildings are served by at least two fire hydrants.

3.2 Civil Design

3.2.1 Demolition

Demolition activities are needed as a part of the addition to Building 216. In addition to removing two trees and the horseshoe pits, remove and replace approximately 165 linear feet of the existing V-shaped channel.

The proposed addition to Building 218 is in an area of existing concrete aircraft pavement which must be sawcut and removed. Only sawcut at existing joints. Perform concrete pavement demolition in a manner that prevents damage to the existing pavement to remain. Repair any damage to existing pavement at no cost to the Government. Extend the limits of concrete pavement and subgrade removal beyond the addition footprint to an existing pavement joint.

3.2.2 Site Design

Building 201's site work is limited to trenching and restoration for the fire water service connection. There is no site work proposed for Building 202. Building 214's site work is limited to trenching and trench restoration for the fire water service connection. Site design for Building 216 includes adding approximately 165 linear feet of rectangular concrete flume along the west side of the addition, and a brick screen wall separating the building access sidewalk from the service vehicle parking area. Site design for Building 218 is limited to grading and replacement of aircraft paving removed for the new addition.

3.2.2.1 Design Responsibility

Design and construct the site and facilities within the specific site responsibility areas defined.

3.2.2.2 Existing Conditions

Accept the site as-is and be solely responsible for any field survey work required for verification, design, and construction. Do not waste excess soil from within the work area without written approval of the Contracting Officer Representative (COR).

3.2.2.3 Field Office and Laydown Area

Provide a field office and lay down area in accordance with UFGS specification requirements. Use of B201 and B202 for field office and laydown areas is allowed. Stage/phase construction such that new finishes are not damaged.

3.2.2.4 Permanent Utility Connections

Connect all utilities from the buildings to the service lines. All buildings are sub-metered for electricity and natural gas. The Base does not sub-meter for water or sewer.

3.2.2.5 Post-Construction Site Restoration

Upon completion of the project, remove all trailers, materials and equipment. Restore to original or better condition areas used for the storage of equipment or material, or construction use. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil, sodding, and seeding as necessary.

3.2.2.6 Temporary Utilities

All temporary utilities are the responsibility of the Contractor. Provide temporary utility services in accordance with UFGS Specification 01 50 00.

3.2.3 Base Utility Information and Design Requirements

On-site utilities are the responsibility of the Base Civil Engineer Squadron. Water and sanitary sewer services to the Base are provided by Fort Smith Utilities Department (FSUD). FSUD provides water service to the water tower; Ebbing ANGB is the water service provider after the water tower. Ebbing ANGB provides sanitary sewer collection on the Base and connects to a FSUD main. Coordinate and plan utility information with the Installation's Civil Engineer Squadron. Obtain a dig permit prior to construction. Verify utility locations and sizes prior to digging. Bring any discrepancies between the drawings and actual conditions to the COR's attention. Determine if the existing services serving the buildings are adequate for the new distribution within the building. Reference Section 3.8 of this RFP for information on electrical utility scope of work.

3.2.3.1 Specification and Regulation Compliance

Comply with Unified Facilities Criteria and Arkansas Department of Environmental Quality specifications and regulations for utility design and construction. Where utilities are not owned by the Installation, comply with the specifications and regulations of the individual utility owner. Comply with Arkansas Department of Environmental Quality regulations regarding the minimum separation distance between water and sanitary sewer facilities.

3.2.3.2 Water

Water distribution and service is owned and operated by the Base. All of the buildings have water meters. Design and install all water systems in accordance with appropriate Unified Facilities Criteria and state of Arkansas regulations. Water distribution systems must conform to all Federal and State Requirements. Where there is a conflict between specifications, the most stringent applies.

3.2.3.2.1 Water Service: Verify current service and the projected redesign loading of the buildings. If required, provide a new water service connection between the buildings and the water main on the buildings. Domestic service and the fire service must be separate taps from the main. Provide shutoff valves on all new domestic water service lines.

3.2.3.2.2 Fire Service Line: Provide a new fire service line connection between B201, B214 and B218 and the existing water mains. Place a Post Indicator Valve (PIV) on the fire line. Wall-mount the PIV on the building. Install new Fire Department Connections (FDCs) for B201 and B214. Meet the requirements of UFC-3-600-01 for location of the FDC relative to a fire hydrant. Locate all FDCs within 150 feet of a fire hydrant.

3.2.3.2.3 Fire Hydrants: No new fire hydrants are required.

3.2.3.3 Sanitary Sewer:

No issues have been reported with the existing laterals. No site sanitary sewer work is required.

3.2.3.4 Natural Gas

Based on current service and the projected redesign of the buildings, it is anticipated that the existing natural gas service is adequate.

3.2.4 Siting

Comply with UFC 3-201-01 Civil Engineering and UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings for site design. Verify that the exterior of the building complies with UFC 3-600-01 Paragraph 2-10, Fire Department (Emergency) Vehicle Access. Meet the requirements of ASHRAE 189.1 Section 5.3.2.1 for site hardscaping (sidewalks, courtyards, parking areas, and accesses.)

3.2.5 Site Grading

Verify exterior elevations versus the addition finished floor elevation of Buildings 216 and 218 to provide positive drainage away from the structures. Finish the grade adjacent to the building in accordance with UFCs and geotechnical engineering recommendations and requirements. Slope site grading to drain away from the building and door openings. Convey runoff to existing ditches or piped drainage systems. Slope non-paved drainage away from the building and structures with a minimum of 5 percent slope and a maximum of 10 percent slope at a horizontal distance of 10 feet. Where applicable, provide a drop of 6 to 8 inches at personnel doors without structural stoops. Do not use single riser steps. When steps are required, provide at least three risers and handrails. Meet the requirements of Table 3.1 in UFC 3-201-01, Civil Engineering for all grading. Resolve existing drainage issues at the north end of B218 where the landscape bed adjacent to the building is lower than the sidewalk, trapping water against the building.

3.2.6 Geotechnical

Include on the team a licensed geotechnical engineer to develop earthwork and foundation requirements and design parameters on which to base the proposal. Present foundation type, pavement and earthwork requirements on which the bid is based in the proposal along with the resume of the geotechnical engineer. Subsequent to award, perform and provide a complete geotechnical exploration of the proposed site to develop the final design. Perform the geotechnical exploration under the direction of a licensed professional engineer with at least 10 years of experience specializing in geotechnical engineering. This exploration is the full responsibility of the Contractor and detailed requirements are outlined below.

3.2.6.1 Final Geotechnical Evaluation after Award

Submit a final geotechnical evaluation report prepared by a licensed geotechnical engineer with the first foundation design submittal. This report must summarize the subsurface conditions; provide recommendations for the design of appropriate foundations, floor slabs, retaining walls, embankments, and pavements. In the report, recommend the type of foundation system to be used, lateral load resistance capacities for foundation systems, allowable bearing elevations for footings, grade beams, and slabs. Provide an assessment of post-construction settlement potential including total and differential settlement. Provide recommendations regarding lateral earth pressures (active, at-rest, passive) to be used in the design of retaining walls. Include the Site Class for seismic design along with an evaluation of any seismic hazards and recommendations for mitigation, if required. Include calculations to support the recommendations for bearing capacity, settlement, and pavement sections. Include supporting documentation for all recommended design parameters such as Site Class, shear strength, earth pressure coefficients, friction factors, sub-grade modulus, and California Bearing Ratio (CBR). In addition,

provide earthwork recommendations, expected frost penetration, expected groundwater levels, recommendations for dewatering and groundwater control, possible presence of any surface or subsurface features that may affect the construction of the project such as karst geohazards, sinkholes, boulders, mustow rock, old fill, old structures, soft areas, or unusual soil conditions. The geotechnical recommendation report must be sealed by the engineer of record, who must be licensed as a civil engineer and must have at least 10 years continuous experience in the region. Experience must include evaluation for potential shrink-swell movements of the subsurface materials.

3.2.6.2 Dewatering

In the report, determine project dewatering requirements. If temporary construction dewatering is required due to a high water table, the prepare and present a dewatering plan. Secure all the required information necessary for the design of the system.

3.2.6.3 Additional Borings

Sample any borings with a split spoon sampler in accordance with ASTM D-1586, with samples visually classified at 1.5-foot intervals in accordance with the Unified Soil Classification System (ASTM D 2487). Record the depth to water and Standard Penetration Blow counts. Provide a dated drilling log for each boring drilled. On the contract drawings, present soils information obtained from field logs, laboratory test and geologist's logs in the form of boring plan, final boring logs and explanatory notes.

3.2.6.4 Certification of Compliance with Final Geotechnical Evaluations

Certify in writing that the design of the project has been developed consistent with the geotechnical engineer's final geotechnical report. The certification must be stamped by the consulting professional geotechnical engineer and submitted with the first design submission. If revisions are made to the initial design submission, provide a new certification with the final design submission.

3.2.6.5 Pavements and Parking

Provide in the geotechnical report rigid pavement design(s) including design CBR and modulus of sub-grade reaction and the required compaction effort for sub-grades. Offer information on the types of base course materials available in the area and their design strengths. Include pavement designs in the report. Comply with appropriate Unified Facilities Criteria for the pavement design, including UFC 3-201-01 Civil Engineering and UFC 3-250-01 Pavement Design for Roads and Parking Areas, UFC 3-260-02 Pavement Design for Airfields, and UFGS 32 13 14.14 Concrete Paving For Small Airfield Projects. Conform to one of the following for pavement design: 1) the USACE Pavement Transportation Computer Assisted Structural Engineering (PCASE) program or 2) American Association of State Highway and Transportation Officials (AASHTO) standard pavement design procedures. Base the design thickness on the soils boring data taken for this project. Do not include increased stiffness from subgrade modification in the pavement thickness design. Use a minimum flexural strength of 650psi for concrete pavement design. Submit a complete and detailed pavement analysis for each design pavement section. The link to Corps Guidance Documents is <http://www.usace.army.mil/publications/>. Specific aggregates for aircraft paving may not be available from local sources.

3.2.6.5.1 Section Thicknesses: Conform to the specified requirements for the pavement design section thickness.

3.2.6.5.2 Portland Cement Concrete (PCC): Regardless of the geotechnical report pavement design, a minimum rigid concrete pavement section for areas required to support fire trucks and organizational vehicles and equipment traffic must consist of at least 8 inches of rigid concrete pavement, on 4 inches of aggregate base course, on 4 inches of aggregate subbase. The minimum rigid concrete pavement design for areas required to support passenger automobile traffic must consist of at least 6 inches of rigid concrete pavement, on 4 inches of aggregate base course, on 4 inches of aggregate subbase.

3.2.7 Landscaping Design

Project landscaping is to be limited to soil stabilization with seeding or sod and tree replacement. Replace trees as required in Specification Section 01 35 10.00. Match existing grass species.

<AM#0003>

3.2.8 Curbs and Gutters

Provide contraction joints spaced every 10-feet maximum unless otherwise indicated. Cut contraction joints 3/4-inch deep with a jointing tool after the surface has been finished. Provide expansion joints 1/2-inch thick and spaced every 100-feet maximum unless otherwise indicated.

</AM#0003>

3.2.9 Civil Design Antiterrorism (AT) Measures

Comply with the minimum standards in the AT UFC for the building construction. Eliminate locations of concealment. Design any recessed areas, concealed spaces, and landscape features on the exterior of the buildings with security in mind. Include well-lit alcoves and avoidance of large objects in the landscaped areas. Provide interesting visual features while still providing a safe, accessible and secure environment.

3.2.9.1 Landscape

Do not install landscaping items that could conceal packages within the unobstructed space of the building, per UFC requirements. Provide lockable or screw-type systems for structures, like manholes, located within the unobstructed space of the building to deter opening by unauthorized personnel. Locate trash receptacles and dumpsters outside of the building's unobstructed space per UFC requirements.

3.2.9.2 Flightline Access

Provide Access Control (ACS) and Intrusion Detection (IDS) systems infrastructure in the facilities to control access to the flightline. B201 and B218 require emergency exits that discharge to the flightline. Alarm these doors to deter unauthorized access. The hangar bays of B202 are considered part of the controlled area and do not require additional security measures for egress doors accessing the flightline.

3.2.9.3 Utility Enclosures

Secure electrical transformers and mechanical equipment placed within the building's unobstructed space per UFC 4-010-01 requirements. Although B201 is exempt from the minimum antiterrorism standards, replace the existing utility enclosures with six sided enclosures.

3.3 Architectural Design

3.3.1 General Description

The proposed design for the five facilities at Ebbing ANGB, and their associated site development is indicated in Attachment B. The drawings included in this RFP are conceptual in nature but have been developed with input from the facility users and the Installation to reflect their preferences and requirements. Consider the functional relationships between all buildings to ensure items such as sidewalks, entryways, and building facades enable and enhance interactions of the facilities supporting the F-16 mission.

3.3.1.1 Building 201 Modifications are as follows:

- a. Convert B201 from a fire station to a storage facility in support of the F-16 mission.
- b. Perform minor repairs and selective demolition.
- c. Remove and replace all exterior control and expansion joint sealants.
- d. Completely replace the SSMR system down to structural decking. The original roof is a low-slope roof with parapet. Structure was previously added to support the current standing seam metal roof (SSMR). Refer to the SSMR requirements provided in the roofing section below.
- e. Remove all windows and infill with CMU block with brick veneer to match adjacent construction. Give special attention to waterproofing and flashing at all infilled sections.
- f. Replace six overhead doors; three located on the east elevation and three on the south elevation. The replacement doors are to be solid insulated sectional panels. Sections with vision panels or glazing will not be accepted. The existing rails and motors are in good working order. Contractor may reuse the existing motors provided that a warranty for the replacement doors is provided.
- g. Remove the existing glazed paired entry doors on the south façade. Infill opening with CMU block and brick veneer to match adjacent construction.
- h. Remove the north existing apparatus bay personnel door. Infill opening with CMU and brick veneer to match adjacent construction.
- i. Remove existing west glazed entrance door system and replace with flush insulated metal doors. Paint new doors and new insulated metal frame.
- j. Remove all wood fencing at the existing utility enclosures. Provide metal wall panels and doors that match the utility enclosures near B202. The brick pilasters are to remain. All utility enclosures are within the 33-foot unobstructed space and require a new chain link top in accordance with the construction requirements in UFC 4-010-01.
- k. Provide an ABA compliant single occupant restroom with an ABA compliant water closet, grab bars, lavatory, mirror, service sink, and plumbing accessories. <AM#0003> Renovate the existing ~~sleeping room~~ restroom, labeled Room 117 on the concept plans, to provide the minimum plumbing fixtures in accordance with UFC 3-420-01. </AM#0003>
- l. Demolish interior partitions as indicated in the attachments. Provide double door widths to accommodate a pallet jack at openings in the existing structural walls that are to remain.
- m. Provide a dedicated telecommunications room (TR). The existing facility does not currently have a dedicated TR. There is a comm rack in the existing conference room. Refer to the Telecommunications section of this RFP for additional information.

- n. The existing electrical room is centrally located. The electrical room is to remain. Refer to the Electrical section of this RFP for additional requirements.
- o. Provide all new finishes inside the facility.

3.3.1.2 Building 202 Modifications are as follows:

- a. Repair and renovate facility to restore the original function as an aircraft fuel cell, general purpose maintenance, and wash bay hangar facility in support of the F-16 mission.
- b. Minor repairs, modifications, and selective demolition are required.
- c. Add new egress doors in the hangar bays to meet current life safety and UFC requirements.
- d. Add new emergency shower/eyewash stations in the hangar bays, paint booth, and tank bay.
- e. The SSMR system is existing to remain. A roof replacement is not in scope for B202. Repair existing gutter and downspout at the covered personnel entry. Repair water damage seen at brick veneer in this location.
- f. Provide new fall protection system for the F-16 parked in the tail-in configuration for three bays.
- g. Infill existing door connecting the Men's Restroom to Bay 1.
- h. Reconfigure administrative section north of Hangar Bay 1 to provide a support tool crib and supervisors office.
- i. Provide three overhead doors at the support counter.
- j. Repurpose space within the existing fire pump room created by demolishing foam suppression equipment as a new, enclosed storage room. Provide access via the main corridor. Provide fire rated assemblies as required by NFPA.
- k. Convert two existing CMU block storage rooms in Bay 1 to Secret Collateral Vaults (US Vault and RSAF Vault). The perimeter construction of the rooms will serve as the vault enclosure. The existing CMU block walls will remain. Replace the existing metal deck ceiling and associated structure with a cast-in-place concrete ceiling. Infill overhead door openings with CMU block and provide a new GSA vault door for each vault. No caged day gate is required. Refer to the Concept Design Drawings for additional information.
- l. Convert the existing janitor room and laundry room to a single storage/janitor room. The existing service sink is to remain to satisfy minimum plumbing fixture requirements.
- m. Provide two 5-ton bridge cranes with a 22'-0" minimum hook height. Provide one bridge crane in Bay 2 and a second bridge crane in Bay 3. Provide independent structural columns, new footings, and rails for the bridge crane. Coordinate overhead clearances of the bridge crane model selected with other systems, such as fall protection. The bridge crane coverage area is limited by the existing storage rooms and ramps. Provide a coverage area to the maximum extent possible. The user will primarily use the bridge crane over the nose end of the aircraft in the parked position.
- n. Repair and recertify the existing hoist in the tank bay.
- o. Disassemble, ~~and~~ remove, and dispose of ~~all~~ existing equipment and materials in the paint booth room. Provide new finishes – refer to the Room Data Sheets for additional information. Replace the existing paint exhaust/ventilation fans in kind. ~~All ductwork associated with the paint room exhaust system is to be removed and replaced with new ductwork. Repair to ductwork that is associated with the replacement of the fans and connection to the new paint booth.~~ Disconnect all infrastructure from the existing paint booth. ~~capping and~~

~~protecting during construction, and prepare all existing building/infrastructure systems for connection by Government.~~ </AM#0003> New paint booth equipment will be Government provided and Government installed (GFGI). Coordinate infrastructure connection and scheduling requirements with the Contracting Officer Representative (COR) for new paint booth equipment.

3.3.1.3 Building 214 modifications are as follows:

- a. Patch and repair areas resulting from demolition work to match adjacent surfaces and finishes.
- b. Code upgrades are required, including stairs, handrails, fire separations, and a new communications room.
- c. Remove the offices on the mezzanine and replace with a new conditioned structure. Upgrade the mezzanine stairs to meet NFPA 101.
- d. Recondition existing spaces along the plan south of the facility to be storage spaces.
- e. Demolish the restrooms and upgrade to ABA compliant facilities. Provide a new janitor closet adjacent to them. Meet International Plumbing Code requirements for all fixtures.
- f. Install new fuel resistance resinous five coat epoxy hangar flooring in accordance with UFC 4-211-01 for ground floor areas identified in the room data sheets.
- g. Install a new conditioned parachute room with table for rigging and access to storage along the north portion of the facility.
- h. Replace the exterior doors of the facility. They have impeded functionality due to excessive corrosion. <AM#0002>~~The two large main service doors in the work bay are in good working order and to remain.~~ </AM#0002>
- i. Minor upgrades and repairs to the envelope are required. Remove and replace the insulation along the work bay, roof, and walls. Replace the existing translucent panels with new.
- j. Reference demolition section of this RFP for demolition scope. Reference roof and exterior wall requirements section of this RFP for the percentage of the exterior envelope to be replaced.
- k. Existing cranes are to remain. Inspect, service, test, and certify the existing crane. Load capacity is unknown.
- l. Existing clerestory windows are to remain.
- m. Existing canopies located to the west are to remain and require minor repairs including repainting and replacing the metal roof.
- n. Provide a new hydrostatic low slope standing seam metal roof.
- o. Patch and repair areas resulting from demolition work to match adjacent surfaces and finishes.
- p. Remove all existing exterior doors as noted on the concept drawings.

3.3.1.4 Building 216 work includes but is not limited to:

- a. Construct a new addition with a low slope roofing system. See civil site design section of this RFP for site work requirements.
- b. Configure restrooms and showers per ABA.

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- c. Provide a United States Secret Clearance Access Area – U.S. Secret Clearance Open Storage Area (Secure Room) in the northwest corner of B216 in accordance with Department of Defense Manual (DoDM) 5200.01 Volume 3, DoD Information Security Program: Protection of Classified Information.
 - d. Provide a Special Access Program Facility compliant with F-35 Facility Requirements Document / TEMPEST Area in accordance with UFC 4-010-05 SCIF/SAPF Planning, Design, and Construction and UFC 4-026-01 Design to Resist Forced Entry. Coordinate design, construction, and accreditation with Ebbing ANGB AR Site Security Manager (SSM) and Accrediting Official (AO).
 - e. Construct a simulator area and F-35 admin offices.
 - f. Construct a command suite and large conference room.
 - g. Provide new interior finishes and repair existing walls and floors to receive new finishes.
 - h. Infill exterior wall at overhead doors and louvers.
 - i. Replace existing roof.

3.3.1.5 Building 218 modifications are as follows:

- a. Provide new exterior envelope consisting of walls, roof, doors and glazing to align with existing low-slope PEMB structure to meet current codes.
- b. Construct a new 972 square foot facility expansion with a 240 square foot exterior overhang entry to the flight line to meet new program requirements.
- c. Include a new communication room in the building expansion area.
- d. Minor work to the large assembly room is required. Adjust the space to provide new sinks, refrigerators, and counters for microwaves to store personnel food and heat meals.
- e. Provide new ABA-compliant restroom facilities, showers, and an adjacent janitor closet. Provide all plumbing fixtures in accordance with International Plumbing Code requirements.
- f. Reconfigure partition walls in the existing circa 2000's expansion to meet RSAF program needs.
- g. Provide a hardened pyro room to be designed to meet the material explosive classification.
- h. Provide upgrades to fire separation partitions as required.
- i. Patch and repair areas resulting from demolition work to match adjacent surfaces and finishes. Reference demolition section of this RFP for requirements.

3.3.2 Demolition

The plans in Attachment B show the intended demolition extents. Inventory and coordinate with Contracting Officer Representative (COR) turn-over to the Government of any and all removed equipment. Dispose of any equipment not returned to the Government.

3.3.2.1 Building 201

- a. Demolish all equipment associated with the existing fire station as well as many interior partitions. Refer to attachments for additional information.

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- b. Retain mechanical spaces and the single occupant restroom in their current locations.
 - c. Remove existing concrete locker pad and repair concrete slab as required to provide a smooth finished surface along the west wall of the existing apparatus bay.
 - d. Remove all plumbing fixtures in the facility.
 - e. Remove all millwork and finishes in the facility.
 - f. Remove existing mezzanine and associated structure/stairs in the existing northeast apparatus bay.
 - g. Remove existing curb in the north restroom that currently holds the washer and dryer. Remove and cap all associated utilities.
 - h. Remove all existing windows, glazed openings, and frames.
 - i. Remove all existing overhead doors. Track and motors are to remain for reuse.
 - j. Remove existing south entrance doors and north apparatus bay door and prepare for infill.
 - k. Remove and replace existing west entrance door.

3.3.2.2 Building 202

- a. Minor reconfiguration is required. Refer to Attachment B Concept Design Drawings.
- b. Remove all non-loading bearing screen walls that were constructed in the tank bay, bay 1, and bay 2.
- c. Remove and prepare to infill the east personnel door in bay 1.
- d. Remove and prepare to infill the personnel door connecting the men's restroom to bay 1.
- e. Remove all existing utilities, shelving, brackets, etc. in the laundry room. Demolish partitions as shown in Attachment B between the laundry room and the adjoining janitor room.
- f. Remove all existing millwork, fixtures, appliances, and utilities for the kitchenette in the administrative room north of bay 2.
- g. Remove interior overhead doors for the two storage rooms in bay 1 and the overhead door in bay 3. Prepare to infill with CMU block and specified doors.
- h. Remove existing framing and metal decking at the two storage rooms in bay 1 and prepare to replace with concrete vault ceiling.
- i. Remove foam suppression system equipment in fire pump room. Refer to Fire Protection section of this RFP for additional information.
- j. All items in the existing Men's and Women's Restrooms/Locker Rooms are to remain.

3.3.2.3 Building 214

- a. While some selective demolition is required throughout the facility, much of B214 is to remain in its current configuration to operate as an engine shop. Reuse building elements to the maximum extent feasible.
- b. Demolish existing SSMR System.

- c. Demolish existing ground floor sealed finish of concrete slab in areas identified in Room Data Sheets. Grind and prep structural slab to receive new finish.
- d. Remove and replace interior insulation at work bay walls and roof insulation.
- e. Remove and replace translucent upper wall panels.
- f. Demolish wall panels enclosing the office space at the mezzanine.
- g. Modify/demolish the mezzanine stair railing in accordance with NFPA requirements.
- h. Remove and replace all exterior swinging doors and panels.
- i. Demolish existing kitchen space, restrooms, and adjacent wall for new space configuration.
- j. Conduct inspection, service maintenance, and load certification of existing cranes.
- k. Patch and repair masonry wall partitions as required for abandoned openings

3.3.2.4 Building 216

- a. Secure Areas within Building 216 require the most extensive alteration in accordance with the requirements of UFC 4-010-05 and F-35 FRD. One area is United States Secret Clearance Access Only and an F-35 SAPF/FRD Special Access Area. Selective demolition of interior partitions and modification of structural walls are required to create the spatial relationships of the new mission program. New exterior windows and doors are required in accordance with DoD Minimum Antiterrorism Standards in UFC 4-010-01. Civilian personnel occupy the facility, so it is to be accessible in accordance with ABA Standards.
- b. Demolish existing SSMR System.
- c. Selectively demolish restroom, lockers, and break areas.
- d. Demolish vault and vault door for command suite.
- e. Demolish interior partitions and interior doors.
- f. Demolish interior finishes. Demolish floor finishes to the slab.
- g. Provide new openings in exterior enclosure for egress. The original facility has endured three additions during its life with multiple exterior walls now serving as interior walls.
- h. Patch and repair masonry wall partitions as required for abandoned openings.

3.3.2.5 Building 218

- a. The new addition to the B218 facility requires selective demolition. Much of the facility east of gridline A (as shown in the concept drawings in Attachment B of this RFP) remains in its current configuration. Perform minor demolition for its new purpose. Reuse building elements to the maximum extent feasible.
- b. Remove the exterior envelope to fix moisture and air infiltration issues at the original low-slope PEMB building. Demolish the existing roof, metal wall panels, brick veneer base, and associated swing doors and windows. Reference Attachment B Concept Drawings.
- c. Demolish existing interior partitions, doors, windows, ceiling assembly, and flooring as required for the new space configuration as identified in Attachment B Concept Drawings.

- d. ~~<AM#0002>Remove~~ Replace damaged curtain wall system glazing in its entirety. ~~Repair to match the existing assembly.~~</AM#0002>
- e. Provide any temporary bracing needed for the structural system.

3.3.3 Functional/Operational Requirements

The plans in Attachment B show the intended functional layouts.

3.3.4 Accessibility Requirements

Design the facilities to comply with DoD standards for accessibility for all spaces open to the public or accessed by civilian personnel.

3.3.5 Exterior Requirements

Complement existing buildings when choosing exterior design elements. Design wall types to meet the requirements for energy efficiency, weather protection, air and water infiltration, thermal movement, low maintenance, high durability, and aesthetic appearance. Provide low-maintenance finish materials to the greatest extent possible. Conform to the minimum requirements and allowable options contained within each of the applicable UFGS specification sections.

Design all work in accordance with UFC 3-101-01, Architecture, and UFC 3-301-01, Structural Engineering. Provide wind load calculations for exterior cladding in accordance with UFC 1-200-01 and UFC 3-301-01 with a comparative analysis of the cladding system. Refer to Concept Design Drawings in Attachment B and Room Data Sheets in Attachment C for more information.

3.3.5.1 Roofing System

- 3.3.5.1.1 Existing Standing Seam Metal Roof (SSMR): The standing seam metal roof system for Buildings 202 shows minimal damage. This system is to remain. Remove existing SSMR systems on B201, B214, B216, and B218.
- 3.3.5.1.2 Replacement: The roofs of all facilities, with the exception of B202, will be replaced in their entirety. No repairs will be undertaken as part of this project.
- 3.3.5.1.3 New SSMR System: For new roof systems, provide hydrostatic (structural) fully seamed standing seam roofing panels conforming to Ebbing ANGB requirements and matching the newest building addition roof system. Provide steel formed at the manufacturing plant and conditioned for flatness. Determine panel thickness by the requirements of UFC 3-110-03 Roofing. The minimum gauge for panels is ~~<AM#0003> 20-gauge, (.032-inch) thick~~ 24-gauge </AM#0003> or greater. Meet deflection and wind load requirements per ASCE 7-22. Provide continuous roof insulation over the entire roof area. ~~<AM#0003>Insulation must meet or exceed the requirements of the International Energy Code, Air Force High Performance Building requirements,~~ and all federal mandates. ~~</AM#0003>Provide the following warranties for metal roof system: Manufacturer's 20 year no dollar limit weathertight warranty, manufacturer's 20 year no dollar limit factory applied finish warranty, and 2-year installation warranty~~
- 3.3.5.1.4 Roof penetrations: Flash all existing and new roof penetrations according to the new roof manufacturer's required details for watertight warranty coverage.

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- 3.3.5.1.5 Low-Slope Roof: Provide a single-ply membrane roof assembly in accordance with UFC 3-110-03 for the new addition roof at Building 216. Use 80 mil fully adhered TPO Hydrostatic System. Minimize roof penetrations as much as practicable and must be sealed and waterproofed. Design low-slope roof systems to allow positive drainage toward the facility's exterior. Internal roof drains are not permitted. Provide roof and overflow drains that tie directly into the storm drain. The complete low-slope roof system assembly must be rated and installed to resist wind loads in accordance with ASCE 7-22 and UFC 3-110-03 and validated by uplift resistance testing in accordance with Factory Mutual (FM) test procedures. Do not install non-rated systems except as approved by the Contracting Officer. Submit licensed engineer's wind uplift calculations and substantiating data to validate any non-rated roof system. Furnish the roofing system manufacturer's materials and workmanship warranty for the roofing system. The warranty period must not be less than 20 years from the date the Government accepts the work.
- 3.3.5.1.6 Roof Insulation: Provide roof insulation that is continuous over the entire roof area. Insulation must meet or exceed the requirements of the International Energy Code, and all Federal mandates. Roof insulation must have an R-value determined per ASHRAE Standard 90.1 and per project energy goals. Roof insulation must also be compatible with attachment methods for the specified insulation and roof system. On portions of the roof where the sloping of structure does not allow the minimum slopes, provide a factory tapered roof insulation system to provide positive drainage of roof system, and to include drainage around curbs, penetrations, and projections through the roof plane. For new construction, provide one layer of the tapered roof insulation assembly factory tapered to a slope not less than 1/2-inch per foot. Provide 1/2- inch reinforced gypsum coverboard over rigid insulation per roof manufacturer's instructions.
- 3.3.5.1.7 Closed-Cell Spray Polyurethane Foam (ccSPF) may be used at the underside of roof construction to form a continuous layer of insulation that provides part of an air barrier. Conform to requirements of IBC for separating foam insulation from interior exposure. Demonstrate air barrier conformance using test procedures per U.S. Army Corps of Engineers Air Leakage Test Protocol for Building Envelopes.
- 3.3.5.2 Splash Blocks
- Provide splash blocks at downspouts emptying at grade. Splash blocks may be precast concrete, and must be 24-inches long, 12-inches wide and 4-inches thick, unless otherwise indicated, with smooth-finished countersunk dishes sloped to drain away from the building.
- 3.3.5.3 Fascia, Gutters, and Downspouts
- Where required, provide new fascia at insulated roof to match standing seam metal roof and downspouts. Install rectangular discharge at the bottom of the downspout. Provide gutter and downspouts at main entry canopy. Install rectangular discharge at the bottom of the downspout. Provide concrete splash blocks where downspouts exit to daylight. Provide scuppers and downspouts matching the original roof design and construction at Buildings 216 and 218. Building 201 has sustained water damage to the brick facade at the support columns of the covered entry. Repair damage and add a downspout to correct drainage. At Building 202, provide a new gutter and downspout at the covered entrance.

3.3.5.4 Downspouts

Prepare calculations to determine the minimum drainage requirement using the calculation method as specified in the Sheet Metal and Air Conditioning Contractors National Association's (SMACNA) Architectural Sheet Metal Manual. Space supports for downspouts according to the manufacturer's recommendation for the substrate. Provide complete installation, including elbows and offsets. Form straps and fasteners of metal compatible with the downspouts. Provide downspouts terminating in splash blocks with elbow-type fittings.

3.3.5.5 Scuppers

Provide new scuppers at the addition to B216. Extend the scupper liner through and project it outside of the wall, penetrating to form a bottom drip edge against the face of the wall. Fold outside edges under 1/2-inch on all sides. Join the top and sides of the roof deck lining to a closed flange by a locked and soldered joint. Join the bottom edge by a locked and soldered joint to the closure flange, where required, form with a ridge to act as a gravel stop around the scupper inlet. Provide surfaces to receive the scupper lining and coat with bituminous plastic cement.

~~3.3.5.6 <AM#0003> Curbs and Gutters~~

~~Provide contraction joints spaced every 10 feet maximum unless otherwise indicated. Cut contraction joints 3/4 inch deep with a jointing tool after the surface has been finished. Provide expansion joints 1/2 inch thick and spaced every 100 feet maximum unless otherwise indicated.~~
</AM#0003>

3.3.5.7 Exterior Soffits

Include high-performance coatings at exterior soffit systems. Where soffit abuts other materials, provide trim accessories of the same material and finish as the soffit material. Where ventilation is required, provide a soffit/ridge/louver/ventilator ventilation system with air quantities complying with the IBC. For unvented spaces, provide sealed soffits to maintain the integrity of the air and insulation barrier systems. Metal soffit panels must be factory-formed and factory-finished. Use factory-applied sealant inside laps.

3.3.5.8 Exterior Walls

Repair exterior walls to match existing as required at all facilities. Repair joint sealants as needed. New exterior wall appearance is to match existing facility and harmoniously tie into the visual character of the adjacent facilities. The metal exterior wall systems for Buildings 201, 202, and 214 show minimal damage. The existing wall system is to remain; patch and repair as required. Assume no more than 10% of the metal wall panels require repair and replacement. Match the existing wall system at the repaired metal wall panel system assembly. Replace Building 214's translucent panel walls with new translucent panels compatible with the existing metal wall panels. Provide a new wall panel system at Building 218's original low-slope PEMB building portion. Provide new metal wall panels conforming to Ebbing ANGB requirements and matching newest B218 building addition wall system.

3.3.5.8.1 Metal Wall Panel Exterior Enclosure: Design all work to comply with UFC 3-101-01, Architecture, and UFC 3-301-01, Structural Engineering, and the following requirements:

Wind Loads: Provide wind load calculations for exterior cladding in accordance with UFC 1-200-01 and UFC 3-301-01 with a comparative analysis of the cladding system to be provided.

Water Penetration: No water penetration must occur at a pressure of 8-psf (39-Kg/m²) of fixed area when tested in accordance with ASTM E 331.

Insulating Value: Comply with UFC 3-101-01 for the ASHRAE requirements defining the minimum insulating value of the complete wall system.

Warranty: Provide 20-year finish warranty directly to the Government, commencing at time of Government's acceptance of the roof work.

Factory Color Finish: Provide panels with a factory-applied, baked coating to the exterior and interior of metal wall panels and metal accessories. Provide exterior finish topcoat of 70 percent polyvinylidene fluoride (PVDF) resin with not less than 0.8 mil dry film thickness (DFT). Provide exterior primer standard with panel manufacturer but not less than 0.8 mil dry film thickness (DFT)

Design the wall system and attachments to resist wind loads as determined by ASCE 7-22, with a safety factor appropriate for the material holding the anchor.

3.3.5.8.2 Exterior Wall System: Anchored Brick Veneer with Structural CMU backing (B216 Addition)

Provide 8-inch by 8-inch by 16-inch nominal standard gray concrete masonry units (CMU) structural wall, fluid-applied air/moisture barrier, continuous board insulation at the exterior face of structural CMU, 2-inch min air space, and modular face brick. The interior face of exterior structural CMU walls must have either a paint finish or metal furring and gypsum board with a paint finish.

Meet or exceed the requirements of ASHRAE 90.1 for energy performance and comply with UFC 3-101-01 requirements for all exterior wall construction assemblies.

3.3.5.8.3 Exterior Wall System: Double Wythe Framed Wall (Building 218 envelope & addition)

Provide PEMB structure with 24-gauge (minimum) factory-formed wall panels with concealed attachments and high panel corrugations mechanically attached. Use a modular brick dimension and match the existing facility addition at the lower masonry wall. Provide joints in masonry walls to accommodate thermal movement, expansion, and shrinkage of wall materials, and construction to avoid cracks in masonry units and mortar joints. Provide a 2-in. minimum clear dimension from the face of cavity insulation and sheathing material to the back of the exterior wythe of masonry.

Meet or exceed the requirements of ASHRAE 90.1 for energy performance and comply with UFC 3-101-01 requirements for exterior wall construction assemblies.

3.3.5.9 Exterior Painting

Comply with Master Painter Institute (MPI) standards for commercial quality coatings. As a minimum, apply SSPC PA Method 1 to all surfaces. Follow MPI Architectural Painting Specification; recommendations noted are considered to be required. Paint all exposed

unfinished surfaces unless otherwise noted. Include as a minimum a prime coat as recommended by the finish coating system manufacturer and two finish coats.

Select paint systems for the project in accordance with the MPI Architectural Painting Decision Tree available in the Whole Building Design Guide. Use this interactive MPI Decision Tree website to identify the project's applicable paint system(s). The MPI Decision Tree identifies paint systems for each interior or exterior coated surface in "Normal" or "Aggressive" environmental conditions and generally lists the applicable paint systems in descending order of performance. The paint system at the top of each substrate list generally indicates the highest-performing acceptable coating system.

Choose paints that provide performance, are environmentally friendly, and conform to EPA or local environmental regulations, whichever requires the lowest VOC content.

3.3.5.10 Exterior Sealant

For joints on vertical surfaces, provide ASTM C920, Type M, Grade NS, Class 25, and use NT. For joints in horizontal surfaces, provide ASTM C920, Type S or M, Grade P, Class 25, Use T. All joints in exterior walls must receive foam backer rod and sealant application. Seal masonry joints at windows, doors, masonry expansion joints, lintel, and sill flashing.

3.3.5.11 Exterior Doors and Frames

Replace rusted, damaged doors or doors not conforming to NFPA requirements where required. B214 exterior doors show excessive deterioration and require replacement through the facility. In B216, replace doors where receiving new building wall system. Assume that no more than 20% of existing doors will be replaced in areas not directly affected by floor plan modifications.

At new exterior doors to the facility, provide insulated steel doors and meet the requirements of UFC 1-200-01, UFC 4-010-01 and antiterrorism requirements.

Test exterior doors, frames, and hardware in accordance with ASTM F 2247. Steel (hollow metal) insulated flush single doors must be a minimum 3-feet by 7-feet and steel (hollow metal), insulated, flush double doors must be 6-feet by 7-feet unless required otherwise.

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

Include aluminum thresholds and aluminum-housed weather seals at all doors. Provide paint finish at all exterior doors unless doors and frames are aluminum storefront type. All drips at exterior door head locations must be aluminum.

Refer to door hardware section of this RFP for door hardware requirements.

3.3.5.12 Exterior Overhead Doors

Overhead sectional doors must be installed with aluminum frames, be provided with glazing as required, and be provided with all required operating hardware, tracks, and supports for electrical operators. Comply with ANSI/DASMA 102 - American National Standard Specifications for

Sectional Overhead Type Doors. Verify electric requirements available at building location for the selection of motor.

Coiling overhead exterior doors must be insulated, be provided with glazing as required, and be provided with all required operating hardware, tracks, and supports for electrical operators. Comply with ANSI/DASMA 102 - American National Standard Specifications for Coiling Overhead Type Doors. Verify electric requirements available at building location for selection of motor.

3.3.5.13 Exterior Storefront Doors, Windows, and Glazing

Provide prefinished aluminum storefront entrances and window systems at locations identified in this RFP, and at locations and general configurations shown in Attachment B Concept Design Drawings.

Prefinished aluminum storefront entrance doors and glazing assemblies must have a fluoropolymer finish or clear anodized aluminum finish, insulated laminated low-e tinted glazing to meet all code required structural design, wind loads, air infiltration, water penetration, and energy performance (ASHRAE 90.1), and Appendix M Memorandum requirements.

Storefront window frames must be extruded aluminum shapes with removable glass stops and glazing beads for frames accommodating fixed glass. Provide 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.

3.3.5.14 Exterior Glazing

Window systems, including glazing, framing, connections, and support structures, do not have to be designed, analyzed, or tested for blast resistance; however, exterior glazing and components must be designed to minimize hazardous fragmentation by meeting the prescriptive requirements outlined in Standard 10. This facility complies with Standard 10.

Provide complete systems, including but not limited to framing, mullions, trim, glazing, sealants, insulation, fasteners, anchors, accessories, concealed auxiliary members, and attachment devices for securing the wall to the structure as required.

3.3.5.15 Exterior Wall Louvers

Where required, provide prefinished aluminum, fixed blade 45-degree minimum slope drainable wall louvers with insect screens. Wall louvers must meet wind loads as defined in accordance with ASCE 7-22 and be AMCA certified for expected wind driven rain. Comply with UFC 4-010-01 standards for intake louvers. Provide a finish color matching the existing facility finishes. Provide sill flashing with sloped drain pan at base of louver to collect moisture that migrates down the interior face of the louver. This sill flashing must drain water to the outside of the building.

3.3.5.16 Handrails/Guardrails

Upgrade existing stair railing and risers to meet NFPA 101 requirements. Where required by the final design solution, provide railing compatible with the existing rail system. Grind and finish all joints. Repaint the railing as required. Color selection is subject to approval by the Contracting Officer's Representative.

3.3.5.17 Door Hardware

Provide exterior and interior door hardware in a satin stainless or chrome finish (BHMA 630 for exterior or 626 for interior), unless noted otherwise. Provide stainless steel exterior hardware. Provide hardware components and keying in accordance with ABA and USAF requirements for accessibility, and NFPA 101 requirements for life safety. All lock hardware must match Ebbing ANGB master lock system. Use concealed-style hardware devices whenever possible. Reinforce all doors and frames as needed to accommodate the hardware. Provide locking hardware at all doors unless noted otherwise. Configure exterior door hardware for doors to swing out in accordance with antiterrorism minimum standards per UFC 4-010-0 and 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. Master keying and individual room keying requirements must be in accordance with the instructions provided by the facility users at a required pre-delivery conference.

- 3.3.5.17.1 Hinges: Provide minimum three per door leaf, BHMA A156.1, 4 1/2-inch by 4 1/2-inch (minimum), stainless steel, BHMA 630 finish, ball bearing hinges, non-removal pins for security doors.
- 3.3.5.17.2 Locksets: BHMA A156.13, Series 1000, Operational Grade 1, Security Grade 2, escutcheons not less than 7-inch by 2 1/4-inches with a bushing at least 1/4-inch-long, BHMA 630 finish. Provide lever-style handles of design. Provide electromagnetic locks at GSA Vault Doors.
- 3.3.5.17.3 Card Key System: Provide card key type access units for specialized entries as required by the program. Provide lithium battery powered, magnetic stripe keycard locksets that are ANSI/BHMA A156.13, Series 1000, Grade 1, mortise or ANSI/BHMA A156.2, Series 4000, Grade 1, cylindrical locks, tamper resistant, UL listed with 1-inch (25-mm) throw deadbolt, 3/4-inch (19-mm) throw latch bolt, auxiliary dead-locking latch, and 2 3/4-inch (68.75-mm) backset. The latch and dead bolts must be operated simultaneously by rotating the inside lever. Locks with mechanical override lock cylinders are not acceptable. Locks must be operated only by a correctly encoded keycard. The use of a newly issued keycard automatically re-keys the lock and voids the previous keycard. The lock must re-lock immediately after the outside lever is turned and the latch retracted. Locks must have a memory that can record up to 140 entries into each room, identification of the keycard used to access the room, and the date and time of entry. Entry information of the lock must be retrievable by a data key that can be inserted into the lock and then taken to the front desk printer to display information. Other components that are required for this system at the front desk are a personal or laptop computer, printer, and encoder to program each key.
- 3.3.5.17.4 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-inches by 2 1/4-inches.
- 3.3.5.17.5 Closers: BHMA A156.4, Series C02000, Grade 1, with PT 4C (unless otherwise noted), BHMA 630 or 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, corridors, or acoustic doors.
- 3.3.5.17.6 Coordinators: Provide for pairs of doors with closers, BHMA 630 or aluminum with 689 finish.

3.3.5.17.7 Weather Stripping and Thresholds: Provide adjustable weather stripping (1.25-CFM air leakage rate, maximum) and aluminum thresholds and retainers at all exterior doors.

3.3.5.17.8 Rain Drips: For all exterior doors that open to the outside, where the door swing area is not covered by an overhang, provide top and bottom rain drips complying with ANSI R3Y535 as a minimum.

3.3.5.17.9 Soundproofing Gasketing: Provide soundproof gasketing at all sound rated door assemblies as tested.

3.3.5.17.10 Kick Plates: Provide stainless steel, BHMA 630 at restrooms and janitor closets.

3.3.5.17.11 Hardware for storefront doors can be provided by the storefront door manufacturer as required to meet the tested assembly criteria and meet the minimum requirements of this Section.

3.3.5.17.12 Stops: Provide stops in accordance with BHMA A156.16. Use a BHMA 630 finish.

3.3.5.18 Non-Destruction Emergency Access System

Provide a non-destructive emergency access system with a Rapid Entry System and a 3200 series Knox Box at all facilities without an existing system. Locate one Knox Box within plain sight near the main entrance of all facilities (coordinate location with Fire Department) and place a second Knox Box near the entrance to the mechanical room.

3.3.5.19 Finish Hardware

Provide ANSI/BHMA Grade 1 hardware and Series 1000 mortise locksets. Plastic cores are unacceptable. Provide closers with option PT4C for all exterior doors, all doors opening to corridors, and as required by code. Install exit devices at all building egress doors, and from other areas as required by code, based on occupancy type. Provide weather stripping, thresholds, and door sweeps at all exterior doors. Provide hinges with anti-friction bearings. Provide kickplates at doors located in high traffic areas. Meet the requirements of the base keying system for door hardware finish. Provide 7-pin removable cores.

3.3.5.20 Auxiliary Hardware

Provide wall mounted stops for all doors which have no overhead holder/stops. Provide wall backing as required for wall mounted stops at framed walls. Provide other hardware as necessary for a complete installation.

3.3.5.21 Hardware for Fire Doors

Install hardware for fire doors in accordance with the requirements of applicable codes. Exit devices installed on fire doors must have a visible label bearing the marking "Fire Exit Hardware." Other hardware installed on fire doors, such as locksets, closers, and hinges must have a visible label or stamp indicating the hardware items have been approved by an approved testing agency for the installation on fire-rated doors. Install hardware for smoke-control door assemblies in accordance with applicable codes.

3.3.5.22 Exterior Windows

- a. Building 201: Infill all existing glazing.
- b. Building 202: All glazing is existing to remain. The record drawings indicate the storefront system is impact resistant in accordance with antiterrorism minimum standards.
- c. Building 214: All glazing is to remain.
- d. Building 216: Provide new glazing at new facility addition.
- e. Building 218: Repair damaged curtainwall glazing and provide new glazing in new wall assembly.

3.3.5.23 Exterior Signage

Provide exterior signage at the facility conforming to base requirements and in accordance with UFC 3-120-01.

3.3.6 Interior Requirements

Provide durable sustainable materials and furnishings, easily maintained and replaced. Provide interior surfaces which are easy to clean. Finishes must conform to the requirements of the IBC, NFPA and UFC 3-600-01. Where code requirements conflict, the most stringent code requirement must apply. Refer to Concept Design Drawings in Attachment B and Room Data Sheets in Attachment C for more information.

3.3.6.1 Acoustical Requirements

Design new doors, new interior partitions, and ceilings to provide for attenuation of sound transmission and impact noise from internal sources, in accordance with applicable criteria. Comply with the minimums given in UFC 1-200-01 and UFC 3-101-01.

Sound conditions (and levels) for interior spaces, due to the operation of mechanical and electrical systems and devices must not exceed levels as recommended by ASHRAE handbook criteria. Provide acoustical treatment for drain lines and other utilities (HVAC) to prevent noise transmission into the interior of public spaces. Provide STC ratings in compliance with UFC 4-610-01 Administrative Facilities.

3.3.6.2 Interior Systems Access

Design building systems to all access for removal, repair, and maintenance of mechanical equipment, plumbing equipment, and fire dampers. Include removable panels, access doors, and other solutions in the design as required.

3.3.6.3 Housekeeping Pads

Provide concrete housekeeping pads for new mechanical and electrical equipment locations.

<AM#0003>

3.3.6.4 Bird Abatement

Provide small square mesh bird netting at the bottom of the hangar trusses in Buildings 202 and 214 to prevent birds from perching on the structure. Attach netting to perimeter walls to block off

every possible access point and secure to the hangar trusses. Ensure netting is abrasion and rot resistant. </AM#0003>

3.3.6.5 Interior Walls (Partitions)

- 3.3.6.5.1 Concrete Masonry Units (CMU) Walls: New interior walls must generally be concrete masonry units to match existing conditions. Paint the interior face of the exterior walls with exposed CMU block. Finish CMU block surfaces with a uniform texture and free of surface imperfections that would adversely affect the intended finished appearance.
- 3.3.6.5.2 Metal Stud Interior Partition Walls: Construct interior metal stud partition walls using galvanized metal studs and mold resistant / anti-microbial glass-mat gypsum panels in unconditioned, semi-conditioned areas or as required. Provide gypsum panels which are 5/8-inch-thick minimum and meet ASTM C1396/C1396M. Provide Type 'X' gypsum panels for fire-resistance-rated assemblies and higher density core for STC acoustical rated assemblies. Provide 5/8-inch-thick abuse-resistant glass mat gypsum panels meeting ASTM C1629/C1629M on walls in corridors and maintenance areas, and walls adjacent to assembly areas. Provide cement backboard for walls with tile and/or walls with plumbing fixtures and shower enclosures with solid surface panels. Provide mold resistant / anti-microbial gypsum wallboard for janitor rooms walls and ceilings of toilet rooms meeting ASTM D3273. Apply gypsum board to framing and furring members in accordance with ASTM C840 or GA 216. Refer to UFC 3-101-01 for required wall STC ratings. Finish all interior metal stud walls with gypsum wall board and apply a painted finish. Finish interior gypsum wall and ceiling surfaces to ASTM C 840 and GA 214 and GA 216. Provide a Level 4 finish unless otherwise noted and a Level 3 finish when overlaid by tile. Metal studs must 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. Install metal support framing in accordance with ASTM C754. Provide rubber resilient wall base at areas receiving carpet, resilient flooring, static dissipative, and sealed concrete flooring. Rubber wall base material must be 1/8-inch-thick minimum and must conform to ASTM F 1861. Provide a metal cove base at restroom areas. Do not install interior wall sheathings or finishes prior to construction meeting required interior environmental conditions. This includes glass-mat gypsum wallboard, cementitious backer board, all applied finishes, and materials subject to mold and mildew. Acceptable environmental conditions are as follows: building is completely dried-in, including roofing system, wall vapor barrier, thermal envelope, exterior windows, and exterior doors. Temperature and humidity ranges must comply with the manufacturer's directions and technical specifications for specific products.
- 3.3.6.5.3 Fire-Rated and Smoke Partitions: Provide fire-rated partitions per code. Extend fire-rated partitions from the concrete floor slab to the underside of the roof deck above. Seal openings and penetrations through partitions around comm rooms, mechanical rooms, electrical rooms and other locations indicated on the drawings to prevent the passage of smoke.
- 3.3.6.5.4 Firestopping: Provide fire stopping using UL-approved systems. Provide details of such systems in the drawings. A Qualified Fire Protection Engineer (QFPE) must review and approve the fire stopping systems. The fire stopping installer must be approved by the manufacturer. The system must include a listed and approved F and T rating for both horizontal and vertical installations. Indicate locations and types of all fire stopping systems on the drawings.

3.3.6.5.5 Retractable Partitions: Provide retractable partitions and associated work, including tracks and anchoring systems in Building 216 between rooms 109A and 109B. Provide a sound barrier equal to, or greater than, the sound rating of the partition at wall assemblies above retractable partitions. Operable panel partitions must be factory finished, supported from an overhead track without floor guides, and include all hardware, track, and accessories necessary for operation. The suspension system must consist of steel or heavy-duty extruded aluminum track connected to the structural system by threaded rods and trolleys designed to support the partition's weight. Provide steel track of 16 gage minimum, phosphate treated and finished, or zinc or cadmium coated, or provide an extruded aluminum track with a minimum thickness of 1/8-inch (3.2-mm). Tracks must have an integral ceiling guard. Trolleys must have at least two ball-bearing nylon or steel-tired wheels spaced according to the manufacturer's design criteria and four at an end post.

3.3.6.6 Casework

Provide casework which is a commercial grade medium density fiberboard (MDF) or medium density particleboard substrate with a plastic laminate finish. Provide, at a minimum, a plastic laminate finish at exposed fronts and ends of cabinets, door, and drawer fronts. Provide door and drawer fronts which are 3/4" thick. Provide 1/2" minimum shelves able to withstand 45 lbs. Provide thermally fused melamine at cabinet tops, wall bottoms, and concealed and semi-concealed surfaces. Rapidly renewable materials are encouraged for casework materials. Provide hardware complying with ANSI/BHMA A156.9.

Conform to and comply with the Custom Grade quality standards as outlined in the AWI AWS section for laminate-clad cabinets for all materials, construction methods, and fabrication. Provide countertops made of solid surface material (SSM) with an integral backsplash and apron. Provide solid surface counter-mounted lavatories and vitreous china wall-mounted lavatories.

3.3.6.7 Building 216 Secure Access Areas

3.3.6.7.1 United States Secret Clearance Access: US Secret Clearance or higher access area in accordance with DoDM 5200.01 Volume 3 for Open Storage Area (Secure Room). Provide interior and exterior wall assemblies, floor assemblies, roof assemblies, ceiling assemblies, and interior and exterior door assemblies in accordance with DoDM 5200.01 Vol 3 and UFC 4-026-01 Design Against Forced Entry. VIPER EM Simulator room is a US Secret Secure space. All interior walls around and within identified areas must be ICD 705 Type A Sound Group 4. Provide STC 50 minimum rating at walls and STC 55 minimum rating at secure doors. No exterior windows are proposed for these areas. Access Control System will utilize Government issued Common Access Card (CAC).

3.3.6.7.2 Special Access Program Facility (SAPF) Construction: Special Access Program Facilities information will be handled and stored in this facility. "Open Storage Area" of classified information will occur within this facility. Comply with UFC 4-010-05 SCIF/SAPF Planning, Design, and Construction, ICD/ICS 705 Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities (ICD 705), and the F-35 Facility Requirements Document (FRD) with any specific items for the F-35 A and F-35 B. The most restrictive and highest level of protection from any document takes precedence. Equip the SAPF areas with protective construction in accordance with UFC 4-026-01 Design to Resist Forced Entry and devices to guard against information loss. Acoustical And Radio Frequency (RF) shielding protection measures are designed to protect Special Access

information against being inadvertently overhead and intercepted. Provide Radio Frequency Shielding on all six sides, including above the concrete slab on grade and under the finish floor material at all SAPF areas. A true RF shielded ceiling above a finish ceiling is acceptable. Fully connect and seal walls, floors, and true ceilings. Comply with ICD 705, Chapter 3, Figure 2, Wall B – Suggested Construction for Expanded Metal and Sound Group 4 at all interior wall assemblies within the SAPF perimeter and Man Trap perimeter (identified on plans). Provide STC 50 minimum rating at walls and STC 55 minimum rating at secure doors.

3.3.6.8 Interior Doors

Fire rate interior doors where required. Provide Level 2 hollow metal frames in accordance with ANSI/SDI A250.8 (SDI 100). Provide face welded frames as defined in ANSI/SDI A250.8-2014, 2.4.1.3. Provide kick plates at doors with heavy visitor traffic. Provide security doors and hardware at necessary locations. Paint door frames with an enamel finish. Provide stainless steel interior door hardware. Insulate doors serving unconditioned areas.

3.3.6.8.1 Interior Steel Doors: Interior steel doors must be hollow metal steel, unrated, and fire-rated as identified or required by code or other criteria. Provide single or pair doors as indicated on the Concept Design Drawings. Provide 16-gauge minimum interior doors. Meet SDI/DOOR A250.8, Level 3 requirements. Form doors to sizes required. Refer to UFC 3-101-01 for STC ratings. Fabricate interior hollow metal doors from hot dipped zinc coated steel, alloyed type, that comply with ASTM A924/A924M and ASTM A653/A653M. The coating weight must meet or exceed the minimum requirements for coatings having 0.4 ounces per square foot, total of 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.

Interior Wood Doors: Provide wood doors at administration and office areas. Standard interior doors must be flush solid core wood doors with good or better grade birch veneer. Conform to WDMA 1.S. 1-A. Door frames must be welded 16-gauge steel for SDI/DOOR A250.8 Level 2 doors. Provide fire rated doors and STC-rated doors as required. Metal doors may be used when wood doors do not meet the requirements of the mission. Hardwood veneers must be plain-sliced and book-matched. Doors must be factory-stained, finished, and prepared for door hardware. Where glazed openings are required, use the manufacturer's standard wood moldings. Moldings for doors to receive a natural finish of the same species and color as the face veneer. Unless noted otherwise, provide vertically oriented narrow-view glass panels, approximately 4 inches by 24 inches, in doors to private offices. Doors required to have an STC rating must 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. At all interior doors, provide solid core hardwood veneer with a clear factory finish. Provide kick plates at doors with heavy traffic. Provide security doors and hardware at necessary locations. Provide hollow metal doors where serving the apparatus bay, restrooms, and janitorial rooms. Provide insulated doors where serving unconditioned areas.

3.3.6.8.2 Interior Overhead Doors:

Provide coiling overhead interior doors with all required operating hardware, and supports for electrical operators. Comply with ANSI/DASMA 102 - American National Standard Specifications for Coiling Overhead Type Doors. Verify electric requirements available at building location for selection of motor.

3.3.6.8.3 GSA Vault Doors:

Provide GSA labeled, secure vault doors. Doors must conform to FA AA-D-600 Class 5V, Style K, Design S.

3.3.6.9 Interior Door Hardware: Refer to Door Hardware section above.

3.3.6.10 Specialties

3.3.6.10.1 Enclosures: Provide toilet enclosures and entrance screens of solid phenolic material with integral color Type III, Style A, floor supported or wall hung. Specify tamperproof fasteners and recessed accessory items to the greatest extent possible. Provide stainless steel hardware. Provide accessible stalls with grab bars to meet ABA criteria. Provide blocking as required to support partitions.

3.3.6.10.2 Toilet Accessories: Provide new stainless steel satin finish toilet accessories to meet Base standards.

3.3.6.10.3 Urinal Screens: Provide urinal screens of solid phenolic material with integral color Type III, Style A, floor supported, or wall hung. Secure wall-hung urinal screens with continuous flanges to the urinal screen and wall. Provide blocking as required to support screens.

3.3.6.10.4 Plumbing Accessories: Provide new stainless steel, commercial grade, satin finish plumbing accessories to meet Base standards. Provide ABA compliant plumbing accessories. Provide blocking as required for support.

3.3.6.10.5 Fire Extinguishers and Cabinets: Furnish and install fire extinguishers as required by applicable codes and criteria. Provide 10-pound minimum fire extinguishers. Furnish and install new fire extinguishers in existing recessed cabinets where possible. Provide new recessed cabinets, where necessary, sized to contain a minimum 10-pound fire extinguisher cylinder. Cabinets must not diminish or compromise the fire rating of rated walls.

3.3.6.10.6 Interior Signage: Provide interior signage throughout the facility in accordance UFC 3-120-01. Meet all ABA requirements and coordinate with facility user for signage design. Follow ABA guidelines for signage background color and text. Coordinate exterior signage finishes with Base standards and interior signage finishes for a cohesive appearance. Signs for permanent spaces (i.e., mechanical and communication rooms) must have permanent room numbers and corresponding names. Provide life safety signage, including but not limited to evacuation plans, in key areas.

3.3.6.10.7 Corner Guards: Provide 4' high (minimum) standard metal corner guards at all exterior wall corners of gypsum board walls at main circulation locations. Construct exposed concrete wall outside corners with a chamfered corner.

3.3.7 Interior Finishes

Refer to Concept Design Drawings in Attachment B and Room Data Sheets in Attachment C for more information. Provide a comprehensive interior design (CID) package with each level of design submittal. This includes both a structural interior design (SID) package and a furniture, fixtures, and equipment (FF&E) package.

3.3.7.1 Floor Finish

- 3.3.7.1.1 Sealed Concrete: Provide a sealed concrete floor finish at all mechanical rooms, electrical rooms, SIPR Rooms, janitor closets, and storage rooms. Seal concrete floor slabs that do not receive a finish with a low-VOC water-based clear sealer to prevent dusting and improve general maintainability. Prepare concrete slabs to receive sealer by mechanically grinding them to remove the top 1/8-inch of concrete material and expose slab aggregate. Provide a clean, smooth slab surface for the sealer application.
- 3.3.7.1.2 Luxury Vinyl Tile (LVT): Utilize vinyl tile floor finishes in administrative, vault areas, and high traffic areas to facilitate ease of maintenance. In Building 202, install vinyl sheet flooring to match existing. Provide a product which contains recycled content and is low VOC. Provide vinyl which is minimum .08" thick, conforms to ASTM F 1303, Type II, Grade 1, Class A, and has a fibrous backing. Extend color and pattern through the total thickness of the material.
- 3.3.7.1.3 Epoxy: Provide five-coat epoxy in the hangar bays and adjacent corridors. Provide three-coat epoxy in the paint booth, storage room, pod, and tank bay of Building 202 in accordance with UFC 4-211-01. Provide seamless resinous flooring in the Support, Support Storage, and Supply Trade rooms of B202.
- 3.3.7.1.4 Carpeting: Use carpet tile in administrative offices and conference rooms, with the exception of Building 202. Provide carpet which is medium tone, has a multi-color loop pile, and is minimum 28-ounce. Meet Carpet and Rug Institute (CRI) and Indoor Air Quality (IAQ) label requirements for carpet and adhesives. Utilize Nylon 6 or 6,6 designated products on this project.
- 3.3.7.1.5 Tile: Provide an unglazed porcelain floor tile at restrooms, shower rooms, and the lactation room. Provide metal cove base in all restrooms to receive new finishes. Match existing tile in restrooms where required. Provide impact resistant tile for floors and walls in accordance with ASTM C 648. Floor tile must be a minimum of Class III. [<AM#0003> Use epoxy grout.](#)
[</AM#0003>](#)
- 3.3.7.1.6 Electrostatic Dissipative Flooring: Provide static dissipative vinyl tile composed of polyvinyl chloride resin, plasticizers, fillers, pigments, and antistatic additive with colors and texture dispersed uniformly throughout its thickness in data and comm rooms per room data sheets attached to this RFP. Tile must meet size, thickness, indentation, impact, deflection, dimensional stability, resistance to chemicals, squareness, and resistance to heat requirements of ASTM F 1066 Standard Specification for Vinyl Composition Tile, Class 2, and have a through pattern D antistatic additive with colors and texture dispersed uniformly throughout its thickness.
- 3.3.7.1.7 Striping: Provide striping in Hangar Bays and around emergency shower/eyewash stations in accordance with UFC 4-211-01.

3.3.7.2 Wall Base

- 3.3.7.2.1 Rubber Wall Base: Provide rubber wall base at all areas to receive carpet, resilient flooring, and sealed concrete flooring. Rubber material must be 1/8" thick minimum and to conform to ASTM F 1861. In restrooms, provide a coved porcelain tile base where matching existing, and metal cove base where new finishes are being installed.

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- 3.3.7.2.2 Coved Metal Base: Provide coved metal base at areas to receive new floor and wall tile finishes. Provide stainless steel cove trim shapes, height to match tile and setting thickness, designed for flooring applications.
- 3.3.7.2.3 Porcelain Tile Base: Provide porcelain tile base when matching existing conditions at areas to receive new floor and wall tile finishes.
- 3.3.7.2.4 Integral Epoxy Wall Base: Provide integral epoxy wall base at all metal stud partitions in rooms to receive new epoxy flooring. Install as to provide a 1/2" radius at the juncture of the floor and wall.
- 3.3.7.3 Wall Finish
- Provide a Level 4 smooth finish at painted gypsum board partitions exposed to view. Paint exposed concrete walls with epoxy paint. Install fiberglass reinforced plastic (FRP) wall panels at all service sinks.
- 3.3.7.3.1 Paint: Paint interior surfaces, except factory pre-finished material or interior surfaces receiving other finishes, a minimum of one prime coat and two finish coats. Paints having a lead content over 0.06 percent by weight of nonvolatile content are unacceptable. Do not use paints containing zinc-chromate, strontium-chromate, mercury or mercury compounds, confirmed or suspected human carcinogens. Interior paints and coating products must contain a maximum level of 150 g/l (grams per liter) of volatile organic compounds (VOCs) for non-flat coatings and 50 g/l of VOCs for flat coatings. Provide eggshell finish on gypsum board walls in dry areas and semi-gloss on trim and door frames. Provide commercial-grade paint systems meeting MPI standards. Paint all exposed surfaces unless otherwise indicated. Coordinate painting and stenciling of fire sprinkler water system within the building as shown in guide specifications. At masonry walls use block filler and primer and two finish coats of semi-gloss paint.
- 3.3.7.3.2 Paint Selection: Use only paint listed on the "Approved product list" of the Master Painters Institute (MPI). Application criteria must be as recommended by MPI guide specifications for the substrate to be painted and the environmental conditions existing at the project site. Use only paints which provide the minimum required finishes and the highest quality of material, durability and life cycle cost. Paints and coating products must be classified as containing low or zero volatile organic compounds (VOC) in accordance with MPI criteria. Ensure compatibility with existing finishes and maintenance practices during selection of paint colors, textures, and locations.
- 3.3.7.3.3 Tile: Provide impervious, unglazed, through-body porcelain wall tile. Provide a minimum 4'-0" wainscot height in restrooms and a full-height installation at shower enclosures. Match existing tile where required. Provide a minimum Class III tile conforming to ASTM C 648 for impact resistance, and Tile Council of North America (TCNA) for standard grade tile. Use epoxy grout.
- 3.3.7.3.4 Fiberglass Reinforced Plastic (FRP) Panels: Provide 4'-0" FRP panels at all service sinks. Comply with ASTM D5319 and use only panels which are resistant to rot, corrosion, staining, denting, peeling, and splintering.

3.3.7.3.5 Stainless Steel Panels: Provide a 4'-0" stainless steel wall protection panel wainscot at all industrial, high traffic circulation areas. Provide type 304 stainless steel conforming to NSF Standard 51.

3.3.7.4 Ceiling Finish

3.3.7.4.1 Exposed Ceilings – In rooms without ceilings paint the structure and all exposed elements (including ceiling hung equipment and piping) as specified in this RFP, criteria, or code. Do not field paint factory finish equipment.

3.3.7.4.2 Suspended Gypsum Board Ceiling: Provide a painted gypsum board ceiling at all restrooms, janitor closets, lactation room, and secure rooms. At gypsum board ceilings, provide metal access panels for access to all valves. Use water resistant gypsum board with an epoxy paint finish at ceilings in restrooms and shower areas.

3.3.7.4.3 Acoustic Ceiling Tile (ACT): Provide a 24" x 24" ACT ceiling, type III or IV, pattern E, with a tegular edge. Product selected must have a minimum NRC rating of 0.70 and contain recycled content. If applicable, ensure CAC is equal to or greater than the STC rating of enclosing partitions.

3.3.8 Furniture, Fixtures & Equipment (FF&E)

Provide an FF&E package to be coordinated with the user group's requirements. Provide critical dimensions on the floor plan to verify the specified furniture and equipment fit. Complete this FF&E package a minimum of 120 days prior to the completion of construction. Refer to Concept Design Drawings in Attachment B and Room Data Sheets in Attachment C for more information.

3.4 Structural Design

Design the new construction and modifications to the existing facilities to meet all applicable design codes and criteria, including UFCs. The primary criteria used for structural design is UFC 1-200-01, DoD Building Code (General Building Requirements) and the UFCs and codes referenced therein, including the International Building Code, and UFC 3-301-01 Structural Engineering. These design standards apply to new construction and to the five existing facilities. Reference Attachment A for a complete list of guides and codes.

3.4.1 Design Criteria

Design all structures to support all applied loads including gravity loads, seismic loads, wind loads, lateral loads, and UFC 4-010-01 Antiterrorism (AT) loads, and to meet the serviceability requirements of UFC 3-301-01, Section 2-1.2. Design the supports and bracing for ancillary building items (e.g. overhead architectural features, systems and equipment, mechanical, electrical, and plumbing equipment) for gravity loads, seismic loads, lateral loads, and AT loads. This includes the design of glazing systems, glazing system support structures, and connections of glazing systems to the primary and secondary structural support systems. Utilize the following design criteria:

3.4.1.1 Risk Category

Category II

3.4.1.2 Ground Snow Load

10 PSF

3.4.1.3 Live Loads

As defined in ASCE 7

3.4.1.4 Wind

Wind Speed = 106 MPH,

Wind Exposure Category = C

3.4.1.5 Rain and Ice Loads

Rain: 15 min Precipitation Intensity = 6.1 in/h

Rain: 60 min Precipitation Intensity = 3.21 in/h

Ice thickness = 2 inches

3.4.1.6 Seismic

Seismic Accelerations: $S_s = 0.159g$, $S_1 = 0.087g$

Site Class = D Assumed (unless determined otherwise by geotechnical investigation)

3.4.2 Foundations/Slabs

Design and construct the foundation system based on a site-specific geotechnical investigation. Base the type of foundation system selected on the geotechnical investigation recommendations, adjacent construction, facility size, structural loads, local availability of materials and labor, and floor plan features. Design the foundation system to limit total settlement to one inch or less and to limit differential settlements to one-half inch or less. Structurally support exterior stoops and slabs adjacent to the structure to prevent differential settlement between the stoop or slab and the primary structure. For the existing buildings, verify the adequacy of the slab on grade where heavy loading, fork lift loading, and rack loading will be present. Check existing foundation for additional loading as required.

For bidding purposes of the new additions to Buildings 216 and 218, assume a drilled pier with grade beam foundation system with slab on grade floor.

3.4.3 Exterior Walls

Exterior walls must be easily maintained, have a high resistance to wear and tear, meet the building envelope insulation requirements, and provide structural support for the architectural finishes selected. This includes, but is not limited to, all exterior components such as walls, doors, windows (glazing systems) and architectural appurtenances. For existing walls, check all new wall penetration and wall infills for the appropriate loading and serviceability criteria. Check existing walls for additional loading.

3.4.4 Interior Partitions

Construct interior partitions of light gauge metal wall studs or concrete masonry units (CMU) where required for wear resistance. Non-load bearing partitions must be easy to remove for any future floor plan modifications or repurposing of the space. Brace interior partitions laterally at the top and allow for vertical deflection of the structure without transferring loads to the partition.

3.4.5 Vertical Framing

Comply with UFC 4-010-01 for exterior wall and roof design requirements. Coordinate column locations with architectural layout. Conceal columns and vertical braces within interior walls where possible. Check existing framing as required if additional loads are applied.

3.4.6 Roof Structure

Design the roof structure to resist uplift loads as well as gravity loads. Design the steel deck as a diaphragm to provide transfer of lateral loads between vertical elements of the lateral load resisting system. Provide sufficient slope to the roof to prevent ponding or analyze the roof structure for potential ponding and provide adequate strength to resist the additional load. For any existing construction, provide support for any new deck penetrations and check framing for any additional loading if required. If fall protection is required per the UFC's, use permanent davits.

3.4.7 Lateral Load Resisting System

Design the lateral load resisting system to resist all lateral loads and to meet the applicable serviceability requirements referenced in paragraph 3.4.1 above. The lateral load resisting system must provide a complete, continuous load path to transfer lateral loads from the point of application to the earth. Design connections in the lateral load resisting system to meet seismic detailing requirements even if wind loads govern.

3.4.8 Antiterrorism

Provide structural design for all applicable elements indicated in UFC 4-010-01. These elements include, but are not limited to, wall design, overhangs and breezeways, windows and skylights, building entrance layouts, exterior doors, overhead mounted architectural features, and equipment bracing.

3.5 Mechanical Design

3.5.1 Code Compliance

Design heating, ventilating, air conditioning (HVAC) and plumbing systems to conform to the publications listed in Attachment A. Utilize the most current codes and standards at the time of the design/build contract solicitation.

3.5.2 Existing Systems

The designs include equipment which varies building-to-building. See Section 3.5.8 for design directives for each building.

3.5.3 Functional Requirements

3.5.3.1 Heating, Ventilating, and Air-Conditioning (HVAC)

Attain the following objectives for the HVAC systems: occupant comfort, indoor air quality, acceptable noise levels, energy efficiency, reliable operation, and ease of maintenance. Provide air-conditioning and heating for all occupied spaces except for maintenance bays, hangar bays, and other areas as noted. Provide air-conditioning only for server/communication rooms. Keep areas that require heating for freeze protection above 40 degrees at all times.

3.5.3.2 Energy Sources

The available energy sources are natural gas and electricity provided by Oklahoma Gas & Electric. Meters for each service exist at each building. In accordance with Executive Order EO14057), new gas-fired mechanical systems are not allowed in any the buildings within the scope of this project (201, 202, 214, 216 & 218). The use/continued use of natural gas is limited to the existing gas-fired infrared heaters in Building 201, and all gas-fired systems in Building 202, which will remain in service as-is.

3.5.4 Prescriptive Requirements – New Equipment

3.5.4.1 Life Cycle Cost Analysis

Perform Life Cycle Cost Analysis (LCCA) to determine heating, cooling, and energy-related decisions of major systems in accordance with UFC 1-200-02 Life Cycle Cost Analysis requirements. Per UFC 1-200-02 (current change), achieve at least 30% energy consumption reduction from ASHRAE 90.1 (current version as directed by UFC) baseline, or achieve an energy consumption level at the highest level possible that is life cycle cost effective. Provide mechanical systems based on achieving the lowest life cycle cost of approved alternatives. Include total ownership costs, operation and maintenance costs, and payback. If life-cycle cost effective, implement Energy Efficiency Measures (EEMs) such as variable speed drives and Electronically Commutated Motors (ECM). Implement renewable energy design strategies such as solar hot water heating where life cycle cost effective. Provide life cycle cost analysis and recommendations to the Government for review and acceptance.

3.5.4.2 Design Criteria

3.5.4.2.1 Outside Design Criteria

ASHRAE 2021 0.4%:
Summer: 100F DB, 75.9F WB
Winter: 17.9F DB

ASHRAE 2021 1.0%:
Summer: 96.6F DB, 76.3F WB
Winter: 22.3F DB
HR: 8.9

3.5.4.2.2 Inside Design Criteria

Occupied zones conditioned for comfort cooling and heating

Summer: 78 degrees F and a maximum of 55 degrees F dew point. Design must take into account moisture gain in the space.

Winter: 68 degrees F (occupied), 55 degrees F (unoccupied)

Unoccupied zones conditioned to prevent freezing

Winter: 40 degrees F

Server/Communications Rooms:

72 degrees F

50% RH maximum

3.5.4.3 Calculations

For regularly occupied areas, use the 1 percent dry bulb and corresponding mean coincident wet bulb (MCWB) temperature and the 1 percent humidity ratio and corresponding mean coincident dry bulb (MCDB) temperature for design calculations and equipment sizing.

For server/communication rooms, coordinate with end user for specific temperature and humidity requirements. Separate, dedicated air conditioning systems must provide 24/7 cooling to each room. Utilize the 0.4 percent dry bulb temperature and the corresponding MCWB temperature and the 1 percent humidity ratio and corresponding MCDB for design calculations and equipment sizing.

Perform cooling and heating load calculations, building energy simulation models, and EEMs using Carrier HAP, Trane Trace 700, or other DOE-approved simulation software. Size all cooling equipment based on the calculated peak sensible and total loads for the building/zone. Size terminal units, unit heaters, and communication/server room air conditioning units based on the calculated peak sensible and total loads for the spaces served. Consider site elevation, refrigerant line lengths, and other factors that affect deration of equipment capacity. Consider heat/energy recovery where life cycle cost effective.

Utilize temperature setbacks and resets in occupied spaces during unoccupied times to maximize energy conservation, unless noted otherwise. Do not use setbacks for cooling in storage areas of building 201.

3.5.4.4 Equipment Selection

3.5.4.4.1 Product Procurement

Basis-of-design equipment must be Energy Star or Federal Energy Management Program of the Department of Energy (FEMP) designated products when available. The term "Energy Star product" means a product that is rated for energy efficiency under an Energy Star program. The term "FEMP designated product" means a product that is designated under the Federal Energy Management Program of the Department of Energy as being among the highest 25 percent of equivalent products for energy efficiency. When selecting integral sized electric motors, choose NEMA PREMIUM type motors that conform to NEMA MG 1, minimum Class F insulation system. Motors with efficiencies lower than the NEMA PREMIUM standard may only be used in unique applications that require a high constant torque speed ratio (e.g., inverter duty or vector duty type motors that conform to NEMA MG 1, Part 30 or Part 31).

3.5.4.4.2 Cooling and Heating Systems

Provide mechanical equipment to maintain space temperature setpoints. The equipment must also include provisions to maintain space humidity levels where specific tolerance requirements are indicated. Possible system types include: split system outdoor heat pumps with indoor fan coils, ground-mounted heat pump packaged rooftop units (RTU), and single-zone minisplit heat pumps with cassette or ducted fan coils. Provide cooling-only, dedicated minisplit systems with low-ambient cooling capability for server/communication rooms. Where required by the UFC or end user for critical server/communication rooms, provide redundant cooling systems. Variable Refrigerant Flow (VRF) systems are prohibited. In accordance with UFC 3-410-01 c9, 3-5.2.5, select condensers/condensing units/heat pumps for service in ambient conditions 5 degrees F above the outdoor dry bulb temperature listed in section 3.5.5.1 above. Select equipment with refrigerants that have ozone depletion potential (ODP) no greater than 0.0. CFC-based refrigerants and refrigerants subject to phaseout must not be utilized.

Where specific humidity control is required for spaces served by an RTU, provide manufacturer's onboard dehumidification system (i.e.: Carrier Humidimizer). For spaces served by split systems, provide commercial standalone dehumidifiers with automatic draining and/or pump sized to accommodate specified levels.

3.5.4.4.3 Unitary Heating Systems

Provide LCCA-effective electric unit heaters in unoccupied spaces such as mechanical rooms, electrical rooms, etc. Do not specify new gas-fired equipment.

3.5.4.4.4 Exhaust and Ventilation Systems:

Provide exhaust systems in all toilet rooms, janitors closets, etc. Provide ventilation in mechanical rooms, electrical rooms, etc. with inline exhaust fans and interlocked, operable louver or transfer air. Schedule ECM motors for exhaust fans whenever available for the

application. Include fan speed controller mounted nearby in an accessible location for balancing purposes.

3.5.4.5 Variable Frequency Drives (VFD)

Provide VFD's for all motors and fans greater than 10 hp, excluding exhaust fans.

3.5.4.6 Equipment Locations

Locate mechanical equipment to maintain the manufacturer's recommended minimum service clearances, code clearances, and the clearances required for removal of the equipment. Provide access doors for concealed equipment that may require maintenance or repair. Place floor and ground-mounted equipment on concrete housekeeping pads. Do not design roof-mounted intakes, exhaust fans, etc., unless absolutely necessary as buildings 201, 214, 216 and 218 do not have dedicated roof access.

3.5.4.7 Air Quality

Maintain ASHRAE 62.1 (current version as accepted by UFC) ventilation throughout the building to satisfy the minimum occupancy ventilation requirements, maintain building pressurization, and provide necessary make-up air for building exhaust. Outside air for ventilation may be introduced through fan coils or RTUs. Show outside air schedules on drawings and consider the maximum potential occupancy load when calculating outside air requirements in all spaces. For systems with outdoor air exceeding 750 cfm, provide a dedicated outdoor air system (DOAS). Where life-cycle cost effective, use energy recovery to preheat/precool incoming outside air.

3.5.4.8 Emergency Power Off (EPO) and Anti-Terrorism and Force Protection (ATPF)

Locate an EPO switch in the Mechanical Room as well as in the local operating console/fire alarm control panel (LOC / FACP), when available, for all air-moving systems serving occupied spaces and centralized ventilation systems such as Dedicated Outside Air systems (DOAS). Provide ATPF switch where required in accordance with UFC 4-010-01.

3.5.4.9 Ductwork

Construct, brace, reinforce, install, support, and seal insulated and galvanized steel ductwork in accordance with the IMC and SMACNA standards. In addition, ducted returns, dampers, air devices, and filters are required. Louvers are required for exhaust systems in lieu of roof-mounted equipment. Fortification (per Air Force and DOD standards) may be required for ducts with 96 square inch cross-sectional areas and larger passing through secure (SAPF & Secret) area perimeters.

3.5.4.10 Noise Abatement

Select air handling units (fan coils, RTUs, etc.), ductwork and diffusers to minimize noise from the units to the space. The selected fans must generate the lowest possible sound power levels and corresponding sound spectra. If attenuation is required, it must be in accordance with UFC requirements. Secure spaces may require specific Sound Transmission Class (STC) ratings (for example: STC50). Employ sound-attenuation devices such as duct silencers, Z-ducts and similar devices to achieve specified STC ratings.

3.5.5 Building Automation System

Provide a Building Automation System consisting of a building control network, and integrate the building control network into the Base's existing Energy Management Control System (EMCS) as follows:

3.5.5.1 Existing Base-wide EMCS

The Base's existing EMCS includes BACNET-based Siemens controls already established in each building, and report to the central station located in Building 450. Maintain each building's existing controls infrastructure as much as practicable for reuse including control panel(s), supervisory controller(s), etc., for integration of new equipment.

3.5.5.2 Direct Digital Control (DDC) System

Outfit all new mechanical equipment including split system fan coils, condensing units, heat pumps, RTUs, minisplit systems, etc., with controls compatible with existing controls infrastructure and conforming to Base standards. Coordinate exact requirements with the Base DDC Provider.

3.5.5.3 Base DDC Provider

The Base has an existing service contract with Powers-HVAC based in North Little Rock, AR (877-274-7127). The current point of contact is Mike Fogo (479-275-9733) who is based out of the Springdale, AR office.

3.5.6 Testing, Adjusting and Balancing (TAB)

Test and balance all air systems using a firm certified for TAB by the Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB), or the Testing Adjusting, and Balancing Bureau (TABB) in accordance with UFGS 23 05 93. The TAB firm must be an independent subcontractor and not an employee or subcontractor of any other subcontractor on this project. Perform TAB in accordance with the requirements of the standard under which the TAB Firm's qualifications are approved, i.e., AABC MN-1, NEBB TABES, or SMACNA HVACTION unless otherwise specified herein. All recommendations and suggested practices contained in the TAB Standard are mandatory. Use the provisions of the TAB Standard, including checklists and report forms, as much as practicable to satisfy the contract requirements. Use the TAB Standard for all aspects of TAB, including qualifications for the TAB Firm and Specialist and calibration of TAB instruments. Where the instrument manufacturer calibration recommendations are more stringent than those listed in the TAB Standard, adhere to the manufacturer's recommendations. All quality assurance provisions of the TAB Standard such as performance guarantees are part of this contract. For systems or system components not covered in the TAB Standard, the TAB Specialist must develop TAB procedures. Where new procedures and requirements applicable to the contract requirements have been published or adopted by the body responsible for the TAB Standard used (AABC, NEBB, or TABB), the requirements and recommendations contained in these procedures and requirements are mandatory.

3.5.7 Commissioning

Commission all HVAC systems and equipment, including controls, and all systems requiring commissioning in accordance with ASHRAE, UFC 1-200-02 and Specification section 01 91 00.15. The Commissioning Agent (CA) must be an independent subcontractor and not an employee or subcontractor of any other subcontractor on this project. The CA must not have business connections with any other

party on the project, nor have any other role or responsibilities outside of commissioning activities. The CA must communicate and report directly to the Government in the execution of the commissioning activities.

3.5.8 Building-By-Building Design Directives

Project scope includes existing mechanical systems deemed suitable for reuse due to their age and condition. Remove all gas-fired equipment (split systems with furnaces, boilers, etc.) unless noted otherwise. All gas-fired equipment in building 202 must remain in service as-is. Where directives indicate to remove an existing system, designer of record (DOR) must calculate the capacity of its replacement in accordance with Sections 3.5.4.3 above. Likewise, capacities of new (additional) systems must be calculated by DOR. Not all directives include unit heaters and exhaust systems, which are to be replaced, reused or scheduled as new at the discretion of the DOR.

3.5.8.1 Building 201

- a. Remove existing Carrier 5-ton split system (DX & gas, dated 2018) located in south Mechanical room 116, including associated ductwork and air devices. Provide new heat pump split system in its place, and new ductwork and air devices to support "Bulk Spares".
- b. Provide new (additional) heat pump split system in Mechanical 116 and distribution ductwork to support "Spares/Transit Area" & "Semi Bulky Racked Storage".
- c. Demolish existing Carrier 4-ton split system (DX & gas, located in current fire alarm panel room) and associated distribution ductwork in its entirety.
- d. Demolish existing Carrier 4-ton split system (DX & gas, located in west Mechanical room 123) and associated distribution ductwork in its entirety. Provide new heat pump split system in its place, and new distribution ductwork and air devices to support "Racked Storage".
- e. Provide new ground-mounted, heat pump, packaged rooftop unit (RTU) on the north side of the building, and mounted on minimum 6" tall concrete housekeeping pad. Provide distribution ductwork to support "Compact Storage" and "Fast Moving Bulk Spares". Where available, provide manufacturer's onboard dehumidifier system (e.g., Carrier Humidimizer) in lieu of a standalone dehumidifier.
- f. Provide standalone, packaged dehumidifier with onboard automatic drain and/or pump suspended in each of the main storage areas (five total) to maintain relative humidity levels of 50% (or less), or to range specified by end user. Standalone unit not required in space(s) served by an RTU with onboard dehumidification system.
- g. Reuse two existing gas-fired infrared (IR) heaters (200 MBH each, date unknown) in "Fast Moving Bulk Spares", and two (2) existing gas-fired IR heaters (60 MBH each, date unknown) in "Bulk Spares". DOR to determine if existing IR heater locations will interfere with new racking equipment or other storage methods, and demolish heaters if necessary. The intent is to provide additional heating in these spaces when their overhead doors are open.
- h. Provide BACNET DDC controls for each new mechanical system as described in Section 3.5.5.

3.5.8.2 Building 202

- a. Existing systems (makeup air units, air compressors, air dryers, water heater, IR heaters, exhaust fans, etc.) located in northwest Mechanical 138 to remain in-service, as-is.
- b. Existing systems (IR heaters, exhaust/supply fans, etc.) located in the aircraft bays to remain in service, as-is.
- c. Seven (7) existing heat pump split systems serve occupied and unoccupied non-aircraft bay spaces throughout the building. The heat pumps are located in two enclosures on the west side of the building. Corresponding fan coils are located above ceilings throughout the non-hangar areas of the building. The systems must remain in service, as-is, except where ductwork modifications are required to support revised floorplans in the core office areas.
- d. Existing systems serving various unoccupied spaces (Electrical, Comm, Fire Riser, Pod, Storage, Vaults, etc.) to remain in service, as-is.
- e. Modify one of the existing split system's ductwork and air distribution to support the lactation room.
- f. Provide dedicated, cooling-only minisplit system for new Comm room. System must be capable of low-ambient cooling to 0 degrees Fahrenheit.
- g. Existing mechanical systems are currently tied to the Base's EMCS in Building 450. Verify this and provide BACNET DDC controls for existing mechanical systems (if none exists) as described in Section 3.5.5.

3.5.8.3 Building 214

- a. Demolish existing hydronic heating water system in its entirety including boiler & appurtenances, pump, piping and hydronic unit heaters throughout building.
- b. Demolish gas-fired, ground-mounted makeup air unit located outside the northeast corner of the building.
- c. Demolish exhaust system including hoods in the northeast corner of the building.
- d. Demolish three (3) Carrier split systems on the south side of the building, and one (1) on the north side. Demolish ductwork associated with all four systems.
- e. Provide new heat pump split system in Mechanical 008 and distribution ductwork for all spaces on the south side of the building including storage, toilet rooms and AME.
- f. Provide new minisplit heat pump system for Parachute 004 including ceiling-mounted cassette fan coil. Locate heat pump on north side of the building.
- g. Provide new minisplit heat pump system for the mezzanine JEI-EMMS room including ceiling-mounted cassette fan coil. Locate heat pump on the north side of the building.
- h. Provide new minisplit heat pump system for the mezzanine 425FS Trade Learning room including ceiling-mounted cassette fan coil. Locate heat pump on the north side of the building.
- i. Provide new minisplit heat pump system for the mezzanine JEIM Engine office including ceiling-mounted cassette fan coil. Locate heat pump on the west side of the building.
- j. Provide new minisplit heat pump system for Storage room 006 including ceiling-mounted cassette fan coil. Locate heat pump on the west side of the building.

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- k. Provide new minisplit cooling-only system for Comm room 005 including wall-mounted fan coil. System must be capable of low-ambient cooling to 0 degrees Fahrenheit. Locate condensing unit on the north or east side of the building.
 - l. Provide minimum four (4) electric downblast unit heaters for the main Work Bay. Locate and suspend units such that they will not interfere with boom cranes and other equipment located in the Work Bay.
 - m. Provide one (1) electric unit heater in the Tool Storage area of the single-story north side of the building.
 - n. Provide new exhaust system(s) for revised toilet rooms and janitor's closet.
 - o. Provide two wall-mounted airfoil propeller fans on the upper east wall of the Work Bay, each sized to collectively provide 15-20 air changes per hour. Provide two operable louvers on the lower west side of the building, interlocked with the fans and sized for maximum 550 feet per minute airflow. Provide line-voltage thermostat(s) with manual override to operate the systems for cross-ventilation/heat removal in the Work Bay.
 - p. Provide BACNET DDC controls for each new mechanical system as described in Section 3.5.5.

3.5.8.4 Building 216

- a. Demolish two existing Liebert split systems serving the southwest wing of the building in their entirety.
- b. Remove existing Carrier 4-ton split system (DX & heating water, dated 2018) located in southwest Mechanical room 17. Remove all associated ductwork and air devices. Provide new heat pump split system, ductwork and air devices to support proposed rooms 106, 111 & 112. Fortify main supply and return ducts leaving/entering Mech 17 per Air Force and DOD standards.
- c. Remove existing Carrier 25-ton split system (DX & heating water, dated 2018) located in southwest Mechanical room 17. Remove all associated ductwork and air devices. Provide new heat pump split system, ductwork and air devices to support rooms 107-110. Fortify main supply and return ducts leaving/entering Mech 17 per Air Force and DOD standards.
- d. Demolish existing Fujitsu minisplit system located just north of Mech 17 in its entirety. Location of associated fan coil within building is not known.
- e. Provide new minisplit cooling-only system for Comm room 00 including wall-mounted fan coil. System must be capable of low-ambient cooling to 0 degrees Fahrenheit. Locate condensing unit on the north or east side of the building.
- f. Demolish existing Fujitsu dual minisplit system located just outside Vestibule 30 in its entirety (outdoor and indoor units). Location of associated fan coils within building is not known.
- g. Remove existing 250MBH (capacity and 2018 date, both estimated) Lochinvar boiler, distribution pumps, appurtenances and all associated heating water distribution piping in its entirety. Boiler and appurtenances are located in Mech 17. Extent of heating water distribution piping is not known.
- h. Remove existing Carrier 30-ton split system serving original portion of the building (dated 2018). Remove fan coil and associated gas-fired duct heater located in Mech 16. Provide

new heat pump split system and revise ductwork and air distribution devices to support proposed room layouts.

- i. Provide new minisplit heat pump system for new DV MTG Room/Lounge addition on west side of the building. Provide ceiling-mounted cassette fan coil. Locate heat pump on existing slab north of addition.
- j. Provide new precision-cooling split system(s) for Secure Comm, Vault ALIS/ODIN and/or Vault 1 Server rooms. Coordinate exact rooms requiring 24/7 cooling with end user. System(s) must be capable of maintaining room temperature between 60-84 degrees Fahrenheit and relative humidity levels between 40-70%. System must include onboard humidification and be capable of low-ambient cooling to 0 degrees Fahrenheit. Locate condensing unit(s) on the east side of the building. Reference products: Trane S-Mext (indoor unit) and TRUY (outdoor unit).
- k. Demolish existing York 30-ton ground-mounted RTU (gas & DX, dated 2018) serving the two northmost additions to the building. Provide new ground-mounted heat pump packaged RTU on existing concrete pad. Revise existing ductwork to support proposed room layouts in the northmost additions. Fortify ducts passing through new secure perimeter in accordance with Air Force and DOD standards, and design ductwork to reduce sound transfer to specified STC levels.
- l. Provide dedicated, cooling-only split system for room serving F-16 Unit Training Device (UTD). Data provided for this device (F16SATD) dated August 2015 indicates a heat gain of 52,000 BTUH and a relative humidity range of 30-70% for the space in which it resides. Coordinate exact requirements for this space with end user.
- m. Demolish existing Fujitsu dual minisplit system located on the northeast side of the building in its entirety. Associated fan coils are located just inside the adjacent wall.
- n. Provide BACNET DDC controls for each new mechanical system as described in Section 3.5.5.

3.5.8.5 Building 218

- a. Demolish existing minisplit system that previously served the existing Comm room. System is currently inactive.
- b. Provide new minisplit cooling-only system for Comm 119 including wall-mounted fan coil. System must be capable of low-ambient cooling to 0 degrees Fahrenheit. Locate condensing unit on the east side of the building.
- c. Remove existing Carrier 3-ton ground-mounted RTU (DX & gas, dated 2018) located near the southwest corner of the original building, and associated ductwork and air devices.
- d. Provide new ground-mounted heat pump RTU located near the southwest corner of the original building, and mounted on minimum 6" tall concrete housekeeping pad. Alternatively, provide new heat pump split system in west Mechanical 123 if space allows. Provide distribution ductwork to support new southeast building addition as well as existing adjacent, revised room layouts.
- e. Remove existing Carrier 4-ton split system (DX & gas, dated 2018) located in west Mechanical 123. Provide new heat pump split system. Revise distribution ductwork to support proposed room layouts.

- f. Demolish existing Luxaire 5-ton split system (DX & gas, dated 2018 or newer) located in northwest Mechanical 113. Provide new heat pump split system. Existing duct distribution system currently serves the west and north exposures of the building. Revise distribution ductwork to support proposed room layouts.
- g. Remove existing Carrier 5-ton split system (DX & gas, dated 2018) located in northwest Mechanical 113. Provide new heat pump split system. Existing duct distribution system currently serves the existing central assembly room. Revise distribution ductwork to support proposed room layouts.
- h. Remove existing Carrier 5-ton split system (DX & gas, dated 2018) located in northwest Mechanical 113. Provide new heat pump split system. Existing duct distribution system currently serves the existing entry lobby and east exposure of the building. Revise distribution ductwork to support proposed room layouts.
- i. Existing mechanical systems are currently tied to the Base's EMCS in Building 450. Provide BACNET DDC controls for each new mechanical system as described in Section 3.5.5

3.6 Plumbing Design

3.6.1 Existing Systems

The designs include new and/or existing equipment which varies building-to-building. See Section 3.6.5 for design directives for each building.

3.6.2 Plumbing System

3.6.2.1 Life Cycle Cost Analysis

Base water efficiency design and energy-related decisions for major systems on Life Cycle Cost Analysis (LCCA) in accordance with UFC 1-200-02 Life Cycle Cost Analysis requirements. If life-cycle cost effective, implement renewable energy design strategies such as solar hot water heating.

3.6.2.2 Cold Water

Provide domestic cold water through a reduced pressure principle backflow preventer located where indicated in section 3.6.5. If shown to be needed by a current water flow test, boost the water pressure by a triplex domestic water booster pump system in a lead/lag configuration with a third pump as a redundant reserve and a hydro-pneumatic tank.

3.6.2.3 Hot Water

Generate domestic hot water at 140°F via a domestic electric storage tank or instantaneous water heater(s). In accordance with Executive Order EO14057, new gas-fired water heaters are not allowed. Install a thermostatic mixing valve at each fixture delivering hot water (except mop sinks) and set to temperatures as defined in the IPC. Insulate all piping in accordance with the IECC, and label with text and color identification. If design includes recirculation pump, tie it into building occupancy programming.

3.6.2.4 Waste and Vent Piping

Provide drainage piping (waste and vent) in accordance with UFGS 22 00 00 Plumbing. Drain waste from plumbing fixtures and floor drains directly to the sanitary sewer system. Vent all sanitary vents to atmosphere through a combined vent system minimizing the number of roof penetrations. Do not use air admittance valves. Install trap primers on all floor drains.

3.6.3 General Plumbing Fixtures

Provide fixtures, accessories and supports in accordance with UFGS 22 00 00. Provide WaterSense-rated products whenever possible. Fixtures and features listed below are for reference only and must be modified as applicable to each building. Refer to Specifications for all required features and appurtenances for each item.

3.6.3.1 Water Closets

Provide wall-mounted, vitreous china fixtures water closets with elongated bowl with open front seat and exposed 1.28 gpf sensor operated flush valves. Floor-mounted 1.6/1.0 gpf dual-flush water closets may also be acceptable.

3.6.3.2 Urinals

Provide wall-mounted, vitreous china urinals with exposed 0.125 gpf sensor-operated flush valves.

3.6.3.3 Sinks

Provide wall or counter-mounted, vitreous china sinks with sensor-operated faucets. Provide thermostatic mixing valve for each fixture set to provide 110°F hot water maximum. Provide 0.5 gpm aerator.

3.6.3.4 Showers

Stand-alone showers must be floor mounted, constructed of terrazzo or other approved manufactured stone basin. All shower valves must be pressure-balanced with integral thermostatic mixing valves set to provide 110°F and 1.5 gpm, maximum.

3.6.3.5 Miscellaneous Sinks

Provide kitchen/break room sinks with 20-gauge stainless steel double or single bowl and gooseneck faucet with wrist blade handles. Provide 1.0 hp garbage disposal where requested. Coordinate connection to other appliances (i.e. dishwashers, refrigerators, and ice machines) with architect.

3.6.3.6 Mop Sinks

Provide floor-mounted, stainless steel or terrazzo mop sinks with clamp-down floor drain and wall-mounted faucet. Faucet must have a wall bracket supported spout with pail hook, integral atmospheric vacuum breaker, and 3/4" hose thread.

3.6.3.7 Floor Sinks

Provide 12"x12" floor sink at water entry backflow preventer assemblies with 3/4" grate, cast-iron body with porcelain enamel coating, and dome strainer. Provide trap primer.

3.6.3.8 Hose Bibbs

Provide hose bibbs in Mechanical Rooms, fire sprinkler riser rooms and rooms where backflow preventers are located (if separate from the Mechanical Room), if none currently exist.

3.6.4 Piping and Materials

3.6.4.1 Water Supply

Provide domestic Water piping 1/2" to 8", above and below ground, in accordance with UFGS 22 00 00 Plumbing. Provide piping insulation in accordance with UFGS 23 07 00 and ASHRAE 90.1.

3.6.4.2 Water Hammer Arrestors

Provide water hammer arrestors in accordance with Plumbing and Drainage Institute (PDI) standard PDI-WH 201 "Water Hammer Arrestors".

3.6.4.3 Waste and Vent

Provide domestic Waste and Vent piping in accordance with UFGS 22 00 00 Plumbing.

3.6.4.4 Floor Drains

Provide floor drains with all-metal bronze body and nickel bronze strainers in all toilet rooms with two or more fixtures, shower rooms, mechanical rooms and janitor's closets.

3.6.4.5 Natural Gas

Natural Gas Piping (existing, where modification is required): Schedule 40 black steel, threaded joints and fittings.

3.6.5 Building-By-Building Design Directives

The scope of the project includes existing plumbing systems deemed suitable for reuse due to their age and condition. The extent and invasiveness of plumbing modifications varies between buildings.

3.6.5.1 Building 201

- a. Demolish existing ~~<AM#0002> 75-gallon~~ gas-fired water heaters located in Mechanical 116 ~~and on the mezzanine.~~ ~~</AM#0002>~~
- b. Demolish plumbing (domestic and sanitary) throughout building while maintaining infrastructure necessary to support new toilet room 117.
- c. Install new reduced pressure backflow preventer assembly, pressure reducing valve ~~<AM#0002> where required~~ ~~</AM#0002>~~, and floor sink in Mechanical 116.
- d. Provide new electric water heater in Mechanical 116.

3.6.5.2 Building 202

- a. Building's water entry is located in Mechanical 138, but was not observed in the field. Verify the existence of a backflow assembly and pressure reducing valve. ~~<AM#0002> and p~~ Provide ~~these items~~ a backflow assembly if none exists, and a pressure reducing valve if required. ~~</AM#0002>~~
- b. Provide counter-mounted sink in the new Lactation Room 132, and new mop sink in Janitor 145.
- c. Provide tempered water and new combination emergency shower/eyewash stations as listed here. Refer to Attachment B – Concept Design Drawings for locations. Bay One: 2 stations, Bay Two: one station, Bay Three: one station, Tank Bay 128: one station, Paint Booth 137: one station.

3.6.5.3 Building 214

- a. Building's water entry is located in the southeast corner of the building (AME 012). Provide new reduced-pressure backflow assembly, pressure reducing valve ~~<AM#0002> if required~~ ~~</AM#0002>~~ and floor sink. ~~<AM#0003>~~ Relocation of the water entry to Compressor/Fire Riser (Mech) 008 is an ~~option~~ acceptable solution. ~~</AM#0003>~~

- b. Demolish existing toilet room plumbing fixtures and associated domestic and sanitary piping as necessary to support proposed fixture layout. Provide new plumbing fixtures, including mop sink, as shown in proposed layout, and domestic and sanitary piping to support these.
- c. Demolish existing gas-fired water heater located in Mechanical 008 and provide new electric water heater.
- d. Demolish existing air compressor located in Mechanical 008 and associated distribution piping throughout building.
- e. Provide new air compressor in Mechanical 008. Coordinate with end user to determine system requirements including style (horizontal or vertical) and type (single stage, multistage, oiled, oil-free, etc.). Provide new distribution piping to serve a minimum of ten (10) air drops (locations to be determined) at delivery pressures and airflows prescribed by the end user. <AM#0002>Both type K and L piping are acceptable.</AM#0002>
<AM#0003>
- f. Drain oily waste to the oil/water separator, if provided; otherwise, drain to the sanitary sewer system in accordance with UFC 3-420-01 C-3.4.4. </AM#0003>

3.6.5.4 Building 216

- a. Entirety of building's domestic water piping was replaced with PEX as recently as 2023, and as-built drawings are available.
- b. Building's water shutoff valve is located just outside Mech 16. It appears from the pre-PEX record drawings that the entry main may be located in the plumbing chase between Mech 16 and the Men's toilet room. Relocate water entry to Mech 16, and provide reduced-pressure backflow assembly, pressure reducing valve <AM#0002> if required </AM#0002>, and floor sink.
- c. Revise domestic and sanitary piping systems to support new kitchen sink and dual-level electric water cooler with bottle filler in new DV MTG/Lounge 113 and counter-mounted sink in the new Lactation room.

3.6.5.5 Building 218

- a. Building's water shutoff valve is located just outside Mech 123. The water main likely enters the plumbing chase in between the two existing toilet rooms. Relocate water entry to Mech 120 and provide reduced pressure backflow assembly, pressure reducing valve <AM#0002> if required </AM#0002>, and floor sink. Reconnect domestic piping to water main in plumbing chase.
- b. Remove existing 40-gallon gas-fired water heater (dated 2016) and replace with new electric water heater.
- c. Existing plumbing fixtures in both toilet rooms to remain in service, as-is.
- d. Provide domestic and sanitary piping to support new break room sink and dual-level electric water cooler with bottle filler in Assembly Room 100 as shown on the proposed room layout.
- e. Provide domestic and sanitary piping to support new break room sink located in LSS Room 120A.

3.7 Fire Protection, Fire Alarm/Mass Notification (FA/MNS), and Life Safety Design

3.7.1 Qualified Fire Protection Engineer (QFPE)

A qualified fire protection engineer (QFPE) meeting the qualifications required by UFC 3-600-01, must be responsible for, but not limited to, the design engineering, preparation of the construction documents, construction phase inspection and acceptance testing of all of the fire sprinkler and fire alarm and mass notification systems. QFPE must also be involved with the building code and life safety code analysis. A qualified fire protection engineer is an integral part of the design/build team and must be involved in every aspect of the design as it relates to fire protection and life safety. The project QFPE must review the 100 percent design submission of plans and specifications 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.

At a minimum, during the construction phase the QFPE must 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 subcontractors, and final acceptance inspection and testing with General Contractor, subcontractors and the Corps of Engineers.

3.7.2 Design Criteria

The purpose of this narrative is to describe the proposed fire protection and life safety features for the renovations of Buildings 201, 202, 214, 216 and 218 located at Ebbing ANGB, Fort Smith, Arkansas. The following project scope applies to the fire protection and life safety requirements of these buildings.

Building 201 - change of use of entire building to warehouse/storage. Classified in NFPA 101, Chapter 43 as a "change in use." Comply with the "new" requirements in NFPA 101.

Building 202 – renovation and improvements of an existing aircraft hangar. The hangar is classified as Tier 2 in accordance with the USAF Sundown Policy. Classified in NFPA 101, Chapter 43 as a "Reconstruction." Comply with the "new" requirements in NFPA 101.

Building 214 – renovation and improvements of an existing maintenance facility (including mezzanine). Classified in NFPA 101, Chapter 43 as a "Reconstruction." Comply with the "new" requirements in NFPA 101.

Building 216 – renovation and improvements of an existing office building to include mission support spaces and secure spaces. Classified in NFPA 101, Chapter 43 as a "Reconstruction." Comply with the "new" requirements in NFPA 101.

Building 218 – renovation and occupancy change to an existing building to include mission support facilities and squadron assembly area. Classified in NFPA 101, Chapter 43 as a "Reconstruction." Comply with the "new" requirements in NFPA 101.

3.7.3 Automatic Sprinkler Protection

3.7.3.1 Provide, design, and install new or modified automatic wet pipe sprinkler systems in accordance with UFC 3-600-01 and NFPA 13 as indicated below:

- a. Building 201 – new system (per UFC3-600-01 Section 4-48.2.1).
- b. Building 202 – existing system to be replaced.

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- c. Building 214 – new system (per UFC3-600-01 Section 4-48.2.1).
 - d. Building 216 – existing system to be replaced.
 - e. Building 218 – new sprinkler system required in accordance with UFC 3-600-01 due to the Pyro Room proposed in the building containing explosives.
- 3.7.3.2 Sprinkler risers must be as follows. Each riser assembly must consist of a new supervised OS&Y control valve, new or existing alarm check valve and a new or existing vane-type waterflow switch. Discharge all drain assemblies associated with the riser to a safe location at the exteriors of the buildings.
- a. Building 201 – Install a new fire sprinkler riser in the Spares/Transit Area Room 115.
 - b. Building 202 – Provide new fire sprinkler riser in the current location of the fire water supply line (Fire Riser Room 135). This location is less than 10 feet from the edge of the building slab.
 - c. Building 214 – Install a new fire sprinkler riser in the Compressor Room 008.
 - d. Building 216 – Provide new riser in the current location of the existing sprinkler riser. Separate the riser from the room with partitions. Provide a 3' clearance for all valves (as required by UFC 3-600-01). This location is less than 10 feet from the edge of the building slab.
 - e. Building 218 – A new fire sprinkler riser is proposed in the mechanical room on the north side of the building. This location is less than 10 feet from the edge of the building slab.
- 3.7.3.3 Additional Sprinkler System Details – Building 202
- a. Demolish all existing foam system equipment including, but not limited to, foam concentrate, concentrate storage tank, proportioner and concentrate piping/valves/fittings. These foam systems were previously decommissioned and it is assumed that the foam concentrate was disposed of at that time.
 - b. Demolish all fire sprinkler systems back to the water supply line into the building. Preserve the sprinkler lead-in to the building.
 - c. Provide a new fire pump and pump accessories in compliance with UFC 3-600-01, UFC 4-211-01 and NFPA 20.
 - d. Provide new piping and valves for new closed-head water-only sprinkler systems in the hangar bays. No deluge type sprinkler system or foam sprinkler system is proposed.
 - e. Provide a new wet pipe sprinkler system in the office and support areas.
 - f. Provide wet pipe sprinkler protection for the paint booth area in accordance with NFPA 33. A new paint booth (GFGI) will be installed in the location of the existing paint booth.
- 3.7.3.4 Additional Sprinkler System Details - Building 216
- a. Demolish all portions of the fire sprinkler system back to the water supply line into the building.
 - b. Provide a new wet pipe sprinkler system throughout the building.

3.7.3.5 Sprinkler Hazard Design

Sprinkler hazard design details are provided for reference only and it is the responsibility of the designer of record (DOR) to provide the design details and system criteria.

- 3.7.3.5.1 Hangar Bay 1 is a fuel cell maintenance bay. Design the sprinkler system per UFC 4-211-01, paragraph 5-12.4.1 per the USAF Sundown Policy. Provide a design density of 0.20 gpm/sf over the hydraulically most remote 5,000 square feet. Include an outside hose allowance of 500 gpm in the hydraulic calculations.
- 3.7.3.5.2 Hangar Bay 2 is a general maintenance bay. Design the sprinkler system per Chapter 5 of UFC 4-211-01 per the USAF Sundown Policy. Provide a design density of 0.20 gpm/sf over the hydraulically most remote 5,000 square feet. Include an outside hose allowance of 500 gpm in the hydraulic calculations.
- 3.7.3.5.3 Hangar Bay 3 is a corrosion control bay. Design the sprinkler system per Chapter 5 of UFC 4-211-01 per the USAF Sundown Policy. Provide a design density of 0.20 gpm/sf over the hydraulically most remote 5,000 square feet. Include an outside hose allowance of 500 gpm in the hydraulic calculations.
- 3.7.3.5.4 The shelf and rack storage in Buildings 201 is reported to be up to 8 feet in height, without solid shelves and no plastic commodities. In addition, provide rotating storage units and compact shelving in this building. Classify these areas as miscellaneous storage and protect in accordance with the storage provisions found in NFPA 13. Design the sprinkler system for the maximum possible storage height. Include an outside hose allowance of 500 gpm in the hydraulic calculations.
- 3.7.3.5.5 Classify work bays, equipment, general storage and mechanical rooms as ordinary hazard in accordance with UFC 3-600-01. Include an outside hose allowance of 250 gpm in the hydraulic calculations.
- 3.7.3.5.6 Classify the remainder of the building areas as light hazard in accordance with UFC 3-600-01. Include an outside hose allowance of 250 gpm in the hydraulic calculations.

3.7.3.6 Occupancy Hazard Classification

Sprinkler hazard design details are provided for reference only and it is the responsibility of the designer of record (DOR) to provide the design details and system criteria

- 3.7.3.6.1 In areas classified as ordinary hazard, design the overhead sprinkler system 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 must be ordinary temperature (unless ambient conditions require higher temperature rated sprinklers, such as mechanical equipment areas), quick-response type. For areas where ceiling heights do not exceed 30 feet: provide pendent, chrome finish, recessed, K-8 minimum sprinklers in areas with finished ceilings and provide upright, rough brass, K-8 minimum sprinklers in areas without finished ceilings. For areas where ceiling heights are between 30 and 45 feet: provide pendent, chrome finish, recessed, K-11.2 minimum sprinklers in areas with finished ceilings and provide upright, rough brass, K-11.2 minimum sprinklers in areas without finished ceilings. Provide protective cages for sprinklers that are subject to mechanical damage. The maximum protection area per sprinkler

must be 130 square feet, with a maximum spacing of 15 feet. Include an outside hose allowance of 250 gpm in the hydraulic calculations.

- 3.7.3.6.2 In areas classified as light hazard with ceiling heights that do not exceed 30 feet, hydraulically design the overhead sprinkler system to provide a discharge density of 0.10 gallons per minute over the hydraulically most remote 1,500 square feet of floor area. Sprinklers in these areas must be ordinary temperature (unless ambient conditions require higher temperature rated sprinklers), quick-response type. Provide pendent, chrome finish, recessed, K-5.6 minimum sprinklers in areas with finished ceilings and provide upright, rough brass, K-5.6 minimum sprinklers in areas without finished ceilings. In areas classified as light hazard with ceiling heights between 30 and 45 feet, the overhead sprinkler system must 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 must be ordinary temperature (unless ambient conditions require higher temperature rated sprinklers), quick-response type. Provide pendent, chrome finish, recessed, K-11.2 minimum sprinklers in areas with finished ceilings and provide upright, rough brass, K-11.2 minimum sprinklers in areas without finished ceilings. Provide protective cages for sprinklers that are subject to mechanical damage. The maximum protection area per sprinkler must be 225 square feet with a maximum spacing of 15 feet. Include an outside hose allowance of 250 gpm in the hydraulic calculations.
- 3.7.3.6.3 Seismic bracing is required as the seismic category for the site is Category C.
- 3.7.3.6.4 All new sprinkler system control valves must be provided with signage indicating their function and what it controls in accordance with NFPA 13. The sprinkler system design for Building 216 includes minimum pipe penetrations through ICD 705 walls. Make all sprinkler pipe penetrations via dielectric fittings or ground them properly (if dielectric fittings are not available due to size).
- 3.7.3.6.5 The ceilings do not exceed a slope of 2 in 12.
- 3.7.3.6.6 Hose stream demand must be in compliance with UFC 3-600-01 Table 9-4.
- 3.7.4 Special Fire Suppression and Releasing Systems: None proposed.

3.7.5 Water Supply

3.7.5.1 Fire Flow Requirements

3.7.5.1.1 All of the buildings that are part of this project as existing, Type IIB construction. Fire flow is required for each of the buildings, in accordance with UFC 3-600-01 and NFPA 1, as follows:

Building #	Building Area	From Table 18.4.4.2.1	Reduced for Sprinklers (75% reduction, but not less than 1,000 gpm)
201	9,600 sq ft	2,000 gpm @ 20 psi	1,000 gpm @ 20 psi

Building #	Building Area	From Table 18.4.4.2.1	Reduced for Sprinklers (75% reduction, but not less than 1,000 gpm)
214	13,100 sq ft	2,500 gpm @ 20 psi	1,000 gpm @ 20 psi
216	18,050 sq ft	2,750 gpm @ 20 psi	1,000 gpm @ 20 psi
218	7,825 sq ft	1,750 gpm @ 20 psi	1,000 gpm @ 20 psi

3.7.5.1.2 The water supply to the facilities is via existing underground water main systems supplied by the elevated water tank located on the Base property. The water level in this water tank is maintained by a supply line from the City of Fort Smith water department.

3.7.5.1.3 Preliminary fire hydrant flow tests were performed at the project site May 22, 2024, at approximately 7:45 am central time. The first test was conducted near Building 201 and indicated a static pressure of 61 pounds per square inch, reduced to 57 pounds per square inch while flowing 1000 gallons per minute. The second test was conducted near Building 214 and indicated a static pressure of 57 pounds per square inch, reduced to 55 pounds per square inch while flowing 1,030 gallons per minute.

3.7.5.1.4 Hydrant Flow Test Results. Reference Attachment F of this RFP for these test results.

3.7.5.1.5 Based on the results of the fire hydrant flow tests, it does not appear that a fire pump needs to be provided for Buildings 201, 214, 216, or 218 to support the new sprinkler systems. At least one fire pump is required in Building 202 to support the new sprinkler systems.

3.7.5.2 Fire Hydrants and Fire Access

3.7.5.2.1 No new fire hydrants or fire access roads are proposed.

3.7.5.2.2 For the new sprinkler systems in Buildings 201, 214, and 216, provide the fire department connection within 150 feet of an existing fire hydrant, where practical. Provide an exterior PIV on the fire main lead-in piping, located in accordance with the requirements of NFPA 24 and monitored by the building fire alarm system. Provide a new double-check backflow prevention device inside the building at the riser manifold.

3.7.5.2.3 For the existing sprinkler systems in Buildings 202 and 216, the distance from the existing fire department connection to the existing fire hydrant is 150 feet or less. An exterior PIV is provided on the fire main lead-in piping, located in accordance with the requirements of NFPA 24. Building 202 and 216 are provided with existing backflow prevention devices which are to remain.

3.7.5.2.4 Provide key boxes matching the requirements of the Base at all buildings.

3.7.6 Standpipe

A standpipe system is not required per UFC 3-600-01, Paragraph 9-10.2 in any of the 5 buildings in this project. The buildings are less than 4 stories and all areas of the buildings are within 450 feet of an exterior door.

3.7.7 Portable Fire Extinguishers

Provide general purpose portable fire extinguishers where required by NFPA 101. Size and space them in accordance with UFC 3-600-01 and NFPA 10. Provide new portable fire extinguishers throughout all areas of work. Provide at least one class 4A:80B:C rated dry chemical portable fire extinguisher for every 11,250 square feet of floor area and locate such that an occupant travels no more than 75 feet before reaching a portable fire extinguisher, except in the electrical equipment rooms. One class 4A:80B:C rated portable fire extinguisher must be located within 30 feet of the appropriate hazard, such as the main electrical panel. Provide wall mounted or in recessed cabinets, as specified in the architectural narrative.

3.7.8 Fire Alarm and Mass Notification System

- 3.7.8.1 Building 201 is classified as a low occupancy building and does not require a mass notification system per UFC 4-010-01. Since this is a sprinklered building it is required to have a fire alarm system in accordance with UFC 3-600-01, Paragraph 9-18.1 and NFPA 101.
- 3.7.8.2 The fire alarm device locations and notification appliance coverage does not comply with current requirements of UFC 3-600-01, UFC 4-021-01 or NFPA 72. A new fire alarm and mass notification system must be provided in Buildings 202, 214, 216, and 218.
- 3.7.8.3 Provide a new combination fire alarm and mass notification system in accordance with NFPA 72, UFC 3-600-01, UFC 4-021-01, and ECB 2018-17. Locate the fire alarm and the mass notification control unit (FMCU), fire alarm control panel (FACP), and remote annunciators in a normally occupied, conditioned area approved by the Contracting Officer, Base Civil Engineer Squadron and the Fire Department.
- 3.7.8.4 Initiating devices must consist of spot-type smoke detection (above the fire alarm and mass notification control unit, above any other fire alarm control units), carbon monoxide detectors (in mechanical rooms containing fuel-fired equipment), sprinkler waterflow switches and manual pull stations at each exit. Provide photoelectric duct detectors in the supply air ducts of air handling units greater than 2,000 cfm. All new sprinkler system tamper switches, including PIVs, must be monitored as supervisory conditions by the fire alarm system. The fire pump must be monitored for Pump Running, Loss of Phase and Phase Reversal. Use Class B wiring in red conduit for all SLC, IDC and NAC wiring. Provide a fire alarm remote annunciator at a location approved by the Fire Department, presumably at the main entrance.
- 3.7.8.5 Transmit alarm, trouble and supervisory signals to the Base Fire Department via a new Monaco BT-XF radio transceiver. Provide transient voltage surge suppression for each new control unit and auxiliary panel.
- 3.7.8.6 Provide all combination speaker/strobes, speakers, and strobes in accordance with NFPA 72. The fire alarm and mass notification system must utilize the same clear-lens strobes, labeled "Alert", for occupant notification. Provide LED signs above each exit from the building. The system must be designed in accordance with UFC 04-021-01 (as amended by ECB 2018-17), including live voice messaging and playback of prerecorded messages. All speaker devices

located in secure (ICD-705) areas must be of the self-amplifying type or a remote amplifier panel must be provided inside each secured area to support the speakers and a notification appliance circuit (NAC) panel provided to support visual notification appliances.

- 3.7.8.7 Provide weatherproof exterior speakers at exterior gathering locations, hangar bays, fire pump room, and entrances/exits to the building.
- 3.7.8.8 Connect the remote amplifier and NAC panel(s) to the main FMCU via a fiber optic connection.
- 3.7.8.9 Provide local operator consoles (LOC) at the main entrance and located throughout the building such that an occupant does not have to travel more than 200 feet to get to a LOC. Provide a global emergency HVAC shutdown button adjacent to each LOC. The HVAC shutdown is not required to be part of the MNS.
- 3.7.8.10 Provide an interface with the fire alarm system to silence the fire alarm voice messages during broadcast of mass notification messages.
- 3.7.8.11 Provide all metallic conduit penetrations through security wall assemblies with dielectric unions on the secured side of the wall. Surface mount all system components installed on secure area walls.

3.7.9 Basic Building Code Summary

3.7.9.1 Occupancy Classification (IBC Chapter 3 and NFPA 101, Chapter 6):

Building #	IBC Classification	NFPA 101 Classification
201	Group S-1	Storage
202	Group S-1	Industrial
214	Group F-1	Industrial
216	Group B	Business
218	Group A-3	Assembly

3.7.9.2 Construction Type (IBC Table 601): All 5 buildings appear to be Type IIB construction (non-rated, non-combustible).

3.7.9.3 Allowable Height, nonseparated mixed use (IBC Tables 504.3 and 504.4, Sprinklered per NFPA 13:

Building	Occupancy	Allowable Height/Stories	Provided Height/Stories
201	S-1	75 feet/4 stories	34 feet/1 story
202	S-1	75 feet/4 stories	47 feet/1 story
214	F-1	75 feet/3 stories	34 feet/1 story (+mezz)
216	B	75 feet/4 stories	32.5 feet/1 story
218	A-3/B	75 feet/3 stories	27 feet/1 story

3.7.9.4 Allowable Floor Area, non-separated mixed use (IBC Table 506.2, Sprinklered per NFPA 13:

Building	Occupancy	Allowable Area – Single Story (no open space increase)	Provided Area
201	S-1	70,000 sq ft	9,600 sq ft
202	S-1	70,000 sq ft	31,350 sq ft
214	F-1	62,000 sq ft	13,100 sq ft
216	B	92,000 sq ft	18,050 sq ft
218	A-3/B	28,500 sq ft	7,825 sq ft

3.7.9.5 Required Separations from Hazards (NFPA 101, Section 38.3.2)

3.7.9.5.1 Mechanical Rooms (boiler or furnace): 1-hour fire resistance rating or sprinklers

3.7.9.5.2 Storage Rooms (general): 1-hour fire resistance rating or sprinklers

3.7.9.5.3 Occupancy Separation (IBC Table 508.4): None Required

3.7.9.6 Required Fire Resistance Requirements (IBC Tables 601 and 705.5)

Exterior Bearing Walls: 0-hour fire resistance rating. Exterior walls are more than 10 feet from the adjacent building; therefore, the exterior walls are not required to be fire rated barriers.

Interior Bearing Walls: 0-hour fire resistance rating

Structural Frame: 0-hour fire resistance rating

Floors and Floor/Ceilings: 0-hour fire resistance rating

Roof and Roof/Ceiling: 0-hour fire resistance rating

Shafts: No shafts provided

3.7.9.7 Fire and/or Smoke Dampers (NFPA 101, Section 9.2 and NFPA 90A, Section 5.3)

Fire Dampers: 1-hour fire resistance rating (required only in air transfer openings in 1-hour fire resistance rated barriers)

Smoke Dampers: 1-hour fire resistance rating (required only in air-transfer openings in smoke partitions)

3.7.10 Basic Life Safety Code Summary

3.7.10.1 Means of Egress: Means of egress must be in accordance with NFPA 101 per UFC 3-600-01.

3.7.10.2 Separation of Means of Egress (NFPA 101, Sections 7.1.3.2 and 38.3.6.1),

Corridor Walls: Not required (automatic sprinkler protection provided)

Corridor Doors: Not required (automatic sprinkler protection provided)

3.7.10.3 Occupant Load (NFPA 101, Table 7.3.1. 2 and UFC 3-600-01, Table 10-1)

Assembly, concentrated	1 person per 15 net sf
Concentrated Business:	1 person per 50 gross sf
Business - other:	1 person per 150 gross sf
Collaboration Rooms >450 sf:	1 person per 15 gross sf
Collaboration Rooms <450 sf:	1 person per 30 gross sf
General/high hazard industrial:	1 person per 100 net sf
Storage:	1 person per 500 gross sf
Mechanical/Electrical:	Maximum anticipated

3.7.10.4 Number of Exits (NFPA 101, Sections 7.4.1.1)

Required (per floor): 2

Provided: >2

3.7.10.5 Egress Capacity (NFPA 101, Section 7.3)

Level Surfaces: 44 inches required
 Stairs: N/A – No stairs provided

3.7.10.6 Common Path of Travel

Occupancy	NFPA 101 Section	If sprinklered
Assembly > 50 people	12.2.5.2	20 feet
Assembly < 50 people	12.2.5.2	75 feet
Business	38.2.5.2.1 & 38.2.5.3.3	100 feet
Industrial (general)	Table 40.2.5.1	100 feet
Storage (ordinary hazard)	Table 42.2.5	100 feet

3.7.10.7 Dead-End Corridors

Occupancy	NFPA 101 Section	If sprinklered
Assembly > 50 people	12.2.5.3	20 feet
Assembly < 50 people	12.2.5.3	20 feet
Business	38.2.5.3.1	50 feet
Industrial	Table 40.2.5.1	50 feet
Storage	Table 42.2.5	100 feet

3.7.10.8 Travel Distance

Occupancy	NFPA 101 Section	If sprinklered
Assembly > 50 people	12.2.6.2	250 feet
Assembly < 50 people	12.2.6.2	250 feet
Occupancy	NFPA 101 Section	If sprinklered
Business	38.2.6.3	300 feet
Industrial	Table 40.2.6.1	250 feet
Storage	Table 42.2.6	400 feet

3.7.10.9 Discharge From Exits (NFPA 101, Sections 7.7): Connect all exits to an exit discharge path that terminates at a public way.

3.7.10.10 Interior Finishes (NFPA 101, Section 10.2)

Occupancy	Exit Enclosures	Exit Access Corridors	Rooms & Enclosed Spaces	Floor Finish
Assembly	N/A	Class A or B	Class A, B or C in assembly less than 300 occupants	Class I or II
Business	N/A	Class A or B	Class A, B or C	Class I or II
Industrial	N/A	Class A, B or C	Class A, B or C	Class I or II in exit access corridor, otherwise no requirement
Storage	N/A	Class A, B or C	Class A, B or C	Class I or II in exit access corridor, otherwise no requirement

3.7.11 Emergency Lighting

Provide emergency lighting via battery backup at all means of egress, including exit access corridors and exit discharges. Provide emergency lighting in the mechanical rooms via battery backup. Emergency lighting must be provided for a minimum of 1½ hours in the event of internal power failure. Provide all emergency lighting in accordance with NFPA 101. Provide new emergency lighting in areas that are being fully remodeled (i.e., walls and ceilings removed).

3.7.12 Marking of Means of Egress

Provide all new exit signs which are LED type with battery backup and have red lettering. Provide exit signs in accordance with NFPA 101. Provide exit signs wherever the location of the exit is not readily apparent. Provide exit sign illumination for a minimum of 1½ hours in the event of internal power failure.

3.7.13 Hazardous Materials

Limited quantities of hazardous materials stored within designated cabinets will be present in Building 202, Building 214, and in the Pyro Room of Building 218. The use and storage of all hazardous materials must be in accordance with UFC 3-600-01, Section 4-20 and NFPA 400. Provide classified electrical equipment complying with NFPA 70 Article 500 where required, including the Fuel Bay of Building 202 and the Pyro Room in Building 216.

The materials to be stored in the Pyro Room in Building 218 have been previously classified as Division 1.4. The quantity of these materials is proposed to be the same as at the user group's current site. The document provided by the user group listing the type and quantity is found in Attachment H. The total amount of explosive materials proposed in this room is shown to be less than the MAQ as defined in UFC 3-600-01, and this space is not required to be classified as a Hazardous Occupancy.

3.8 Electrical Design

3.8.1 Description of Services

All five buildings have existing services with Oklahoma Gas & Electric (OG&E) owned primaries, transformers, and meters. Coordinate any load increases with OG&E point of contact Michelle Rodriguez-Pico, rodrigmc@oge.com. Follow all applicable codes listed in Attachment A. For any utility work, coordinate design and installation with Oklahoma Gas and Electric.

3.8.1.1 Existing Service Information

- a. Building 201: 208Y/120V, 200A, 3-Phase, 4W, main service panel PA. Existing 5KW, 120/240V, 1-Phase, 3W generator and panel. Utility transformer 321798, meter OG&E 1060137 52750758G. 400HZ panel existing.
- b. Building 202: 480/277V, 1200A, 3-Phase, 4W, main service panel switchboard. Utility transformer 321855, meter OG&E 1060129 50620918G. 400HZ panel existing.
- c. Building 214: 480/277V, 400A, 3-Phase, 4W, MDP. Utility transformer 321831, meter OG&E 1060129 50620920G.
- d. Building 216: 480/277V, 800A, 3-Phase, 4W, disconnect switch. Utility transformer 500KVA, 322011, meter OG&E 1060129 50620917G. 400HZ existing panel.
- e. Building 218: 480/277V, 800A, 3-Phase, 4W, disconnect switch. Utility transformer 322010, meter OG&E 1060129 53224865G.

3.8.2 Contractor Requirements

Provide all personnel, equipment, tools, materials and other necessary items to perform all work required for fully functional facilities at B201, B202, B214, B216, and B218. Comply with the requirements of the latest editions of NFPA 70 (National Electrical Code), NFPA 70E (Standard for Electrical Safety in the Workplace), ANSI C2 (National Electrical Safety Code), and applicable OSHA requirements. Comply with installation, local, state, and federal environmental/occupational safety laws. Take all necessary actions to preclude any unsafe conditions which may be hazardous to the health and safety of personnel. Upon completion of construction, provide as-builts with red lines of any field notes or changes.

3.8.3 Demolition

Remove the entire existing electrical power distribution panels for Buildings 201, 214, 216, and 218. Include in demolition the panels, transformers, and disconnects. For all five buildings, including B202, completely remove electrical equipment back to the source where walls and spaces are modified. Replace all lighting and controls in areas affected by construction of all five buildings.

3.8.4 Electrical Power Systems New Work

Provide engineering calculations for demand load, voltage drop, short circuit analysis, arc flash, coordination study, and point to point lighting calculations for normal and emergency lighting systems. Meet the new electrical demand, new building functions (including electrical, mechanical, security and communications), and code requirements. Optimize energy savings. For all electrical equipment or devices, such as lighting and motors, meet ASHRAE 90.1 standard. All electrical equipment must have capability to withstand available short circuit currents. The following are scope requirements by building.

3.8.5 New Exterior Power Distribution Systems

3.8.5.1 Primary Duct Bank

New service is not anticipated.

3.8.5.2 Primary Feeders

New service is not anticipated.

3.8.5.3 Utility Transformer

New service is not anticipated.

3.8.5.4 Secondary Duct Bank

New service is not anticipated.

3.8.6 Interior Power Distribution Systems

3.8.6.1 Overview – See concept drawings for areas of construction.

- a. Install new panels and disconnects to replace existing weathered and rusted panels in Buildings 201, 214, 216, and 218. In new or modified areas of all buildings, provide a new electrical system that includes, but is not limited to, secondary service, lighting fixtures, lighting controls, receptacles (including for any security or ACS, TVs and A/V), motors, packaged units, and HVAC circuits.
- b. Replace conduit and conductor for any circuit which is relocated. Inspect any circuit that is existing to remain. If found to be in good condition, reconnect to new panels or disconnects.
- c. B201 - Replace panels, transformers, disconnects. Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. Plan for 75% new.
- d. B202 - Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. Install two overhead plug reels. Install two new hoists. Install grounding strips in all bays. Plan for 30% new.
- e. B214 - Replace panels, transformers, and disconnects. Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. In Parachute room, provide devices with a hazardous rating. Install new 115V 400hz receptacles (from existing system) and 208V 3-phase receptacles. Install retractable extension coords with 120V 3 pin plugs. Plan for 60% new.
- f. B216 - Replace panels, transformers, and disconnects. Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. Plan for 80% new.
- g. B218 - Replace panels, transformers, and disconnects. Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. In Pilot Kit Up Room, provide devices with a hazardous rating. In Pyro room, provide devices with a hazardous rating and grounding points for pyro cabinet. Evaluate rooms

with hazardous classifications per NFPA and DA PAM 3685-64 Ammunition and Explosive Standards. Plan for 60% new.

3.8.6.2 Power Distribution

Provide new main distribution panels or service entrance panels in the main electrical rooms. Equipment must be service entrance rated to meet the existing or modified demand plus any additional loads such as electrification of new mechanical equipment, 480Y/277 volt (208Y/120V for B201), 3-phase, 4-wire distribution panelboards with a surge protection device (SPD). Do not install any surge protective device (SPD) in the switchboard or panelboard enclosure. Provide HACR rated circuit breakers where serving HVAC loads. Provide main service equipment with approximately 15% combination of spare devices and space to accommodate future load per UFC 3-501-01. Any new feeders from these panels to the downstream panel boards must be THWN copper in conduit. Step down, 15KVA or larger, dry type transformers (480V delta to 208Y/120V wye) must be insulation Class 220°C to provide for 115°C temperature rise; this also provides long term transformer reliability. In addition, dry type transformers that serve communications and computer receptacle loads must be K-4 rated to accommodate nonlinear loads. Locate all floor mounted equipment on concrete housekeeping pads. Building 214 has the additional requirement of a 115V 400Hz receptacle and a 208V 3-phase receptacle.

3.8.6.3 Conduit and Conductors

Route feeders and branch circuits in EMT conduit (RGS where exposed to damage). Conceal conduits above ceilings or inside of walls unless in utility spaces. All feeder and branch circuiting conductors must be 600V, THHN or THWN, copper wiring, rated at 75 degrees C for 100A and above, and 60 degrees C for under 100A. Equipment grounding conductors are provided for feeders and branch circuits. In areas where there is a hazardous classification, refer to the NEC Article 500. Do not use conduit as a ground pathway. Provide nonlinear, high harmonic loads with dedicated neutrals. Provide dielectric break for any conduit penetrating the secure or secret room boundaries.

3.8.6.4 Motors

Provide motors of sufficient size for the duty to be performed, and do not exceed the full-loading rating when the driven equipment is operating at specified capacity under the most severe conditions encountered. All motors must have open frames and continuous-duty classification and must be based on a 40 degree C ambient temperature reference. All motors must be derated (as applicable) for the facility's altitude. Thermal overloads must be the bimetallic type that can be reset. Motors above 1 HP must be premium efficiency. All three-phase motors must have phase loss protection. Disconnect switches for motors must be general duty type. Exterior switches must be of the rain-tight (NEMA 3R) type. Provide starters, variable frequency drives, and disconnect switches for packaged HVAC equipment as required by HVAC equipment manufacturer.

3.8.6.5 Faceplates

Provide receptacles and toggle switches that are white with stainless steel faceplates.

3.8.6.6 Panelboards

Panelboards serving large mechanical and lighting loads must be 480Y/277 volt (208Y/120V for building 201), 3 phase, 4 wire, while panelboards serving fractional horsepower loads and convenience outlets must be 208Y/120 volt, 3 phase, 4 wire. Size all panelboards for a minimum of 20% spare capacity and a minimum of 15% spare circuit breakers, utilizing copper bussing, and with a surge protection device (SPD). Do not install any (SPD) in the panelboard enclosure. Provide spare circuit breakers which are redundant and match the type of circuit breaker in the panelboard. All circuit breakers must be bolt-on type. Provide a panel schedule which is typed and placed in a protective holder located on the front inside of the panelboard door for all panelboards. Panels must have a hinged door with a master keyed flush tumbler latch. Label all panelboards with a plastic identification plaque. Refer to Section 3.9 – Telecommunications Design for telecommunication specific power requirements.

3.8.7 Power Quality and Grounding

Preserve power quality for the facility by using surge protective devices (SPD) at the service distribution equipment, panels, and where sensitive electronic loads exist. SPD's limit the intensity of over voltage transients from external power distribution events and internal power events.

3.8.7.1 Grounding

Ground interior electrical systems in accordance with Article 250 of the current National Electrical Code. Use grounding methods consistent with J-STD-607-C "Commercial Building Grounding and Bonding Requirements for Telecommunications", I3A, and applicable UFCs for all communications systems.

3.8.8 Interior Lighting

3.8.8.1 Lamps

Meet IESNA and Energy Code requirements for light fixture selection and controls. Comprise general facility lighting of high efficiency recessed LED luminaries. Provide pendant type LED industrial luminaries with wire guards at utility areas having unfinished ceilings (i.e.: electrical, mechanical, janitor.) Utilize direct, recessed, 2x2 luminaries throughout the facility (i.e.: open areas, offices, conference rooms, and hallways). Use LED fixtures which are 3500 degrees K with a minimum color rendering index (CRI) of 80. Use toggle switches which are white with stainless steel covers.

3.8.8.2 Controls

Comply with UFC 3-530-01 and ASHRAE 90.1, Chapter 9 for all facility lighting controls. Utilize dual technology (ultrasonic and infrared) occupancy / vacancy sensors, daylight sensors, multi-level switching, and a central lighting controller. Utilize multi-level switching for multi-occupant spaces such as open offices. Provide conference rooms with dimmable fixtures with preset lighting scenes for maximum illumination control. Provide three-way switching for spaces with multiple exits.

3.8.8.3 Exit Lighting

Provide emergency egress lighting by using battery backed ballasts. Frog-eye fixtures are not acceptable. Employ red LED lamps on a white field for "EXIT" lights.

3.8.8.4 Spare Parts Compatibility

Design lamp types, ballast types, and fixture types to be uniform so maintenance and stocking of replacement items is minimized.

3.8.8.5 Illumination Levels

Maintain the following illumination levels based upon IESNA recommendations:

Space	Lighting Level (fc)	Workplane (in)
Bathroom	5	0"
Corridors	5	0"
Entrance (Exterior)	1	0"
Exits (At Floor Level)	1	0"
Kitchen	50	36"
Offices	30	30"
Storage	10	0"
Telecomm Closet	50	36"
Utility Rooms	20	36"

3.8.9 Exterior Lighting

At any new or modified entrances or exits, include building mounted exterior lighting which is controlled to power on at dusk, automatically reduce lighting power by a minimum of 30% from 12 midnight or within one hour of normal closing (whichever is later) until 6am or normal opening (whichever is earlier) and during any period when no activity has been detected for a time of no longer than 15 minutes. Automatically turn off when sufficient daylight is available. Employ full cutoff, LED lamps at all exterior lighting. Illuminate entrances maintaining 1 footcandle. Spread illumination up to 10 feet away and around all personnel doors and roll-up doors.

3.8.10 Electrical Meters

No new meters are anticipated.

3.9 Telecommunications Design

3.9.1 General Information:

Produce all drawings, calculations, and specifications utilizing a Registered Communications Distribution Designer (RCDD), who will also sign and seal the documents. Review all submittals using only an RCDD or an RCDD certified tech.

3.9.2 Demolition

Remove Building 202, 214, 216, and 218's telecommunications systems in their entirety, with the exception of the outside plant telecommunications cabling. Splice outside plant cabling at current location (PET) and route to the new telecom room. Building 201 communications to remain as is.

Re-use the existing comm rooms in Buildings 201 and 202. In both buildings, remove all cat 6 wiring in modified walls back to the comm panels.

Before demolition begins, and before new installation, contact the Base Communications Squadron to test the existing outside plan (OSP) copper of each building to ensure the fiber and copper are still functioning and in good condition. Test both the copper and fiber 100% and provide test report to the Contracting Officer Representative (COR).

For any existing equipment that is removed and re-installed, contact the Base Communications Squadron for shutdown and disconnect work. Coordinate an onsite location to hold and store equipment in a location safe from the environment until construction is complete. Base Communications Squadron will inspect the equipment for proper operation before installation.

Install any existing cables removed and re-used in a splice case. Copper cables will have the pairs "cleared" to prevent shorts and grounds before placement of a splice case.

For fiber cables ensure there is no light source on the feeder side before installing a splice case. This is a safety issue as the light source can be extremely harmful to one's eye if looking into the fiber ends.

3.9.3 Telecommunications Systems New Work

3.9.3.1 General New Work by Building

- a. B201 – Add phone drop from existing communication. All existing comm to remain as is.
- b. B202 - Utilize existing communications room and add all new racks, patch panels, comm room power panel, cable tray NIPR and phone line drops. See concept drawings and room data sheets for drop locations and quantities. An additional wall mounted cabinet is required on the east side of the building to accommodate distance limitations. Provide backbone cabling consisting of multiple 12 strand 9/125mm single-mode fiber optic (SM FO) OS2 cables. Add Wi-Fi for ES and IDMS. Install SMF between communications room and the areas housing PMA-Server-Module (PSM) and the PMD-Reader.
- c. B214 - Add new communications room per UFC requirements including new racks, patch panels, comm room power panel, cable tray, and add NIPR and phone line drops. See concept drawings and room data sheets for drop locations and quantities. Install SMF between communications room and the areas housing PMA-Server-Module (PSM) and the PMD-Reader.

- d. B216 – The existing communications room is not in full compliance with the UFCs. Because this is a renovation project, reuse of the existing space is allowed without modification to the room size. See concept drawings and room data sheets for drop locations and quantities. Install SMF between communications room and the areas housing PMA-Server-Module (PSM) and the PMD-Reader.
- e. B218 - Add new communications room per UFC requirements including new racks, patch panels, comm room power panel, cable tray and add NIPR and phone line drops. See concept drawings and room data sheets for drop locations and quantities. Add Wi-Fi for ES and IDMS. Install SMF between communications room and the areas housing PMA-Server-Module (PSM) and the PMD-Reader.

3.9.3.2 Fiber Testing

For multimode optical fiber, perform optical fiber end-to-end attenuation tests in accordance with TIA-568.3 and TIA-526-14 using Optical Power Meter and Light Source and OTDR for multimode optical fiber. For single-mode optical fiber, perform optical fiber end-to-end attenuation tests in accordance with TIA-568.3 and TIA-526-7 using Optical Power Meter and Light Source, and OTDR.

3.9.3.3 Telecommunications Power

In new communications rooms, provide a dedicated 208/120V, 3-phase, 4 wire panelboard to serve each telecommunications room. Panelboards must serve all receptacles, equipment rack power, and HVAC power in the telecommunications room. Do not circuit the lighting in the telecommunications spaces to the telecommunications panelboards. Provide a minimum of two dedicated duplex receptacles at each equipment rack, located 24" above finished floor (AFF). Provide a dedicated 20A, 120V NEMA 5-20R and 208V 1-phase spare receptacle at each rack, located at 24" AFF, for Government furnished, Government installed (GFGI) uninterruptible power source (UPS) equipment.

3.9.3.4 Grounding

Provide backboards in accordance with TIA-569-C. Provide backboards which are fire-retardant-treated wood, bearing the manufacturer's stamp. If painted, the manufacturer's fire rated stamp must remain visible. Cover a minimum of two adjacent walls with backboards. When renovating an existing telecommunications room that does not have adequate space, size the backboard as large as possible to accommodate wall mounted equipment.

Provide dedicated Telecommunications Grounding Busbar (TGB) grounding bus with a ground conductor tied to the Telecommunications Master Grounding Busbar (TMGB) in the Telecommunication Entrance Facility (TEF.) Bond the TMGB to the facility power system grounding system per J-STD 607-C. Design the communications grounding between any TGB and the TMGB for no more than 100 milliohms resistance. Provide dielectric break for any conduit penetrating the room boundaries in Secure or Secret rooms. Provide a separate red and black ground in accordance with ICD-705 3.14 in the Vault area.

3.9.3.5 Patch Panels

Include a minimum of one LAN rack with RJ-45 jack, TIA 568A configuration patch panels, and 24 port optical fiber patch panels with LC connectors in each communication room.

3.9.3.6 Outside Plant Telecommunications

Leave outside plant (OSP) telecommunication cabling in place at new communications rooms. All existing (and new if required) OSP cables must be protected when not in use, and until they are terminated. Disconnect OSP cabling from the existing protective entrance terminals (PET) and fiber optic patch panels. Terminate outside plant single mode fiber optic (SM FO) OS1 cabling on rack mounted 24 port optical fiber entrance patch panels with LC connectors in the Communications Entrance Room (CER). Terminate outside plant copper pair cabling on backboard mounted circuit protector with service entrance overvoltage protectors in a 1:1 arrangement. Install ISP multi-pair cable from the PET to the rack and terminate on a CAT 6 patch panel. (pair per port).

3.9.3.7 Telephone Backbone Cabling

In new communications rooms, provide a new telephone backbone cabling system which consists of patch cords to be used to jumper voice ports for the room's outlets.

3.9.3.8 Data Backbone Cabling

For the new communication cabinet in Building 202, provide data backbone cabling consisting of multiple 12 strand 9/125mm single-mode fiber optic (SM FO) OS2 cables routed from rack mount fiber patch panels in the main communications room to rack mounted FO patch panels in the communication rooms on each floor. Utilize LC style connectors for backbone cabling.

3.9.3.9 Horizontal Cabling

Include jacks with a minimum of one voice jack and one data jack per wall plate for new voice and data telecommunication infrastructure. Provide jacks for offices, workstations, and assembly rooms. For station data wiring use one Cat-6 cable to each RJ-45 jacks and employ TIA 568A wiring topology. Terminate all data jacks on rack mounted patch panels. Locate wall jacks within 18-inches of power receptacles and provide a minimum of two per private office. Route telecom cabling in a combination of conduit and cable tray and terminate at the nearest telecommunications room rack-mounted patch panels.

3.9.3.10 Future Antenna System

Provide a 2.5" hole for two future antennas (GPS, primary link 16). Coordinate hole location with antenna location on roof.

3.9.3.11 SIPRNet

Provide SIPRNet connectivity at select locations indicated on room data sheets. Service these spaces with SIPRNet telecommunication rooms. In areas accredited as Sensitive Compartmented Information Facilities (SCIF), the SIPRNet cables are not required to be located in Protective Distribution Systems (PDS). Outside a SCIF, provide PDS for SIPRNet level telecommunications. Provide SIPRNet rooms in accordance with the "Building SIPRNET Communication Room – New Construction Guidance" and in accordance with the Technical Guide for the Integration of Secret Internet Protocol Router Network Version 5.0. Work with client to determine SIPRNet drop locations.

3.9.3.12 SIPRNet ICIDS

Provide infrastructure (conduit, power sources, and junction boxes) for the intrusion detection (IDS) at the Arms Vaults and SIPRNET rooms.

3.9.3.13 Protective Distribution System (PDS)

Furnish and install a PDS to provide SIPRNET access points in the offices and conference rooms. Mount PDS components exposed on walls on stand-off spacers such that 360-degree inspection of raceway is possible. Provide two, 2-inch conduits from each SIPRNet room to the adjacent telecommunications closet. Provide two, 4-pair, unshielded, CAT-6, copper cables in one two-inch conduit. Provide 12 strand single mode fiber optic cable in the second two-inch conduit. The following separation must occur between SIPRNet (Red) cabling and equipment from NIPRNet (black) cabling and equipment per NSTISSAM TEMPEST/2-95 requirements: (1) Provide 2 inch (5 cm) between red conductors crossing black conductors; (2) Provide 6 inch (15 cm) between red conductors running parallel with black conductors for over 98.5 feet (30 meters); (3) Provide 39.4-inch separation between encryption devices, jacks and computers.

3.10 Special Systems Design

3.10.1 Lightning Protection

Each building has an existing lightning protection system. Where roofing is replaced, remove the existing system and install a new system connected to the existing (where applicable).

Where required, install new lightning protection systems per NFPA 780. Provide systems consisting of Class 1 materials, 24-inch air terminals at maximum 25-foot spacing, main conductors, cross conductors, down conductors, bonding conductors, and connected to the existing system. When located on roofs, utilize cross conductors which are compatible with the roof material. Utilize Schedule 80 PVC conduit to route conductors down from the roof to the counterpoise. Where down conductors are not feasible, building steel may be used as the down conductors. Provide a lightning protection system with a UL Master Label certificate. Ground all electrical and communications systems to a single point to limit voltages due to lightning, line surges, and unintentional contact with higher voltage lines.

3.10.2 Conveying Systems

Two new 5-ton bridge cranes with a 22'-0" minimum hook height are required for Building 202. Refer to Architectural Section for additional information. Support the bridge cranes independently of the existing building structure. Coordinate design and installation of conveying system and fall protection systems.

In Building 214, inspect, test, and repair existing hoists and cranes and recertify for use.

3.10.3 Security Systems

3.10.3.1 Security Cameras

Provide interior IP addressable security camera infrastructure (conduit, junction boxes, and pull strings) for select areas within the facility. Provide dedicated conduits from camera locations to telecommunications room. Provide space in the rack for GFGI video server recording and control equipment. If cameras exceed 295', utilize fiber with media converters and provide a power feed for the converters.

3.10.3.2 Access Control System (ACS)

Provide provisions for a Government-furnished, Government-installed (GFGI) access control system (ACS) at all exterior entrances except mechanical and electrical rooms, which must be key locked. Use card key and PIN keypad devices for maximum flexibility and security. Configure the ACS to allow for government CAC cards to be used for access. Integrate and control access to SCIF perimeter portals through the ACS.

3.10.3.3 Audio-Visual Equipment

Provide provisions for a GFGI ceiling mounted projector where indicated on concept drawings. Provide a recessed projection screen, with motor, above the ceiling in the room with a projector. Provide infrastructure and wiring for a computer, as well as the supports and wiring for a wall mounted television. Provide a wall switch to control retraction of the screen. Coordinate specific layout and equipment requirements with the Users during the design phase.

3.10.4 Closed Circuit Television (CCTV)

Provide infrastructure (conduit, pull strings, and junction boxes) for a closed-circuit television (CCTV) system. Route the CCTV system from Building 216 to new cameras (GFGI) mounted on the outside of Building 202. Locate cameras to provide a full clear image of the parking apron. Servers and monitoring equipment will be provided and installed by others.

3.11 Antiterrorism (AT) and Force Protection (FP) Design

3.11.1 Antiterrorism

B201 is considered a low occupancy building and is exempt from the minimum antiterrorism standards. B202, B214, B216, and B218 must comply with the latest minimum standards as defined in UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings. The Design Basis Threat for these facilities is low; therefore, only the minimum standards are applicable.

Apply Standard 2 enclosure requirements at B201 for the existing utility yards as a best practice and as preferred by Ebbing ANG Base.

3.11.2 Force Protection

No site modifications are required for antiterrorism. The existing sites have parking within the 33-foot unobstructed space. Standard 2 – Section 3-3.7 of UFC 4-010-01 allows parking within the unobstructed space. Ebbing ANGB has a barrier plan in place to respond operationally to a force protection condition (FPCON) change. In this case, parking may be temporarily eliminated within the unobstructed space at a higher FPCON.

3.12 Cybersecurity

3.12.1 Control System Cybersecurity

Determine all facility related/industrial control systems that are required to be designed in accordance with UFC 4-010-06 Cybersecurity of Facility Related Control Systems. These systems may include but are not limited to: Utility Monitoring Control Systems, Fire Alarm Mass Notification, Access Control Systems, EMCS, and Intrusion Detection Systems. Reference the Department of Defense Platform IT Master list. Submit a complete list to the Government as required in the design phases for approval. After determining the facility related system involved, the Contractor is responsible for all design submissions / deliverables / functions as outlined in UFC 4-010-06 Section 5.

3.12.2 Cybersecurity Specifications

Deliver an edited UFGS Specification Section 25 05 11 Cybersecurity for Facility-Related Control Systems for each facility control system identified and planned. All design submittals and deliverables will be reviewed and approved by the Government at all stages of the design. Interface with the Base via the Contracting Officer to define existing system requirements, Confidentiality Integrity Availability Impact Ratings, transport cybersecurity requirements (for example: existing enclave, standalone), existing authorization status, local installation cyber-requirements and other items that may impact the security posture of the system or scope and level of work required. Deliver construction submittals in accordance with the approved UFGS 25 05 11 for each platform.

PART 4 EXECUTION

4.1 General

4.1.1 Design Criteria

Facility design, materials, equipment, and installation must be in accordance with the requirements of the listed codes and design manuals in Attachment A.

4.1.2 Specifications

Utilize SpecsIntact to provide specifications for this project. There is no charge for this software. This software can be downloaded by the contractor from http://www.wbdg.org/ccb/browse_cat.php?c=3. Submittal of marked-up guide specifications is required at the 65% and 95% submittal stages of design which illustrate what has been edited from standard guide specifications. Prepare marked-up guides utilizing SpecsIntact software with strike-outs and redlining for this purpose. At the Final submittal stage, submit clean copies of specifications without markups.

4.1.3 Construction Documents

Provide the Government with a copy of the completed specifications, design calculations, and drawings. All design submittals must be electronic only, with the exception of Contract Drawings, As-Built Drawings and Operations and Maintenance (O&M) manuals.

4.1.4 Hazardous Materials

Perform a Regulated Materials Survey of the features to be renovated/demolished. In addition to lead paint, PCBs, asbestos, and mercury surveys, include any other components that may require special handling during the renovations of the buildings. Use only accredited laboratories to analyze samples. Provide a preliminary report prior to the design charrette which includes anticipated costs for abatement. Notify the Contracting Officer as soon as possible if abatement is required. Reference CLIN schedule for an allowance amount included to cover the abatement of all hazardous materials, if found during the renovations required for this project.

4.1.5 Topographic Survey

Furnish a topographic survey of the proposed site areas.

4.1.6 Building 216 Construction Schedule

Building 216 must be ready for occupancy no later than 30 June 2026. Complete construction on all other buildings within the period of performance (PoP).

4.1.7 Availability of Buildings

All buildings will be vacated prior to commencement of construction.

4.1.8 Miscellaneous

Verify all information received and all existing conditions. Obtain all information necessary to properly design and install all work. Coordinate the gathering of information during design through the Contracting

Officer. Any further survey required to provide utility locations, manhole inverts, and verification of existing features is the responsibility of the Contractor.

Contractor may use the existing facilities for construction storage and staging. Do not store items in rooms that have received a new epoxy floor finish.

4.2 Site Construction Information

4.2.1 Site Layout

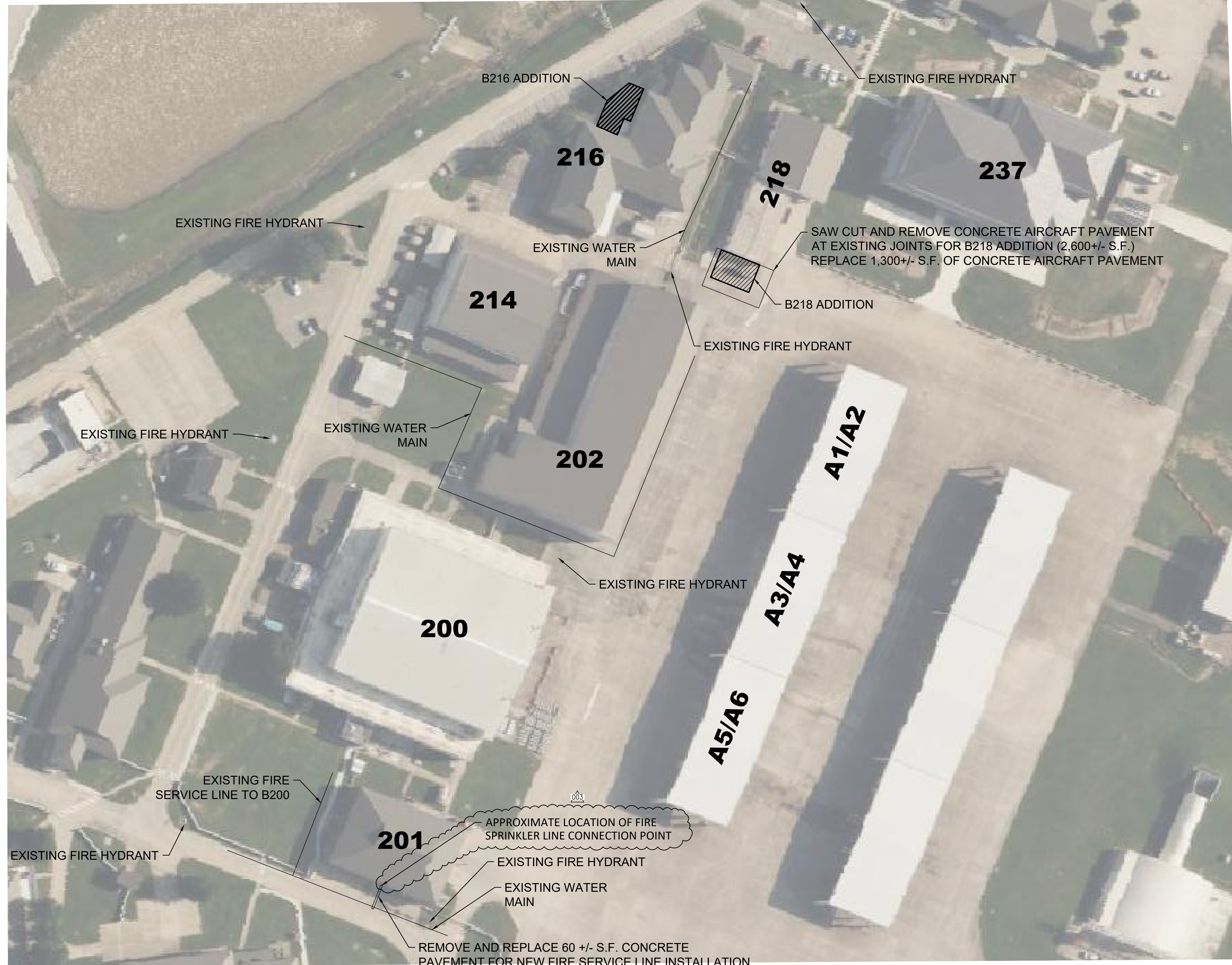
Confine proposed development and site modifications to the immediate project area that is disturbed by through construction activities.

4.2.1.1 Haul Route

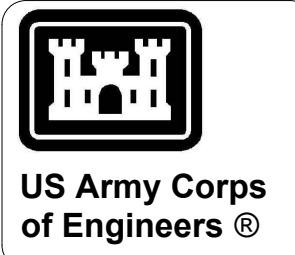
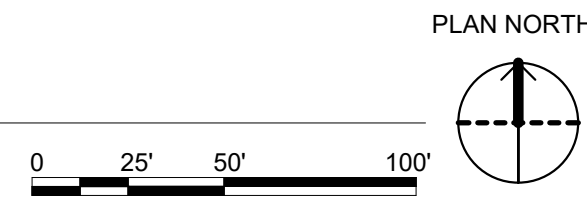
Coordinate with the Base Civil Engineer Squadron to determine an appropriate haul route to the site and appropriate construction vehicle entrance.

4.2.1.2 Construction Storage Yard

Store all equipment and material within the project limits. Restore this area in accordance with the contract or pre-construction condition based upon the location of the storage area(s). Regardless of the area, fence and screen the yard. Keep the fence well maintained and the site clean. Prior to commencing construction, obtain final approval from the Contracting Officer for establishing the storage yard.



(A1) SITE PLAN
1" = 50'



US Army Corps of Engineers®

MARK	AMENDMENT	DESCRIPTION	DATE
003	003		08-29-24

DESIGNED BY: G. LEAF	ISSUE DATE: JULY 2024
DRAWN BY: G. LEAF	SOLICITATION NO.:
CHECKED BY: J. HOLLAND	CONTRACT NO.:
SUBMITTED BY:	ANSI D

US ARMY CORPS OF ENGINEERS

BLAIRPREMY
A R C H I T E C T S

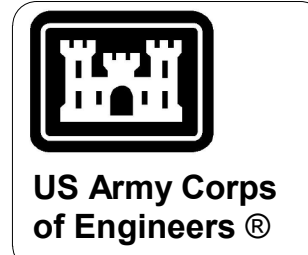
MERRICK

FORT SMITH, ARKANSAS
EBBING ANGB RENO
100891-00
SITE PLAN

SHEET ID
CS101

Plot Date: File Path:

- ### GENERAL NOTES
- 1 ALL FURNITURE SHOWN IS CONCEPTUAL IN NATURE AND WILL NOT BE SPECIFIED AS PART OF THIS PROJECT
- ### SHEET KEYNOTES
- 1 FIRE RISER
 - 2 HIGH-DENSITY STORAGE UNIT (GFGI)
 - 3 FLOOR-MOUNTED SERVICE SINK
 - 4 EXISTING DRINKING FOUNTAIN TO REMAIN
 - 5 EXISTING FIRE EXTINGUISHER CABINET TO REMAIN
 - 6 WATER CLOSET
 - 7 WALL-MOUNTED LAVATORY



US Army Corps of Engineers

MARK	DESCRIPTION	DATE
003	Amendment 003	8/28/2024

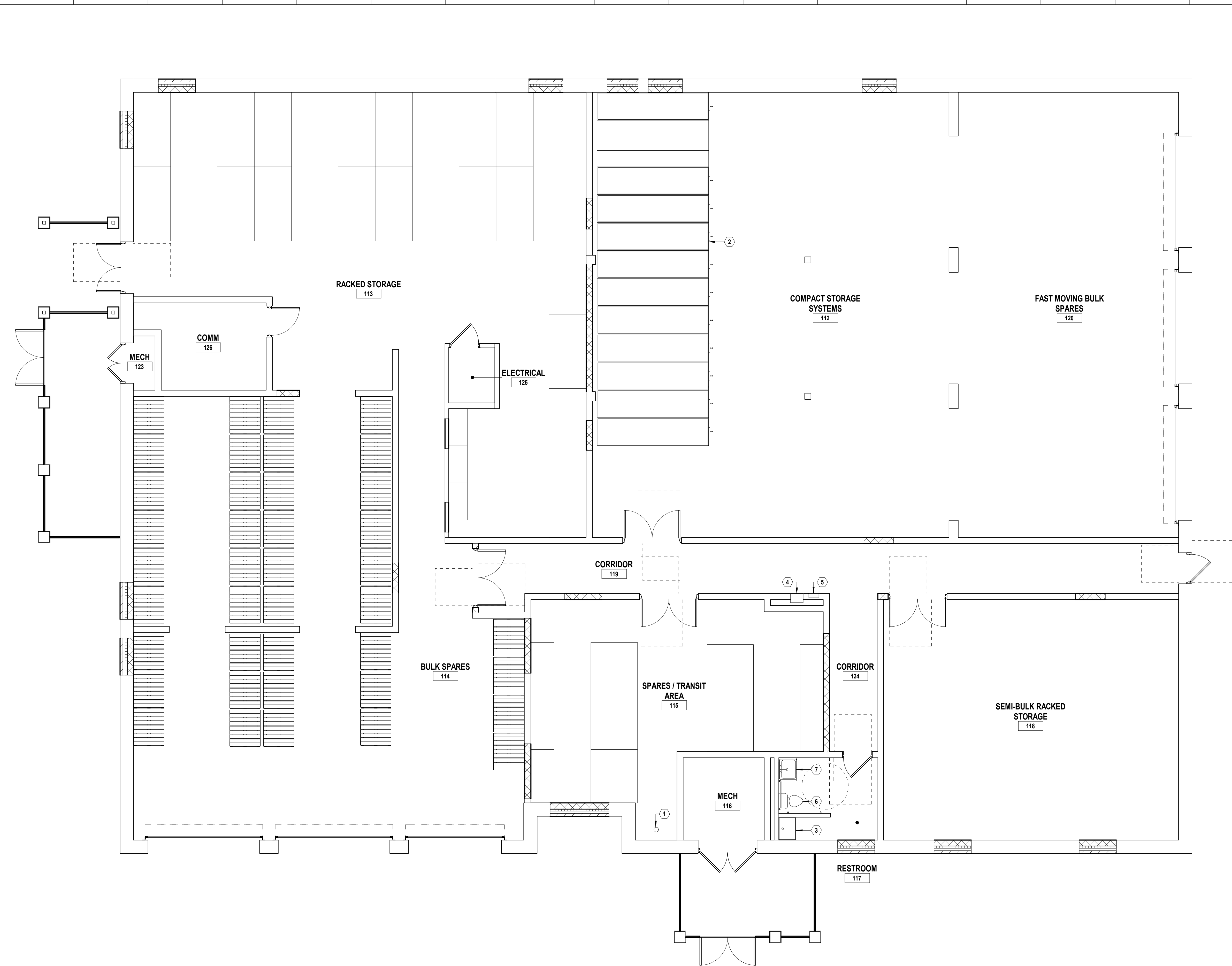
DESIGNED BY: D. REMY	ISSUE DATE: JUNE 2024
DRAWN BY: L. PENDERGRAFT	SOLICITATION NO.:
CHECKED BY: S. BLAIR	CONTRACT NO.:
SUBMITTED BY: C. SEGHI	
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US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
819 TAYLOR ST., FORT WORTH, TX 76102

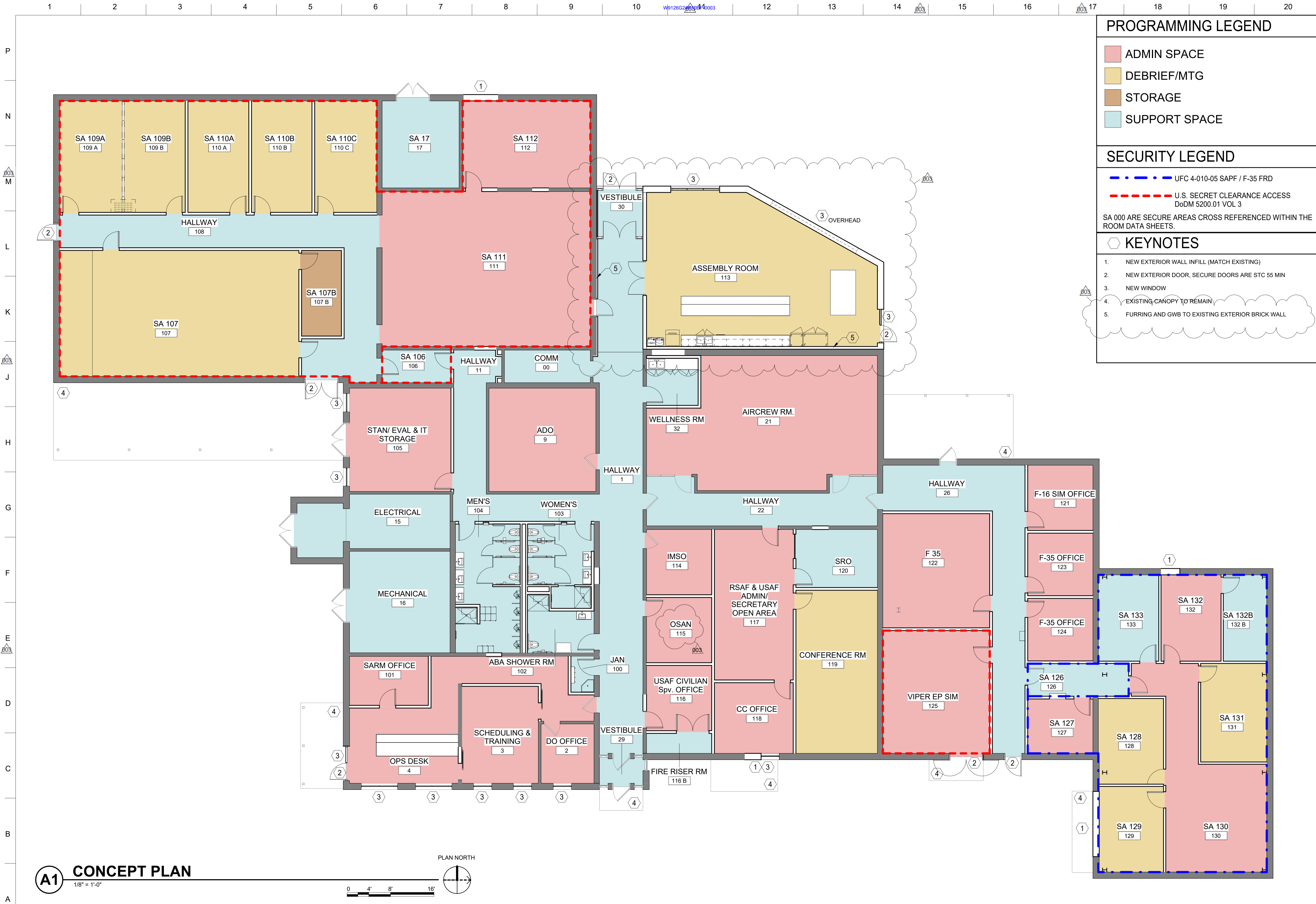
BLAIR REMY
ARCHITECTS & ENGINEERS
MERRICK

FORT SMITH, ARKANSAS
EBBING ANG RENOVATION OF 5 FACILITIES
A-2020-S
FURNITURE PLAN
BUILDING 201

SHEET ID
I-100



A1 FURNITURE PLAN
3/16" = 1'-0"



PROGRAMMING LEGEND

- ADMIN SPACE
- DEBRIEF/MTG
- STORAGE
- SUPPORT SPACE

SECURITY LEGEND

- UFC 4-010-05 SAPF / F-35 FRD
- U.S. SECRET CLEARANCE ACCESS DoDM 5200.01 VOL 3

SA 000 ARE SECURE AREAS CROSS REFERENCED WITHIN THE ROOM DATA SHEETS.

KEYNOTES

- NEW EXTERIOR WALL INFILL (MATCH EXISTING)
- NEW EXTERIOR DOOR, SECURE DOORS ARE STC 55 MIN
- NEW WINDOW
- EXISTING CANOPY TO REMAIN
- FURRING AND GWB TO EXISTING EXTERIOR BRICK WALL



US Army Corps of Engineers

MARK	DESCRIPTION	DATE
003	Amendment 003	8/29/2024

ISSUE DATE:	JUNE 2024
DESIGNED BY:	Y. SOTELO
CHECKED BY:	A. RIVARD
SUBMITTED BY:	C. SEGHI
ANSI D	

US ARMY CORPS OF ENGINEERS

BLAIRREMY ARCHITECTS

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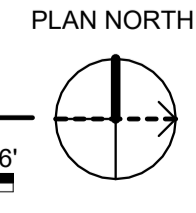
FORT SMITH, ARKANSAS
EBBING ANGB RENOVATION
100691-00

ARCHITECTURAL CONCEPT PLAN
BUILDING 216

SHEET ID
AE101

A1 CONCEPT PLAN

1/8" = 1'-0"



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GENERAL NOTES

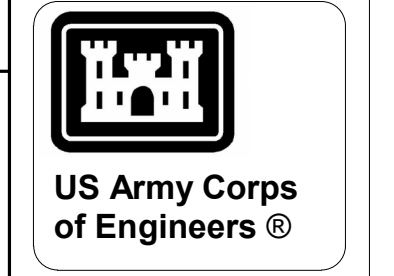
- ALL FURNITURE SHOWN IS CONCEPTUAL IN NATURE AND WILL NOT BE SPECIFIED AS PART OF THIS PROJECT.

LEGEND

- EXISTING WALLS
- NEW WALLS
- EXISTING DOORS
- NEW DOORS

KEYNOTES

- FIRE RISER
- NEW MILLWORK, STORAGE BELOW, COUNTER WITH INTEGRAL BACKSPASH AND STAINLESS SINK
- NEW MILLWORK WITH STORAGE BELOW



MARK	AMENDMENT	DESCRIPTION	DATE
003			

ISSUE DATE:	JUNE 2024
DESIGNED BY:	T. JOHNSON
DRAWN BY:	T. JOHNSON
CHECKED BY:	A. RIVARD
SUBMITTED BY:	C. SEGHI
SIZE:	ANSI D
ISSUE DATE:	JUNE 2024
SOLICITATION NO.:	
CONTRACT NO.:	

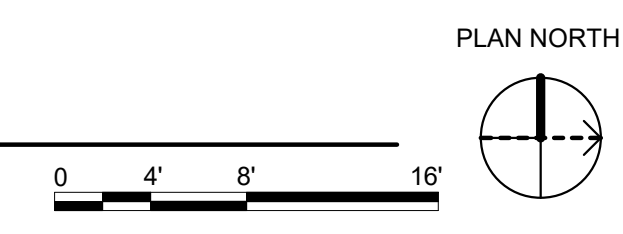
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BLAIRREMY

FORT SMITH, ARKANSAS
EBBING ANGE RENO
100691-00
FURNITURE PLANS
BUILDING 216

SHEET ID
IF101

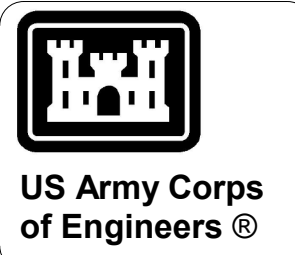
A1 FURNITURE PLAN
1/8" = 1'-0"



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GENERAL NOTES

- ALL FURNITURE SHOWN IS CONCEPTUAL IN NATURE AND WILL NOT BE SPECIFIED AS PART OF THIS PROJECT.



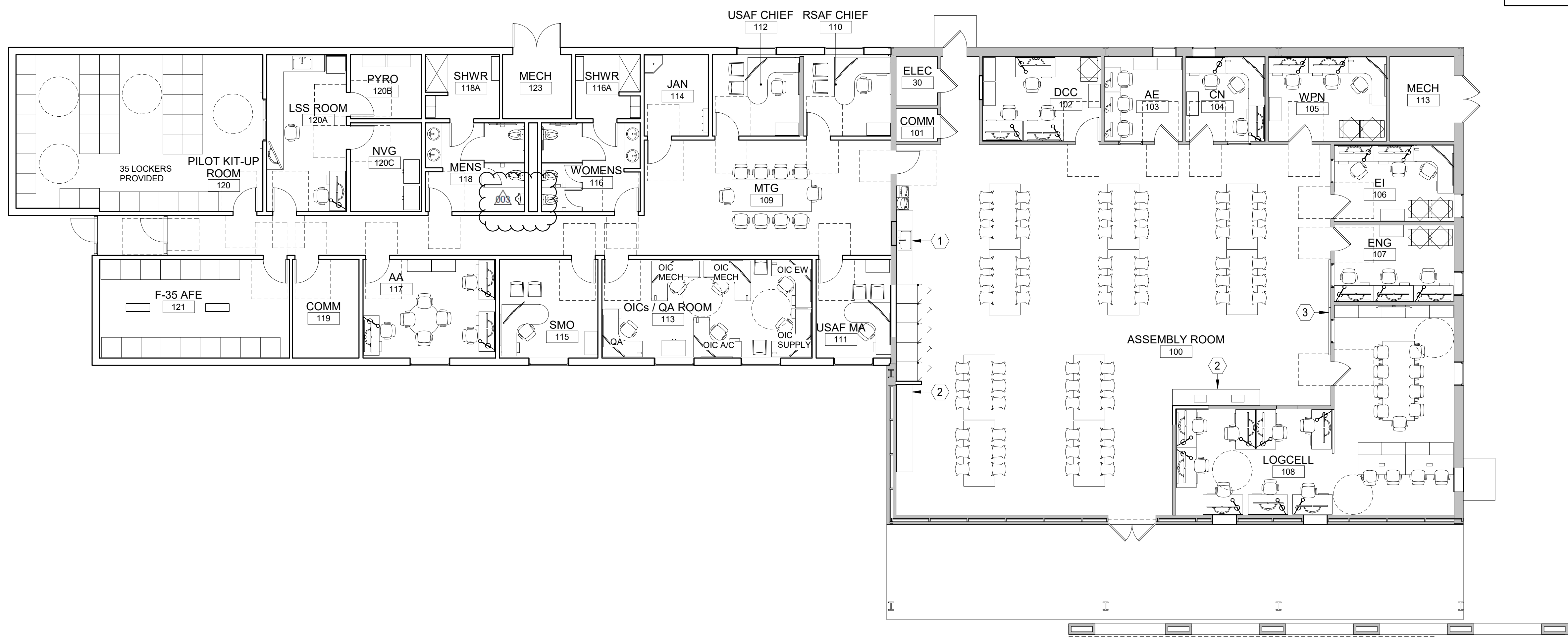
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LEGEND

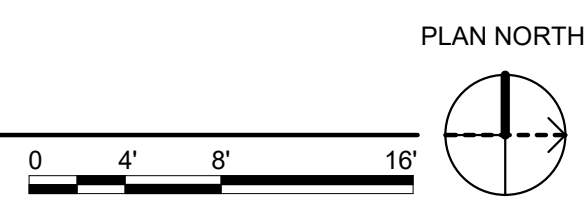
- EXISTING WALLS
- NEW WALLS
- EXISTING DOORS
- NEW DOORS

KEYNOTES

- NEW MILLWORK, STORAGE BELOW, COUNTER WITH INTEGRAL BACKSPLASH AND STAINLESS SINK
- NEW MILLWORK, STORAGE BELOW, COUNTER WITH INTEGRAL BACKSPLASH
- PROJECTOR SCREEN



B218 - FURNITURE PLAN
1/8" = 1'-0"



AMENDMENT 003	MARK	DESCRIPTION	DATE
003			

DESIGNED BY: T. JOHNSON	ISSUE DATE: JUNE 2024
DRAWN BY: T. JOHNSON	SOLICITATION NO.:
CHECKED BY: A. RIVARD	CONTRACT NO.:
SUBMITTED BY: C. SEGHI	
SIZE: ANSI D	

FT. SMITH, ARKANSAS
EBBING ANGE RENO
100691-00
FURNITURE PLAN

SHEET ID
IF101

ROOM DATA SHEETS

AMENDMENT #0003

Table of Contents

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Building (Hangar) 202	14
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Building 216	58
Building 218	106

Room Data Sheets Overview

This attachment is included to aid in understanding the requirements of the rooms and areas to be renovated or constructed within Buildings 201, 202, 214, 216, and 218. Room descriptions and functional requirements are summarized in the following Room Data Sheets. Refer to Attachment B - Concept Design Drawings for layout configurations.

Structural, Mechanical, Electrical, Plumbing, Fire Protection, Communications, and other engineering specialties are not fully defined in the Room Data Sheets. Refer to specific sections of the RFP Specification 01 10 10 Design Requirements and its attachments, including the concept drawings, for additional requirements and criteria that further define the spaces indicated in these Room Data Sheets.

Information listed in the Furniture, Fixtures & Equipment Notes section of this document is for reference and space planning purposes only, and not a part of the design-build contract.

Information provided below is intended to supplement the U.S Army Corps of Engineers design criteria requirements. The criteria are available on the internet at:

<https://www.publications.usace.army.mil/USACE-Publications/Engineer-Manuals/>

Building 201

Building 201 operates as a supply warehouse and includes storage rooms, space for a high-density storage unit, restrooms, and utility rooms. All existing windows will be infilled and all doors with glazing will be replaced with solid. Existing overhead doors are glazed and they will all be replaced with new solid overhead doors.

B201 Room Name:	Corridor
Use/Description:	Circulation
Functional Requirements:	Provide double doors to adjacent storage rooms for pallet jack traffic Walls: CMU/Brick – painted Floors: Sealed Concrete Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection UFC 3-600-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS at door to flightline.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B201 Room Name:	Fast Moving Bulk Spares
Use/Description:	Unconcentrated storage for quick turnover items
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Provide additional dehumidification in conditioned storage spaces.
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection UFC 3-600-01.
Communications and Cybersecurity Requirements:	Provide BMS at new overhead doors.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Replace existing glazed overhead doors to flightline with new solid overhead doors.

B201 Room Name:	Compact Storage Systems
Use/Description:	High-density storage
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Provide additional dehumidification in conditioned storage spaces. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection in accordance with UFC 3-600-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide connection for wall mounted telephone.
Furniture, Fixtures & Equipment Notes:	Provide space for a customer provided, manually operated, high density storage unit with surface-mounted rails.
Other Requirements / Notes:	N/A

B201 Room Name:	Racked Storage
Use/Description:	Storage room with rack units
Functional Requirements:	Provide abuse resistant gypsum wallboard partition extending south from existing Electrical Room. Walls: CMU and Gypsum Board – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A at CMU, Rubber Base at Gypsum Board Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Provide additional dehumidification in conditioned storage spaces. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection in accordance with UFC 3-600-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide IDS/ACS for new double doors at covered entry.
Furniture, Fixtures & Equipment Notes:	(17) 8'0" x 4'0" heavy duty storage racks. (3) 4'0" x 2'0" heavy duty storage racks. Provide minimum 5'0" wide aisles.
Other Requirements / Notes:	Provide 4'0"H stainless steel corner guards at all exposed outside gypsum board corners. Replace existing storefront door with new solid double doors at covered entry.

B201 Room Name:	Electrical (Existing to Remain)
Use/Description:	Utility Space
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection in accordance with UFC 3-600-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B201 Room Name:	Bulk Spares
Use/Description:	Staging area for items on pallets
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Provide additional dehumidification in conditioned storage spaces. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection in accordance with UFC 3-600-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18” below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1
Communications and Cybersecurity Requirements:	Provide BMS at new overhead doors.
Furniture, Fixtures & Equipment Notes:	(40) pallets Provide minimum 5’0” wide aisles
Other Requirements / Notes:	<AM#0003> Provide space for 40 GFGI pallets </AM#0003>

B201 Room Name:	Spares/Transit
Use/Description:	Storage room with rack units
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Provide additional dehumidification in conditioned storage spaces. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection in accordance with UFC 3-600-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1. Fire Riser at south alcove.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	(15) 5'9" x 2'6" Heavy Duty Storage Racks. Provide minimum 5'0" wide aisles.
Other Requirements / Notes:	N/A

B201 Room Name:	Mechanical (Existing to Remain)
Use/Description:	Utility Space
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection in accordance with UFC 3-600-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B201 Room Name:	Comm
Use/Description:	Utility Space
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Static Dissipative Vinyl Tile Base: Rubber Base Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3- 410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection in accordance with UFC 3-600-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B201 Room Name:	Restroom
Use/Description:	Single occupant restroom with space for custodial equipment
Functional Requirements:	Existing partitions to remain Walls: CMU – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01. Replace existing watercloset with new. Replace existing kneeguard and lavatory with new wall mounted lavatory. Remove existing shower and provide new service sink.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection in accordance with UFC 3-600-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	(1) Mop and Broom Holder with Shelf
Other Requirements / Notes:	Provide plumbing accessories in accordance with Installation standards.

B201 Room Name:	Semi-Bulk Racked Storage
Use/Description:	Unconcentrated storage space
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating and air conditioning systems in accordance with UFC 3-410-01. Provide additional dehumidification in conditioned storage spaces. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection UFC 3-600-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

Building (Hangar) 202

Building 202 operates as a hangar and supporting operations, and includes admin, tool supply, heavy and light maintenance spaces, material storage, vault storage, personnel support spaces, and utility rooms.

B202 Room Name:	Vestibule (Existing to Remain)
Use/Description:	Vestibule at main personnel entrance
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS at entry doors.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Corridor
Use/Description:	Circulation
Functional Requirements:	Provide abuse resistant gypsum board at all new partitions. Walls: Gypsum Board – Painted, Eggshell Finish Floors: 5-Coat Fuel Resistive Epoxy Base: Integral Epoxy Base Ceiling: ACT
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Existing ABA high/low drinking fountain to remain.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Provide 4'0"H stainless steel corner guards at all exposed outside gypsum board corners. Provide 4'0"H stainless steel wainscot above base.

B202 Room Name:	Hangar Bay 3
Use/Description:	Wash Bay
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: 5-Coat Fuel Resistive Epoxy Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	(1) Emergency shower/eyewash (2) Existing emergency shower/eyewash to remain (1) Existing washfountain to remain
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Provide 5-ton bridge crane with 22'0" min. hook height. Provide new fall protection system. Provide new egress door aligned with existing door to vestibule. Provide floor striping in accordance with UFC 4-211-01.

B202 Room Name:	Tyre (Existing to Remain)
Use/Description:	Part storage
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Existing wall mounted lavatory to remain. Existing emergency shower/eyewash to remain.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Supply Trade Office
Use/Description:	Administrative support for Supply Trade
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Vinyl Sheet Flooring Base: Rubber Base Ceiling: ACT
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	Systems furniture with (4) workstations (4) Ergonomic Task Chairs (3) Storage cabinets Space for (1) customer supplied printer Space for (2) customer supplied barcode printers
Other Requirements / Notes:	Provide new solid core wood door with half lite and kick plate to corridor.

B202 Room Name:	Paint Booth (Existing to Remain)
Use/Description:	Paint booth equipment operations
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: 3-Part Fuel Resistive Epoxy Base: N/A Ceiling: Exposed to Structure – Painted
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	(1) Emergency shower/eyewash
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01 and NFPA 33. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	Provide space for customer supplied paint booth equipment.
Other Requirements / Notes:	Provide floor striping in accordance with UFC 4-211-01.

B202 Room Name:	Supply Trade
Use/Description:	Tool and part issue
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Seamless Resinous Flooring Base: N/A Ceiling: Exposed to Structure – Painted
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	(3) 8'0" x 2'6" Heavy Duty Storage Racks (3) 4'0" x 2'6" Heavy Duty Storage Racks (1) Packing Table Space for (1) customer supplied weighing scale
Other Requirements / Notes:	Replace existing overhead door to Hangar Bay 3 with double doors surrounded by CMU block wall construction to match adjacent wall construction.

B202 Room Name:	Fire Pump (Existing to Remain)
Use/Description:	Utility Space
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01, UFC 4-211-01 and UFC 4-211-02. Provide Mass Notification in accordance with UFC 4-021-01. Remove foam suppression system equipment
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Storage
Use/Description:	Storage room
Functional Requirements:	Provide abuse resistant gypsum board at all new partitions Walls: CMU and Gypsum Board – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A at CMU, Rubber Base at Gypsum Board Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01, UFC 4-211-01 and UFC 4-211-02. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	(3) 4'0" x 2'0" Heavy duty storage racks
Other Requirements / Notes:	Provide new insulated metal double doors to corridor

B202 Room Name:	Mechanical Room (Existing to Remain)
Use/Description:	Utility Space
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Telecommunications Room (Existing to Remain)
Use/Description:	Utility Space
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Electrical Room (Existing to Remain)
Use/Description:	Utility Space
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Hangar Bay 2
Use/Description:	General Maintenance Bay
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: 5-Coat Fuel Resistive Epoxy Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	(1) Emergency shower/eyewash (2) Existing emergency shower/eyewashes to remain.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Provide new 5-ton Bridge Crane with 22'0" min. hook height. Provide new fall protection system. Provide new dual swing double door to Hangar Bay 1. Align north leaf with existing door to Vestibule. Provide floor striping in accordance with UFC 4-211-01.

B202 Room Name:	POD
Use/Description:	Tool and part storage
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: 3-Coat Fuel Resistive Epoxy Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Support Storage
Use/Description:	Large tool and part issue
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Seamless Resinous Flooring Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	(2) POL Cabinets
Other Requirements / Notes:	N/A

B202 Room Name:	Storage Room
Use/Description:	Part storage
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: 3-Coat Fuel Resistive Epoxy Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Replace existing door with new double doors aligned with existing extents of north jamb.

B202 Room Name:	Restroom – Women’s (Existing to Remain)
Use/Description:	Personnel support space
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Restroom – Men’s (Existing to Remain)
Use/Description:	Personnel support space
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Hangar Bay 1
Use/Description:	Fuel Cell Maintenance Bay
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: 5-Coat Fuel Resistive Epoxy Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	(2) Emergency shower/eyewashes Existing emergency shower/eyewash to remain Existing ABA drinking fountain to remain
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	Provide space and infrastructure for hazardous material storage cabinets.
Other Requirements / Notes:	Provide new fall protection system. Provide new egress door aligned with north leaf of door to Hangar Bay 2. Provide floor striping in accordance with UFC 4-211-0.

B202 Room Name:	US Vault
Use/Description:	Classified Information Vault
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Vinyl Sheet Flooring Base: Rubber Base Ceiling: Exposed to Structure – Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	(2) 5'0" x 2'0" Heavy Duty Storage Racks (1) Safe (2) Receiver-Exciter Processors (2) AESA Antennas
Other Requirements / Notes:	Replace existing overhead door with CMU block. Infill with new GSA Secure Vault door with electromagnetic lock.

B202 Room Name:	RSFA Vault
Use/Description:	Classified Information Vault
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Vinyl Sheet Flooring Base: Rubber Base Ceiling: Exposed to Structure – Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	(6) 4'0" x 2'0" Heavy Duty Storage Racks (1) 3'0" x 1'3" Heavy Duty Storage Rack (1) Safe
Other Requirements / Notes:	Replace existing overhead door with CMU block. Infill with new GSA Secure Vault door with electromagnetic lock.

B202 Room Name:	Tank Bay
Use/Description:	Heavy Maintenance Shop
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: 3-Coat Fuel Resistive Epoxy Base: N/A Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	(1) Emergency shower/eyewash
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Existing hoist and rail to remain. Provide floor striping in accordance with UFC 4-211-01.

B202 Room Name:	Tank Bay Office
Use/Description:	Administrative support for Hangar Bay 1
Functional Requirements:	Walls: CMU – Painted, Eggshell Finish Floors: Vinyl Sheet Flooring Base: Rubber Base Ceiling: ACT
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. IDS/ACS.
Furniture, Fixtures & Equipment Notes:	(3) Height-Adjustable Workstations (3) Ergonomic Task Chairs
Other Requirements / Notes:	N/A

B202 Room Name:	Vestibule (Existing to Remain)
Use/Description:	Circulation at secondary personnel entrance
Functional Requirements:	N/A
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	N/A
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B202 Room Name:	Janitor/Storage
Use/Description:	Utility and storage space
Functional Requirements:	Walls: CMU and Gypsum Board – Painted, Eggshell Finish Floors: Sealed Concrete Base: N/A at CMU, Rubber Base at Gypsum Board Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	N/A
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01. Existing service sink and faucet to remain.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(8) 4'0" x 2'0" Heavy Duty Storage Racks (1) Mop and Broom Holder with Shelf
Other Requirements / Notes:	Provide new Fiberglass Reinforced Plastic (FRP) wall panels at service sink. Replace existing half lite door with new solid core wood door with kick plate.

B202 Room Name:	Phase
Use/Description:	Administration
Functional Requirements:	Walls: Gypsum Board - Painted, Flat Finish, Eggshell Finish Floors: Vinyl Sheet Flooring Base: Rubber Base Ceiling: ACT
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) L-Shaped Workstations (7) Ergonomic Task Chairs (2) File Cabinets (2) Lateral File Cabinets, 5-Drawer, Flip-Up Shelf (1) Conference Table to Seat 5 (1) 7'0" x 4'0" Glass Whiteboard
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B202 Room Name:	QA/WSS
Use/Description:	Administration
Functional Requirements:	Walls: Gypsum Board - Painted, Flat Finish, Eggshell Finish Floors: Vinyl Sheet Flooring Base: Rubber Base Ceiling: ACT
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(6) Height-Adjustable Workstations (6) Ergonomic Task Chairs (1) 3'0" x 2'0" Storage Cabinet
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B202 Room Name:	Support
Use/Description:	Tool and parts issue with service counter
Functional Requirements:	Walls: Gypsum Board - Painted, Flat Finish, Eggshell Finish Floors: Seamless Resinous Flooring Base: Integral Epoxy Base Ceiling: Exposed to Structure - Painted, Flat Finish
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(13) 8'0" x 2'6" Heavy duty storage racks (2) Work benches (1) POL Refrigerator (1) POL Cabinet (1) iPad Storage Cabinet (2) 3'0" x 2'6" Storage Cabinets (1) 27'0" x 2'6" Service Counter and Cabinets (4) Height-Adjustable Workstations (8) Ergonomic Task Chairs (1) Reservoir Eyewash Station Space for (1) Printer/Copier Provide minimum 5'0"W aisles
Other Requirements / Notes:	Provide 4'0"H stainless steel corner guards at all exposed outside gypsum board corners. Provide roller shades at windows with minimum 3% openness. Provide new hollow metal double doors to Corridor along east wall. Provide (3) new overhead doors to Corridor; align center door with existing doors to Hangar Bay 2. Provide chain divider at Service Counter.

B202 Room Name:	Supervisor's Office
Use/Description:	Administrative supervision for Support
Functional Requirements:	Walls: Gypsum Board - Painted, Flat Finish, Eggshell Finish Floors: Vinyl Sheet Flooring Base: Rubber Base Ceiling: ACT
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) U-Shaped Workstation (1) Ergonomic Task Chair (2) Guest Chairs with Arms
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

Building 214

Building 214 operates as a jet engine intermediate maintenance (JEIM) facility, and includes: Work Bay, Modules Area, Tool Storage, Parachute Room, COMM Room, Storage-1, Storage-2, Compressor / Fire Riser, Men's and Women's Restrooms, Storage & FOM, AME, 425 FS Trade Learning Room, JEIM – Emms Room, JEIM – Engine Office.

B214 Room Name:	Work Bay
Use/Description:	Large open Work Bay to support the maintenance of jet engines.
Functional Requirements:	Ceiling: New vinyl faced insulation Walls: New vinyl faced insulation. Repurpose existing lower metal panel wall for insulation protection. Base: New 4" high rubber base Floor: New five-coat epoxy flooring
Mechanical and Other Special Requirements:	Provide heating and ventilation systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01. Provide compressed air distribution system in accordance with UFC 3-420-02.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm-in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Existing double girder bridge cranes (5 tons) and single girder bridge cranes (capacity unverified) are to be recertified for facility use.

B214 Room Name:	Modules Area (Existing to Remain)
Use/Description:	Open storage for engine control modules. Open to Work Bay.
Functional Requirements:	Ceiling: N/A Walls: Paint in eggshell finish Base: New 4" high rubber base with toe Floor: New five-coat epoxy flooring
Mechanical and Other Special Requirements:	Provide heating and ventilation systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide compressed air distribution system in accordance with UFC 3-420-02.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm-in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide new IDS/ACS.
Furniture, Fixtures & Equipment Notes:	Coordinate storage rack configuration with User equipment requirements.
Other Requirements / Notes:	N/A

B214 Room Name:	Tool Storage (Existing to Remain)
Use/Description:	Existing tool storage to remain as functional tool storage.
Functional Requirements:	Ceiling: N/A Walls: Paint in eggshell finish Base: New 4" high rubber base with toe Floor: New five-coat epoxy flooring
Mechanical and Other Special Requirements:	Provide heating and ventilation systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide compressed air distribution system in accordance with UFC 3-420-02.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm-in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide new IDS/ACS.
Furniture, Fixtures & Equipment Notes:	Existing high-density storage systems to remain. Coordinate storage rack configuration with User equipment requirements.
Other Requirements / Notes:	Existing wire mesh to remain and be repurposed for new configuration.

B214 Room Name:	Parachute Room
Use/Description:	Parachute Room
Functional Requirements:	Ceiling: Paint in flat finish, gypsum board. Walls: Paint in eggshell finish Base: New 4" high rubber base with toe Floor: New five-coat epoxy flooring
Mechanical and Other Special Requirements:	Provide heating, ventilation and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01. All electrical items and lighting must have hazardous area classification.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	Parachute table (customer supplied), (1) small freestanding and height adjustable workstation, (1) Ergonomic Task Chair, (5) lateral file cabinets, (4 drawer and flip top shelf)
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B214 Room Name:	Comm Room (Existing to Remain)
Use/Description:	Communications Equipment Room.
Functional Requirements:	Ceiling: Paint in flat finish, gypsum board. Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Static Dissipative floor tiles.
Mechanical and Other Special Requirements:	Provide air conditioning systems in accordance with UFC 3-410- 01. Provide dedicated split system. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide new ACS.
Furniture, Fixtures & Equipment Notes:	Provide communications racks, switches, and other comm equipment as needed
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B214 Room Name:	Storage 1 (Existing to Remain)
Use/Description:	Storage room for equipment parts
Functional Requirements:	Ceiling: Paint in flat finish, gypsum board. Walls: Paint in eggshell finish Base: New 4" high rubber base with toe Floor: New five-coat epoxy flooring
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm-in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	Coordinate storage rack configuration with User equipment requirements.
Other Requirements / Notes:	N/A

B214 Room Name:	Storage 2 (Existing to Remain)
Use/Description:	Storage room for equipment parts
Functional Requirements:	Ceiling: Paint in flat finish, gypsum board. Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT tiles or planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Confirm need for additional dehumidification. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm-in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide new IDS/ACS.
Furniture, Fixtures & Equipment Notes:	Coordinate storage rack configuration with User equipment requirements.
Other Requirements / Notes:	N/A

B214 Room Name:	Compressor / Fire Riser Room
Use/Description:	Compressor / Fire Riser
Functional Requirements:	Ceiling: <AM#0003> Exposed to structure, Painted in flat finish, open. </AM#0003> Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Sealed concrete floor to remain. Terminate epoxy at door
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01. Provide compressed air system and air distribution system in accordance with UFC 3-420-02.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B214 Room Name:	Restrooms – Men’s and Women’s
Use/Description:	ABA Restroom for building occupants.
Functional Requirements:	Ceiling: <AM#0003>Painted GWB in flat finish. open </AM#0003> Walls: Paint in eggshell finish, porcelain tiles Base: Metal cove base Floor: Porcelain tile
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B214 Room Name:	Storage and FOM
Use/Description:	Storage room for equipment parts
Functional Requirements:	Ceiling: Paint in flat finish, gypsum board. Walls: Paint in eggshell finish Base: New 4" high rubber base with toe Floor: New five-coat epoxy flooring
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Confirm need for additional dehumidification.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm-in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	Coordinate storage rack configuration with User equipment requirements.
Other Requirements / Notes:	N/A

B214 Room Name:	AME
Use/Description:	Storage room for equipment parts and Aircraft maintenance engineer
Functional Requirements:	Ceiling: Paint in flat finish, gypsum board. Walls: Paint in eggshell finish Base: New 4" high rubber base with toe Floor: New five-coat epoxy flooring
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Confirm need for additional dehumidification.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm-in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01. Sprinkler protection is required to be based on the maximum potential height of storage (up to 18" below the ceiling or roof deck) in accordance with UFC 3-600-01 Section 4-48.2.3.1.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	Coordinate storage rack configuration with User equipment requirements.
Other Requirements / Notes:	N/A

B214 Room Name:	425 FS Trade Learning Room
Use/Description:	Trade Learning Room
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: New 4" high rubber base with toe Floor: New LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	Conference Table to seat 8 with accessibility to power and data ports, small freestanding, stationary workstation, (9) ergonomic task chairs and (12) side chairs
Other Requirements / Notes:	N/A

B214 Room Name:	JEIM – EMMS Room
Use/Description:	EMMS Room
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: New 4" high rubber base with toe. Floor: New LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install 4 new receptacles. Replace lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	Freestanding, height adjustable workstation with dual monitors, mobile file pedestal, (8) 5H lateral file cabinets (4 drawers, 1 flip top shelf), glass white board over Workstation
Other Requirements / Notes:	N/A

B214 Room Name:	JEIM – Engine Office
Use/Description:	JEIM Engine Office
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: New 4" high rubber base with toe. Floor: New LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install 4 new receptacles, and replace lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Install new NIPR drop, and one phone line. Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) Freestanding peninsula workstation, height adjustable, with monitor arms, (1) freestanding 5' workstation, height adjustable, with monitor arms, (2) mobile file pedestals, (3) vertical file towers, glass white board over Workstation
Other Requirements / Notes:	N/A

B214 Room Name:	Janitor
Use/Description:	Janitor closet
Functional Requirements:	Ceiling: <AM003>GWPB </AM003>, paint in flat finish Walls: Paint in semi-gloss finish and FRP panels up to 48" Base: New 4" high rubber base with toe Floor: New five-coat epoxy flooring
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Mop Sink
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) Wall mounted mop rack
Other Requirements / Notes:	N/A

Building 216

Building 216 is a flight operations facility and includes flight crew areas, administrative spaces, briefing rooms, F-35 Lightning II operations facility, a simulator, and training rooms. It requires an addition for the distinguished visitor (DV) meeting area. The building will have secure areas in accordance with UFC 4-010-05 and F-35 Lightning II Functional Requirements Document.

B216 Room Name:	USAF Admin / RSAF Admin / Secretary
Use/Description:	Administrative Office for 4
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 4 comm and 4 NIPR.
Furniture, Fixtures & Equipment Notes:	(3) 5' freestanding workstations, height adjustable, with monitor arms, (1) L shaped workstation with modesty panel, height adjustable, monitor arm, (4) mobile file pedestals, (4) ergonomic task chairs, (3) guest chairs with arms, (5) 5H lateral file cabinets (4 drawers, 1 flip top shelf), glass white boards over desks
Other Requirements / Notes:	N/A

B216 Room Name:	CC Office
Use/Description:	Commander's Office
	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 1 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula workstation with modesty panel, height adjustable with monitor arm, (1) mobile file pedestal, (1) Ergonomic Task Chair, (2) guest chairs with arms, (1) 5H lateral file cabinet (4 drawer, 1 flip top shelf), glass white board over desk.
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B216 Room Name:	SRO Office
Use/Description:	Sensitive Reconnaissance Operations Office
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 1 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula workstation with modesty panel, height adjustable with monitor arm, (1) mobile file pedestal, (1) ergonomic task chair, (2) guest chairs with arms, (1) 5H lateral file cabinet (4 drawers, 1 flip top shelf), glass white board over desk
Other Requirements / Notes:	N/A

B216 Room Name:	Conference Room
Use/Description:	Main Conference Room
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 2 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) freestanding conference table to seat 12, (12) fully upholstered high back conference room chairs, (18) fully upholstered guest chairs with arms, (3) wall mounted screens, and (1) storage credenza below monitor on end wall
Other Requirements / Notes:	N/A

B216 Room Name:	OPS <AM#0003> Workstation-Desk </AM#0003>
Use/Description:	Operations workstation admin area. Flight check-in
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 comm and 3 NIPR. Provide IDS-ACS.
Furniture, Fixtures & Equipment Notes:	Casework counter with file storage below and transaction top along entire length. (3) ergonomic task chairs, (1) wall mounted screen, (1) tablet charging cabinet, and (1) copier
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B216 Room Name:	SARM Office
Use/Description:	Squadron Aviation Recourse Management Office admin area.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 comm and 3 NIPR. Provide IDS-BMS.
Furniture, Fixtures & Equipment Notes:	(3) 5' freestanding workstations, height adjustable with monitor arms, (3) mobile file pedestals, (3) ergonomic task chairs, glass white boards mounted over desks
Other Requirements / Notes:	N/A

B216 Room Name:	Scheduling and Training
Use/Description:	Flight mission briefing and operations training.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 4 comm and 6 NIPR.
Furniture, Fixtures & Equipment Notes:	(4) 5' freestanding workstations, height adjustable with monitor arms, (4) low storage cabinets, (1) full height bookcase, (4) ergonomic task chairs, (3) stacking guest chairs, (3) projection screens
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B216 Room Name:	DO Office
Use/Description:	Operations Officer Admin Area
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 1 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula workstation with modesty panel, height adjustable with monitor arms, (1) mobile file pedestal, (1) ergonomic task chair, (2) guest chairs with arms, glass white board mounted over desk
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B216 Room Name:	Janitor
Use/Description:	Janitor closet
Functional Requirements:	Ceiling: <AM#0003>GWPB </AM#0003> paint in flat finish Walls: Paint in semi-gloss finish and FRP panels up to 48" Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide mop sink.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) Wall mounted mop rack
Other Requirements / Notes:	N/A

B216 Room Name:	Restroom – Men’s and Women’s
Use/Description:	Restrooms
Functional Requirements:	Ceiling: GWB, paint in Semi-Gloss finish Walls: Paint in semi-gloss finish, porcelain tile Base: Metal cove base Floor: porcelain tile
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) Clothes hook, and (4) two tier lockers in each room
Other Requirements / Notes:	N/A

B216 Room Name:	ADA Shower Room
Use/Description:	ADA gender neutral shower room with toilet and sink
Functional Requirements:	Ceiling: GWB, paint in Semi-Gloss finish Walls: Paint in semi-gloss finish, porcelain tile Base: Metal cove base Floor: porcelain tile
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(4) two tier lockers, clothes hook
Other Requirements / Notes:	N/A

B216 Room Name:	ADO
Use/Description:	Assistant Operations Officers Admin Area
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 5 comm and 5 NIPR.
Furniture, Fixtures & Equipment Notes:	(5) freestanding "L" shaped workstations, height adjustable with monitor arms, (5) mobile file pedestals, (5) ergonomic task chairs, (4) guest chairs with arms, (4) low storage cabinets with HPL top for huddle surface, glass white boards mounted over workstations
Other Requirements / Notes:	N/A

B216 Room Name:	Hallway
Use/Description:	Hallway
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT Tiles or Planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B216 Room Name:	Stan / Eval and IT Storage
Use/Description:	IT Storage and offices
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT tiles or planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 comm and 3 NIPR.
Furniture, Fixtures & Equipment Notes:	(9) full height wire racks for IT storage, (2) 5H Lateral files for RA (4 drawer and (1) flip top shelf), (2) "L" shaped freestanding workstations, height adjustable with monitor arms, (1) freestanding peninsula desk with modesty panel, height adjustable with monitor arms, (3) mobile file pedestals, (3) ergonomic task chairs, glass white boards over desks
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B216 Room Name:	Man Trap (SA 106)
Use/Description:	Security Vestibule for US Secret Secure Area
Functional Requirements:	Ceiling: GWB with paint in flat finish Walls: Paint in eggshell finish (tied into wall system and sealed above for security) Base: 4" high rubber base with toe. Floor: LVT tiles or planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS-BMS.
Furniture, Fixtures & Equipment Notes:	Located outside of Man Trap, (2) phone storage locker banks with keypad locks and universal charging stations within lockers. Can not be located on RF Shielded wall.
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	Conference / Main Briefing Room (SA107)
Use/Description:	Conference / Main Briefing Room
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and sealed for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	United States Secret Clearance Access Only Provide data in accordance with UFC 3-580-01. Provide 1 NIPR. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	(48) fixed auditorium seats with flip up seats and tablet arms
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	Storage (SA107B)
Use/Description:	Storage for Conference/ Main Briefing room
Functional Requirements:	Ceiling: GWB with paint in flat finish (tied into wall system and sealed above for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT tiles or planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	United States Secret Clearance Access Only Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	Hallway (SA108)
Use/Description:	Hallway
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and sealed for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT Tiles or Planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	United States Secret Clearance Access Only Provide data in accordance with UFC 3-580-01. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	Briefing Rooms (SA 109A, SA109B)
Use/Description:	Briefing Rooms combinable with operable partition
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and sealed for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT Tiles or Planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	United States Secret Clearance Access Only Provide data in accordance with UFC 3-580-01. Provide 1 NIPR.
Furniture, Fixtures & Equipment Notes:	(2) Huddle tables total, (10) training chairs total, <AM#0003> (1) operable wall partition, </AM#0003> (2) wall mounted white boards total, and (4) wall mounted screens total
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4. <AM#003>Provide one operable wall partition</AM#003>

B216 Room Name:	Briefing Rooms (SA110A, SA110B, SA110C)
Use/Description:	Three adjacent briefing rooms
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and sealed for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT Tiles or Planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	United States Secret Clearance Access Only Provide data in accordance with UFC 3-580-01. Provide 1 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) Huddle table in each room, (6) training chairs in each room, (1) 5' freestanding workstation, height adjustable with monitor arms in each room, (1) large wall mounted white board in each room, (1) small wall mounted white board in each room, and (2) wall mounted screens in each room
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	Mechanical (SA 17)
Use/Description:	Existing Mechanical Room
Functional Requirements:	Ceiling: open GWB with paint in flat finish (tied into wall system and sealed above for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: sealed concrete
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	United States Secret Clearance Access Only Provide data in accordance with UFC 3-580-01. Provide IDS-BMS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	L16 BOSS / ACMI / GCI CNTL (SA 112)
Use/Description:	Administrative Area for Command and Control
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and sealed for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	United States Secret Clearance Access Only Provide data in accordance with UFC 3-580-01. Provide 2 comm, 2 NIPR, and 1 ISP. Provide IDS/ACS.
Furniture, Fixtures & Equipment Notes:	(2) freestanding peninsula workstations with modesty panels, height adjustable with monitor arms, (2) mobile file pedestals, (2) ergonomic task chairs, (3) 5H lateral file cabinets (4 drawers and 1 flip top shelf), (4) guest chairs with arms, glass white boards mounted over desks
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	Mission Planning Room (SA 111)
Use/Description:	Flight Planning Room with task desks and map tables
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and sealed for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT Tiles or Planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	United States Secret Clearance Access Only Provide data in accordance with UFC 3-580-01. Provide 10 comm and 10 NIPR. IDS-BMS.
Furniture, Fixtures & Equipment Notes:	(10) freestanding workstations, height adjustable with monitor arms, (10) mobile file pedestals, (10) ergonomic task chairs, (2) 7' x 7' cubes of storage cabinets to hold maps and other supplies with a common HPL top over storage at standing height to be used for huddles, (3) five drawer safes, and (3) two drawer safes, (1) wall mounted screen, and (2) small wall mounted markerboards
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior enclosure and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	Comm
Use/Description:	Existing Comm Room
Functional Requirements:	Ceiling: open Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Static Dissipative Tiles
Mechanical and Other Special Requirements:	Provide air conditioning systems in accordance with UFC 3-410-01. Provide dedicated split system. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Remove existing comm runs and install new ones. Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B216 Room Name:	Electrical
Use/Description:	Existing Electrical Room
Functional Requirements:	Ceiling: open Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: sealed concrete
Mechanical and Other Special Requirements:	Provide heating and ventilation systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace panels, transformers, disconnects, and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B216 Room Name:	Mechanical
Use/Description:	Existing Mechanical Room
Functional Requirements:	Ceiling: open Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: sealed concrete
Mechanical and Other Special Requirements:	Provide heating and ventilation systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B216 Room Name:	<AM#0003> DV Meeting Room Assembly Room </AM#0003> / Building Addition
Use/Description:	<AM#0003> DV </AM#0003> Meeting Room
Functional Requirements:	Ceiling: ACT Walls: <AM#0003> GWB Painted </AM#0003> in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS-ACS.
Furniture, Fixtures & Equipment Notes:	(1) recreation table (by others), (2) cafe tables, (8) cafe chairs without arms, (6) barstools without arms, (1) wall mounted monitor, (1) freestanding storage credenza (under wall mounted monitor), (4) lounge chairs with fully upholstered tight seat and back, (2) 20" diameter end tables, Casework not included in FFE. Appliances include refrigerators, microwaves, water fountain with bottle filler, and ice maker
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B216 Room Name:	Aircrew Room
Use/Description:	Air crew administrative workstation area.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 17 comm and 17 NIPR. Provide IDS-ACS.
Furniture, Fixtures & Equipment Notes:	(17) freestanding workstations, height adjustable with monitor arms, panel-based spine and T connections on each end for workstations in center of room (powered with J box and power pole), (17) mobile file pedestals, (17) Ergonomic Task Chairs, (3) full height 2-door storage cabinets
Other Requirements / Notes:	N/A

B216 Room Name:	Hallway
Use/Description:	Main Hallway
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B216 Room Name:	USAF Civilian SPV Office
Use/Description:	USAF Civilian Supervisor Office
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 1 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula desk with modesty panel, height adjustable with monitor arm, (1) freestanding file pedestal, (1) ergonomic task chair, (2) guest chairs with arms, glass whiteboard mounted above desk
Other Requirements / Notes:	N/A

<AM#0003>

B216 Room Name:	Fire Riser Room
Use/Description:	Fire Riser
Functional Requirements:	Ceiling: Exposed to structure, Painted in flat finish. Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Sealed concrete floor to remain. Terminate epoxy at door
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01. Provide compressed air system and air distribution system in accordance with UFC 3-420-02.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

</AM#0003>

B216 Room Name:	OSAN
Use/Description:	OSAN secure room
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm, 1 NIPR, and 1 ISP.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula desk with modesty panel, height adjustable with monitor arm, (1) freestanding file pedestal, (1) ergonomic task chair, (2) guest chairs with arms, (1) 5H lateral file cabinet (4 drawers and 1 flip top shelf), glass white board mounted above desk
Other Requirements / Notes:	Cipher lock

B216 Room Name:	IMSO
Use/Description:	Admin Area for International Military Student Officer
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 1 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula desk with modesty panel, height adjustable with monitor arm, (1) freestanding file pedestal, (1) ergonomic task chair, (2) guest chairs with arms, (1) 5H lateral file cabinet (4 drawers and 1 flip top shelf), glass white board mounted above desk
Other Requirements / Notes:	N/A

B216 Room Name:	F-35
Use/Description:	Two adjacent F-35 offices
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 1 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula Workstation with modesty panel, height adjustable with monitor arm per room, (1) freestanding file pedestal per room, (1) Ergonomic Task Chair per room, (2) guest chairs with arms per room, (1) 5H lateral file cabinet per (4 drawers and 1 flip top shelf), glass white board above each workstation
Other Requirements / Notes:	N/A

B216 Room Name:	Hallway
Use/Description:	Hallway
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B216 Room Name:	F-16 SIM BRF
Use/Description:	F16 simulator briefing room
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 2 NIPR.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula desk with modesty panel, height adjustable with monitor arm, (1) freestanding file pedestal, (1) ergonomic task chair, (2) guest chairs with arms, (1) 5H lateral file cabinet (4 drawer and 1 flip top shelf), glass white board mounted over desk
Other Requirements / Notes:	N/A

B216 Room Name:	VIPER EP SIM
Use/Description:	VIPER EP SIM Unclassified space for simulator
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and sealed for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Anticipated thermal load is 4.9 Ton BTU/hr.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01. The F-16 UTD simulator requires a 60-amp service in 3-phase, 208/120 volts, 60 hertz. Equip the incoming primary power with an appropriately rated phase monitoring system.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 1 comm and 2 NIPR.
Furniture, Fixtures & Equipment Notes:	Egress Trainer Flight Simulator in accordance with F16TSATD-FACLT-INST-001
Other Requirements / Notes:	United States Secret Clearance Access Facility in accordance with DoDM 5200.01 Vol 3. Interior walls and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	F-35
Use/Description:	F-35 air crew administrative area
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 12 comm and 12 NIPR.
Furniture, Fixtures & Equipment Notes:	(12) freestanding workstations, height adjustable with monitor arm, (12) mobile file pedestals, (12) ergonomic task chairs, (3) 5H lateral files (4 drawers 1 flip up shelf)
Other Requirements / Notes:	N/A

B216 Room Name:	Man Trap (SA126)
Use/Description:	Security vestibule to SAPF area.
Functional Requirements:	Ceiling: <AM#0003>GWPB </AM#003>, paint in flat finish (tie into wall system above and seal for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Fortify ducts over 96 square inch cross-sectional area crossing secure perimeter. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	SAPF ICD/ICS 705 / TEMPEST / F-35 FRD Provide data in accordance with UFC 3-580-01. Provide ACS/IDS.
Furniture, Fixtures & Equipment Notes:	(2) phone storage locker banks with keypad locks and universal charging stations within lockers. Located outside the room in hallway, cannot be on an RF shielded secure wall.
Other Requirements / Notes:	Special Access Program in accordance with UFC 4-010-05. Interior walls and doors to be ICD 705 Type B Sound Group 4

B216 Room Name:	Security (SA 127)
Use/Description:	Security admi area for SAPF
Functional Requirements:	Ceiling: <AM#0003>GWPB </AM#0003>, paint in flat finish (tie into wall system above and seal for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Fortify ducts over 96 square inch cross-sectional area crossing secure perimeter.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	SAPF ICD/ICS 705 / TEMPEST / F-35 FRD Provide data in accordance with UFC 3-580-01. Provide 1 comm and 3 NIPR. Provide IDS-BMS.
Furniture, Fixtures & Equipment Notes:	(3) freestanding workstations, height adjustable with monitor arms, (3) ergonomic task chairs, (3) mobile file pedestals, glass white board above 2 desks
Other Requirements / Notes:	Special Access Program in accordance with UFC 4-010-05. Interior walls and doors to be ICD 705 Type B Sound Group 4

B216 Room Name:	Secure Comm (SA 133)
Use/Description:	Secure Comm Room
Functional Requirements:	Ceiling: GWB, paint in flat finish (tie into wall system above and seal for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Static Dissipative Tiles
Mechanical and Other Special Requirements:	Provide air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Provide dedicated split system. Fortify ducts over 96 square inch cross-sectional area crossing secure perimeter.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	SAPF ICD/ICS 705 / TEMPEST / F-35 FRD Provide data in accordance with UFC 3-580-01. Provide 1 comm and 1 NIPR.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Special Access Program in accordance with UFC 4-010-05. Interior walls and doors to be ICD 705 Type A Sound Group 4

B216 Room Name:	VAULT ALIS / ODIN (SA 132)
Use/Description:	ALIS / ODIN Admin Area for servers
Functional Requirements:	Ceiling: <AM#0003>GWPB </AM#0003>, paint in flat finish (tie into wall system above and seal for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Fortify ducts over 96 square inch cross-sectional area crossing secure perimeter.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	SAPF ICD/ICS 705 / TEMPEST / F-35 FRD Provide data in accordance with UFC 3-580-01. Provide 4 comm and 4 NIPR. Provide IDS-ACS.
Furniture, Fixtures & Equipment Notes:	(3) freestanding workstations, height adjustable with monitor arms, (3) ergonomic task chairs, (3) mobile file pedestals, glass white board mounted over each desk
Other Requirements / Notes:	Special Access Program in accordance with UFC 4-010-05. Interior walls and doors to be ICD 705 Type A Sound Group 4

B216 Room Name:	Vault 1 Server (SA 132B)
Use/Description:	SAPF Server Area
Functional Requirements:	Ceiling: GWB, paint in flat finish (tie into wall system above and seal for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Static Dissipative Tile
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Fortify ducts over 96 square inch cross-sectional area crossing secure perimeter.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	SAPF ICD/ICS 705 / TEMPEST / F-35 FRD Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(6) full height wire racks
Other Requirements / Notes:	Special Access Program in accordance with UFC 4-010-05. Interior walls and doors to be ICD 705 Type A Sound Group 4

B216 Room Name:	Vault 1 Large Brief (SA 131)
Use/Description:	Large Briefing Room
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and seal for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, tiles or planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Fortify ducts over 96 square inch cross-sectional area crossing secure perimeter.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	SAPF ICD/ICS 705 / TEMPEST / F-35 FRD Provide data in accordance with UFC 3-580-01. Provide 1 NIPR and IDS-BMS.
Furniture, Fixtures & Equipment Notes:	(2) training tables, (8) training chairs, (4) full height, 2-door storage cabinets, glass whiteboard at head of room
Other Requirements / Notes:	Special Access Program in accordance with UFC 4-010-05. Interior walls and doors to be ICD 705 Type A Sound Group 4

B216 Room Name:	Vault 1 Mission Planning Room (SA 130)
Use/Description:	Mission Planning Room
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and seal for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Fortify ducts over 96 square inch cross-sectional area crossing secure perimeter.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	SAPF ICD/ICS 705 / TEMPEST / F-35 FRD Provide data in accordance with UFC 3-580-01. Provide 1 NIPR. IDS-BMS.
Furniture, Fixtures & Equipment Notes:	(1) Huddle table for 6, (12) training chairs, (6) small freestanding workstations, stationary with no storage, glass whiteboard over huddle table
Other Requirements / Notes:	Special Access Program in accordance with UFC 4-010-05. Interior walls and doors to be ICD 705 Type A Sound Group 4

B216 Room Name:	Vault 1 Small Brief (SA128, SA129)
Use/Description:	Two adjacent small Brief / Debrief rooms
Functional Requirements:	Ceiling: ACT (GWB true ceiling above to tie into wall system and seal for security) Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Fortify ducts over 96 square inch cross-sectional area crossing secure perimeter.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	SAPF ICD/ICS 705 / TEMPEST / F-35 FRD Provide data in accordance with UFC 3-580-01. Provide 1 NIPR. Provide IDS-BMS.
Furniture, Fixtures & Equipment Notes:	(1) mobile training table per room, (4) training chairs per room, (3) full height, 2 door storage cabinets per room, glass whiteboard at head of room
Other Requirements / Notes:	Special Access Program in accordance with UFC 4-010-05. Interior walls and doors to be ICD 705 Type A Sound Group 4.

B216 Room Name:	Vestibule
Use/Description:	Distinguished Visitors Entry and Hallway
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Walk-off mat
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS-ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B216 Room Name:	Wellness Room
Use/Description:	Wellness Room (can be used as Lactation Room)
Functional Requirements:	Ceiling: GWB Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Sink required in casework
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	Lactation Chair and footstool, side table, casework, undercounter refrigerator.
Other Requirements / Notes:	Provide lock on door for privacy

Building 218

Building 218 serves as an administrative facility and includes administrative offices, a pilot kit-up room, an assembly space, and a log cell.

B218 Room Name:	Assembly Room
Use/Description:	Assembly Room for large meetings and dining. The room will have countertops for microwaves and lower storage, with sinks for cleaning small dishes. Provide space for refrigerators to store pilot meals to be warmed up.
Functional Requirements:	Ceiling: Open, painted in flat finish Walls: Paint in eggshell finish Base: 4" high rubber base with toe Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Existing doors to have controlled electronic access to the flightline. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01. (1) Break room sink (1) Electric water cooler
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS/ACS and infrastructure for 1 projector.
Furniture, Fixtures & Equipment Notes:	(10) tables with HPL top, vinyl edge banding, and metal legs with metal cross bar for structural support. (60) chairs with metal frame and poly seat and back (no arms). Cabinetry in 3 locations within room - (1) cabinet length to have a sink location with lower storage and prep counter. (2) cabinet lengths to have lower storage and prep counter with (2) microwaves per counter. Refrigerators located near sink counter.
Other Requirements / Notes:	Existing doors are to receive door hardware modification to controlled access to the flightline.

B218 Room Name:	Comm Room
Use/Description:	Communications Equipment Room.
Functional Requirements:	Ceiling: Open, painted in flat finish Walls: Paint in eggshell finish Base: 4" high rubber base with toe Floor: Static dissipative tile
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment. Provide a dedicated split system.
Electrical and Other Special Requirements:	Standard electrical service in accordance with UFC-3-580-01. Provide the following: dedicated power panel, dedicated circuits to each rack, and wall receptacle every 6 feet. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

B218 Room Name:	DCC
Use/Description:	Open office Area for 3 personnel. Provided in existing office space.
Functional Requirements:	Ceiling: Acoustical ceiling system Walls: Paint in eggshell finish Base: 4" high rubber base with toe Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 8 receptacles with new. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(3) freestanding workstations, height adjustable with monitor arms, (3) mobile file pedestals, (3) ergonomic task chairs, (3) 5H lateral files, (1) Times Two starter unit rotating cabinet, letter sized, glass white boards mounted over desks
Other Requirements / Notes:	Secured room.

B218 Room Name:	AE
Use/Description:	Open office Area for 3 personnel. Provided in existing office space.
Functional Requirements:	Ceiling: Acoustical ceiling system Walls: Paint in eggshell finish Base: 4" high rubber base with toe Floor: sealed concrete
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 7 receptacles with new. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(3) freestanding workstations with end panels, stationary, with monitor arm per desk, (3) ergonomic task chairs, (2) 5H lateral file cabinets (4 drawers and 1 flip top shelf)
Other Requirements / Notes:	Secured room, Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	CN
Use/Description:	Open Office Area for 3 personnel. Provided in existing office space.
Functional Requirements:	Ceiling: Acoustical ceiling system Walls: Paint in eggshell finish Base: 4" high rubber base with toe Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 8 receptacles with new. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(2) freestanding workstations, height adjustable with monitor arms, (1) "L" shaped workstation, freestanding, height adjustable with monitor arm, (3) ergonomic task chairs, (3) mobile file pedestals, (1) 5H lateral file cabinet (4 drawers and 1 flip top shelf), glass white board mounted above each desk
Other Requirements / Notes:	Secured room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	WPN
Use/Description:	Open office Area for 3 personnel. Provided in existing office space.
Functional Requirements:	Ceiling: Acoustical ceiling system. Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 10 receptacles with new. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(2) freestanding, height adjustable workstations with monitor arms, (1) freestanding "L" shaped workstation with monitor arm, (3) mobile file pedestals, (3) ergonomic task chairs, (1) 5H lateral file (4 drawers and 1 flip top shelf), (1) Times Two starter unit, rotating cabinet, letter sized, (1) Times Two add on unit, rotating cabinet, letter sized, glass white boards mounted above desks
Other Requirements / Notes:	Secured room.

B218 Room Name:	Mechanical Room
Use/Description:	Mechanical equipment room, Existing room
Functional Requirements:	Ceiling: Open, painted in flat finish Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Sealed concrete
Mechanical and Other Special Requirements:	Provide heating and ventilation systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	Provide communications racks, switches, and other comm equipment.
Other Requirements / Notes:	Secured room.

<AM#0003>

B218 Room Name:	Electrical
Use/Description:	Existing Electrical Room
Functional Requirements:	Ceiling: open Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: sealed concrete
Mechanical and Other Special Requirements:	Provide heating and ventilation systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace panels, transformers, disconnects, and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

</AM#003>

B218 Room Name:	EI
Use/Description:	Open office Area for 3 personnel. Provided in existing office space.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(1) "L" shaped freestanding, height adjustable workstations with monitor arms, (2) regular freestanding desk, height adjustable with monitor arm, (3) mobile file pedestals, (3) ergonomic task chairs, (1) 5H lateral file cabinet, (1) Times Two starter unit, rotating cabinet, letter sized and (1) Times Two add on unit, rotating cabinet, letter sized, glass white board mounted above desks
Other Requirements / Notes:	Secured room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	ENG
Use/Description:	Open office Area for 8 personnel. Area used for small meetings and training observation. Repurposed space utilizing and combining existing office space
Functional Requirements:	Ceiling: Open, painted in flat finish or ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 7 receptacles with new. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(3) freestanding workstations, height adjustable with monitor arm, (1) 5H lateral file storage cabinet (4 drawer, 1 flip top shelf), (1) times-two unit starter cabinet, rotating, letter sized, (1) times two unit add-on cabinet, rotating, letter sized, (3) ergonomic task chairs, glass whiteboards mounted above each desk
Other Requirements / Notes:	Secured room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	LOGCELL
Use/Description:	LOGCELL
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(8) freestanding, height adjustable workstations with monitor arms, (21) ergonomic task chairs, (8) mobile file pedestals, (2) training tables, (5) 3H lateral file cabinets, (4) 2 door low storage cabinets with 2 interior adjustable shelves, (1) conference table to seat 10 in wood veneer or wood grain HPL, power and data to run through base to tabletop, (3) glass white boards mounted above desk
Other Requirements / Notes:	Secured room. Existing doors are to receive door hardware modification to control access to the flightline. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	Meeting Room
Use/Description:	Meeting, Existing space to remain.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) Conference table to seat 10 in wood veneer or wood grain HPL, power and data accessible through base to tabletop. (10) Conference task chairs
Other Requirements / Notes:	N/A

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B218 Room Name:	Vestibule
Use/Description:	Distinguished Visitors Entry and Hallway
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Walk-off mat
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide IDS-ACS.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

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B218 Room Name:	Hallway
Use/Description:	Main Hallway
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

</AM#0003>

B218 Room Name:	SMO
Use/Description:	Enclosed office for 1 personnel. Provided in existing office space.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula workstation with modesty panel, height adjustable with monitor arm, (1) mobile file pedestal, (1) 5H lateral file (4 drawers and 1 flip top shelf), (1) ergonomic task chair, (2) guest chairs with arms, glass whiteboard mounted above desk
Other Requirements / Notes:	Secured room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	RSAF Chief
Use/Description:	RSAF Chief
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 5 receptacles with new. Replace all lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 2 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(1) freestanding, peninsula shaped with modesty panel, height adjustable desk with monitor arm, , (1) mobile file pedestal, (1) Ergonomic Task chair, (1) 5H lateral file (4 drawers and 1 flip top shelf) cabinet, (2) guest chair with arms, glass white board mounted over desk
Other Requirements / Notes:	Secured room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	USAF MA
Use/Description:	Enclosed office for 1 personnel. Provided in existing reconfigured office space.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 5 receptacles with new and replace all lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Install 1 NIPR and 1 phone line.
Furniture, Fixtures & Equipment Notes:	(1) freestanding peninsula, height adjustable workstation with monitor arm and modesty panel, (1) mobile file pedestal, (1) ergonomic task chair, (1) 5H lateral file cabinet (4 drawers, 1 flip top shelf), (2) guest chairs with arms, glass white board mounted over desk
Other Requirements / Notes:	Secured room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	USAF Chief
Use/Description:	Enclosed office for 1 personnel. Provided in existing office space.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 5 receptacles with new and replace all lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Install 2 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(1) freestanding, peninsula-shaped, height-adjustable desk with monitor arm and modesty panel, (1) mobile file pedestal (1) Ergonomic Task chair, (1) 5H lateral file cabinet (4 drawers and 1 flip top shelf), (1) guest chair with arms, glass white board mounted over desk
Other Requirements / Notes:	Secured room.

B218 Room Name:	OICs / QA Room
Use/Description:	Enclosed open office area for 6 personnel. Provided in reconfigured existing office space.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet Tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 12 receptacles with new and replace all lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 6 NIPR and 5 phone lines.
Furniture, Fixtures & Equipment Notes:	(6) freestanding, "L" shaped, height adjustable workstations with monitor arms, (6) ergonomic task chairs, (6) mobile file pedestals, (1) 2 door, low storage cabinet with (2) interior adjustable shelves (printer will sit on top), (5) glass white board mounted above desks
Other Requirements / Notes:	Secured room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	AA
Use/Description:	Enclosed open office Area for 4 personnel with small central meeting Workstation. Provided in existing office space
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace 10 receptacles with new. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Install 3 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	(3) freestanding, height adjustable workstations with monitor arms, (3) mobile file pedestals, (3) ergonomic task chairs, (4) training chairs, (1) huddle table, round with pedestal base, (2) 5H lateral file cabinets (4 drawers and 1 flip top shelf), glass whiteboards mounted above desks
Other Requirements / Notes:	Secured room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	Pyro
Use/Description:	Hardened storage space for storage of flight equipment with explosive properties.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Carpet tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide 1 receptacle and grounding points. Provide new lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01. All electrical items and lighting must have a hazardous classification rating.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01. (2) Class 2A 10BC fire extinguisher.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(2) Flammable cabinets
Other Requirements / Notes:	Secure and hardened space. Space contains Class 1.4S explosives. Coordinate with user quantity of material stored. Construct room with cinder block and steel deck ceiling.

<AM#0003>

B218 Room Name:	Mechanical
Use/Description:	Mechanical Room
Functional Requirements:	Ceiling: open Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: sealed concrete
Mechanical and Other Special Requirements:	Provide heating and ventilation systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	N/A
Other Requirements / Notes:	N/A

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B218 Room Name:	Shower Rooms
Use/Description:	Rooms with showers
Functional Requirements:	Ceiling: GWB, paint in Semi-Gloss finish Walls: Paint in semi-gloss finish, porcelain tile Base: Metal cove base Floor: porcelain tile
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(2) two tier lockers, clothes hook
Other Requirements / Notes:	N/A

</AM#0003>

B218 Room Name:	Pilot Kit-Up Room
Use/Description:	Pilot Kit-Up locker room for flight prep and issuing of flight gear.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT plans or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide 2 new receptacles and new lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01. All electrical items and lighting must have a hazardous classification rating.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(35) Pilot kit-up lockers with lower storage drawer, open compartment with hooks for gear, closed door, and drawer, storage above. Lockers use approximate 30" x 30" footprint.
Other Requirements / Notes:	N/A

B218 Room Name:	LSS Room
Use/Description:	Flight equipment issuing room with cleaning equipment.
Functional Requirements:	Ceiling: ACT Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: LVT planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide 6 new receptacles and new lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01. All electrical items and lighting must have a hazardous classification rating.
Plumbing and Other Special Requirements:	Provide plumbing in accordance with UFC 3-420-01.
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. Provide 3 NIPR and 2 phone lines.
Furniture, Fixtures & Equipment Notes:	Built-in counter tops at seated height, transaction top at 36" AFF, (1) freestanding washing machine, (2) ergonomic task chairs, (2) counter mounted monitor arms.
Other Requirements / Notes:	Secure room. Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	NVG
Use/Description:	Storage room of flight equipment
Functional Requirements:	Ceiling: GWB, paint in flat finish Walls: Paint in eggshell finish Base: 4" high rubber base with toe Floor: LVT, tiles or planks
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide 2 new receptacles and new lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(2) Full height storage cabinets, locking, with 4 interior adjustable shelves per cabinet
Other Requirements / Notes:	Secure room

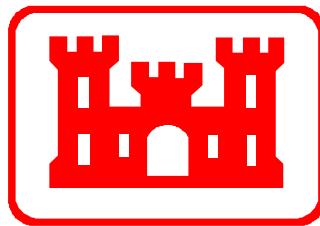
B218 Room Name:	Restrooms – Men’s and Women’s
Use/Description:	ABA Restroom and showers for building occupants.
Functional Requirements:	Ceiling: GWB, painted in semi-gloss finish Walls: Paint in semi-gloss finish, porcelain tile Base: Metal cove base Floor: Porcelain tile floors with shower pan or mosaic tile sloped to drain
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	Lockers, 2H, plastic, with self-provided locks, (1) interior shelf and (1) interior hook per locker
Other Requirements / Notes:	N/A

B218 Room Name:	Comm Room
Use/Description:	Communications Equipment Room.
Functional Requirements:	Ceiling: Paint in flat finish, gypsum board. Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: Static Dissipative floor tiles.
Mechanical and Other Special Requirements:	Provide Heating Ventilation and Air Conditioning systems in accordance with UFC 3-410- 01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01. New ACS.
Furniture, Fixtures & Equipment Notes:	Provide communications racks, switches, and other comm equipment as needed
Other Requirements / Notes:	Provide roller shades at windows with minimum 3% openness.

B218 Room Name:	Janitor
Use/Description:	Janitor closet
Functional Requirements:	Ceiling: <AM003>GW</AM003>, paint in flat finish Walls: Paint in semi-gloss finish and FRP panels up to 48" Base: 4" high rubber base with toe Floor: LVT, planks or tiles
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Install new receptacles and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	Mop Sink
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	Provide data in accordance with UFC 3-580-01.
Furniture, Fixtures & Equipment Notes:	(1) Wall mounted mop rack
Other Requirements / Notes:	N/A

B218 Room Name:	F-35 AFE (Aircrew Flight Equipment) Room
Use/Description:	Room containing lockers and benches for donning flight gear.
Functional Requirements:	Ceiling: open Walls: Paint in eggshell finish Base: 4" high rubber base with toe. Floor: sealed concrete
Mechanical and Other Special Requirements:	Provide heating, ventilation, and air conditioning systems in accordance with UFC 3-410-01. Do not use gas-fired equipment.
Electrical and Other Special Requirements:	Replace panels, transformers, disconnects, and lighting. Provide power in accordance with UFC 3-520-01. Provide lighting in accordance with UFC 3-530-01.
Plumbing and Other Special Requirements:	N/A
Fire Protection / Fire Alarm / Mass Notification System:	Provide Fire Protection / Fire Alarm in accordance with UFC 3-600-01. Provide Mass Notification in accordance with UFC 4-021-01.
Communications and Cybersecurity Requirements:	N/A
Furniture, Fixtures & Equipment Notes:	Lockers and benches T.B.D.
Other Requirements / Notes:	N/A

GOVERNMENT GEOTECHNICAL REPORT / FOR DESIGN-BUILD RFP
EBBING ANGB HANGAR 200 RENOVATIONS
FORT SMITH, ARKANSAS



PREPARED BY
U.S. ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
ENGINEERING AND CONSTRUCTION DIVISION
GEOTECHNICAL BRANCH
CESWF-ECG

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GOVERNMENT GEOTECHNICAL REPORT

1. General

The purpose of this report is to provide subsurface information and foundation design considerations, guidance, and requirements for the planned renovations to the existing Hangar 200 in Ebbing Air National Guard Base (ANGB) in Fort Smith, Arkansas. Design and construction of the planned renovations will be accomplished under a Design-Build (D-B) contract.

The existing Hangar 200 facility was originally built in 1955 and is currently not in adequate condition to support future Foreign Military Sales (FMS) F-35 and Republic of Singapore Air Force (RSAF) F-16 maintenance. The planned renovations will consist of minor structural updates, and significant mechanical, electrical, plumbing, fire and communication updates to accommodate F-16/F-35 maintenance and administrative operations for FMS and RSAF. New foundations or modifications to the existing foundations are not anticipated for the existing building. No new pavements are anticipated for the planned renovations.

The renovations also include construction of an exterior equipment pad adjacent to the existing building. The location of the new equipment pad is not determined yet; however, it was assumed that the new equipment pad will be located close to the existing electrical and mechanical rooms, which are located near the west middle of the existing facility.

Site grading plans were not available at the time of writing this report. However, it was assumed that minor cuts and fills (2 feet or less) will be required for the construction of the new equipment pad. Equipment loads were also not available at the time of writing this report and it was estimated that the contact pressure under the new equipment pad will be relatively small.

If project descriptions and assumptions in the section are not correct, CESWF-ECG should be contacted to determine if the recommendations presented in this report need to be reevaluated.

2. Subsurface Investigation

In line with the Scope of Work developed by the U.S. Army Corps of Engineers (USACE), Fort Worth District, four (4) borings were drilled by the USACE, Fort Worth District Core Drill Unit in November 2023. Three of the borings were drilled within the existing hangar bay areas to depths of about 8.6 to 11.9 feet below the existing floor slab using a portable Geoprobe drill rig (420M). The existing concrete floor slab was cored and the Geoprobe rig was then used to obtain the representative soil samples. One boring was drilled at the anticipated location of the new equipment pad to an auger refusal depth of about 19 feet below the existing ground surface using a Gus Pech 1300C truck-mounted drill rig and conventional drilling attachments.

The borings were drilled to determine subsurface conditions and to obtain representative soil/rock samples for laboratory testing. The exterior test hole advancement and sample recovery were performed using 8-inch diameter short flight hollow stem augers, a 6-inch diameter drag bit, a nominal 3-inch diameter Shelby tube sampler, and a nominal 2-inch diameter split-spoon sampler. The interior borehole advancement and sample recovery were performed by pushing a nominal 3-inch diameter Shelby tube sampler. Samples recovered from the borings were sealed in airtight containers and taken to the laboratory of TEAM Consultants, Incorporated (Arlington, Texas) for testing.

The site location is shown on Sheet B-101 and the boring locations are shown on Sheet B-102 in Appendix I. Results of the field investigation are shown on the Logs of Borings sheets, B-201 through B-203, in Appendix I.

3. Subsurface Conditions

3.1 General Geology

The Ebbing ANGB is located near the northern boundary of the Arkansas River Valley physiographic province. The Arkansas River Valley is a low-lying province surrounding the valley of the Arkansas River and its major tributaries. The Arkansas River Valley represents the northern extent of the Ouachita orogenic system in Arkansas. Once flat-lying, these Pennsylvanian sedimentary rocks have been compressed into well-developed

east-west trending open folds (anticlines and synclines) and faults, which gradually diminish northward into the Ozark Plateau Province. Bedrock strata underlying the Ebbing ANGB are assigned stratigraphically to the McAlester Formation of Middle Pennsylvanian – Des Moinesian series. The McAlester Formation consists of (in ascending order): several hundred feet of shale with thin sandstone and coal (the Lower Hartshorne Coal is just above the base), several hundred feet of shale with a few sandstone beds and coal (Upper Hartshorne Coal) and capped by several hundred feet of shale with a few coal beds. Plant and a few invertebrate fossils have been reported from several horizons within the formation. The McAlester Formation rests conformably on the Hartshorne Sandstone. The unit ranges from about 500 to 2,300 feet in thickness.

3.2 Existing Pavement Thickness

Borings B-2 through B-4 were drilled within the existing hangar bay area. The thickness of the existing floor slab and underlying aggregate base/gravel were measured during the field exploration. The thickness measurements are shown on boring logs and are also summarized in the table below.

Boring	Existing Concrete Thickness (inches)	Existing Aggregate Base/Gravel Thickness (inches)
B-2	11.5	10
B-3	10.5	2.5
B-4	10	9
Average	10.67	7.2

3.3 Site Conditions

Subsurface stratigraphy can be divided into three strata. The first stratum consists predominantly of medium to high plasticity lean clay (CL) and fat clay (CH). One exception occurred in boring B-1, where well-graded gravel with clay was encountered between 7.5 and 9.2 feet. This stratum was observed in the borings to extend to depths of about 8.6 to 10.9 feet below the existing ground surface. Borings B-2 and B-3 terminated in this stratum at depths of about 10.9 and 8.6 feet, respectively. The clay soils are stiff to hard in consistency and have a fines content (passing US #200 sieve) ranging from 79.3 to 81.5 percent. Liquid limits measured from representative samples of Stratum I soils range from 31 to 58, plastic limits range from 18 to 26, plasticity indices range from 13 to 32, and in situ moisture contents range from 10.1 to 29.8 percent.

The second stratum consists of brown and dark gray, soft, weathered shale. The weathered shale extended to a depth of about 15 feet in boring B-1. Boring B-4 terminated in the weathered shale at a depth of about 11.9 feet.

The third stratum consists of dark gray, medium hard to hard, un-weathered shale. The un-weathered shale extended to the auger refusal depth of about 19 feet in Boring B-1.

The boring logs included in Appendix I show the representative site subsurface conditions at the boring locations. The legend on the individual boring logs shows overburden materials as classified in the laboratory using procedures presented in ASTM D 2488. It should be noted that the actual interface between material types might be far more gradual or abrupt than presented; therefore, actual subsurface conditions in areas not sampled may differ from those observed. The nature and extent of variations across the site may not become evident until construction commences, and the actual construction process may alter subsurface conditions as well. If variations become evident at the time of construction, CESWF-ECG should be contacted to determine if the recommendations presented in this report need to be reevaluated.

3.4 Groundwater Conditions

Groundwater conditions were monitored after an observation period of up to 13 hours after boring completion. As shown on the boring logs, free water was encountered at depths of about 1.5 to 4.6 feet below the existing ground surface. It should be noted that groundwater conditions are relative to the time of drilling, annual precipitation, and drainage conditions at the site.

3.5 Field Resistivity Testing

Field resistivity tests using the Wenner 4-probe method were performed per ASTM G-57 in the field on November 8 and 9, 2023. A NILSSON Model 400 soil resistance meter manufactured by Nilsson Electrical Laboratory Inc. (S/N 4-8265) was used. One test was performed in the grass strip areas south of the existing building in a northwest-southeast orientation centered at GPS coordinate 35.34127, -94.371019 and another was performed in the grass areas west of the existing building in a northeast-southwest orientation centered at GPS coordinate 35.341464, -94.37125. There was no precipitation within 2 days prior to testing. At the time of testing,

the site was covered with grass. Surficial soils consisted of moist clay soils. Results of field resistivity testing are presented in the following tables.

RESISTIVITY TEST RESULTS AT GPS COORDINATE 35.34127, -94.371019

“a” spacing between two adjacent probes (feet)	Northwest-Southeast Orientation	
	Meter Reading (ohm)	Calculated Resistivity (ohm-cm)
2	5.7	2,183
4	5.0	3,830
6	1.5	1,724

RESISTIVITY TEST RESULTS AT GPS COORDINATE 35.341464, -94.37125

“a” spacing between two adjacent probes (feet)	Northeast-Southwest Orientation	
	Meter Reading (ohm)	Calculated Resistivity (ohm-cm)
2	4.6	1,762
4	3.6	2,758
6	1.8	2,068
8	0.76	1,164
10	0.1	192

4. Laboratory Testing

4.1 Soil Physical Properties

Representative soil/rock samples recovered from test holes were subjected to laboratory testing for identification, moisture content, grain-size distribution, Atterberg limits, density, shear strength, and controlled expansion and consolidation. The accumulative test results are tabulated and presented in Appendix II. Results of identification and moisture content testing are shown on the boring logs in Appendix I.

Results of laboratory testing performed on samples obtained from the Ebbing ANGB hanger site are also presented graphically in Appendix III as follows: Plasticity characteristics are shown on Plate 1, Plasticity Chart. Moisture content values of representative samples are shown with respect to depth on Plate 2. Atterberg limits

test results are shown with respect to depth on Plate 3. Dry density values of representative undisturbed samples and their corresponding moisture contents are shown with respect to depth on Plate 4. Compressive strengths of the clay sample are shown with respect to depth on Plate 5.

4.2 Shear Strength Testing.

Shear strength characteristics of select clay samples were analyzed in the laboratory using unconfined compressive strength (ASTM D2166) testing. Tabulated below are the compressive strengths and respective dry densities of the clay specimens that were tested. Shear strength test results are also presented in Appendix II at the end of this report and summarized on Plate 5 as indicated above.

<u>Boring</u>	<u>Depth, feet</u>	<u>γ_d, pcf</u>	<u>Q_u, tsf</u>	<u>Material Type</u>
B-1	6-7.5	103.3	1.63	Lean Clay
B-2	3.5-4.5	95.5	0.9	Lean Clay

4.3 Controlled Expansion-Consolidation Testing.

Controlled expansion-consolidation (CEC) testing was performed on one specimen of high plasticity (CH) clay overburden collected between depths of 3.5 and 5 feet in boring B-1. This high plasticity clay specimen has a liquid limit of 56, a plastic limit of 24 (PI = 32), and natural moisture content of approximately 20.8 percent. An expansion pressure (p_{exp}) of approximately 0.25 tsf was recorded during CEC testing of the high plasticity clay specimen. Based on CEC test results, the high plasticity clay specimen collected at a depth of about 4.5 foot within boring B-1 has a low expansion potential ($C_s = 0.046$; $p_{exp}/p_0 = 0.9$) and a low to moderate consolidation potential ($C_c = 0.119$). Controlled expansion-consolidation test results are presented in Appendix II at the end of this report.

5. Discussions

The following discussions are provided in support of the foundation design recommendations and requirements made for the proposed renovations to the existing Hangar 200 facility. It should be noted that the discussions presented herein are based on the results of the Government geotechnical field investigation conducted

at the site, laboratory testing program conducted by TEAM Consultants, Inc., as well as engineering studies.

The Design-Build (D-B) Contractor shall heed the information provided in this report and comply with the recommendations and requirements presented herein. The D-B Contractor's foundation design is required to comply with and to meet or exceed the minimum foundation design recommendations and requirements presented herein. The subsurface information presented in this report may be used by the bidders for this D-B contract for the purposes of developing a bid for the project in line with the Request for Proposal (RFP) solicitation. The successful D-B Contractor bidder may supplement the information provided herein with his/her own geotechnical field investigation and laboratory testing program for the purpose of verifying the data presented herein. Supplemental geotechnical field investigations conducted by the D-B Contractor shall be only for the purpose of supplementing and verifying the data regarding the subsurface conditions provided by the Government geotechnical field investigation. These supplemental efforts shall include conducting laboratory testing on soil/rock specimens as described in Section 4 (Laboratory Testing), including but not limited to classification (ASTM D 2488), moisture content (ASTM D 2216), grain size analysis (ASTM D 422), Atterberg limits (ASTM D 4318), shear strength (ASTM D2166 and/or D2850 for cohesive soils, and ASTM D7012 for rock). All borings and test holes shall be grouted full depth with a lean grout mixture to seal holes from water penetration.

Development of the final foundation and pavement designs is the responsibility of the D-B Contractor; however, the D-B Contractor's final foundation and pavement designs shall be in full compliance with the requirements prescribed herein (including foundation type, and foundation design parameters). The D-B Contractor shall provide to the Government engineering studies and design calculations that support the foundation design recommendations they or their associates propose. The D-B Contractor's foundation design recommendations shall be reviewed for technical adequacy and compliance with the requirements and criteria established herein and in the Request for Proposal (RFP). Specific requirements for the D-B Contractor's foundation design analysis are provided in Section 6.10.

5.1 Foundation Design Considerations.

The foundation design recommendations and requirements presented in this report are based on criteria

contained in UFC 3-220-01 Geotechnical Engineering, and engineering judgment.

The near surface soils encountered in the borings are generally medium to high plasticity clays. Based on the laboratory test results on the representative fat clay specimen, the expansion/swell pressure of the fat clay specimen under its current conditions was less than its overburden soil pressure ($p_{exp}/p_0 = 0.9$) and it is anticipated that the clay soils have a low swell potential.

The foundation for the proposed facility must meet several criteria. The foundation must be compatible with the superstructure it supports, its movements must be within acceptable tolerances, it must meet functional requirements of the facility and it must be economical. Loading from the equipment is not known at the time at time of writing the report, however, it is anticipated that loading from equipment is relatively light. A slab-on-grade with turned-down edge beam foundation can be used to support equipment. The slab-on-grade foundation shall be supported on adequately prepared subgrade as detailed in the site preparation requirements.

If loading from equipment is too high to use a slab-on-grade foundation, a drilled shaft foundation system shall be considered.

5.2 Hangar Bay Slab on Ground Design Considerations.

The existing hangar bay slab on ground was evaluated based on criteria contained in UFC 4-211-01, Aircraft Maintenance Hangars, and UFC 3-260-02, Pavement Design for Airfields, and engineering judgment.

It is understood that the renovation of the existing hangar is to support FMS F-35 and RSAF F-16 maintenance and up to 4 aircrafts can be fit into the hangar at the same time. Therefore, it was conservatively assumed that design traffic loading consists of four passes of F-35A (US Air Force variance) and four passes of F-16 C/D per day, with a total of 29,200 passes for each aircraft for a 20-year design life.

Dynamic cone penetrometer (DCP) testing was originally proposed to evaluate the native subgrade for pavement/slab on ground design considerations. However, due to caving of gravel materials beneath the existing floor slab, the DCP was not performed. Based on our past experiences with the similar soils, a design modulus of subgrade reaction value of 100 pci is assigned for the in-situ subgrade.

6. Recommendations and Requirements

The following foundation design recommendations and requirements are based on results of the field investigation, laboratory testing, and engineering studies.

6.1 Slab-on-Grade Foundation:

The exterior equipment pad can be designed as a reinforced concrete slab-on-grade with turned-down edge beam foundation. The turned-down edge beam shall extend a minimum of 18 inches below outside finished grade.

Subgrade preparation shall be in accordance with the requirements specified below in Section “Subgrade Preparation and Fill Requirements”. For the purposes of design, the modulus of subgrade reaction of the non-expansive fill, compacted as specified, may be taken as 200 psi/in. An allowable net bearing pressure of 2,000 pounds per square foot (psf) can be used to size turned-down edges.

6.2 Drilled Pier Foundations:

As discussed previously, if it is determined that the equipment loading is too high to use a slab-on-grade foundation, a reinforced concrete drilled pier foundation system with a structurally supported equipment pad shall be used. The piers shall be founded in the dark gray unweathered shale bedrock and shall have a minimum rock penetration of 5 feet or 2 pier diameters, whichever is greater. The dark gray unweathered shale bedrock was encountered at a depth of about 15 feet below existing grade and the drilled piers shall extend to a minimum depth of 20 feet below the existing grade. An allowable end bearing capacity of 30.0 kips per square foot (ksf) shall not be exceeded when sizing piers. It should be noted that this allowable bearing capacity is based on a factor of safety equal to 3 against shear failures.

To facilitate clean out and inspection of the pier holes during construction, pier shafts shall be at least 18 inches in diameter.

Equipment slab shall be structurally supported on drilled piers and grade beams above a minimum 6-inch void. The void area shall be protected with concrete retainer blocks. The bottom of all grade beams/slab shall be formed with carton forms to provide the 6-inch void.

Proper sizing of the piers is essential. Shaft diameters must be within -0 to +2 inches of the specified dimension. Concrete slump for piers shall be from 6 to 8 inches.

The contractor shall have temporary steel casing and pumps at the job site prior to construction of drilled piers. Groundwater was encountered at shallow depths in the borings, seepage and caving of subgrade soils should be anticipated during drilling operations; therefore, the above information should be provided in the contract documents as foundation notes. It should be assumed that approximately 100 percent of all piers will have to be cased to at least 15 feet below existing grade. Individual bid items should be provided in the contract bid schedule for each shaft and casing size. Final pier depths shall be determined in the field by the Contracting Officer's representative.

Drilling equipment should be of suitable type and of sufficient size to satisfactorily perform the required drilling for the soil/rock conditions identified. To this end, all drill rigs shall have a 6-inch Kelly bar and be capable of producing minimum torque and crowd capacities of 50,000 lb-ft and 30,000 lbs, respectively. Auger refusal was encountered at a depth of about 19 feet in boring B-1. Auger refusal material is anticipated to consist of very hard shale or sandstone bedrock and the contractor shall have rock auger or core barrels or other attachments that can penetrate through the very hard auger refusal material at the job site prior to construction of drilled piers.

Piers shall be installed plumb within a maximum of 1.5 inches for the first 10 feet and within 0.5-inch for each 10 feet of additional depth (for example, a 20-foot-deep pier would therefore have a plumb tolerance of 2 inches).

Drilled pier construction, placement of the reinforcing steel cage, and concrete placement shall be a continuous operation performed and completed the same day that the excavation is completed. Concrete shall be placed within pier excavations within 3 hours of completion of the approved pier excavation. No pier excavation shall be left open overnight.

The above criteria for drilled pier construction should be included in guide specification UFGS-31 63
26 – Drilled Caissons.

6.3 Subgrade Preparation and Fill Requirements

If the slab-on-grade foundation is chosen, over-excavation and backfill with non-expansive fill is required for a minimum of 2 feet below the lowest point of the slab foundation. The removal and replacement shall also extend laterally at least 5 feet beyond structure footprints in all directions where practically possible. Any additional fill required to achieve the final subgrade elevation below the slab foundation shall be non-expansive fill material. The upper 6 inches of existing subgrade exposed after excavation operations, or cleared prior to fill placement shall be scarified, moistened, manipulated, and recompacted to at least 90 percent of laboratory maximum density (in accordance with ASTM D 1557). Non-expansive fill, as defined in Section 6.8, shall be placed in controlled lifts not exceeding 8 inches in loose thickness and compacted to at least 95 percent of laboratory maximum density (in accordance with ASTM D 1557).

Based on previous experience, if non-expansive fill is placed outside the limits of the foundation footprint, the relatively higher permeability of the non-expansive fill may allow moisture to infiltrate to the clay soils adjacent to and beneath the foundation, potentially resulting in heave of the foundation. To limit moisture penetration to the area around and beneath the foundation, excavated areas beyond the limits of the foundation footprint shall be backfilled with select clay soils. This select clay cap shall be a minimum of 2 feet in thickness and shall extend from the foundation perimeter to the limits of the excavation. Select clay soils shall be compacted to at least 90 percent of laboratory maximum density as determined by ASTM D 1557 (with all other subgrade preparation and fill placement requirements being the same as those for non-expansive fill).

If a drilled shaft foundation system with a structurally supported equipment pad is chosen, the surficial soils shall be over-excavated, where needed, to allow to provide the recommended 6-inch void. The exposed subsurface soils shall be scarified, moistened, manipulated, and recompacted to at least 90 percent of laboratory maximum density (in accordance with ASTM D 1557).

6.4 Seismicity Site Class

The site class for seismic design is classified based on the existing soil properties averaged over a depth of 100 feet and designated with Site Classes A to F, considering Site Class A as hard rock down to Site Class F

as potentially collapsible soil. Based on Section 1613.3.2 of the 2015 International Building Code and in accordance with Chapter 20 of ASCE 7, we recommend using Site Class C for seismic design at this site. This recommendation is based on soil samples encountered to the maximum boring termination depth of 19 feet.

6.5 Material Testing Requirements

Testing shall be the responsibility of the contractor to ensure that the subgrade, fill, and backfill materials are properly compacted. To this end, the following frequencies of testing shall be included in the contract as a minimum:

- In-place density of the subgrade, fills, and backfills shall be performed for every 2,000 square feet per lift in accordance with ASTM D 1556 or ASTM D 2922.
- Optimum Moisture and Laboratory Maximum Density of non-expansive fill and backfill shall be performed for every 500 cubic yards or when any change in material occurs.

6.6 Drainage Conditions

Proper site drainage is imperative to ensure satisfactory long-term foundation performance. Exterior grading adjacent to the foundation shall be sloped away from the foundation a minimum of 5 percent for the first 10 feet. Runoff from the roofs shall be adequately discharged away from foundation edges. In no case should water be allowed to pond adjacent to or beneath the foundation, both during and after construction.

6.7 Care of Water

The designer shall grade the site to ensure positive drainage of all water away from the structure. Drainage of ground and surface water from the project site continually throughout the construction contract is essential. The contractor shall be required to protect the excavation and all constructed work throughout the life of the contract by means of ditches, berms, sumps with pumps, and any other means required to continually and effectively remove water from the site at all times. Ponding of water in the excavation is unacceptable at any time. In addition, utility trenching if any shall be constructed so as not to supply water directly or indirectly to the structure or underlying active clay via any pervious sand/gravel stratum. These requirements shall be reflected in the specifications and in the structural notes.

6.8 Material Definitions

6.8.1 Satisfactory Materials.

Satisfactory materials may be used as backfill outside structure areas and include materials classified in ASTM D 2487 as GW, GM, GC, GP, GW-GM, GW-GC, GP-GM, GP-GC, SW, SP, SP- SM, SP-SC, SW-SM, SW-SC, SC, SM, CL, CL-ML, and CH, and shall be free of trash, debris, roots or other organic matter, or stones larger than 3 inches in any dimension. Satisfactory materials shall not be used in structure areas unless they meet specific requirements as stated in the report.

6.8.2 Unsatisfactory Materials.

Unsatisfactory materials include materials classified in ASTM D 2487 as Pt, OH, ML, OL, and MH, or materials containing trash, debris, roots or other organic matter.

6.8.3 Expansive Soils.

For the purposes of this report, expansive soils are defined as soils having a liquid limit above 35 or a plasticity Index above 15.

6.8.4 Non-expansive Fill.

Non-expansive fill should meet the requirements of Arkansas 2014 Standard Specification for Highway Construction, Section 303, Class 7 or 8, with plasticity index of not less than 4 percent nor greater than 12 percent when tested in accordance with ASTM D 4318, and at least 5 percent of fines (material passing the No. 200 sieve).

6.8.5 Select Clay Soils.

Select clay soils shall be classified as a Lean Clay (CL) and have a liquid limit of 35 percent or less and a plasticity index not less than 8 nor greater than 15 when tested in accordance with ASTM D 4318. Select clay soils should also meet the requirements of Satisfactory Materials as stated under 6.8.1.

6.8.6 Cohesionless and Cohesive Materials.

Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GW-GM, GW-GC, GP-GM, GP-GC and materials classified as SW-SM, SW-SC, SP-SM, SP-SC may be considered for identification purposes as cohesionless.

6.8.7 Capillary water barrier.

Capillary Water Barrier shall consist of clean, crushed, nonporous rock, crushed gravel, or uncrushed gravel. The maximum particle size shall be 1.5 inches and no more than 2 percent by weight shall pass the 3/16-inch size (No. 4) sieve. ASTM #57 and #67 aggregates may also be specified as capillary water barrier.

6.9 Evaluation of Existing Hangar Bay Slab on Ground

In accordance with UFC 4-211-01 Aircraft Maintenance Hangars, Air Force hangar pavement (slab on ground) thickness shall be designed in accordance with UFC 3-260-02, Chapter 3, paragraph 2c, titled Type C Traffic Areas. However, the drainage layer and separation layers required for airfield pavements are not required for hangar slab on ground. Pavement-Transportation Computer Assisted Structural Engineering (PCASE) software was used to develop the minimum required pavement thickness. PCASE results are included in Appendix V.

Based on the assumed traffic loading and PCASE analysis, the following minimum rigid pavement/concrete slab on ground section is required. The rigid pavement design considers a modulus of subgrade reaction of 100 psi/inch. Per UFC 4-211-01 paragraph 3-4.2.3.1, minimum concrete flexural strength shall be 550 psi and maximum flexural strength shall be 650 psi at 90 days. A concrete flexural strength of 600 psi was assumed in the pavement design.

10.27” Plain Portland Cement Concrete

7” Aggregate Base

The existing slab on ground section consists of 10.67 inches of concrete and 7.2 inches of aggregate base on average over native subgrade soils, which exceeds the minimum section required for the anticipated future aircraft traffic loading. Therefore, **the existing slab on ground can support the future aircraft traffic and can remain in place.**

6.10 Requirements for the D-B Contractor's Foundation and Pavement Design Analysis.

The successful proposer shall provide a Foundation and Pavement Design Analysis after contract award. The Foundation and Pavement Design Analysis (Report) shall include a description of the project, including a discussion of any unusual features of the project, a discussion for each structure that requires a foundation system, and a discussion of each pavement type. The foundation, pavement, and material analyses shall be performed, and signed and sealed by a licensed professional engineer.

6.10.1 Foundation System(s).

The best suitable foundation type shall be recommended for each structure. If more than one foundation system is recommended for different structures, separate subparagraphs shall be used to discuss each foundation system. The subparagraphs shall provide a detailed description of the foundation system as well as specific design and construction requirements. The location and type of structure supported by that foundation system should also be discussed. Foundation design parameters and considerations should be provided and shall include as a minimum the following items: allowable bearing pressure(s); bearing elevations for each recommended foundation system; a minimum depth the foundation system shall bear below outside finished grade; foundation spacing requirements; foundation structural design methodology to be used; the design loads used to size the foundation elements; a modulus of subgrade reaction; soil unit weights; anticipated settlement/differential settlement; and applicability (of each of the aforementioned items) to the design.

6.10.2 Subgrade Preparation.

This section shall include a discussion on all requirements for excavation of existing subgrade materials, removal of existing unsuitable materials, replacement of excavated materials with non-expansive and satisfactory materials, and minimum thickness of non-expansive fill beneath foundations. Provide compaction requirements

(in accordance with ASTM D 1557) for the raw subgrade, fill, and backfill materials. Foundation and pavement material definitions shall be presented.

6.10.3 Exhibits to be Included in the Design-Build Contractor's Foundation and Pavement Design Analysis.

The following exhibits shall be included in the D-B contractor's Foundation and Pavement Design Analysis. The D-B contractor may use the information provided in this report to satisfy these requirements or may supplement the information provided herein with additional subsurface drilling and testing, at his option. Required exhibits to be included with the Design-Build contractor's Foundation and Pavement Design Analysis include:

- Site Plan with Boring Locations and Legend;
- Boring Logs;
- Plasticity Chart;
- Standard Penetration Tests versus Depth of Boring (if applicable);
- Moisture Content versus Depth (Chart);
- Moisture Content-Liquid Limit-Plastic Limit versus Depth (Chart);
- Strength Tests Results versus Depth (Chart);
- Tabulation of Laboratory Test Results (to include Boring Number, Sample Number, Depth, Laboratory Classification, Visual Descriptions, Grain Size Analysis (%Gravel, %Sand, %Fines), LL, PL, PI, MC, Unit Weight, and Strength Test Data;

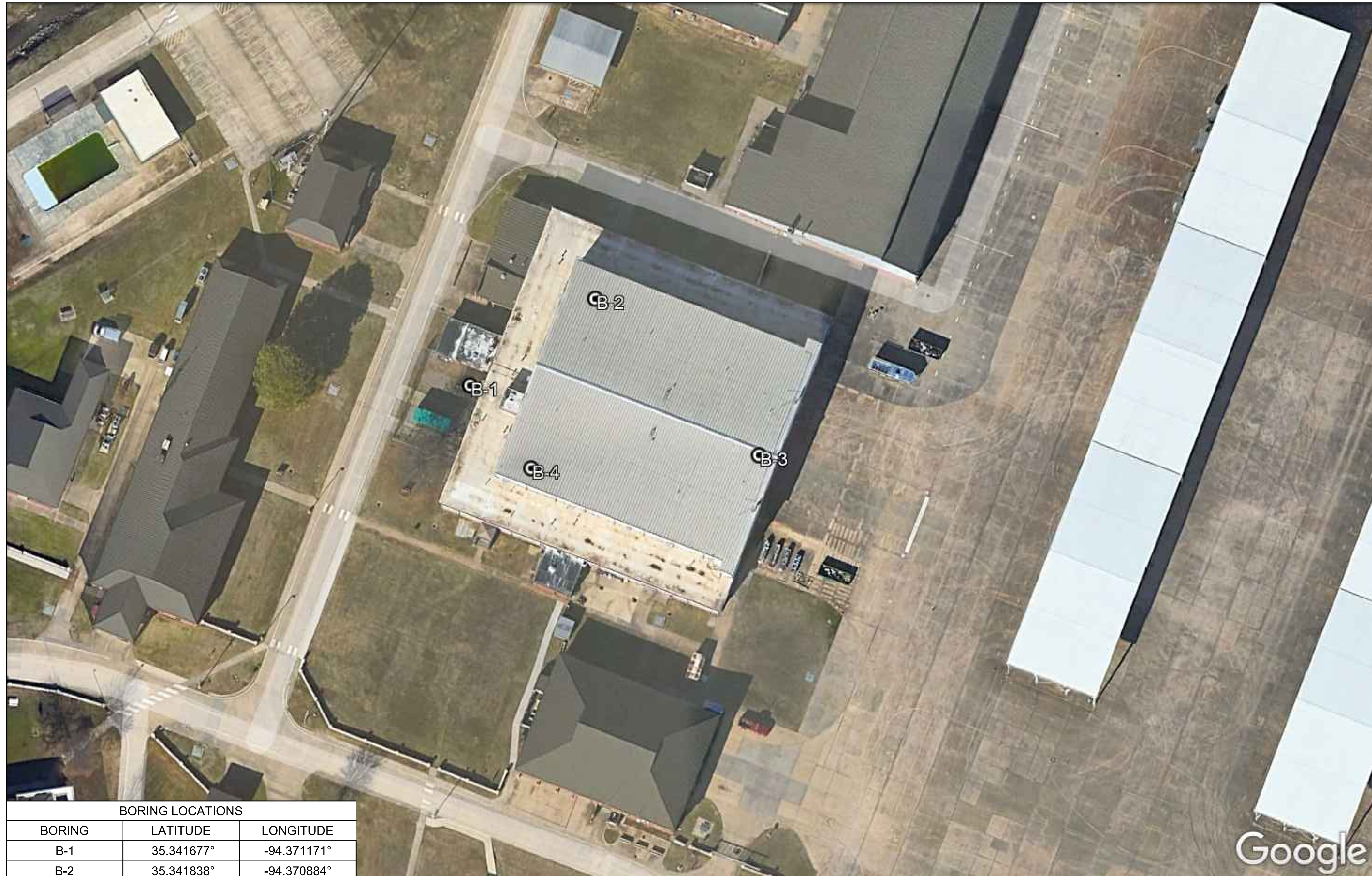
7. References

- TEAM Consultants, Incorporated Report No. 232027
- UFC 3-220-01 Geotechnical Engineering
- UFC 3-260-02 Pavement design for Airfields.
- UFC 4-211-01 Aircraft Maintenance Hangars
- SWD-AEIM Architectural-Engineering Manual
- UFGS Guide Specifications For Construction

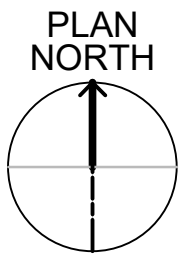
FORT WORTH DISTRICT

February 2024

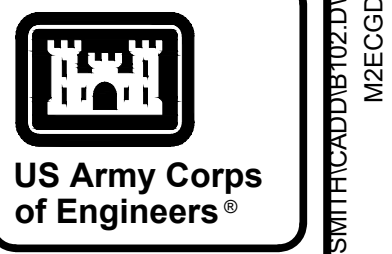
**APPENDIX I:
SITE LOCATION, BORING LAYOUT, &
BORING LOGS**



BORING LOCATIONS		
BORING	LATITUDE	LONGITUDE
B-1	35.341677°	-94.371171°
B-2	35.341838°	-94.370884°
B-3	35.341547°	-94.370513°
B-4	35.341523°	-94.371031°



DRILL BORING B-1 TO A DEPTH TO 25 FEET.
 DRILL BORINGS B-2, B-3, B-4 TO A DEPTH OF 15 WITH GEOPROBE.




MARK	DESCRIPTION	DATE

DESIGNED BY: PH.D. #####
 DRAWN BY: D. CHONG #####
 CHECKED BY: X. CHANG, P.E., PH.D. #####
 SUBMITTED BY: L. BALDI, P.E. #####
 U.S. ARMY CORPS OF ENGINEERS
 FORT WORTH DISTRICT
 819 TAYLOR ST.
 FORT WORTH, TEXAS

FORT SMITH, ARKANSAS
 FY24 HANGER B200
 RENOVATION
 PN: 514747
 BORING LOCATION PLAN

SHEET ID
B-102


US Army Corps of Engineers
 Fort Worth District

Tracking No. _____ Date _____

Description _____ Mark _____








U.S. ARMY ENGINEER CORPS OF ENGINEERS
 FORT WORTH DISTRICT
 FORT WORTH, TEXAS
 ENGINEERING/ CONSTRUCTION DIVISION
 ENGINEERING BRANCH

DESIGNED BY: XIJUHUI CHANG, PH.D., P.E.
 DRAWN BY: AARON MCDANIELS
 CHECKED BY: XIJUHUI CHANG, PH.D., P.E.
 SUBMITTED BY: LOREE BALDI, P.E.
 CHIEF, GEOTECHNICAL BRANCH

Date: JANUARY 2024
 Solicitation No.: _____
 Contract No.: _____
 Sheet Size: ANS I D


**HANGAR 200 RENOVATIONS
 FORT SMITH, AR**
BORING LOGS

SHEET NUMBER
B-201

Boring Designation B-1										
DRILLING LOG					Sheet 1 of 2					
1. PROJECT Hangar 200 Renovations Fort Smith, AR					10. COORDINATE SYSTEM World Geodetic System Longitude / Latitude (WGS 84) LOCATION COORDINATES: 35.341619, -94.371196					
2. HOLE NUMBER B-1					3. DRILLING AGENCY USACE-SWF					
4. NAME OF DRILLER Dallas Spencer					12. HAMMER TYPE Automatic					
5. EQUIPMENT Gus Pec - 1300C					13. SIZE AND TYPE OF BIT 4.25" HSA					
6. DIRECTION OF BORING Vertical					14. ELEVATION SURFACE -					
7. THICKNESS OF OVERBURDEN 9.2'					15. ELEVATION GROUND WATER - 4.6' after 20 mins					
8. DEPTH DRILLED INTO ROCK 9.8'					16. TOTAL NUMBER CORE BOXES -					
9. TOTAL DEPTH OF BORING 19.0'					17. SIGNATURE AND TITLE OF INSPECTOR Joel Webster					
ELEV	DEPTH	BLOWS/ 0.5ft	N	N60	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LABORATORY	REMARKS
									Gravel Sand Fines LL PI MC ASTM Class	
	0.50					6" concrete				
	2.50					LEAN CLAY (CL): sandy, medium plasticity, very stiff, moist, dark gray, some blocky shale fragments		ST-1		Shelby Tube Samples ST-1: 1' to 2.5' PP=3.0 tsf ST-2: 3.5' to 5' PP>4.5 tsf ST-3: 6' to 7.5' PP>4.5 tsf ST-4: 8.5' to 9.2' bottom crushed
	5.00					FAT CLAY (CH): with sand, high plasticity, very stiff, moist, dark gray, some blocky shale fragments		ST-2	4 17 79 56 32 21	Jar Samples A: 13.5' to 15.4' B: 18.5' to 18.8'
	7.50					LEAN CLAY (CL): medium plasticity, hard, moist, yellowish brown, few to little blocky shale fragments, trace to few silt to coarse grained sand/iron oxide granules, non-calcareous		ST-3		
	9.20					WELL GRADED GRAVEL WITH CLAY (GW-GC): high plasticity, dense, moist, yellowish brown, few to little blocky shale fragments, trace to few silt to coarse grained sand/iron oxide granules, non-calcareous		ST-4	46 43 11 58 32 11	
	15.00	26 33 39	72			SHALE, weathered, dark gray, soft, thinly laminated with yellowish brown silty laminae, non-calcareous		A		
		50				SHALE, unweathered, dark gray, medium hard to hard, thinly laminated, slightly silty, non-calcareous				11

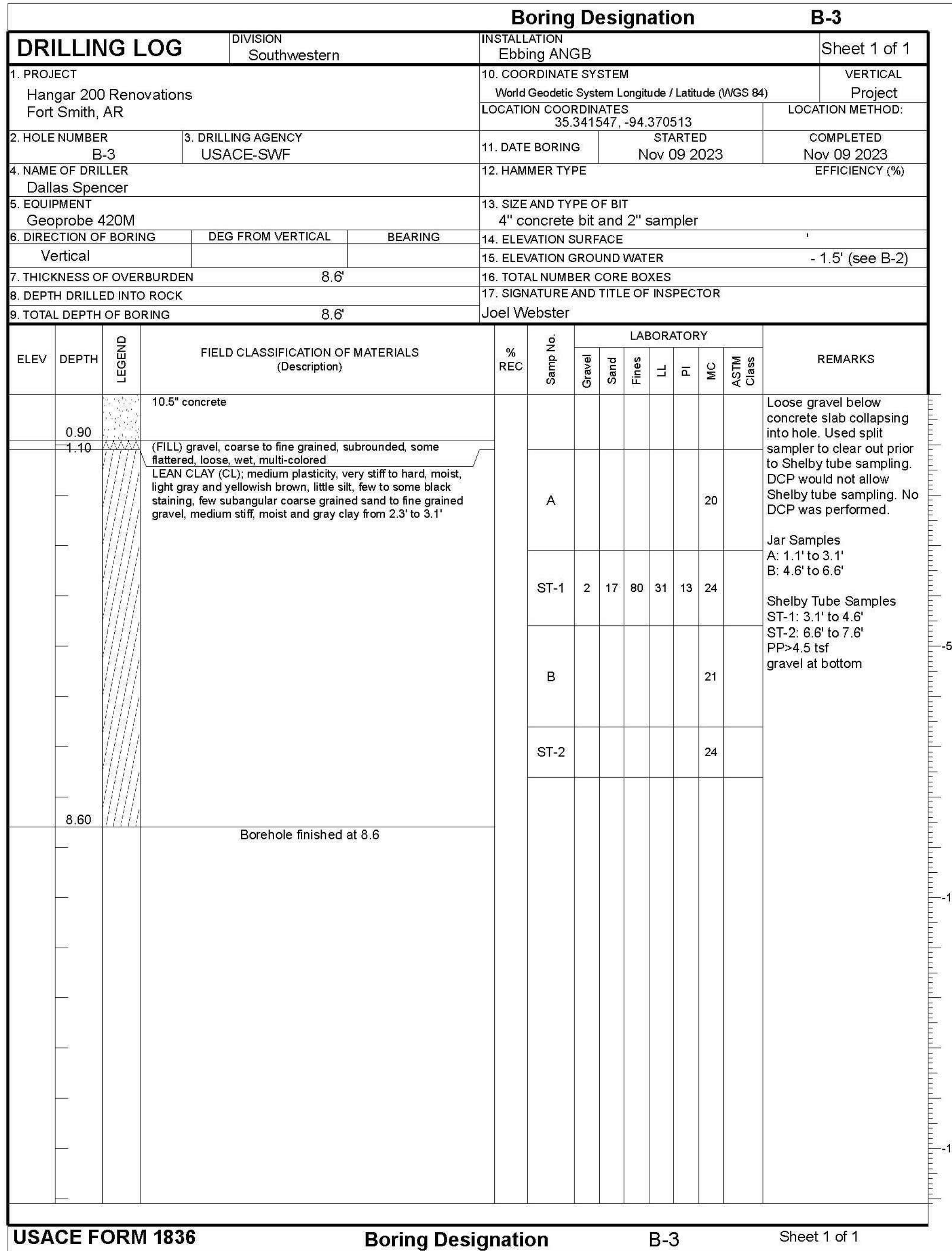
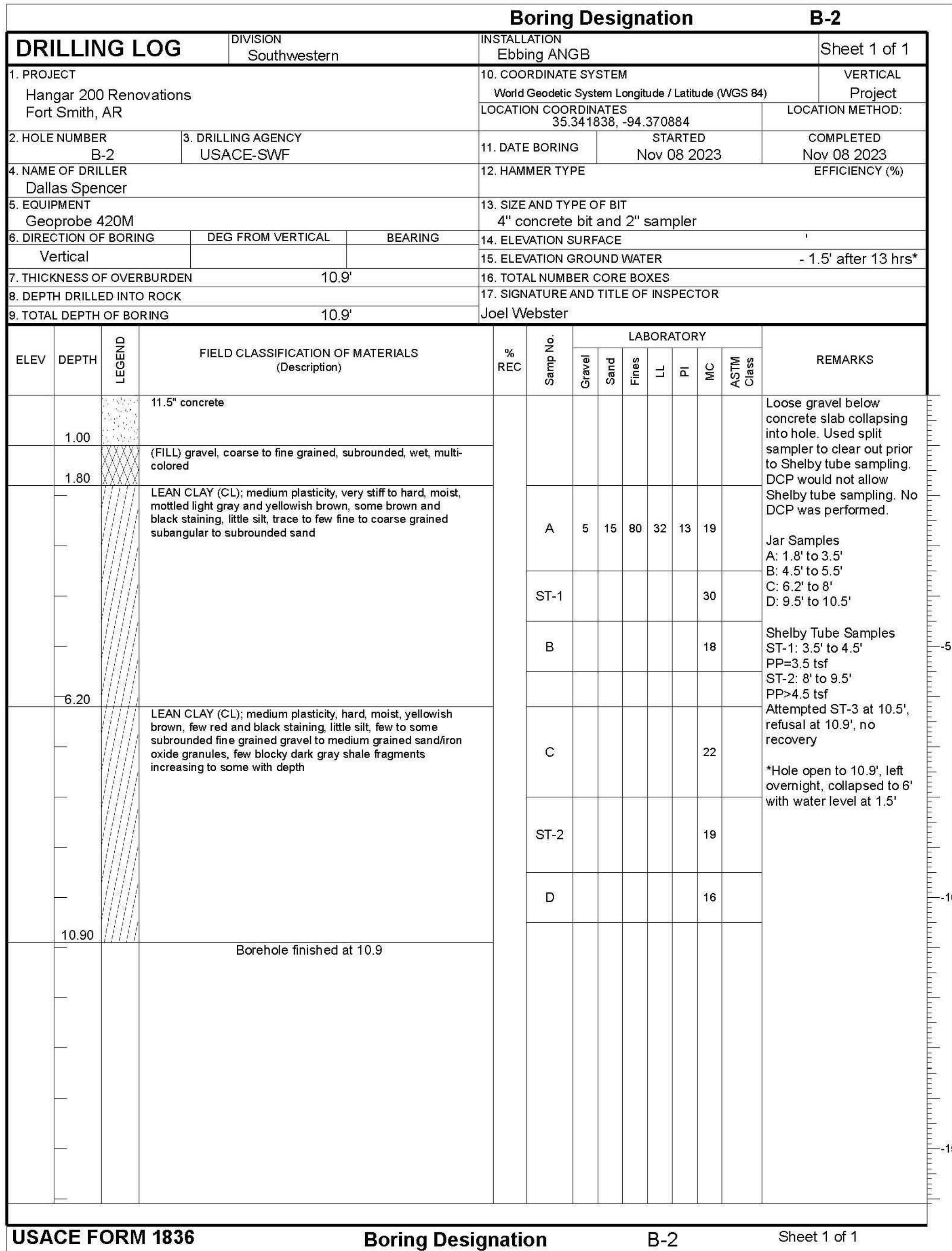
(continued on next page)


USACE FORM 1836 Boring Designation B-1 Sheet 1 of 2

Boring Designation B-1										
DRILLING LOG (Cont Sheet)					Sheet 2 of 2					
PROJECT Hangar 200 Renovations Fort Smith, AR					INSTALLATION Ebbing ANGB					
COORDINATE SYSTEM World Geodetic System Longitude / Latitude (WGS 84) LOCATION COORDINATES: 35.341619, -94.371196					VERTICAL Project					
ELEV	DEPTH	BLOWS/ 0.5ft	N	N60	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LABORATORY	REMARKS
									Gravel Sand Fines LL PI MC ASTM Class	
	19.00	50	50/4			SHALE, unweathered, dark gray, medium hard to hard, thinly laminated, slightly silty, non-calcareous		B		8
						Borehole finished at 19.0				

USACE FORM 1836 Boring Designation B-1 Sheet 2 of 2

G
F
E
D
C
B
A





US Army Corps of Engineers
Fort Worth District

<p>U.S. ARMY ENGINEER CORPS OF ENGINEERS FORT WORTH DISTRICT FORT WORTH, TEXAS</p>	<p>ENGINEERING/ CONSTRUCTION DIVISION ENGINEERING BRANCH</p>
--	--

DESIGNED BY: XIUHU CHANG, PH.D., P.E.
DRAWN BY: AARON MCDANIELS
CHECKED BY: XIUHU CHANG, PH.D., P.E.
SUBMITTED BY: LOREE BALDI, P.E.
CHIEF, GEOTECHNICAL BRANCH

Date: JANUARY 2024	Solicitation No.:	Contract No.:
Revised:		

HANGAR 200 RENOVATIONS
FORT SMITH, AR

BORING LOGS

SHEET NUMBER
B-202

**APPENDIX II:
LABORATORY TESTING DATA**

TEAM Consultants, Inc.

Geotechnical, Environmental, Construction Materials Testing

December 22, 2023
TEAM Project No. 232027

U.S. Army Corps of Engineers
CESWF-EC-DG
PO Box 17300
Fort Worth, Texas 76102-0300

Attn: Mr. Ken McCleskey, PG

Re: Laboratory Testing Services
B200 Hangar Renovation, Ebbing Air National Guard Base
Arkansas
BPA Number W9126G-20-A-0023 Call Number W9126G-24-F-0021

Dear Mr. McCleskey:

Submitted here is our report of laboratory testing services completed on soil samples received at our materials testing laboratory in Arlington, Texas for the above referenced project. The laboratory test program authorized December 6, 2023, and was completed utilizing the following test methodologies:


Atterberg Limits	ASTM D4318
Grain Size Analysis	ASTM D422
Classification of Soils	ASTM D2487 & 2488
Moisture Content	ASTM D2216
Unconfined Compressive Strength (Soil)	ASTM D2166
Controlled Expansion One-Dimensional Consolidation	ASTM D-2435

The results of the testing program are summarized in the following tables which also serve as an index to the attached additional testing (strength, swell, compressibility, etc.). We appreciate the opportunity to be of assistance to you with this project. Should you have any questions, or if we may be of further assistance, please call the undersigned at (817) 467-5500.

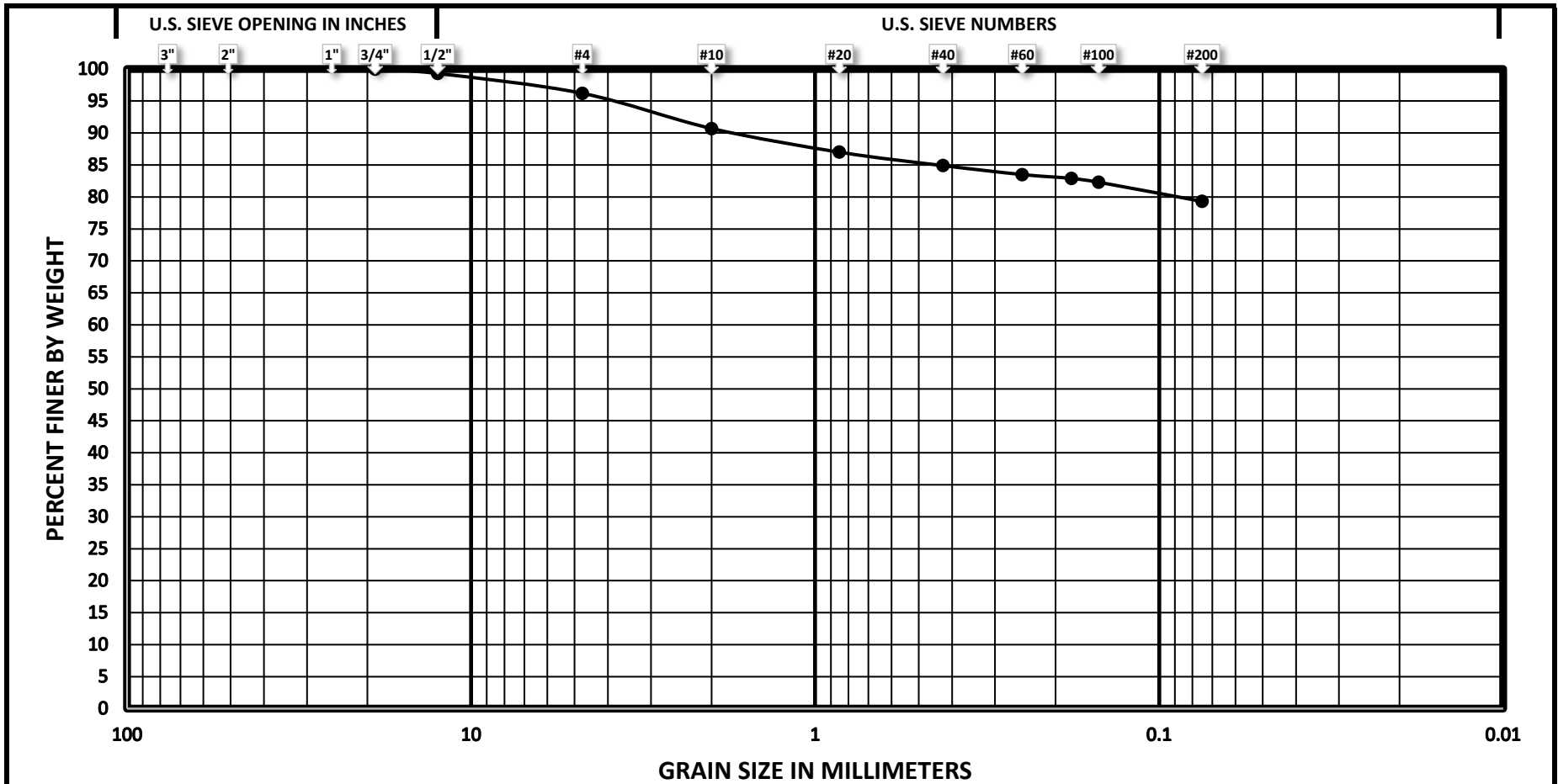
Sincerely,



Ed Gomez, P.E.
Senior Project Engineer



Jeremy Williamson, E.I.T.
Staff Engineer

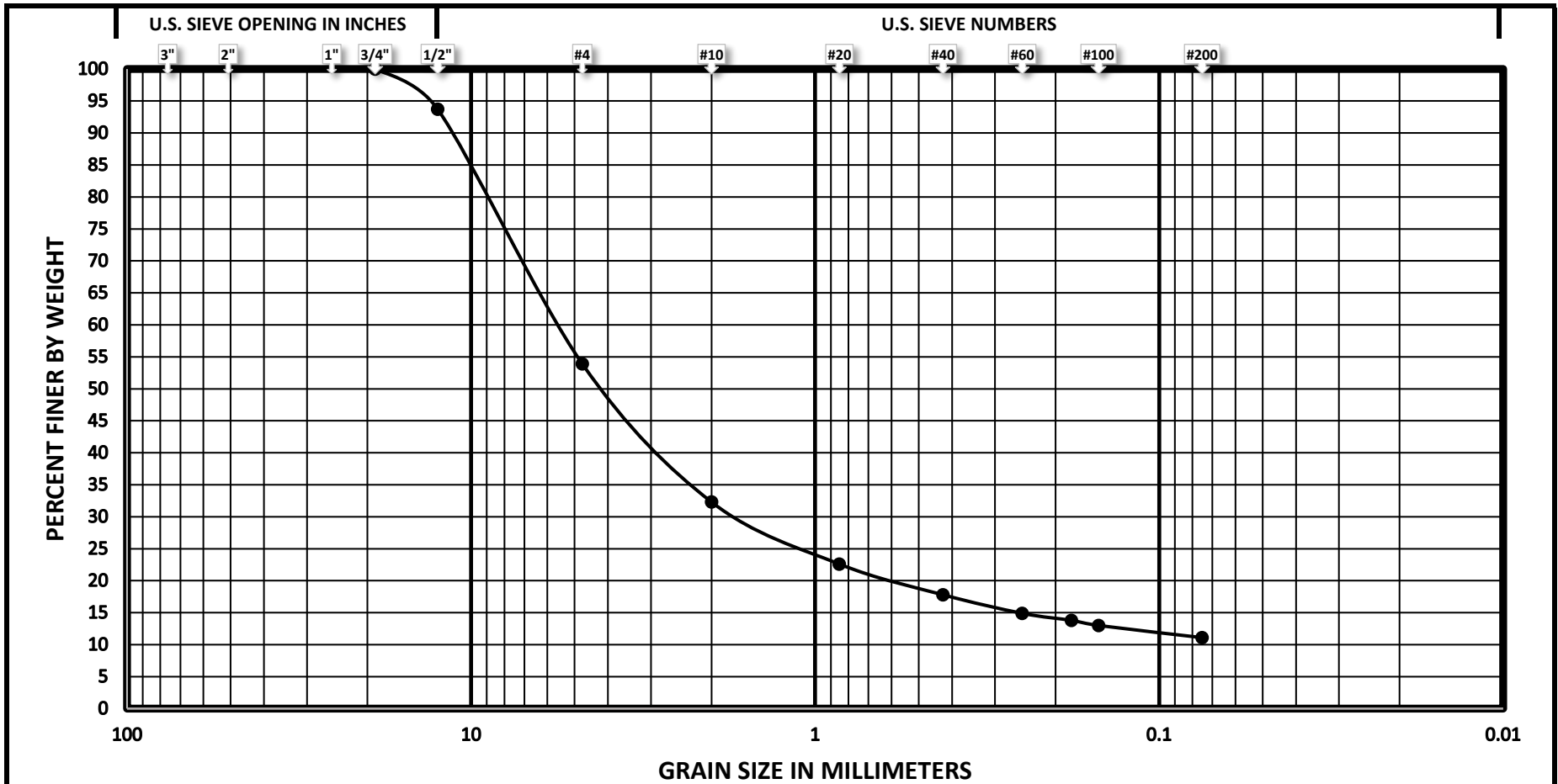


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Data	D90	D60	D50	D30	D10	% Gravel	% Sand	% Silt & Clay	C _c	C _u
B-1 (ST-2) 3.5-5.0'	1.7	N/A	N/A	N/A	N/A	3.8	16.9	79.3	N/A	N/A

SOIL CLASSIFICATION (ASTM D-2487): Reddish brown fat clay with sand (CH)						TEAM Consultants, Inc.				
PROJECT: USACE, B200 Hangar Renovation			Date: 12/12/2023			3101 Pleasant Valley Ln, Suite 101				
LOCATION: Arkansas			Performed By: J. Williamson			Arlington, TX 76015				
TEAM Project Number: 232027						Telephone: (817) 467-5500				
						Fax: (817) 468-9920				

PARTICLE SIZE ANALYSIS (ASTM D-422)

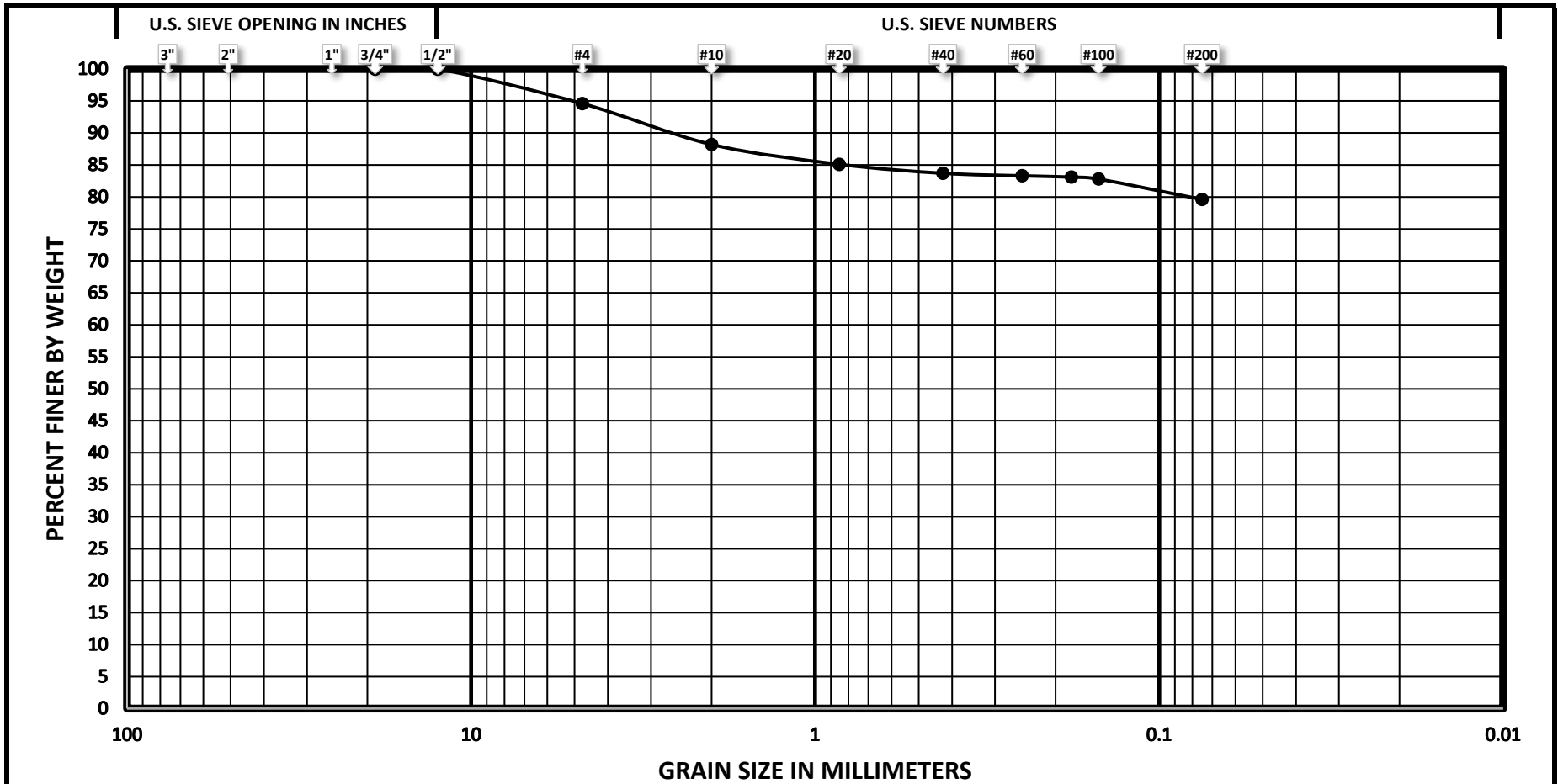


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Data	D90	D60	D50	D30	D10	% Gravel	% Sand	% Silt & Clay	C _c	C _u
B-1 (ST-4) 8.5-9.2	11.5	5.60	4.20	1.75	N/A	46.1	42.8	11.1	N/A	N/A

SOIL CLASSIFICATION (ASTM D-2487): Dark gray fat clay with sand and shale fragments (CH)						TEAM Consultants, Inc.				
PROJECT: USACE, B200 Hangar Renovation			Date: 12/19/2023			3101 Pleasant Valley Ln, Suite 101				
LOCATION: Arkansas			Performed By: J. Williamson			Arlington, TX 76015				
TEAM Project Number: 232027						Telephone: (817) 467-5500				
						Fax: (817) 468-9920				

PARTICLE SIZE ANALYSIS (ASTM D-422)

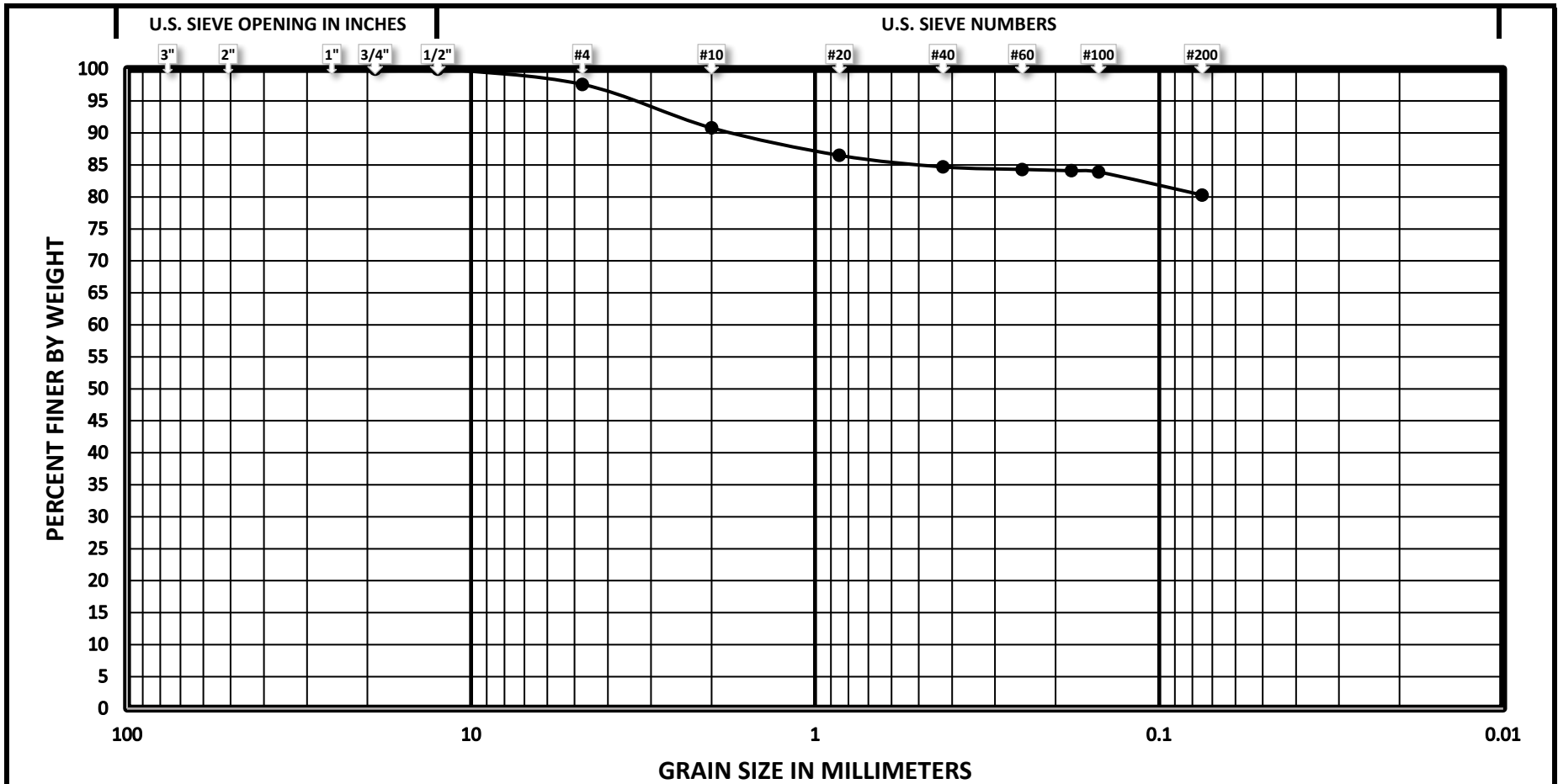


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Data	D90	D60	D50	D30	D10	% Gravel	% Sand	% Silt & Clay	C _c	C _u
B-2 (A) 1.8-3.5'	2.6	N/A	N/A	N/A	N/A	5.4	15.0	79.6	N/A	N/A

SOIL CLASSIFICATION (ASTM D-2487): Reddish brown lean clay with sand (CL)						TEAM Consultants, Inc.				
PROJECT: USACE, B200 Hangar Renovation			Date: 12/19/2023			3101 Pleasant Valley Ln, Suite 101				
LOCATION: Arkansas			Performed By: J. Williamson			Arlington, TX 76015				
TEAM Project Number: 232027						Telephone: (817) 467-5500				
						Fax: (817) 468-9920				

PARTICLE SIZE ANALYSIS (ASTM D-422)

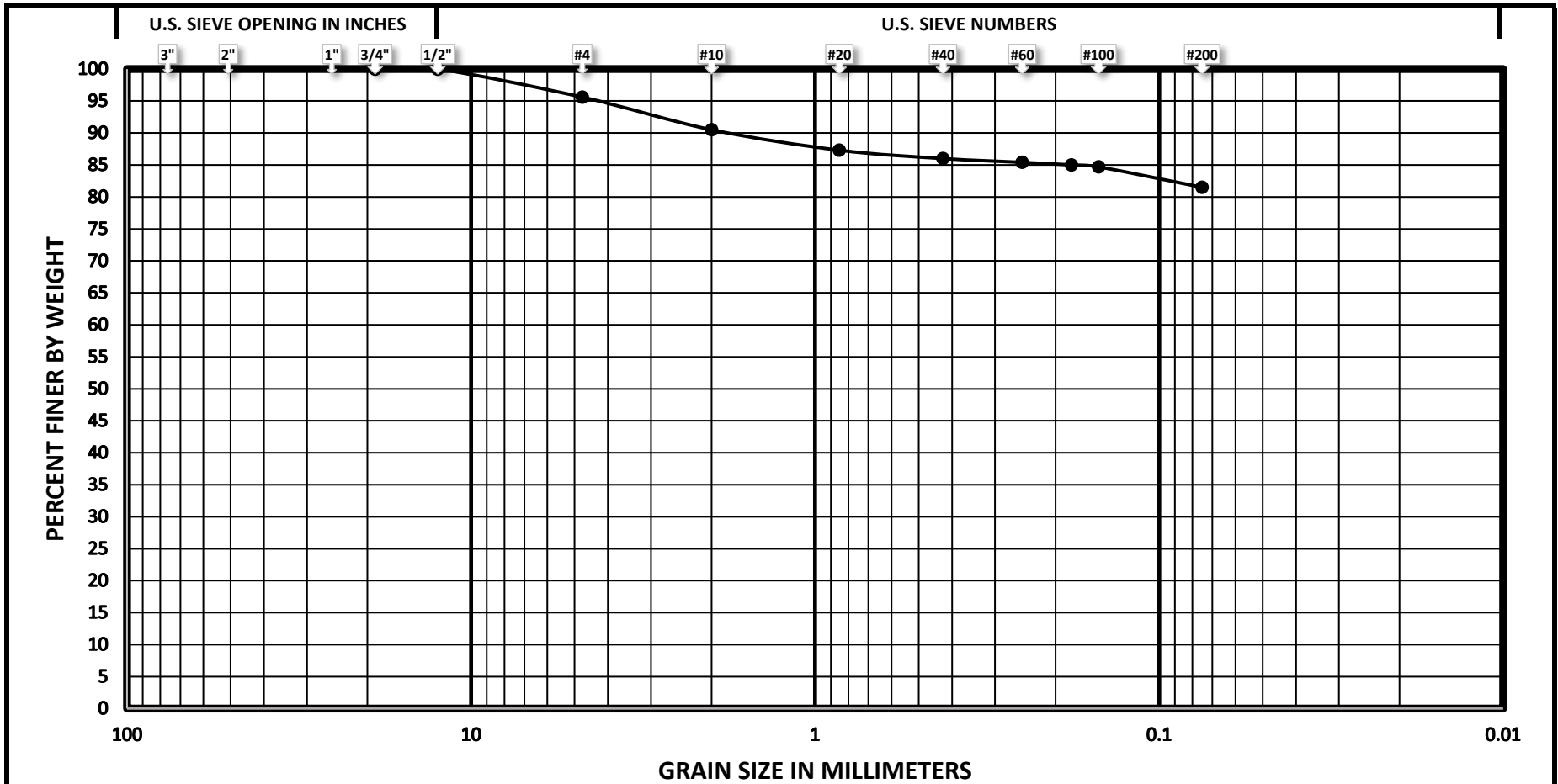


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Data	D90	D60	D50	D30	D10	% Gravel	% Sand	% Silt & Clay	C _c	C _u
B-3 (ST-1) 3.1-4.6'	1.8	N/A	N/A	N/A	N/A	2.4	17.3	80.3	N/A	N/A

SOIL CLASSIFICATION (ASTM D-2487): Tan and gray lean clay with sand (CL)						TEAM Consultants, Inc.				
PROJECT: USACE, B200 Hangar Renovation			Date: 12/19/2023			3101 Pleasant Valley Ln, Suite 101				
LOCATION: Arkansas			Performed By: J. Williamson			Arlington, TX 76015				
TEAM Project Number: 232027						Telephone: (817) 467-5500				
						Fax: (817) 468-9920				

PARTICLE SIZE ANALYSIS (ASTM D-422)



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Data	D90	D60	D50	D30	D10	% Gravel	% Sand	% Silt & Clay	C _c	C _u
B-4 (A) 1.6-3.6'	1.8	N/A	N/A	N/A	N/A	4.4	14.1	81.5	N/A	N/A

SOIL CLASSIFICATION (ASTM D-2487): Reddish brown lean clay with sand (CL)						TEAM Consultants, Inc.				
PROJECT: USACE, B200 Hangar Renovation			Date: 12/19/2023			3101 Pleasant Valley Ln, Suite 101				
LOCATION: Arkansas			Performed By: J. Williamson			Arlington, TX 76015				
TEAM Project Number: 232027						Telephone: (817) 467-5500				
						Fax: (817) 468-9920				

PARTICLE SIZE ANALYSIS (ASTM D-422)

TRIAxIAL TEST: UNCONFINED (ASTM D-2166) OR UNCONSOLIDATED-UNDRAINED (ASTM D-2850)

W9126G24R10BP-0003

Project: USACE, B200 Hangar Renovation TEAM Project No.: 232027 Date: 12/13/23	Hole: B-1 Sample: ST-3 Depth: 6.0-7.5 Material: Tan and brown clay (CL)																										
Height 1: 5.640 " Dia.1: 2.884 " Height 2: 5.628 " Dia.2: 2.888 " Area: 6.528 In ² Height 3: 5.627 " Dia.3: 2.877 " Young's Modulus for Membrane (tsf) Weight g: 1230.0 Strain Rate: 0.050 (Inches/Minute) Wet γ (pcf): 127.5 Strain Rate: 0.89 (%/Minute) Dry γ (pcf): 103.3 Length/Diameter Ratio: 1.953 Test Type: Unconfined Compression X or UU Triaxial @ _____ psi _____	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th align="center" colspan="2">Moisture Content (ASTM D 2216)</th> <th rowspan="2" style="text-align: center; vertical-align: middle;">GRAPHICAL DESCRIPTION OF FAILURE</th> </tr> <tr> <td style="text-align: center;">Before (cuttings)</td> <td style="text-align: center;"><u>X</u> After _____</td> </tr> <tr> <td>Can-Dish No.:</td> <td align="center">491</td> <td></td> </tr> <tr> <td>Wet Wt. (Sple+Can):</td> <td align="center">440.6</td> <td></td> </tr> <tr> <td>Dry Wt. (Sple+Can):</td> <td align="center">381.2</td> <td></td> </tr> <tr> <td>Wt. of Can:</td> <td align="center">126.7</td> <td></td> </tr> <tr> <td>Wt. of Dry Soil:</td> <td align="center">254.5</td> <td></td> </tr> <tr> <td>Wt. of Water:</td> <td align="center">59.4</td> <td></td> </tr> <tr> <td>% Moisture:</td> <td align="center">23.3</td> <td></td> </tr> </table>	Moisture Content (ASTM D 2216)		GRAPHICAL DESCRIPTION OF FAILURE	Before (cuttings)	<u>X</u> After _____	Can-Dish No.:	491		Wet Wt. (Sple+Can):	440.6		Dry Wt. (Sple+Can):	381.2		Wt. of Can:	126.7		Wt. of Dry Soil:	254.5		Wt. of Water:	59.4		% Moisture:	23.3	
Moisture Content (ASTM D 2216)		GRAPHICAL DESCRIPTION OF FAILURE																									
Before (cuttings)	<u>X</u> After _____																										
Can-Dish No.:	491																										
Wet Wt. (Sple+Can):	440.6																										
Dry Wt. (Sple+Can):	381.2																										
Wt. of Can:	126.7																										
Wt. of Dry Soil:	254.5																										
Wt. of Water:	59.4																										
% Moisture:	23.3																										

Confining Pressure (psi)	Dial Deflection	% Strain	Corrected Area (IN ²)	Load Pounds	Deviator Stress (TSF)		Shearing Strength (cohesion)
					UNCORRECTED	CORRECTED*	
	0.001	0.018	6.529	2.0	0.022	0.022	0.011
	0.010	0.170	6.539	22.0	0.242	0.242	0.121
	0.020	0.358	6.551	37.1	0.408	0.408	0.204
	0.040	0.714	6.575	57.5	0.629	0.629	0.315
	0.060	1.069	6.599	72.2	0.788	0.788	0.394
	0.080	1.424	6.622	83.2	0.905	0.905	0.452
	0.100	1.779	6.646	92.5	1.002	1.002	0.501
	0.120	2.134	6.670	100.6	1.086	1.086	0.543
	0.140	2.490	6.695	107.9	1.161	1.161	0.580
	0.160	2.845	6.719	114.6	1.228	1.228	0.614
	0.180	3.200	6.744	121.0	1.292	1.292	0.646
	0.200	3.555	6.769	127.8	1.360	1.360	0.680
	0.220	3.910	6.794	134.0	1.420	1.420	0.710
	0.240	4.265	6.819	140.3	1.481	1.481	0.741
	0.260	4.620	6.844	146.1	1.537	1.537	0.769
	0.280	4.975	6.870	151.1	1.584	1.584	0.792
	0.300	5.330	6.896	154.8	1.616	1.616	0.808
	0.320	5.686	6.922	156.0	1.623	1.623	0.811
	0.340	6.041	6.948	156.9	1.626	1.626	0.813
	0.360	6.396	6.974	157.2	1.623	1.623	0.812
	0.380	6.751	7.001	156.6	1.611	1.611	0.805
	0.400	7.106	7.027	154.9	1.588	1.588	0.794
	0.420	7.461	7.054	150.1	1.532	1.532	0.766
	0.440	7.816	7.081	144.3	1.467	1.467	0.734
	0.460	8.171	7.109	140.2	1.420	1.420	0.710
	0.480	8.527	7.136	137.4	1.387	1.387	0.693
	0.500	8.882	7.164	133.1	1.338	1.338	0.669
	0.520	9.237	7.192	128.4	1.285	1.285	0.642
	0.540	9.592	7.221	124.8	1.245	1.245	0.622
	0.560	9.947	7.249	120.1	1.193	1.193	0.597
	0.580	10.302	7.278	115.7	1.145	1.145	0.572

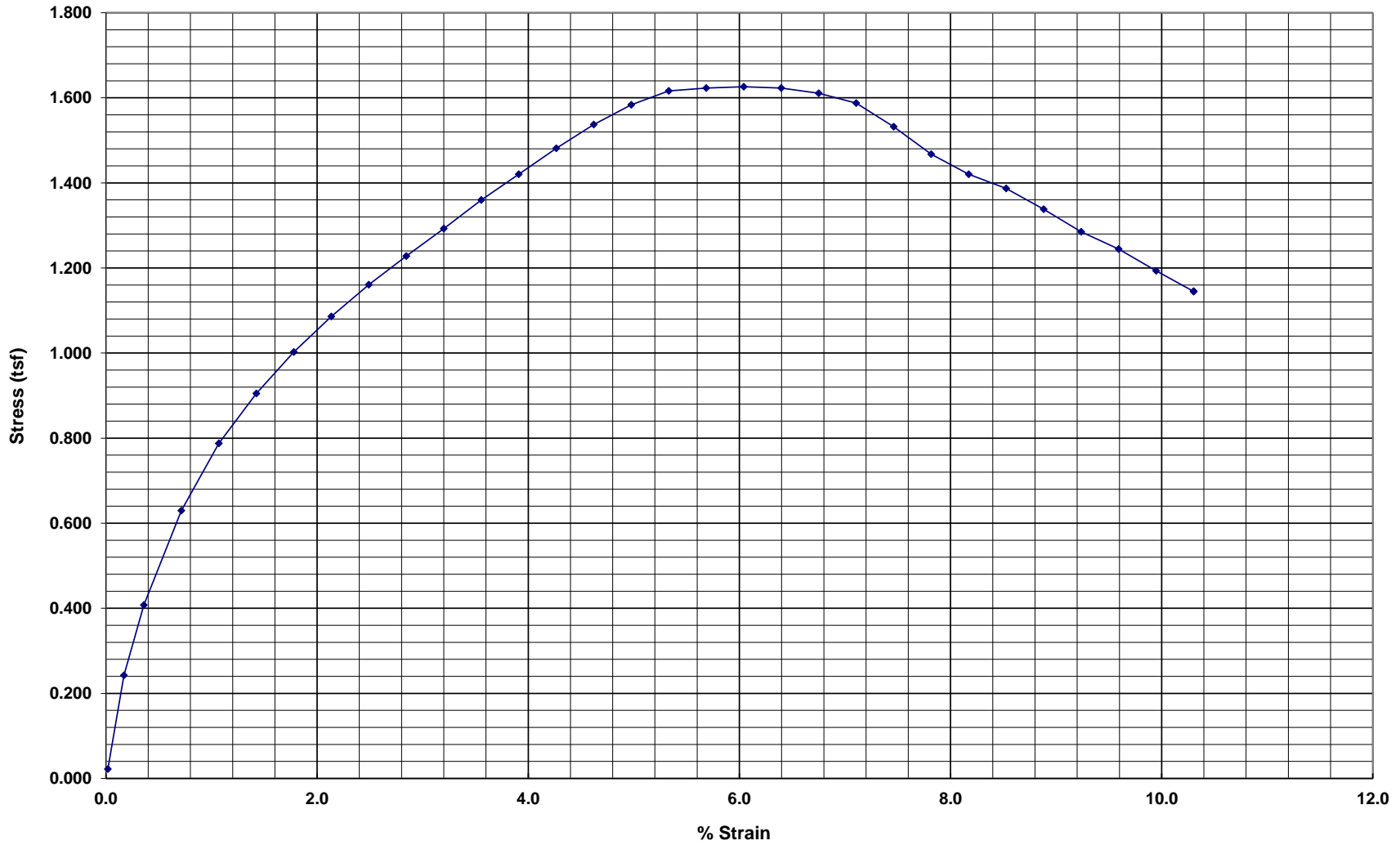
Strain (Inches/Inch) @ 50% Maximum Stress = 0.01073
Deformation @ 50% Maximum Stress (Inches)= 0.0604 **Tested by: D.BUSH**
Maximum Compressive Strength (TSF)= 1.63
% Strain @ Maximum Strength = 6.04%

* A membrane correction has been applied in compliance with ASTM D-2850. Membrane thickness: 0.012 inches (Young's Modulus for Membrane = 11.56 tsf)

TRIAxIAL COMPRESSION TEST STRESS/ STRAIN CURVE

Project: USACE, B200 Hangar Renovation Hole No.: B-1 Sample No.: ST-3 Depth: 6.0-7.5
TEAM Project No.: 232027 Material: Tan and brown clay (CL)
Date: 12/13/23

Stress vs Strain



TRIAxIAL TEST: UNCONFINED (ASTM D-2166) OR UNCONSOLIDATED-UNDRAINED (ASTM D-2850)

W9126G24R10BP-0003

Project: USACE, B200 Hangar Renovation				Hole: B-2		Sample: ST-1		Depth: 3.5-4.5							
TEAM Project No.: 232027 Date: 12/13/23				Material: Reddish brown and gray clay (CH)											
Height 1: 5.650 " Dia.1: 2.854 " Height 2: 5.635 " Dia.2: 2.850 " Area: 6.412 In ² Height 3: 5.652 " Dia.3: 2.868 "				Moisture Content (ASTM D 2216)				GRAPHICAL DESCRIPTION OF FAILURE							
				Before (cuttings) <u> X </u>		After <u> </u>									
Young's Modulus for Membrane (tsf)				Can-Dish No.:		468									
Weight g: 1177.9 Strain Rate: 0.050 (Inches/Minute)				Wet Wt. (Sple+Can):		367.7									
Wet γ (pcf): 124.0 Strain Rate: 0.89 (%/Minute)				Dry Wt. (Sple+Can):		316.3									
Dry γ (pcf): 95.5 Length/Diameter Ratio: 1.976				Wt. of Can:		143.9									
Test Type: Unconfined Compression <u> X </u>				Wt. of Dry Soil:		172.4									
or UU Triaxial @ _____ psi _____				Wt. of Water:		51.4									
				% Moisture:		29.8									

Confining Pressure (psi)	Dial Deflection	% Strain	Corrected Area (IN ²)	Load Pounds	Deviator Stress (TSF)		Shearing Strength (cohesion)
					UNCORRECTED	CORRECTED*	
	0.001	0.018	6.413	1.0	0.011	0.011	0.006
	0.020	0.355	6.435	10.4	0.116	0.116	0.058
	0.040	0.710	6.458	16.8	0.188	0.188	0.094
	0.060	1.064	6.481	22.4	0.249	0.249	0.125
	0.080	1.418	6.504	27.3	0.303	0.303	0.151
	0.100	1.772	6.528	32.2	0.355	0.355	0.178
	0.120	2.126	6.552	36.9	0.406	0.406	0.203
	0.140	2.481	6.575	41.5	0.455	0.455	0.227
	0.160	2.835	6.599	46.1	0.503	0.503	0.251
	0.180	3.189	6.624	50.8	0.552	0.552	0.276
	0.200	3.543	6.648	55.6	0.603	0.603	0.301
	0.220	3.898	6.672	60.7	0.655	0.655	0.327
	0.240	4.252	6.697	65.8	0.708	0.708	0.354
	0.260	4.606	6.722	70.5	0.756	0.756	0.378
	0.280	4.961	6.747	74.2	0.791	0.791	0.396
	0.300	5.315	6.772	77.3	0.822	0.822	0.411
	0.320	5.669	6.798	79.9	0.847	0.847	0.423
	0.340	6.023	6.823	82.3	0.868	0.868	0.434
	0.360	6.378	6.849	84.1	0.884	0.884	0.442
	0.380	6.732	6.875	85.4	0.895	0.895	0.447
	0.400	7.086	6.901	86.2	0.899	0.899	0.450
	0.420	7.440	6.928	86.4	0.898	0.898	0.449
	0.440	7.795	6.954	86.3	0.894	0.894	0.447
	0.460	8.149	6.981	85.7	0.884	0.884	0.442
	0.480	8.503	7.008	84.9	0.872	0.872	0.436
	0.500	8.857	7.035	83.8	0.858	0.858	0.429
	0.520	9.212	7.063	82.2	0.838	0.838	0.419
	0.540	9.566	7.091	80.1	0.814	0.814	0.407
	0.560	9.920	7.118	77.9	0.788	0.788	0.394
	0.580	10.274	7.147	75.4	0.759	0.759	0.380
	0.600	10.629	7.175	72.4	0.726	0.726	0.363
	0.620	10.983	7.203	69.0	0.690	0.690	0.345
	0.640	11.337	7.232	65.5	0.652	0.652	0.326

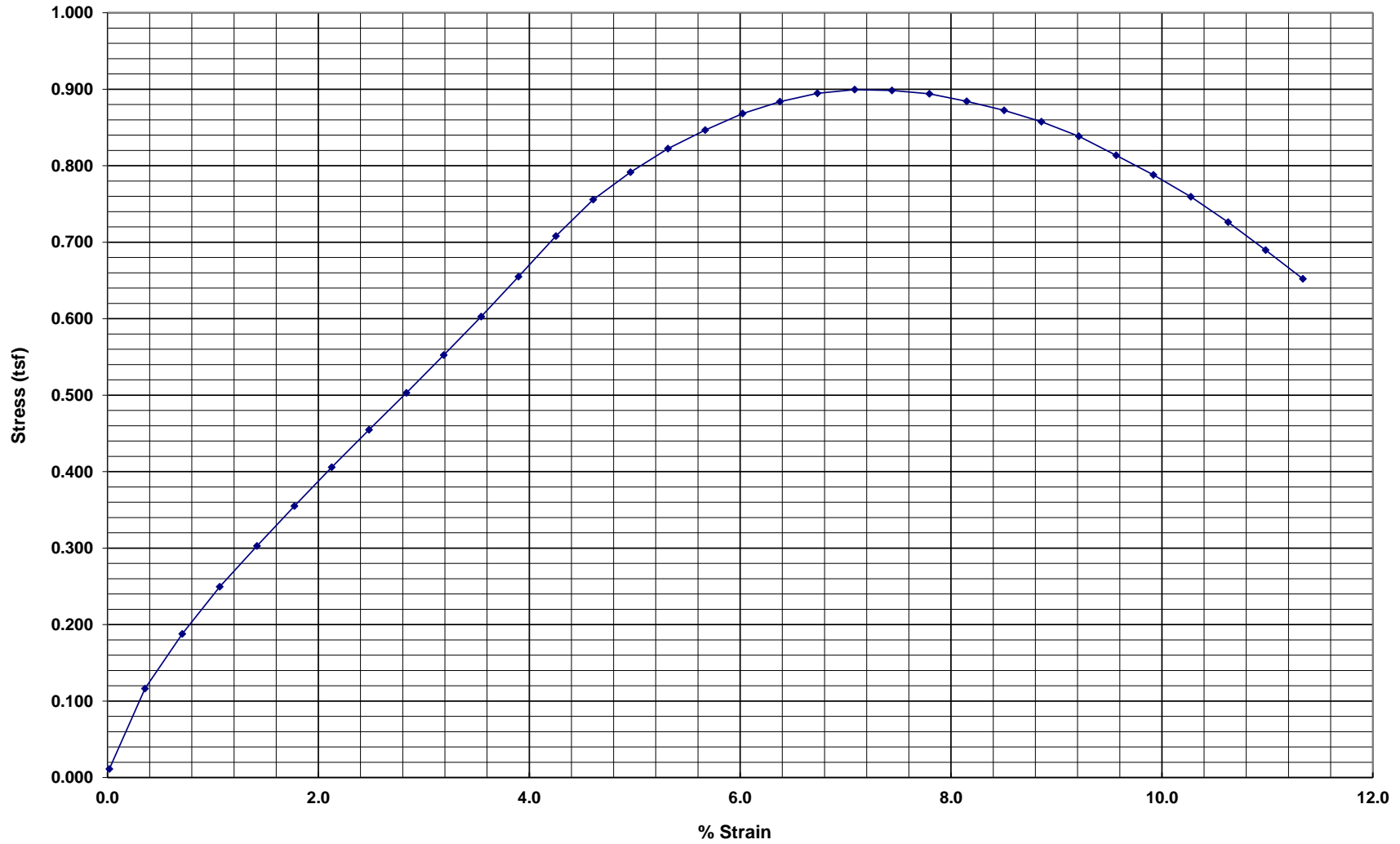
Strain (Inches/Inch) @ 50% Maximum Stress = 0.02142
Deformation @ 50% Maximum Stress (Inches)= 0.1207 **Tested by: D.BUSH**
Maximum Compressive Strength (TSF)= 0.90
% Strain @ Maximum Strength = 7.09%

* A membrane correction has been applied in compliance with ASTM D-2850. Membrane thickness: 0.012 inches (Young's Modulus for Membrane = 11.56 tsf)

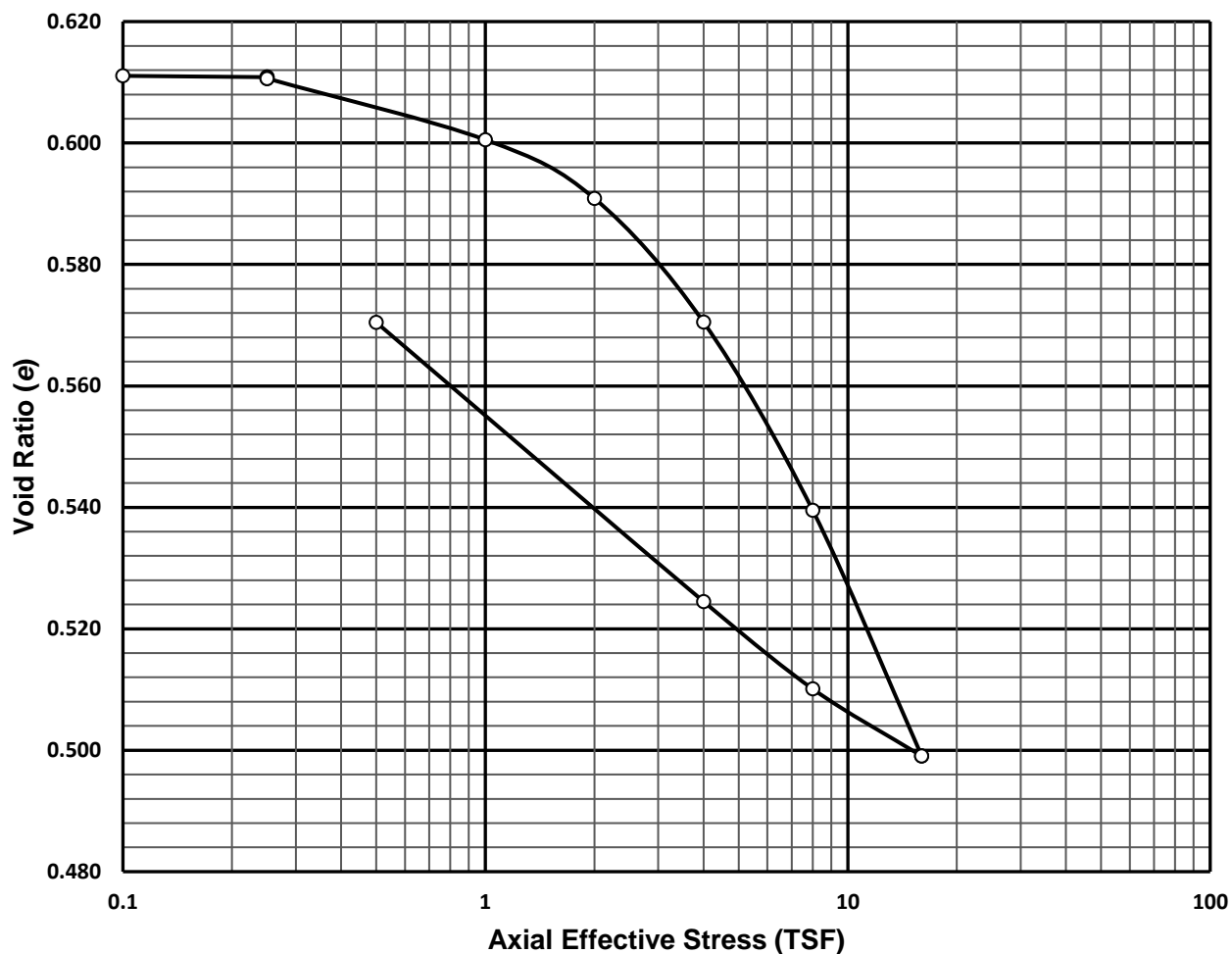
TRIAxIAL COMPRESSION TEST STRESS/ STRAIN CURVE

Project: USACE, B200 Hangar Renovation Hole No.: B-2 Sample No.: ST-1 Depth: 3.5-4.5
TEAM Project No.: 232027 Material: Reddish brown and gray clay (CH)
Date: 12/13/23

Stress vs Strain



Client: USACE TEAM Project Number: 232027
 Project: B200 Hangar Renovation, Ebbing Air National Guard Base Date: 12/8/2023
 Sample Identification: B-1 (ST-2) 3.5-5.0'
 Material Description: Reddish brown fat clay with sand (CH)
 Specific Gravity: 2.700 Liquid Limit: 56 Plastic Limit: 24 Percent Passing No. 200: 79.3



	Initial	Final
Preconsolidation Pressure (P_c) (TSF):	2.4	
Moisture Content (%):	20.75%	18.74%
Compression Index (C_c):	0.119	
Saturation (%):	91.7%	90.2%
Swell Index (C_s):	0.046	
Void Ratio (e):	0.6111	0.5705
Recompression Index (C_r):	N/A	
Dry Density (γ_d) (PCF):	104.6	N/A

Remarks: _____

Performed By: J. Williamson Reviewed By: J. Williamson

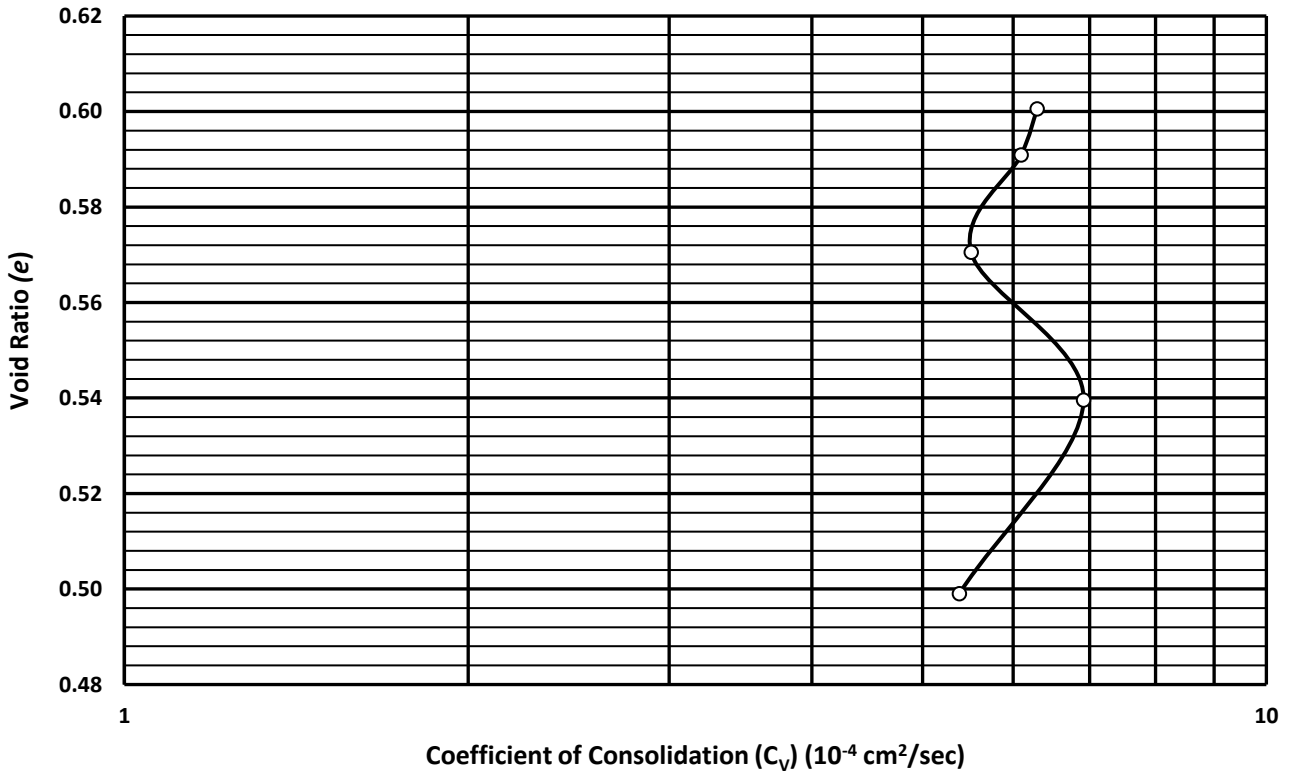
One-Dimensional Consolidation (ASTM D2435, Method B)



Geotechnical, Environmental, Construction Materials Testing
 Dallas / Arlington / McKinney

Client: USACE TEAM Project Number: 232027
 Project: B200 Hangar Renovation, Ebbing Air National Guard Base Date: 12/8/2023
 Sample Identification: B-1 (ST-2) 3.5-5.0'
 Material Description: Reddish brown fat clay with sand (CH)
 Specific Gravity: 2.700 Liquid Limit: 56 Plastic Limit: 24 Percent Passing No. 200: 79.3

Pressure (TSF)	Time Increment Effective (min)	Dial Reading (10 ⁻⁴ in)	Correction (10 ⁻⁴ in)	Net Change in Height (ΔH) (10 ⁻⁴ in)	Height of Voids (H _v) (10 ⁻⁴ in)	Void Ratio (e)	C _v (10 ⁻⁴ cm ² /sec)
0.1	Zero Point	2000	2000	0	2844.7	0.6111	N/A
0.25	Initial Load	2004	2003	-1	2843.7	0.6108	N/A
0.25	330	2011	2009	-2	2842.7	0.6106	N/A
1	1440	2067	2018	-49	2795.7	0.6005	6.3
2	1440	2126	2032	-94	2750.7	0.5909	6.1
4	1440	2234.8	2046	-188.8	2655.9	0.5705	5.5
8	1440	2395	2062	-333	2511.7	0.5395	6.9
16	4220	2599.5	2078	-521.5	2323.2	0.4990	5.4
8	1440	2525	2055	-470	2374.7	0.5101	N/A
4	1440	2435	2032	-403	2441.7	0.5245	N/A
0.5	1440	2200	2011	-189	2655.7	0.5705	N/A

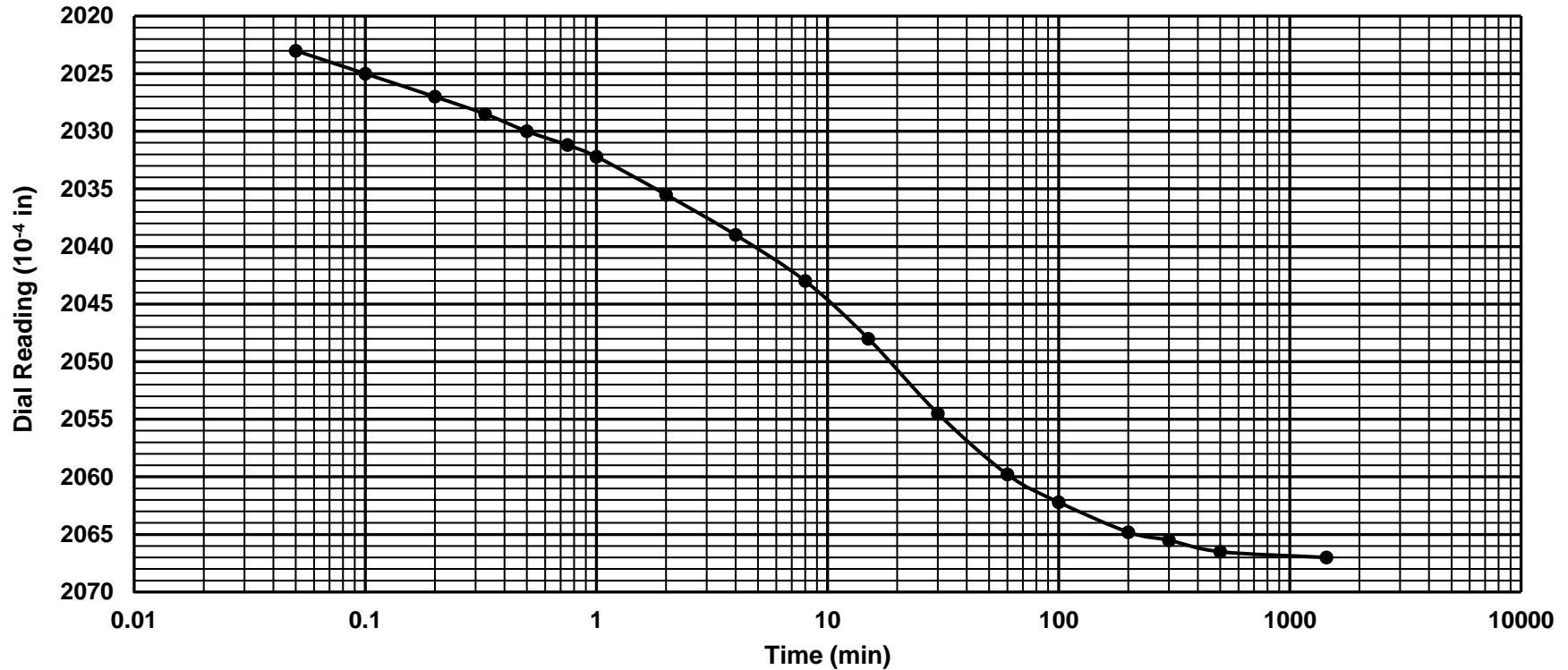


Performed By: J. Williamson Reviewed By: J. Williamson
 One-Dimensional Consolidation (ASTM D2435, Method B)

TEAM Consultants

Geotechnical, Environmental, Construction Materials Testing
 Dallas / Arlington / McKinney

Client: USACE TEAM Project Number: 232027
 Project: B200 Hangar Renovation, Ebbing Air National Guard Base Date: 12/8/2023
 Sample Identification: B-1 (ST-2) 3.5-5.0'
 Material Description: Reddish brown fat clay with sand (CH)

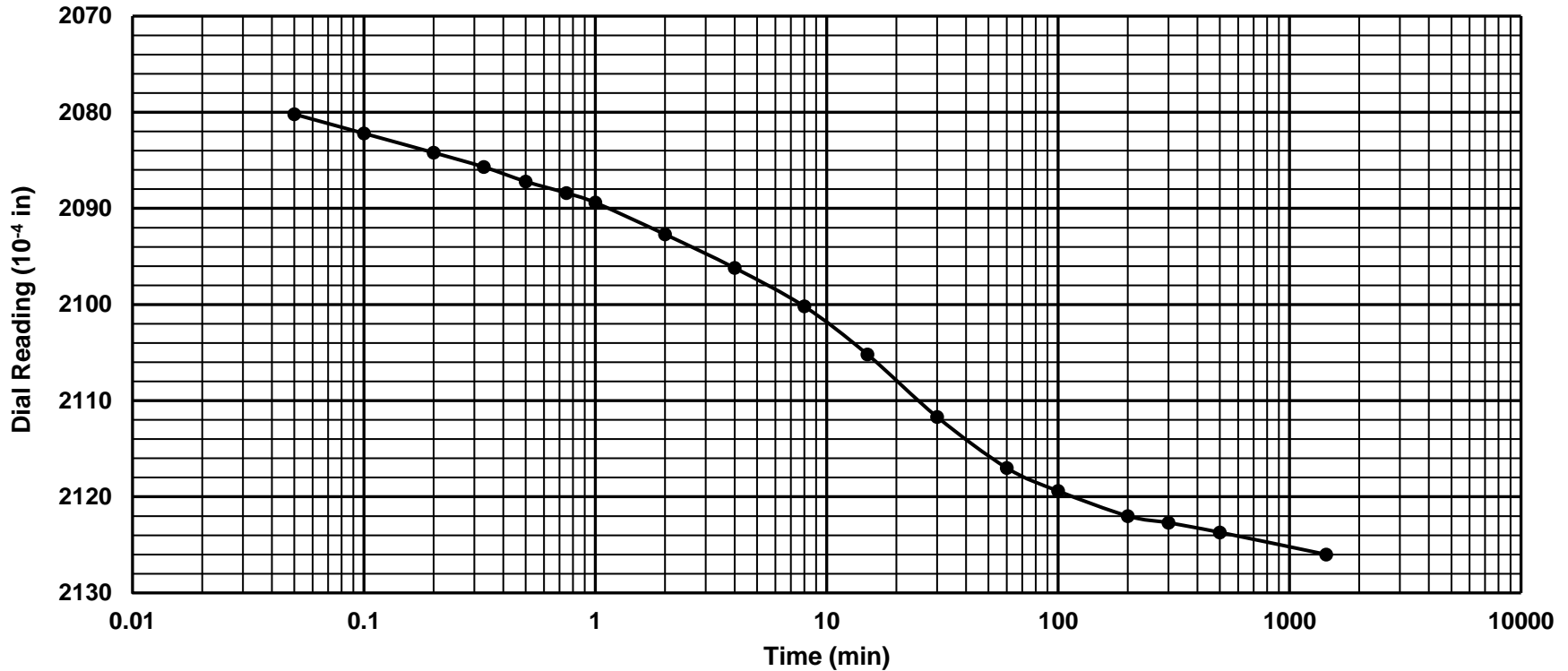


Coefficient of Consolidation (C_v) (cm²/sec): 6.3 x 10⁻⁴ Load (TSF): 1 Thickness (in): 0.75
 d_{50} (inches): 0.20407 Remarks: _____
 t_{50} (minutes): 4.7 _____

TEAM Consultants

Geotechnical, Environmental, Construction Materials Testing
 Dallas / Arlington / McKinney

Client: USACE TEAM Project Number: 232027
 Project: B200 Hangar Renovation, Ebbing Air National Guard Base Date: 12/8/2023
 Sample Identification: B-1 (ST-2) 3.5-5.0'
 Material Description: Reddish brown fat clay with sand (CH)

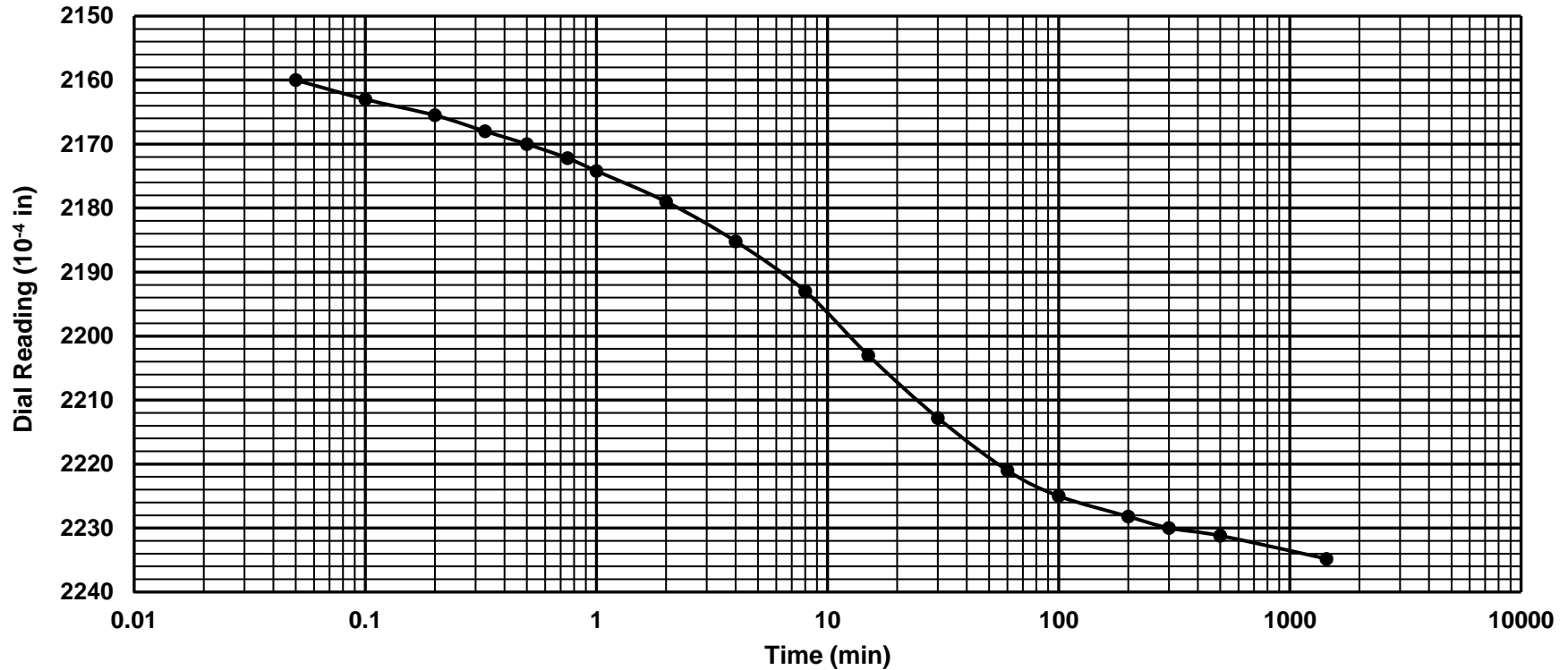


Coefficient of Consolidation (C_v) (cm²/sec): 6.1 x 10⁻⁴ Load (TSF): 2 Thickness (in): 0.75
 d_{50} (inches): 0.20975 Remarks: _____
 t_{50} (minutes): 4.80 _____

TEAM Consultants

Geotechnical, Environmental, Construction Materials Testing
 Dallas / Arlington / McKinney

Client: USACE TEAM Project Number: 232027
 Project: B200 Hangar Renovation, Ebbing Air National Guard Base Date: 12/8/2023
 Sample Identification: B-1 (ST-2) 3.5-5.0'
 Material Description: Reddish brown fat clay with sand (CH)

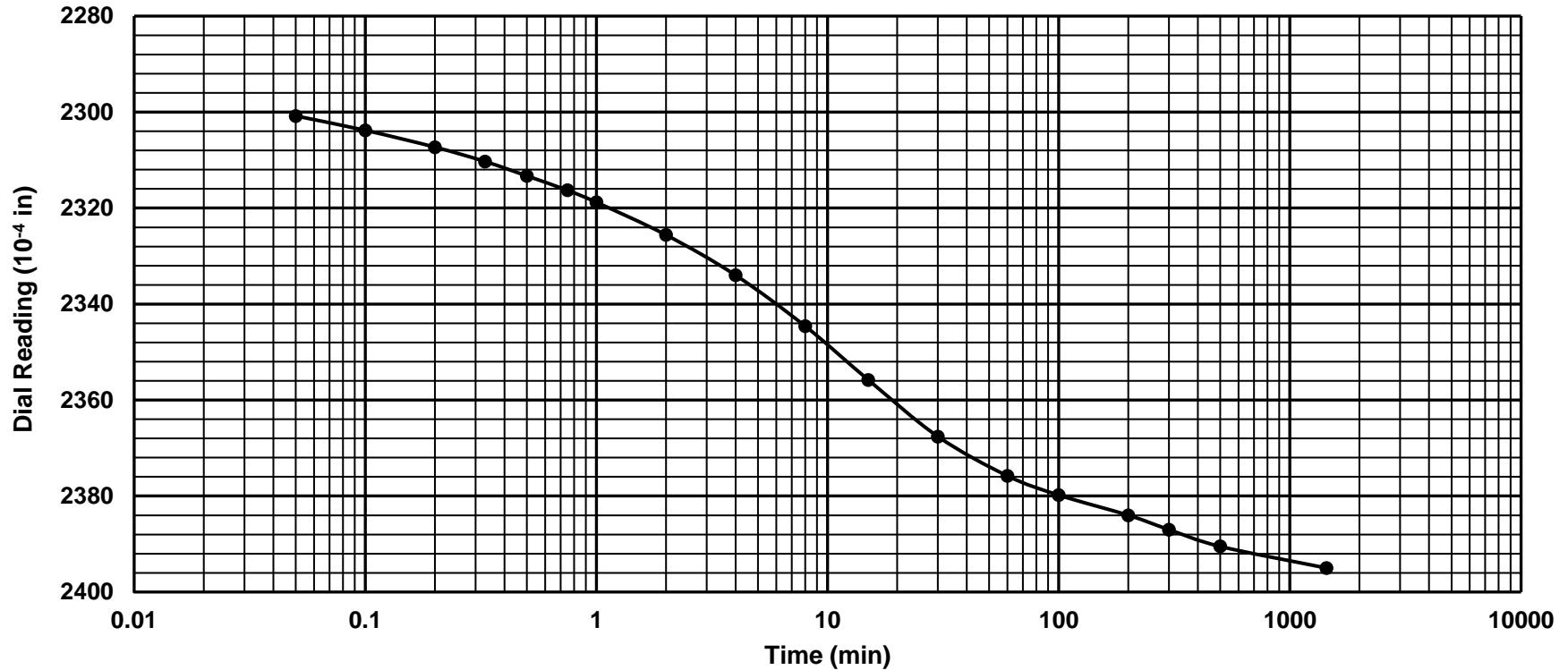


Coefficient of Consolidation (C_v) (cm²/sec): 5.5 x 10⁻⁴ Load (TSF): 4 Thickness (in): 0.75
 d_{50} (inches): 0.21880 Remarks: _____
 t_{50} (minutes): 5.2 _____

TEAM Consultants

Geotechnical, Environmental, Construction Materials Testing
 Dallas / Arlington / McKinney

Client: USACE TEAM Project Number: 232027
 Project: B200 Hangar Renovation, Ebbing Air National Guard Base Date: 12/8/2023
 Sample Identification: B-1 (ST-2) 3.5-5.0'
 Material Description: Reddish brown fat clay with sand (CH)

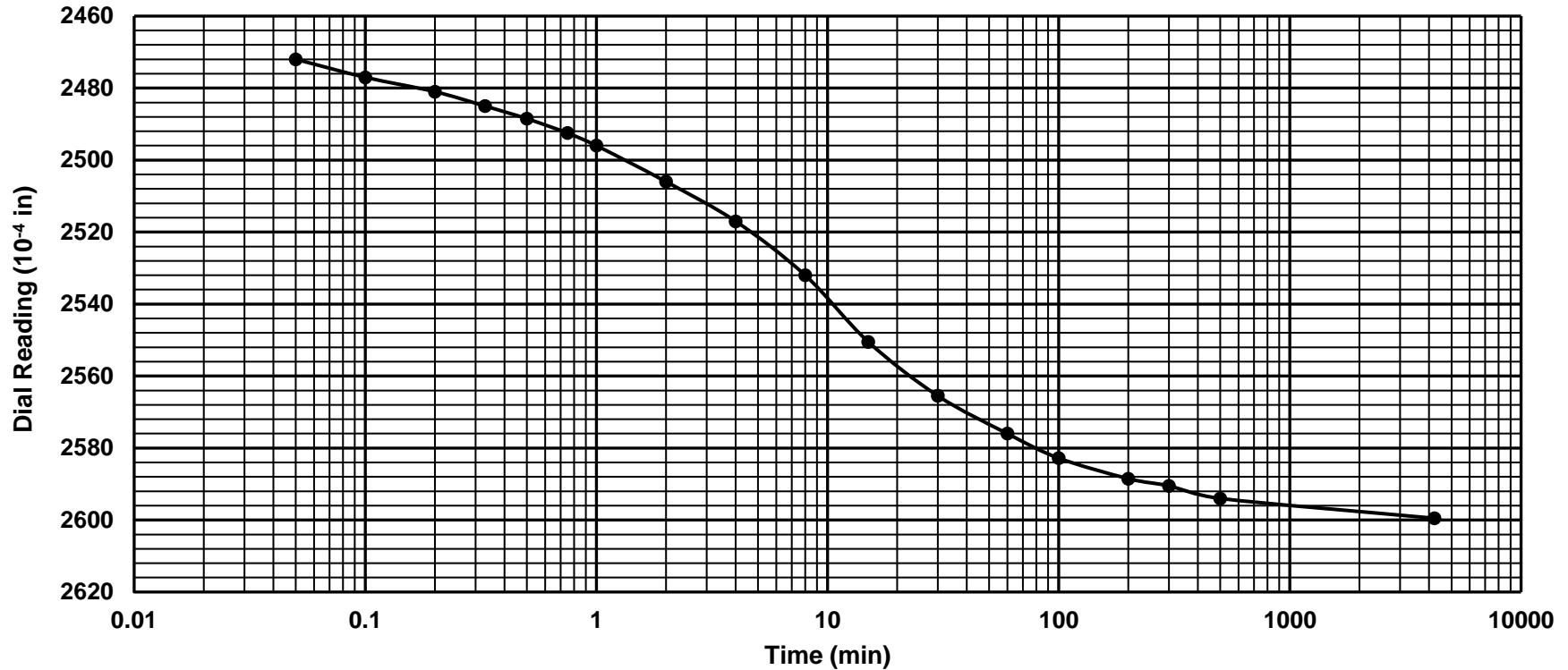


Coefficient of Consolidation (C_v) (cm²/sec): 6.9 x 10⁻⁴ Load (TSF): 8 Thickness (in): 0.75
 d_{50} (inches): 0.23340 Remarks: _____
 t_{50} (minutes): 4.0 _____

TEAM Consultants

Geotechnical, Environmental, Construction Materials Testing
 Dallas / Arlington / McKinney

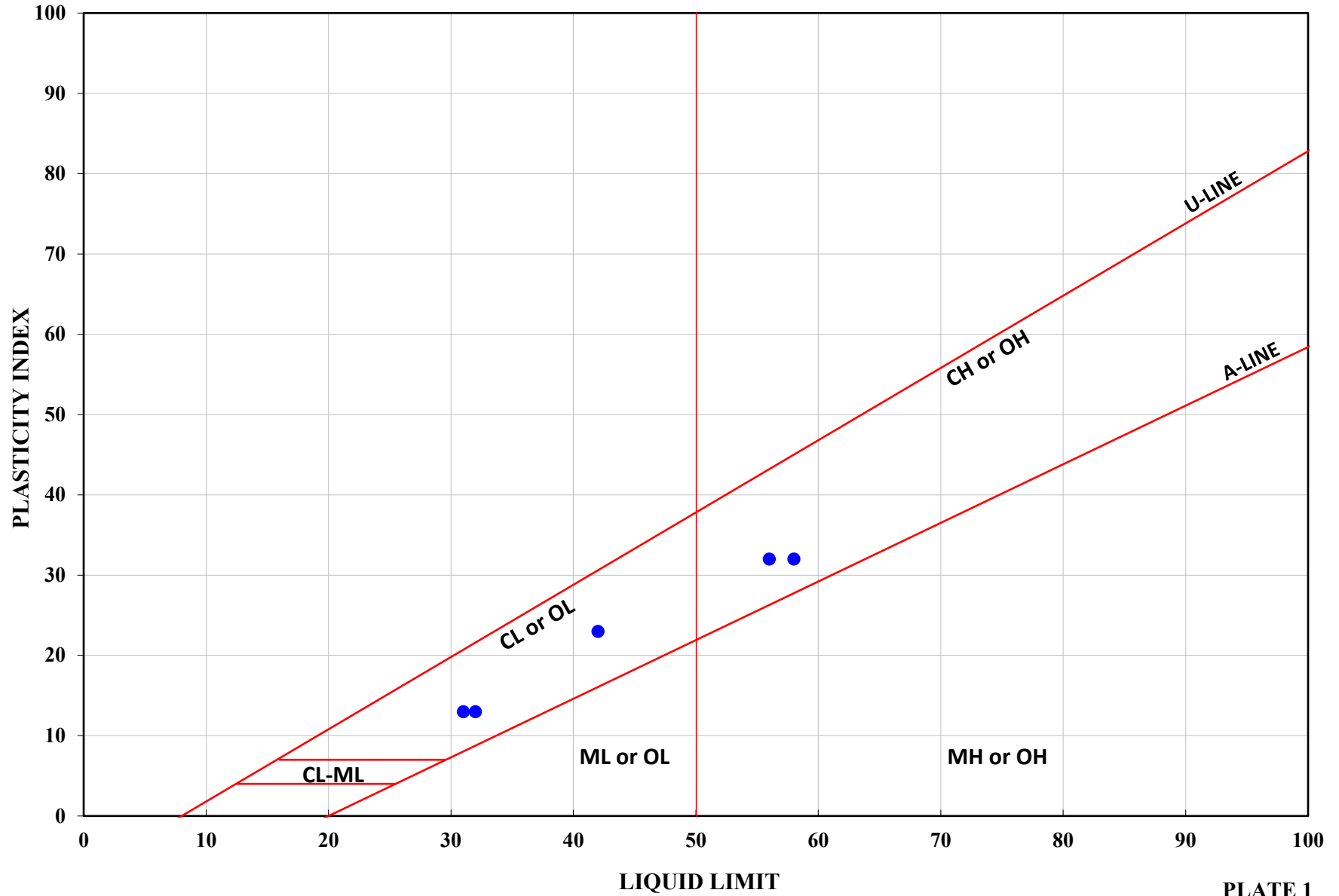
Client: USACE TEAM Project Number: 232027
 Project: B200 Hangar Renovation, Ebbing Air National Guard Base Date: 12/8/2023
 Sample Identification: B-1 (ST-2) 3.5-5.0'
 Material Description: Reddish brown fat clay with sand (CH)



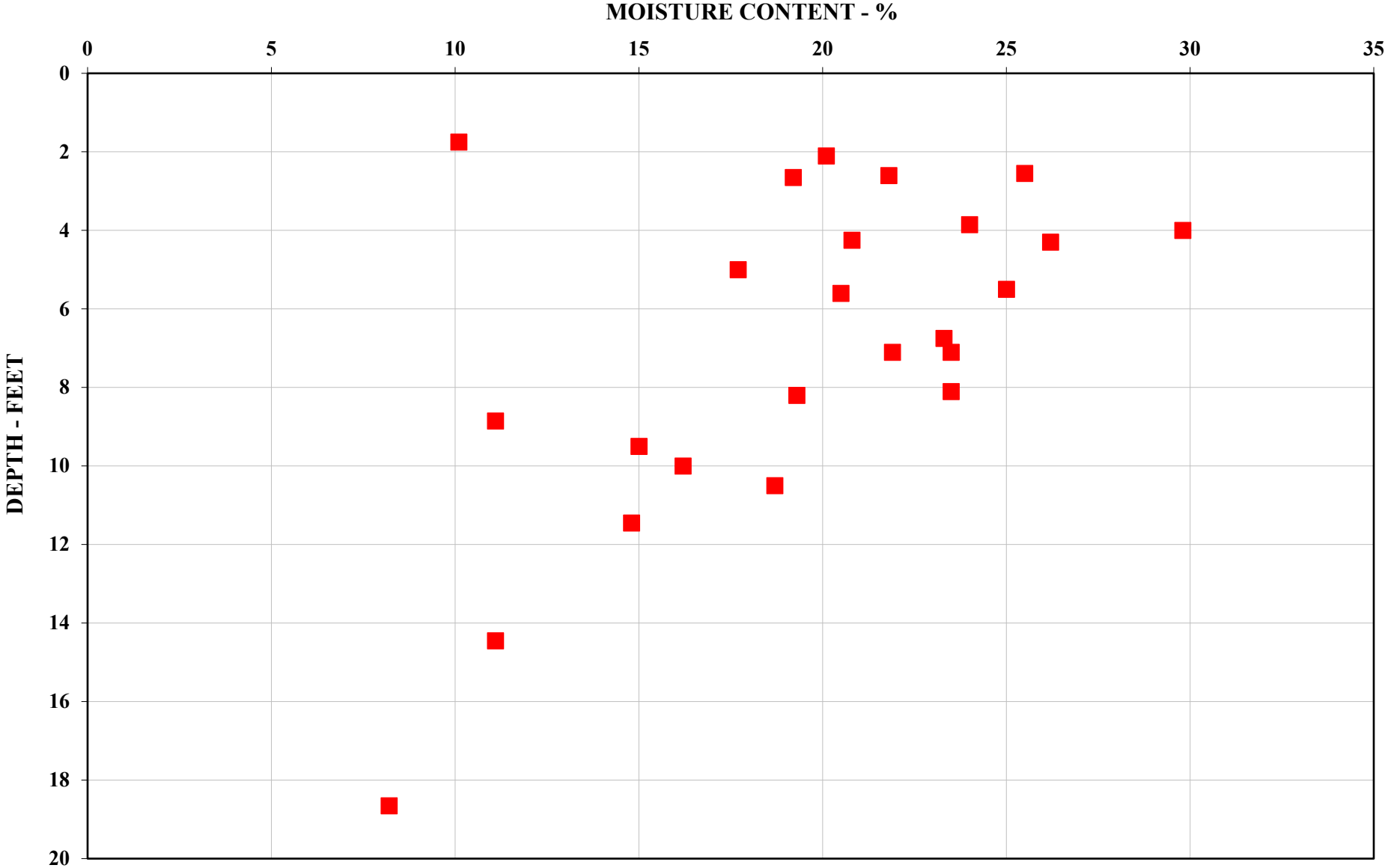
Coefficient of Consolidation (C_v) (cm²/sec): 5.4 x 10⁻⁴ Load (TSF): 16 Thickness (in): 0.75
 d_{50} (inches): 0.25200 Remarks: _____
 t_{50} (minutes): 4.9 _____
 0

**APPENDIX III:
SOIL PROPERTIES PLOTS**

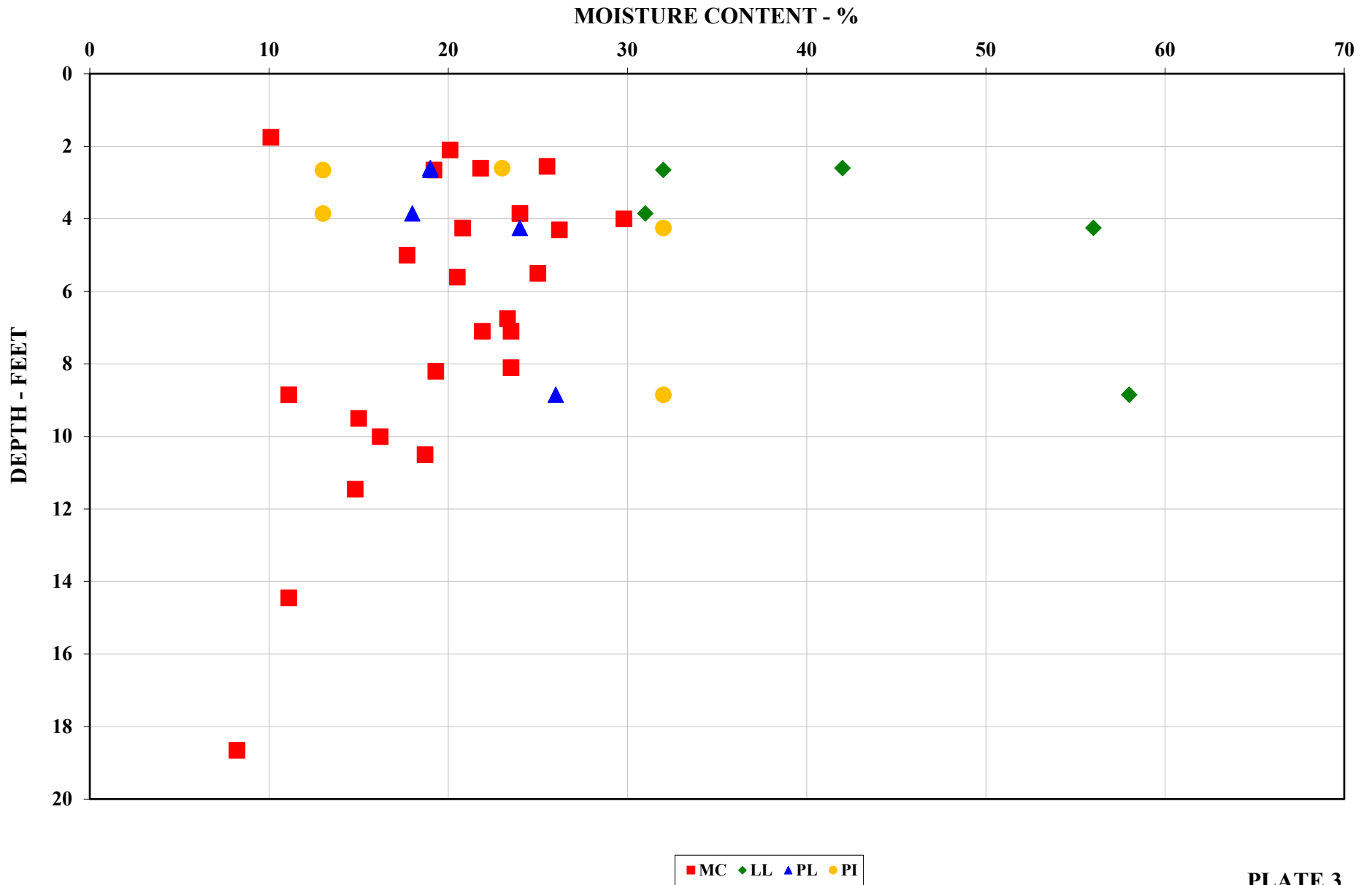
FORT SMITH ANGB HANGAR 200 RENOVATIONS PLASTICITY CHART



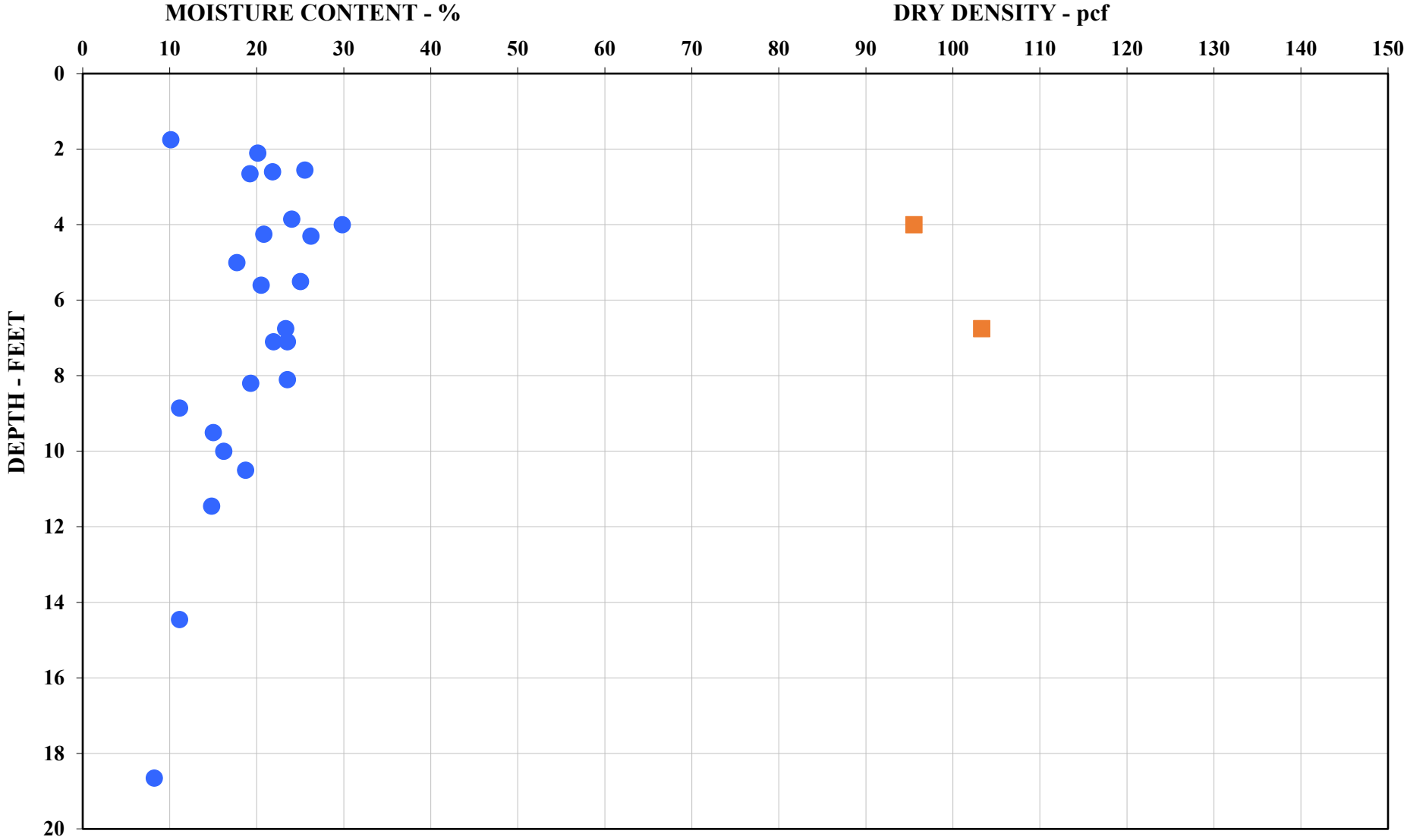
FORT SMITH ANGB HANGAR 200 RENOVATIONS MOISTURE CONTENT VS DEPTH



FORT SMITH ANGB HANGAR 200 RENOVATIONS ATTERBERG LIMITS VS DEPTH

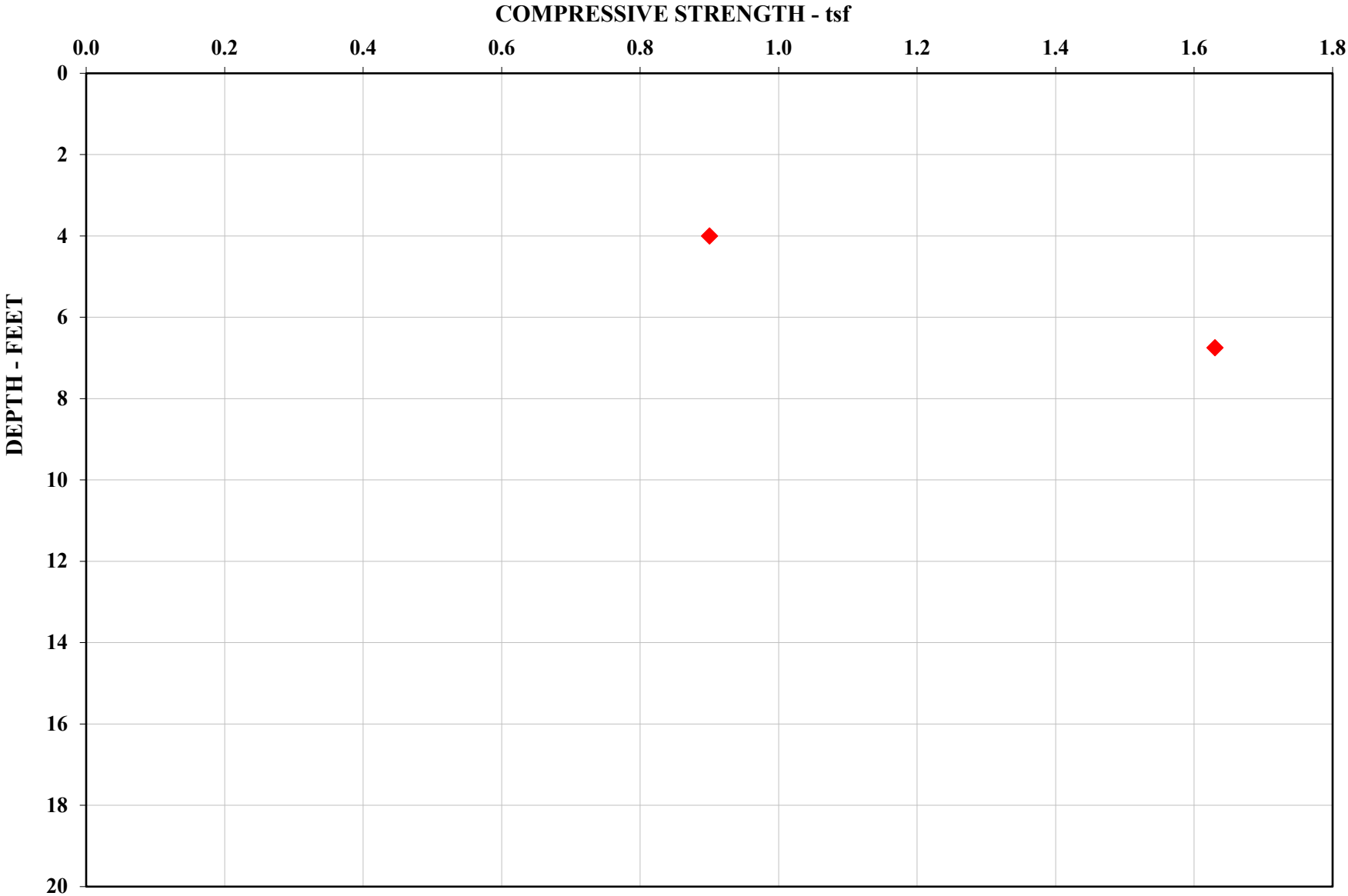


FORT SMITH ANGB HANGAR 200 RENOVATIONS MOISTURE CONTENT - DRY DENSITY VS DEPTH



● MC ■ DD

FORT SMITH ANGB HANGAR 200 RENOVATIONS COMPRESSIVE STRENGTH VS DEPTH



APPENDIX IV:
SOIL TERMINOLOGY

TABLE 2.16 UNIFIED SOIL CLASSIFICATION SYSTEM. (ASTM D-2487)

Major Divisions		Group Symbols	Typical Names	Laboratory Classification Criteria	
Coarse-grained soils (More than half of material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW Well-graded gravels, gravel-sand mixtures, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3 Not meeting all gradation requirements for GW	
		GP Poorly graded gravels, gravel-sand mixtures, little or no fines			
		Gravels with fines (Appreciable amount of fines)	GM ^a Silty gravels, gravel-sand-silt mixtures	GW, GP, SW, SP GM, GC, SM, SC Borderline cases requiring dual symbols ^b	
			GC Clayey gravels, gravel-sand-clay mixtures		
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW Well-graded sands, gravelly sands, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3 Not meeting all gradation requirements for SW	
			SP Poorly graded sands, gravelly sands, little or no fines		
		Sands with fines (Appreciable amount of fines)	SM ^a Silty sands, sand-silt mixtures	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 per cent More than 12 per cent 5 to 12 per cent	
			SC Clayey sands, sand-clay mixtures		
		Fine-grained soils (More than half material is smaller than No. 200 sieve)	Silt and clays (Liquid limit less than 50)	ML Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	<p>The Plasticity Chart plots Plasticity Index (y-axis, 0 to 60) against Liquid Limit (x-axis, 0 to 100). A diagonal 'A' line is shown. Regions are labeled: CH (high plasticity clay), OH and MH (organic high plasticity clay and inorganic high plasticity silt/clay), CL (low plasticity clay), ML and OL (low plasticity silt/clay), and CL-ML (borderline between CL and ML). A hatched area is shown between CL-ML and ML/OL.</p>
				CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
OL Organic silts and organic silty clays of low plasticity					
Silt and clays (Liquid limit greater than 50)	MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts				
	CH Inorganic clays of high plasticity, fat clays				
	OH Organic clays of medium to high plasticity, organic silts				
Highly organic soils	Pt Peat and other highly organic soils				

^aDivision of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits; suffix d used when L.L. is 28 or less and the P.I. is 6 or less; the suffix u used when L.L. is greater than 28.
^bBorderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group symbols. For example: GW-GC, well-graded gravel-sand mixture with clay binder.

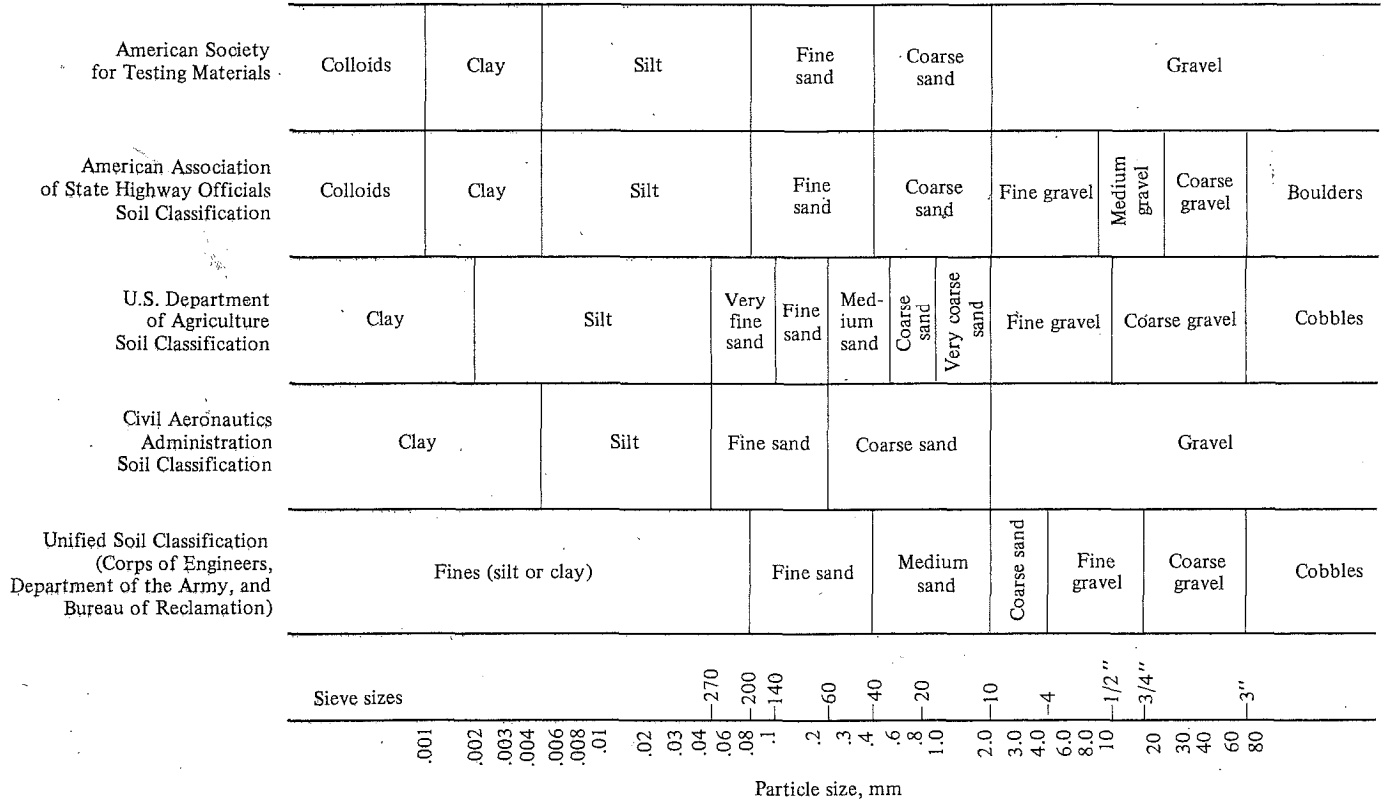


Fig. 2.1 Soil-separate size limits of ASTM, AASHTO, USDA, CAA, Corps of Engineers and USBR.

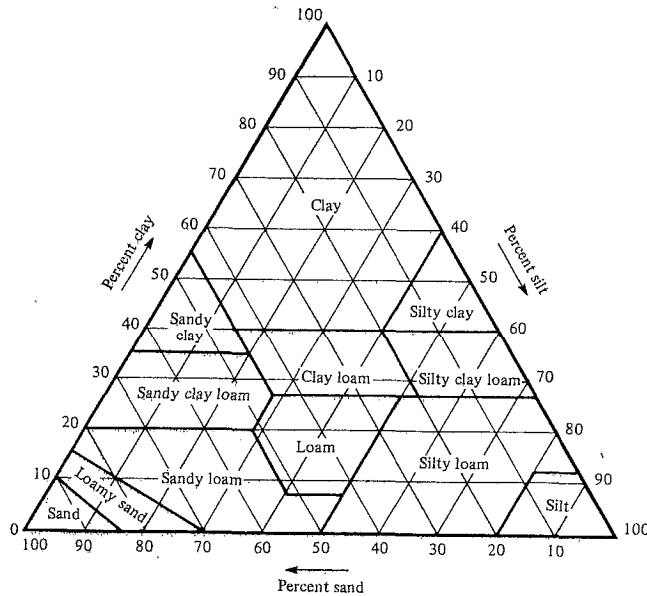


Fig. 2.2 U.S. Department of Agriculture textural classification chart.

Chart showing USDA Soil classification (Fig.2.2 -lower frame) and comparative particle sizes used in other engineering classification systems. (Source H.F.Winterkorn and H-Y Fong, Foundation Engineering Handbook, 1st Edition, 1975, Van Nostrand Reinhold Company, New York.

STANDRAD PENETRATION TEST

The Standard Penetration Test (SPT) is a dynamic in-situ soil test that combines sampling technique using a “Standard” procedure. It has been in use since the early 1900s, and the procedure has become a standard, and is well understood by the engineering community. Over the centuries, a number of researchers have added correlation between the “N” value and engineering properties of soils as well as establishing correlation between the SPT and other in-situ and laboratory tests.

Standard penetration testing (SPT) is now performed in accordance with ASTM D-1586 guidelines. SPT tests consists of driving a 1.5” internal diameter steel tube split longitudinally, and hence called a Spilt-spoon sampler. Samplers come in 18” and 24” lengths. The number of blows required to drive the sampler using a 140-pound free-falling hammer dropped a distance of 30 inches is recorded for each 6” increment. Penetration resistance (N - value) is defined as the sum of blows required to drive the second and third 6” increments – or number of blows per foot of penetration. It should be noted that “refusal” is taken as a blow count of 50 or more per 6-inch increment. The same test is used throughout the world, though the Metric units of 63.5 kg, 760 mm drop are “Standardized” and sampler penetration for 300 mm is recorded as the N value. Automatic hammers are now available to ensure that the penetration test is carried out with 30 drops per minute, to eliminate the effect of human fatigue. A number of other factors also cause the test to deviate from the standard and hence correction factors are applied to the field-recorded N value. If the N value exceeds 50 blows, the material is defined to be hard enough to “refuse” penetration and the instead of an N value, “Refusal” may be recorded in the field logs.

Using the empirical relationship given by Meyerhof (1956) the approximate values of angle of shearing resistance can be estimated for granular using the table below.

Penetration resistance N (blows)	Approximate (degrees)	Description
0 to 4	25–30	Very loose
4 to 10	27–32	Loose
10 to 30	30–35	Medium
30 to 50	35–40	Dense
> 50	38–43	Very dense

Similarly, the values of unconfined compressive strength can also be estimated for cohesive soils.

Penetration resistance N (blows)	Unconfined compressive strength (t/m ²)	Description
0 to 2	0 - 2.5	Very soft
2 to 4	2.5 - 5.0	Soft
4 to 8	5.0 - 10.0	Medium
8 to 16	10.0 - 20.0	Stiff
16 to 32	20.0 - 40.0	Very Stiff
>32	>40.0	Hard

1 Common Abbreviations.

Government Geotechnical reports typically use the following abbreviations for brevity which are industry-standard conventional terms.

in	inch(es)
ft.	foot (or feet)
sec.	Second
min.	Minutes
hr.	Hour
ft./sec.	foot/second (likewise for minutes, hours or days)
lb.	Pound (derived from the Latin Libra meaning a scale or balance)
psi.	Pound(s) per square inch
pci.	Pounds per square inch per inch (or psi./in.) associated with subgrade reaction
ksf.	Kips (kilo pounds or 1,000 pounds) per square foot
tsf.	Tons (short ton = 2,000 pounds) per square foot
sq.ft.	square feet
cft.	Cubic feet (also written as c.ft or ft ³)
g	Gravitational acceleration constant (32 ft/sec ²) Normally written without a period
gal.	Gallons (Typically US Gallon = 3.785 liters)
gpm.	Gallons per minute
Ton	Ton (Short Ton = 2,000 ponds)
T	Metric Tonne (1,000 kilogram or 2,240 pounds)

**APPENDIX V:
PCASE PAVEMENT DESIGN OUTPUT**

W9126G24R10BP-0003
Ebbing ANGB Hangar 200

PCASE Version: 7.0.6 2023-09-26
 Design Name: Ebbing ANGB Hangar 200
 Layer Model Name: Ebbing ANGB Hangar 200
 Drainage Station: Not selected
 Frost Station: USA-Arkansas-Fort_Smith_Regional_Airport
 Pavement Use: Airfield
 Design Type: Rigid
 Traffic Area: Traffic Area C
 Analysis Type: K
 Depth of Frost (in): 10.27
 Wander Width (in): 140
 % Load Transfer: 25
 % Steel: 0
 Joint Spacing: 15-20 ft. Joint/dowel information based on non-frost PCC thickness
 Dowel Spacing: 12 in.
 Dowel Length: 16 in.
 Dowel Diameter: 1 in.

Layer Information

Layer Type	Material Type	Frost Code	Moisture Content (%)	Dry Unit Weight (lb/ft ³)	Analysis	Non-frost Design Thickness	Reduced Subgrade Strength	Limited Subgrade Frost	Flexural Strength (psi)	Modulus (psi)	K (pci)	Effective K (pci)
Portland Cement Concrete	Portland Cement	NFS	0	145	Compute	10.27	10.27	10.27	600	4000000		
Base	Unbound Aggregate	NFS	5	135	Manual	7	7	7				160
Natural Subgrade	Cohesionless Cut	NFS	10	120	Manual						100	100

Calc. Messages

Type	Message
Information	Frost design thicknesses were requested but no frost-susceptible layers were identified. RSS and LSFP results will therefore be the same as non-frost.

Traffic Information

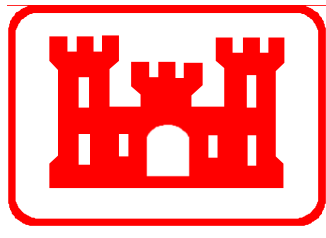
Service: Air Force
 Pattern Name: Ebbing ANGB Hangar 200

Vehicles	Weight (lb) Traffic Area A,B	Weight (lb) Traffic Area C,D	Passes Traffic Area A,B,C	Passes Traffic Area D	Equivalent Passes
F-16D FIGHTING FALCON	37500	28124	29200	292	5
F-35A JOINT STRIKE FIGHTER CTOL	67950	50962	29200	292	29200
F-35A JOINT STRIKE FIGHTER CTOL	67950				29205

Attachment H

Environmental Assessment Report

GOVERNMENT GEOTECHNICAL REPORT
FOR DESIGN-BUILD RFP
EBBING ANGB HANGAR B200 POV PARKING LOT
FORT SMITH, ARKANSAS



PREPARED BY
U.S. ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
ENGINEERING AND CONSTRUCTION DIVISION
GEOTECHNICAL BRANCH
CESWF-ECG

JULY 2024

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GOVERNMENT GEOTECHNICAL REPORT

1. General

The purpose of this report is to provide subsurface information and pavement design considerations, guidance, and requirements for the planned Privately Owned Vehicles (POV) parking lot as part of the Hangar B200 renovation project at Ebbing Air National Guard Base (ANGB) in Fort Smith, Arkansas. Design and construction of the planned POV parking lot will be accomplished under a Design-Build (D-B) contract.

The planned POV parking lot is located south of the intersection of Leigh Avenue and Phoenix Avenue outside the Base security perimeter. The parking lot will add 153 parking spaces.

Site grading plans were not available at the time of writing this report. However, it was assumed that minor cuts and fills (2 feet or less) will be required to reach the finish pavement subgrade.

The planned POV parking lot is anticipated to be constructed of asphalt pavement. Traffic information was not available at the time of writing the report. It was assumed that the planned parking lot will be travelled only by passenger cars and pickups.

If project descriptions and assumptions in the section are not correct, CESWF-ECG should be contacted to determine if the recommendations presented in this report need to be reevaluated.

2. Subsurface Investigation

In line with the Scope of Work developed by the U.S. Army Corps of Engineers (USACE), Fort Worth District, three (3) borings were drilled by Data Testing, Inc in April 2024. The borings were drilled to a depth of about 10 feet below existing ground surface using a Geoprobe 7822DT track mounted drill rig and conventional drilling attachments.

The borings were drilled to determine subsurface conditions and to obtain representative soil/rock samples for laboratory testing. The test hole advancement and sample recovery were performed using 4-inch diameter solid flight augers, and a nominal 2-inch diameter split-spoon sampler. Split spoon sampling was

performed in conjunction with Standard Penetration Test (SPT) in accordance with ASTM D 1586. The actual penetration obtained for each 6-inch increment is shown on the boring logs. After each borehole was completed with SPT testing and sampling, continuous sampling using nominal 3-inch diameter Shelby tube samplers was performed at an offset location. Samples recovered from the borings were sealed in airtight containers and taken to the laboratory of TEAM Consultants, Incorporated (Arlington, Texas) for testing.

The site location is shown on Sheet B-101 and the boring locations are shown on Sheet B-102 in Appendix I. Results of the field investigation are shown on the Logs of Borings sheet, BB-201 in Appendix I.

3. Subsurface Conditions

3.1 General Geology

The Ebbing ANGB is located near the northern boundary of the Arkansas River Valley physiographic province. The Arkansas River Valley is a low-lying province surrounding the valley of the Arkansas River and its major tributaries. The Arkansas River Valley represents the northern extent of the Ouachita orogenic system in Arkansas. Once flat-lying, these Pennsylvanian sedimentary rocks have been compressed into well-developed east-west trending open folds (anticlines and synclines) and faults, which gradually diminish northward into the Ozark Plateau Province. Bedrock strata underlying the Ebbing ANGB are assigned stratigraphically to the McAlester Formation of Middle Pennsylvanian – Des Moinesian series. The McAlester Formation consists of (in ascending order): several hundred feet of shale with thin sandstone and coal (the Lower Hartshorne Coal is just above the base), several hundred feet of shale with a few sandstone beds and coal (Upper Hartshorne Coal) and capped by several hundred feet of shale with a few coal beds. Plant and a few invertebrate fossils have been reported from several horizons within the formation. The McAlester Formation rests conformably on the Hartshorne Sandstone. The unit ranges from about 500 to 2,300 feet in thickness.

3.2 Site Conditions

Subsurface stratigraphy can be divided into two strata. The first stratum consists predominantly of low to high plasticity lean clay (CL) and fat clay (CH). This stratum was observed in the borings to extend to depths

of about 9 to 9.5 feet below the existing ground surface. The clay soils are very soft to stiff in consistency and have a fines content (passing US #200 sieve) ranging from 78 to 87 percent. Liquid limits measured from representative samples of Stratum I soils range from 36 to 52, plastic limits range from 18 to 21, plasticity indices range from 18 to 32, and in situ moisture contents range from 17.3 to 32.1 percent.

The second stratum consists of brown, weathered shale. The weathered shale extended to the boring terminated depth of about 10 feet below the existing ground surface.

The boring logs included in Appendix I show the representative site subsurface conditions at the boring locations. The legend on the individual boring logs shows overburden materials as classified in the laboratory using procedures presented in ASTM D 2488. It should be noted that the actual interface between material types might be far more gradual or abrupt than presented; therefore, actual subsurface conditions in areas not sampled may differ from those observed. The nature and extent of variations across the site may not become evident until construction commences, and the actual construction process may alter subsurface conditions as well. If variations become evident at the time of construction, CESWF-ECG should be contacted to determine if the recommendations presented in this report need to be reevaluated.

3.3 Groundwater Conditions

Groundwater conditions were monitored immediately after boring completion. As shown on the boring logs, free water was encountered at depths of about 2.2 to 2.3 feet below the existing ground surface. It should be noted that groundwater conditions are relative to the time of drilling, annual precipitation, and drainage conditions at the site.

3.4 Dynamic Cone Penetrometer Testing.

Dynamic Cone Penetrometer (DCP) testing was performed by Data Testing, Inc for pavement design considerations near each of the pavement boring locations. A DCP consists of a steel rod with a steel cone attached to one end and a sliding single-mass hammer. For this project, the DCP test was performed by driving the steel cone into the soil using a 17.6-pound sliding hammer dropped from a height of 22.6 inches (574 millimeters) (ASTM D 6951). Typically, penetration measurements are taken to a depth of 39.4 inches (1000 millimeters) or

when refusal is achieved. Refusal is defined as the point at which the cone cannot penetrate the soil more than 0.4 inches (10 millimeters) with 3 blows. The in-situ California Bearing Ratio (CBR) values were measured to be between 1.5 to 5 for the top 2 feet of subgrade soils and were greater than 5 below 2 feet. Results of DCP testing are presented in Appendix IV.

4. Laboratory Testing

4.1 Soil Physical Properties

Representative soil samples recovered from test holes were subjected to laboratory testing for identification, moisture content, grain-size distribution, Atterberg limits, density, and shear strength. The accumulative test results are tabulated and presented in Appendix II. Results of identification and moisture content testing are shown on the boring logs in Appendix I.

Results of laboratory testing performed on samples obtained from the site are also presented graphically in Appendix III as follows: Plasticity characteristics are shown on Plate 1, Plasticity Chart. Moisture content values of representative samples are shown with respect to depth on Plate 2. Atterberg limits test results are shown with respect to depth on Plate 3. Dry density values of representative undisturbed samples and their corresponding moisture contents are shown with respect to depth on Plate 4. Compressive strengths of the clay sample are shown with respect to depth on Plate 5.

4.2 Shear Strength Testing.

Shear strength characteristics of select clay samples were analyzed in the laboratory using unconsolidated undrained triaxial compressive (ASTM D2850) testing. The samples were confined to overburden pressure and then loaded to failure. Tabulated below are the compressive strengths and respective dry densities of the clay specimens that were tested. Shear strength test results are also presented in Appendix II at the end of this report and summarized on Plate 5 as indicated above.

<u>Boring</u>	<u>Depth, feet</u>	<u>γ_d, pcf</u>	<u>Q_u, tsf</u>	<u>Material Type</u>
B-01	2.5-5	105.6	3.85	Lean Clay
B-02	2.5-5	99.9	2.19	Fat Clay
B-03	2.5-5	103.2	4.89	Lean Clay

5. Discussions

The following discussions are provided in support of the pavement design recommendations and requirements made for the proposed POV parking lot. It should be noted that the discussions presented herein are based on the results of the geotechnical field investigation conducted at the site performed by Data Testing Inc, laboratory testing program conducted by TEAM Consultants, Inc., as well as engineering studies.

The Design-Build (D-B) Contractor shall heed the information provided in this report and comply with the recommendations and requirements presented herein. The D-B Contractor's pavement design is required to comply with and to meet or exceed the minimum pavement design recommendations and requirements presented herein. The subsurface information presented in this report may be used by the bidders for this D-B contract for the purposes of developing a bid for the project in line with the Request for Proposal (RFP) solicitation. The successful D-B Contractor bidder may supplement the information provided herein with his/her own geotechnical field investigation and laboratory testing program for the purpose of verifying the data presented herein. Supplemental geotechnical field investigations conducted by the D-B Contractor shall be only for the purpose of supplementing and verifying the data regarding the subsurface conditions provided by the geotechnical field investigation performed by Data Testing Inc. These supplemental efforts shall include conducting laboratory testing on soil/rock specimens as described in Section 4 (Laboratory Testing), including but not limited to classification (ASTM D 2488), moisture content (ASTM D 2216), grain size analysis (ASTM D 422), Atterberg limits (ASTM D 4318), shear strength (ASTM D2166 and/or D2850 for cohesive soils, and ASTM D7012 for rock). All borings and test holes shall be grouted full depth with a lean grout mixture to seal holes from water penetration.

Development of the final pavement design is the responsibility of the D-B Contractor; however, the D-B Contractor's final pavement design shall be in full compliance with the requirements prescribed herein. The D-B

Contractor shall provide to the Government engineering studies and design calculations that support the pavement design recommendations they or their associates propose. The D-B Contractor's pavement design recommendations shall be reviewed for technical adequacy and compliance with the requirements and criteria established herein and in the Request for Proposal (RFP). Specific requirements for the D-B Contractor's pavement design analysis are provided in Section 6.5.

5.1 Pavement Design Considerations.

The pavement design presented in this report is based on criteria contained in *UFC 3-250-01*, and engineering judgment.

The planned POV parking lot will be constructed of asphalt pavement. Traffic information was not available at the time of writing the report. Based on our understanding of its intended use, it was assumed that the planned POV parking will be travelled by between 200 to 400 passes per day of traffic consisting of passenger cars and trucks.

Based on the borings performed in the new pavement area and our experience with similar soils, a design CBR value of 3 percent was assigned to the raw subgrade when compacted to 90 percent of laboratory maximum density (ASTM D 1557).

5.2 Pavement Construction Considerations.

Based on the field and laboratory test results, the near surface soils, up to about 2.5 feet below existing ground surface, were relative soft. SPT N values ranging from 2 to 4 were recorded within the top 2 feet of subgrade soils, which was soft in consistency. The shear strength test results on samples between 2.5 and 5 feet collected from all borings indicate these soils between 2.5 and 5 feet below existing ground surface were very stiff in consistency and are anticipated to be stable.

The near surface soils may be unstable during construction. These soils are anticipated to be required to be stabilized in place or be removed and replaced with select fill if they can not be effectively stabilized in place. It should be assumed that the top 2.5 feet of subgrade soils will need to be either stabilized in place or be removed and replaced with select fill.

Groundwater was encountered at depths of about 2.2 to 2.3 feet below existing ground surface in all borings. Dewatering by means of ditches, berms, sumps with pumps, and any other means should be anticipated and considered.

6. Recommendations and Requirements

The following pavement design recommendations and requirements are based on results of the field investigation, laboratory testing, and engineering studies.

The minimum pavement section presented below is based on criteria contained in *UFC 3-250-01*, and engineering judgment. Pavement-Transportation Computer Assisted Structural Engineering (PCASE) software was used to develop the final pavement design.

6.1 Flexible Pavement Section:

Hot mix asphalt concrete pavement will be used for the planned POV parking lot. The following minimum flexible pavement section is required. The flexible pavement design considers a CBR value of 3 for the raw subgrade when compacted to 90 percent of laboratory maximum density.

Parking Areas

2" Hot-Mix Asphalt Surface Course

4" Aggregate Base Course (minimum CBR=80) compacted to at least 100 percent of maximum laboratory density (ASTM D 1557)

4" Aggregate Base Course (minimum CBR=80) compacted to at least 100 percent of maximum laboratory density (ASTM D 1557)

6" Raw Subgrade compacted to at least 90 percent of maximum laboratory density (ASTM D 1557)

6.2 Pavement Subgrade Preparation

All debris, existing structures, vegetation, loose topsoil, large rocks, and other deleterious material shall be removed from the construction area. Additional over-excavation, where needed, shall be performed to reach

the final pavement subgrade. Prior to placing new fill or aggregate base, the exposed subgrade shall be proof rolled with a loaded tandem-axle dump truck or water truck weighing at least 25-ton under the observation of the Geotechnical Engineer or his/her representative to locate any unstable subgrade areas. The proof rolling should involve a minimum of three (3) overlapping passes in mutually perpendicular directions. Where rutting or pumping is observed during proof rolling, the unstable soils should be over excavated and replaced with select fill if they cannot be effectively stabilized in-place.

After proof rolling and stabilizing or removing and replacing any unstable areas, the exposed subgrade soil shall be scarified to a depth of 6-inches, moisture conditioned to within ± 2 percentage points of its optimum moisture and compacted to a minimum of 90 percent of laboratory maximum density as determined in accordance with ASTM D 1557. Any additional fill required to raise the subgrade to the final grade shall consist of select fill. Select fill shall be placed in controlled lifts not exceeding 8 inches in loose thickness, moisture conditioned to within ± 2 percentage points of its optimum moisture and compacted to at least 90 percent of laboratory maximum density (in accordance with ASTM D 1557).

Each successive layer of new soil shall be placed only after the previous layer has been successfully compacted and tested to verify that the compacted engineered fill has met the aforementioned criteria.

6.3 Pavement Material Definitions:

Hot-Mix Surface Course. Aggregates and asphaltic materials shall conform to the requirements of the Arkansas Department of Transportation, Standard Specifications for Highway Construction, (ARDOT Specs.) Section 407 (1/2" mix and 75 Gyration). Asphaltic material for the paving mixture should be asphaltic cement, performance grade PG70-22. The specifications shall incorporate the above requirements for Hot-Mix Surface Course.

Prime and Tack Coats. Asphaltic material for the prime coat and tack coat shall conform to the requirements of ARDOT Specs Section 401. Prime coat shall be applied to the surface of the aggregate base course. Tack coat shall be applied to all surfaces that contact new asphalt pavement. The specifications shall incorporate the above requirements for Prime and Tack Coats.

Aggregate Base Course. Aggregate base course shall conform to the requirements of the UFGS-32 11 23 AGGREGATE BASE COURSE. The gradation should conform to the requirements of ARDOT Specs Section 303 for Class 7 aggregate base course.

Select Fill. Material used as select fill shall have a liquid limit of 35 percent or less and a plasticity index of not less than 4 percent nor greater than 15 percent when tested in accordance with ASTM D 4318, and shall be free of trash, debris, roots or other organic matter, or stones larger than 3 inches in any dimension.

Raw Subgrade. Material should conform to the requirements of UFGS-31 00 00 EARTHWORK.

6.4 Vehicular Pavement Material Testing Requirements

Testing shall be the responsibility of the contractor to ensure that the subgrade, aggregate base course, and asphalt are properly constructed. To this end, the following testing requirements shall be included in the contract specifications as a minimum:

- In-place density testing of the subgrade and aggregate base course shall be performed, at a minimum, every 250 square yards per lift in accordance with ASTM D 1556 and ASTM D 6938. ASTM D 1556 shall be used as a check at least once per lift for each 2,500 square yards of completed subgrade and aggregate base course.
- Before starting work, at least one sample of aggregate base course shall be tested in accordance with ASTM C 136. After the initial test, a minimum of one sieve analysis (ASTM C 136 and ASTM D 422) shall be performed for each 1,000 tons of aggregate base course placed, with a minimum of one analysis performed for each day's run until the course is completed. One liquid limit and plasticity index shall be performed for each sieve analysis per ASTM D 4318.
- Wear tests shall be performed in accordance with ASTM C 131. A minimum of one test per aggregate base course material source shall be run.
- Thickness of the aggregate base course shall be measured for each 600 square yards of material placed. Compacted thickness of the aggregate base course shall be as presented in this report and the completed section shall be within 3/8-inch of the thickness presented.
- The Job Mix Formula for the bituminous mixture shall be furnished to the Contracting Officer for approval. The formula will indicate the percentage of each stockpile and mineral filler, the percentage of each size aggregate, the percentage of bitumen, and the temperature of the completed mixture when discharged from the mixer. The Contractor shall file with the Contracting Officer certified delivery tickets for all aggregates and bituminous materials actually used in construction.
- Smoothness measurements shall be taken in successive positions parallel to the pavement centerline with a 12-foot straightedge. Measurements shall be taken perpendicular to the pavement centerline at 15-foot intervals. Surface smoothness shall not exceed 3/8-inch.

6.5 Requirements for the D-B Contractor's Pavement Design Analysis.

The successful proposer shall provide a Pavement Design Analysis after contract award. The Pavement Design Analysis (Report) shall include a description of the project, and a discussion of each pavement type. The pavement and material analyses shall be performed, and signed and sealed by a licensed professional engineer.

6.5.1 Subgrade Preparation.

This section shall include a discussion on all requirements for excavation of existing subgrade materials, removal of existing unsuitable materials, replacement of excavated materials with select fill. Provide compaction requirements (in accordance with ASTM D 1557) for the raw subgrade, fill, and backfill materials. Pavement material definitions shall be presented.

6.5.2 Exhibits to be Included in the Design-Build Contractor's Pavement Design Analysis.

The following exhibits shall be included in the D-B contractor's Pavement Design Analysis. The D-B contractor may use the information provided in this report to satisfy these requirements or may supplement the information provided herein with additional subsurface drilling and testing, at his/her option. Required exhibits to be included with the Design-Build contractor's Pavement Design Analysis include:

- Site Plan with Boring Locations and Legend;
- Boring Logs;
- Plasticity Chart;
- Standard Penetration Tests versus Depth of Boring (if applicable);
- Moisture Content versus Depth (Chart);
- Moisture Content-Liquid Limit-Plastic Limit versus Depth (Chart);
- Strength Tests Results versus Depth (Chart);
- Tabulation of Laboratory Test Results (to include Boring Number, Sample Number, Depth, Laboratory Classification, Visual Descriptions, Grain Size Analysis (%Gravel, %Sand, %Fines), LL, PL, PI, MC, Unit Weight, and Strength Test Data;

7. References

- TEAM Consultants, Incorporated Report No. 242008
- UFC 3-220-01 Geotechnical Engineering
- UFC 3-250-01 Pavement Design for Roads and Parking Areas
- UFGS Guide Specifications For Construction

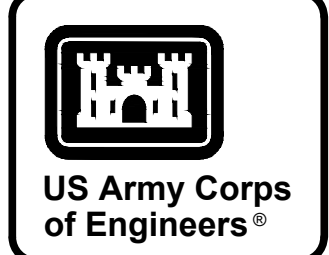
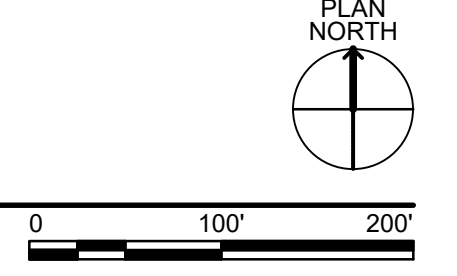
FORT WORTH DISTRICT

July 2024

APPENDIX I:
SITE LOCATION, BORING LAYOUT, &
BORING LOGS



A1 SITE LAYOUT PLAN
SCALE: 1" = 100'



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: X. CHANG, P.E.
 DRAWN BY: D. BALDI, P.E.
 CHECKED BY: X. CHANG, P.E.
 SUBMITTED BY: L. BALDI, P.E.
 SIZE: ANSII FULL BLEED D (22.00 X 34.00 INCHES)

U.S. ARMY CORPS OF ENGINEERS
 FORT WORTH DISTRICT
 819 TAYLOR STREET
 FORT WORTH, TEXAS

ENGINEERING BRANCH, E&C DIVISION
 U.S. ARMY CORPS OF ENGINEERS
 FORT WORTH DISTRICT

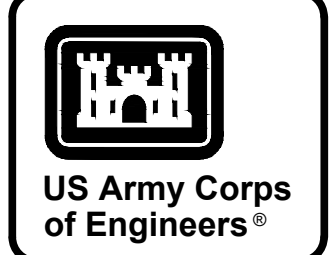
FORT SMITH, AR
 EBBING B200 PARKING LOT
 PN:
 SITE LAYOUT PLAN

SHEET ID
B-101

PROGRESS SET - NOT FOR CONSTRUCTION



GENERAL SHEET NOTES



MARK	DESCRIPTION	DATE

BORING COORDINATES

BORING COORDINATES		
BORING	LATITUDE	LONGITUDE
B-01	35.341242°	-94.374089°
B-02	35.340864°	-94.374181°
B-03	35.340333°	-94.374336°

DESIGNED BY: X. CHANG, P.E.	ISSUE DATE: JULY 2024
DRAWN BY: L. BALDI, P.E.	SOLICITATION NO.:
CHECKED BY: X. CHANG, P.E.	CONTRACT NO.:
SUBMITTED BY: L. BALDI, P.E.	SIZE: ANSI FULL BLEED D (22.00 X 34.00 INCHES)

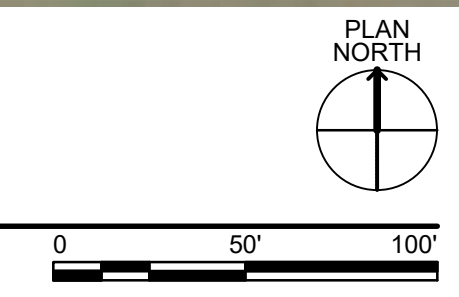
U.S. ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
819 TAYLOR STREET
FORT WORTH, TEXAS

ENGINEERING BRANCH, E&C DIVISION
U.S. ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT

FORT SMITH, AR
EBBING B200 PARKING LOT
PN:
BORING LOCATION PLAN

SHEET ID
B-102

A1 BORING LOCATION PLAN
SCALE: 1" = 50'



PROGRESS SET - NOT FOR CONSTRUCTION

Boring Designation B-01													
DRILLING LOG			INSTALLATION			VERTICAL			Sheet 1 of 1				
1. PROJECT Ebbing B200 Parking Lot Fort Smith, AR			10. COORDINATE SYSTEM Ebbing Air National Guard World Geodetic System Longitude / Latitude (WGS 84) 35.341242 -94.374089			PROJECT Fort Smith, AR LOCATION METHOD: 35.340864							
2. HOLE NUMBER B-01			3. DRILLING AGENCY Data Testing, Inc.			11. DATE BORING Apr 11 2024			COMPLETED Apr 11 2024				
4. NAME OF DRILLER Matt McCallum			12. HAMMER TYPE			EFFICIENCY (%)							
5. EQUIPMENT Geoprobe 782ZDT			13. SIZE AND TYPE OF BIT 4" Diamond Tungsten Auger			14. ELEVATION SURFACE			461.6'				
6. DIRECTION OF BORING Vertical			DEG FROM VERTICAL			BEARING			461.6'				
7. THICKNESS OF OVERBURDEN 9.0'			15. ELEVATION GROUND WATER 459.3'			16. TOTAL NUMBER CORE BOXES			461.6'				
8. DEPTH DRILLED INTO ROCK 1.0'			17. SIGNATURE AND TITLE OF INSPECTOR Randell Coleman										
9. TOTAL DEPTH OF BORING 10.0'													
ELEV	DEPTH	BORING	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	LABORATORY	REMARKS						
	0			12" TOPSOIL.			Shelby Tube Samples						
460.57	1.00	1	2	LEAN CLAY (CL) low plasticity, soft to medium stiff, moist, dark brown and brown.	ST-1	1	13	86	36	22	CL	ST-1: 0.0' to 2.5' ST-2: 2.5' to 5.0' ST-3: 5.0' to 7.5' ST-4: 7.5' to 10.0'	
458.57	3.00	1	4	LEAN CLAY WITH SAND (CL) low plasticity, stiff, moist, reddish brown and brown.	ST-2						17	CL	
456.57	5.00	1	11	LEAN CLAY WITH SAND (CL) low plasticity, stiff to medium stiff, very moist becoming wet, brown and gray, some gravel; groundwater encountered at 6.0'.	ST-3						24	CL	
452.57	9.00	5	11	SHALE, weathered brown.	ST-4						29	CL	
451.57	10.00			Borehole finished at 10.0									

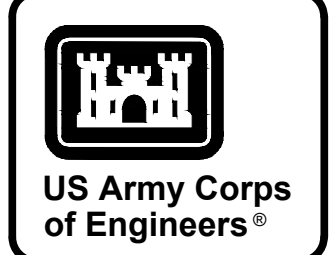
H1 B-01 LOG OF BORING

Boring Designation B-02													
DRILLING LOG			INSTALLATION			VERTICAL			Sheet 1 of 1				
1. PROJECT Ebbing B200 Parking Lot Fort Smith, AR			10. COORDINATE SYSTEM Ebbing Air National Guard World Geodetic System Longitude / Latitude (WGS 84) 35.340864			PROJECT Fort Smith, AR LOCATION METHOD: 35.340864							
2. HOLE NUMBER B-02			3. DRILLING AGENCY Data Testing, Inc.			11. DATE BORING Apr 11 2024			COMPLETED Apr 11 2024				
4. NAME OF DRILLER Matt McCallum			12. HAMMER TYPE			EFFICIENCY (%)							
5. EQUIPMENT Geoprobe 782ZDT			13. SIZE AND TYPE OF BIT 4" Diamond Tungsten Auger			14. ELEVATION SURFACE			458.9'				
6. DIRECTION OF BORING Vertical			DEG FROM VERTICAL			BEARING			458.9'				
7. THICKNESS OF OVERBURDEN 9.5'			15. ELEVATION GROUND WATER 458.9'			16. TOTAL NUMBER CORE BOXES			458.9'				
8. DEPTH DRILLED INTO ROCK 1.0'			17. SIGNATURE AND TITLE OF INSPECTOR Randell Coleman										
9. TOTAL DEPTH OF BORING 10.5'													
ELEV	DEPTH	BORING	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	LABORATORY	REMARKS						
	0			12" TOPSOIL.			Shelby Tube Samples						
460.08	1.00	1	4	LEAN CLAY WITH SAND (CL) low plasticity, soft to very soft, moist, reddish brown and brown.	ST-1					22	CL	ST-1: 0.0' to 2.5' ST-2: 2.5' to 5.0' ST-3: 5.0' to 6.5' ST-4: 7.5' to 9.0'	
458.58	2.50	1	1	FAT CLAY (CH) high plasticity, medium stiff, moist, reddish brown and brown; iron concretions, water encountered at 3.25' during drilling.	ST-2	1	13	87	52	32	CH		
458.08	5.00	1	9	LEAN CLAY WITH SAND (CL) low plasticity, medium stiff to stiff, moist, brown and gray, some gravel.	ST-3						23	CL	
451.58	9.50	9	21	SHALE, weathered brown.	ST-4						21	CL	
450.58	10.50			Borehole finished at 10.5									

H8 B-02 LOG OF BORING

Boring Designation B-03													
DRILLING LOG			INSTALLATION			VERTICAL			Sheet 1 of 1				
1. PROJECT Ebbing B200 Parking Lot Fort Smith, AR			10. COORDINATE SYSTEM Ebbing Air National Guard World Geodetic System Longitude / Latitude (WGS 84) 35.340333			PROJECT Fort Smith, AR LOCATION METHOD: 35.340333							
2. HOLE NUMBER B-03			3. DRILLING AGENCY Data Testing, Inc.			11. DATE BORING Apr 11 2024			COMPLETED Apr 11 2024				
4. NAME OF DRILLER Matt McCallum			12. HAMMER TYPE			EFFICIENCY (%)							
5. EQUIPMENT Geoprobe 782ZDT			13. SIZE AND TYPE OF BIT 4" Diamond Tungsten Auger			14. ELEVATION SURFACE			460.2'				
6. DIRECTION OF BORING Vertical			DEG FROM VERTICAL			BEARING			460.2'				
7. THICKNESS OF OVERBURDEN 9.5'			15. ELEVATION GROUND WATER 458.0'			16. TOTAL NUMBER CORE BOXES			460.2'				
8. DEPTH DRILLED INTO ROCK 0.5'			17. SIGNATURE AND TITLE OF INSPECTOR Randell Coleman										
9. TOTAL DEPTH OF BORING 10.0'													
ELEV	DEPTH	BORING	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	LABORATORY	REMARKS						
	0			12" TOPSOIL.			Shelby Tube Samples						
459.17	1.00	1	3	LEAN CLAY WITH SAND (CL) low plasticity, soft, moist, reddish brown and brown.	ST-1	3	20	78	41	20	23	CL	ST-1: 0.0' to 2.5' ST-2: 2.5' to 5.0' ST-3: 5.0' to 7.5' ST-4: 7.5' to 10.0'
457.67	2.50	2	6	LEAN CLAY (CL) low plasticity, medium stiff to stiff, moist, reddish brown.	ST-2						22	CL	
455.17	5.00	6	6	LEAN CLAY WITH SAND (CL) low plasticity, moist, reddish brown and gray.	ST-3						22	CL	
450.67	9.50			SHALE, weathered brown.	ST-4						32	CL	
450.17	10.00			Borehole finished at 10.0									

H15 B-03 LOG OF BORING



DESIGNED BY: X. CHANG, P.E.
 DRAWN BY: DRAGON C
 CHECKED BY: X. CHANG, P.E.
 SUBMITTED BY: L. BALDI, P.E.
 SIZE: ANS I FULL BLEED D (22.00 X 34.00 INCHES)

U.S. ARMY CORPS OF ENGINEERS
 FORT WORTH DISTRICT
 819 TAYLOR STREET
 FORT WORTH, TEXAS

ENGINEERING BRANCH, E&C DIVISION
 U.S. ARMY CORPS OF ENGINEERS
 FORT WORTH DISTRICT

ISSUE DATE:
 JULY 2024
 SOLICITATION NO.:
 CONTRACT NO.:

DATE

MARK

DESCRIPTION

FORT SMITH, AR
 EBBING B200 PARKING LOT

PN:

LOGS OF BORINGS

SHEET ID
BB-201

PROGRESS SET - NOT FOR CONSTRUCTION

APPENDIX II:
LABORATORY TESTING DATA

TEAM Consultants, Inc.

Geotechnical, Environmental, Construction Materials Testing

June 11, 2024
TEAM Project No. 242008

U.S. Army Corps of Engineers
CESWF-EC-DG
PO Box 17300
Fort Worth, Texas 76102-0300

Attn: Mr. Faisal Ahmed, Ph.D., PE, PMP

Re: Laboratory Testing Services
Ebbing B200 Hangar Renovation
Fort Smith, Arkansas
BPA Number W9126G-20-A-0023 Call Number W9126G-24-F-0225

Dear Mr. Ahmed:

Submitted here is our report of laboratory testing services completed on soil samples received at our materials testing laboratory in Arlington, Texas for the above referenced project. The laboratory test program authorized May 29, 2024 and was completed utilizing the following test methodologies:

Atterberg Limits	ASTM D4318
Grain Size Analysis	ASTM D422
Classification of Soils	ASTM D2487 & 2488
Moisture Content	ASTM D2216
Unconsolidated-Undrained Triaxial	ASTM D2850

The results of the testing program are summarized in the following tables which also serve as an index to the attached additional testing (strength, swell, compressibility, etc.). We appreciate the opportunity to be of assistance to you with this project. Should you have any questions, or if we may be of further assistance, please call the undersigned at (817) 467-5500.

Sincerely,



Ed Gomez, P.E.
Senior Project Engineer

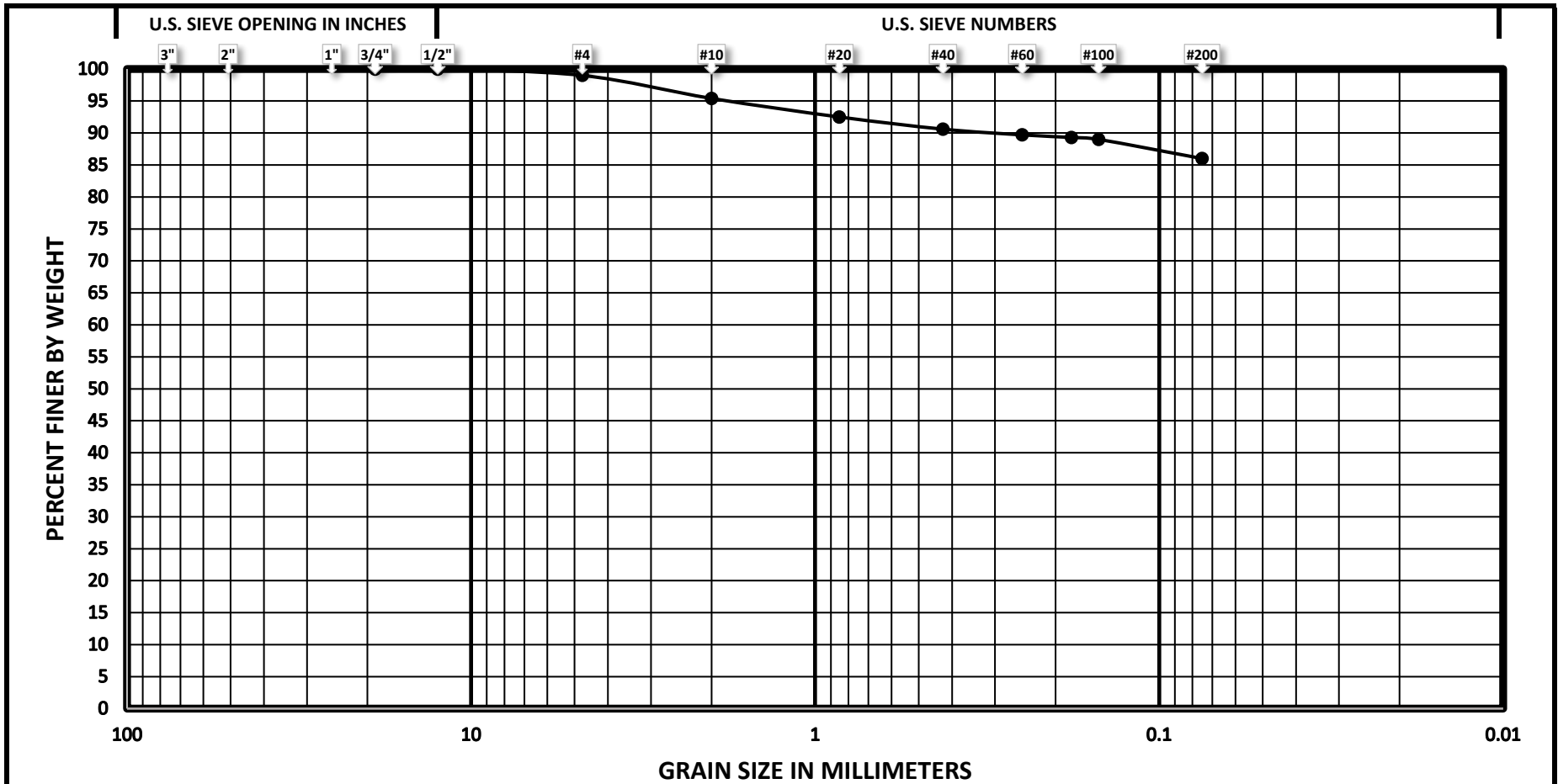


Jeremy Williamson, E.I.T
Staff Engineer

TEAM Consultants, Inc.
 GEOTECHNICAL - ENVIRONMENTAL - CONSTRUCTION MATERIALS TESTING

Ebbing B200 Hangar Renovation
 Fort Smith, Arkansas

Boring No.	Sample No.	Depth (ft)	Visual Description & Unified Soil Classification	Moisture Content (%)	Unit Dry Weight (PCF)	Compressive Strength Testing				pH	Sulfate Content (mg/kg)	Chloride Content (mg/kg)
						Confining Pressure (TSF)	Q (TSF)	Strain at Failure (%)	Type Failure			
B-01	ST-1	0.0-2.5	Dark brown and brown lean clay	CL	21.6	---	---	---	---	---	---	---
	ST-2	2.5-5.0	Reddish brown and brown clay with sand	CL	17.3	105.6	0.250	3.85	8.29	Vertical	---	---
	ST-3	5.0-7.5	Brown and gray clay with sand	CL	24.3	---	---	---	---	---	---	---
	ST-4	7.5-10.0	Brown and gray clay	CL	29.1	---	---	---	---	---	---	---
B-02	ST-1	0.0-2.5	Reddish brown and brown clay with sand	CL	22.4	---	---	---	---	---	---	---
	ST-2	2.5-5.0	Reddish brown and brown fat clay	CH	22.2	99.9	0.250	2.19	6.90	Vertical	---	---
	ST-3	5.0-6.5	Brown and light gray with sand	CL	23.2	---	---	---	---	---	---	---
	ST-4	7.5-9.0	Brown and gray clay	CL	20.6	---	---	---	---	---	---	---
B-03	ST-1	0.0-2.5	Reddish brown and brown lean clay with sand	CL	22.5	---	---	---	---	---	---	---
	ST-2	2.5-5.0	Reddish brown clay	CL	21.5	103.2	0.250	4.89	8.61	Vertical/Angle	---	---
	ST-3	5.0-7.5	Reddish brown and gray clay with sand	CL	21.8	---	---	---	---	---	---	---
	ST-4	7.5-10.0	Brown clay with sand	CL	32.1	---	---	---	---	---	---	---
(1) Graphical representation of grain size analysis are attached.												

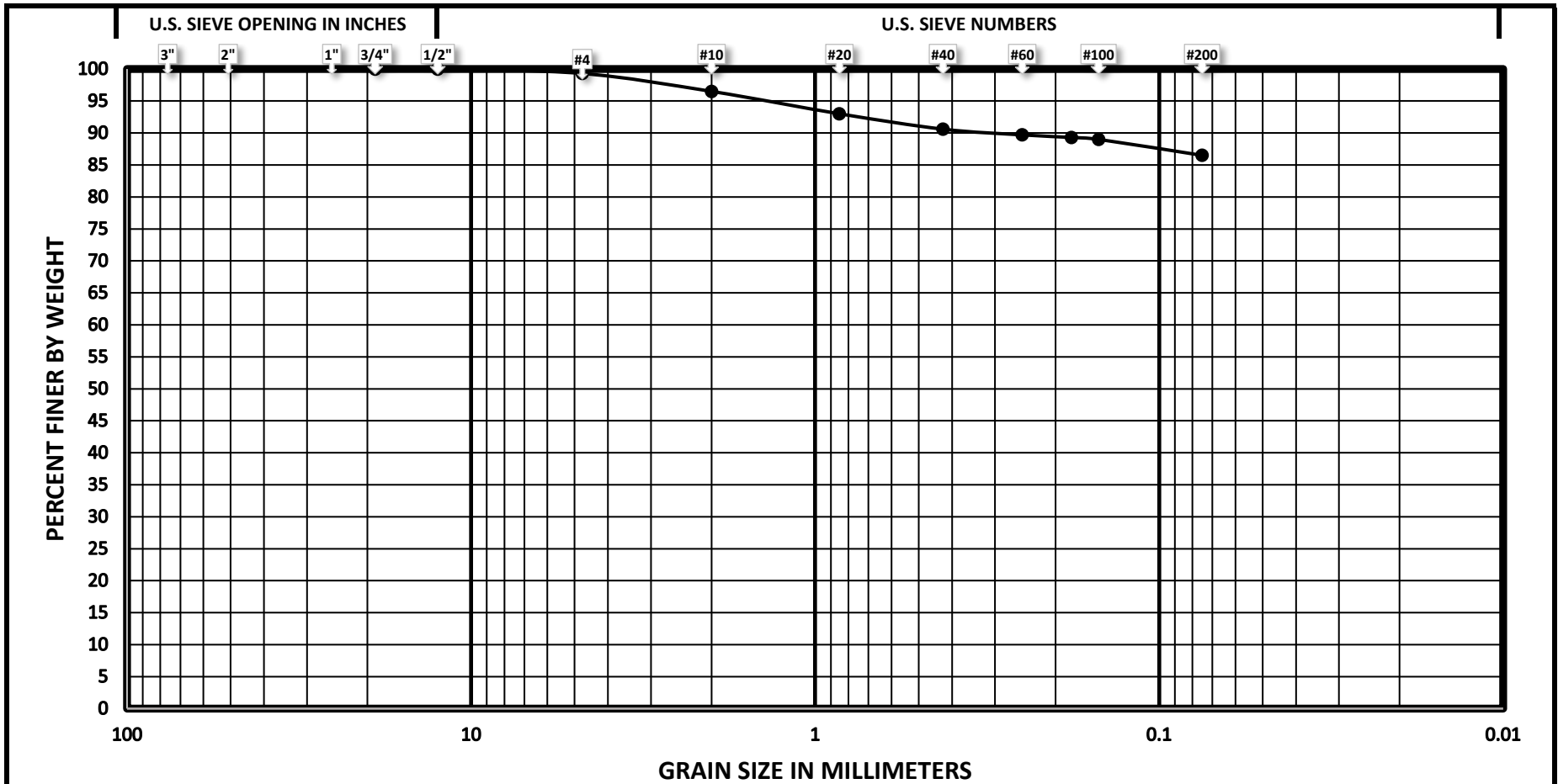


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Data	D90	D60	D50	D30	D10	% Gravel	% Sand	% Silt & Clay	C _c	C _u
B200 (ST-1) 0.0-2.5'	0.31	N/A	N/A	N/A	N/A	1.00	13.0	86.0	N/A	N/A

SOIL CLASSIFICATION (ASTM D-2487): Dark brown and brown lean clay (CL)						TEAM Consultants, Inc.				
PROJECT: USACE, Ebbing B200 Hangar Renovation			Date: 6/7/2024			3101 Pleasant Valley Ln, Suite 101				
LOCATION: Fort Smith, Arkansas			Performed By: J. Williamson			Arlington, TX 76015				
TEAM Project Number: 242008						Telephone: (817) 467-5500				
						Fax: (817) 468-9920				

PARTICLE SIZE ANALYSIS (ASTM D-422)

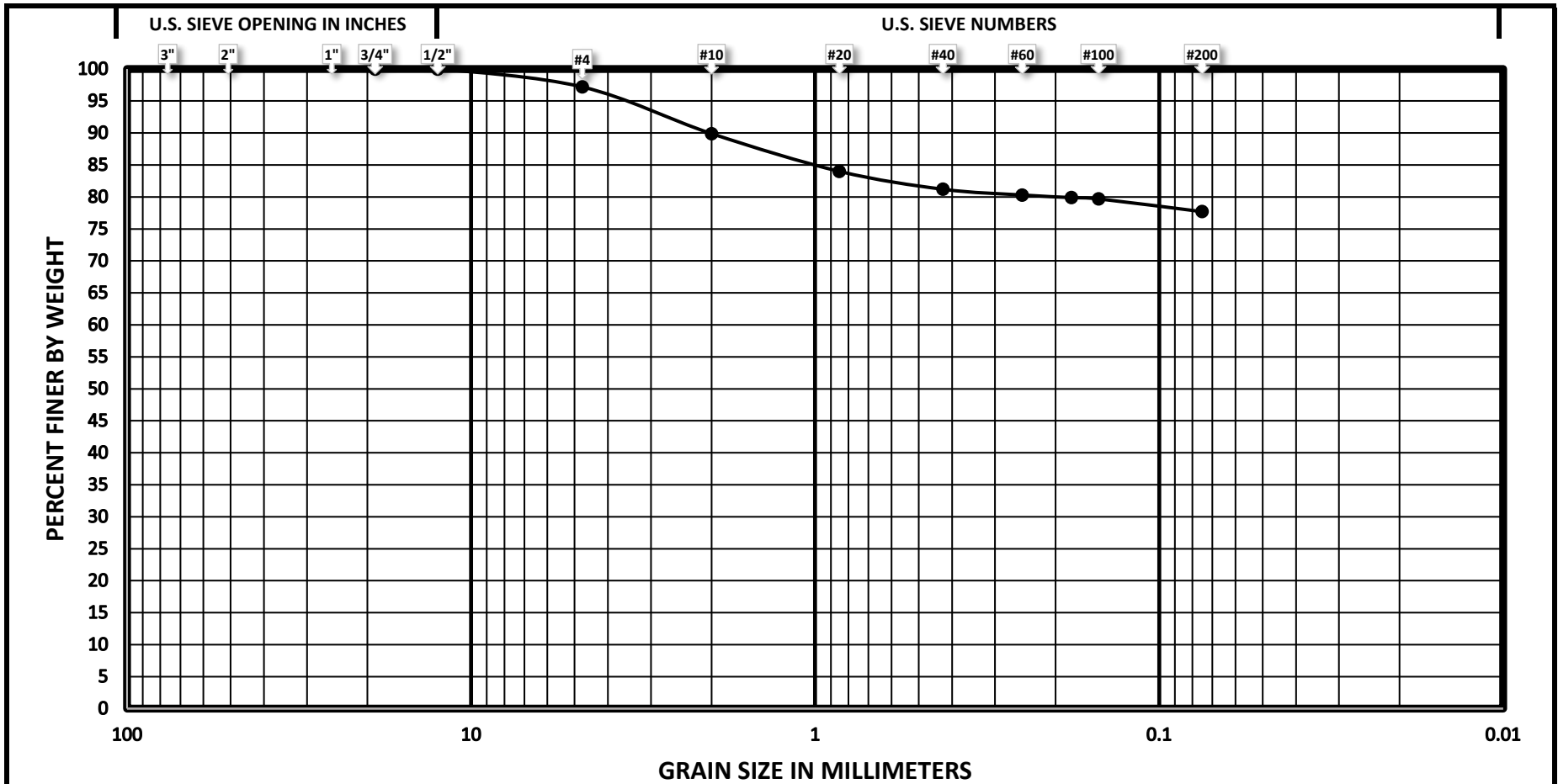


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Data	D90	D60	D50	D30	D10	% Gravel	% Sand	% Silt & Clay	C _c	C _u
B-02 (ST-2) 2.5-5.0'	0.32	N/A	N/A	N/A	N/A	0.70	12.8	86.5	N/A	N/A

SOIL CLASSIFICATION (ASTM D-2487): Reddish brown and brown fat clay (CH)						TEAM Consultants, Inc.				
PROJECT: USACE, Ebbing B200 Hangar Renovation				Date: 6/7/2024		3101 Pleasant Valley Ln, Suite 101				
LOCATION: Fort Smith, Arkansas				Performed By: J. Williamson		Arlington, TX 76015				
TEAM Project Number: 242008						Telephone: (817) 467-5500				
						Fax: (817) 468-9920				

PARTICLE SIZE ANALYSIS (ASTM D-422)



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Data	D90	D60	D50	D30	D10	% Gravel	% Sand	% Silt & Clay	C _c	C _u
B-03 (ST-1) 0.0-2.5'	2.05	N/A	N/A	N/A	N/A	2.80	19.5	77.7	N/A	N/A

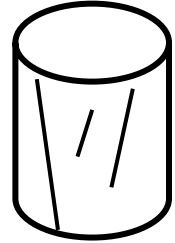
SOIL CLASSIFICATION (ASTM D-2487): Reddish brown and brown lean clay with sand (CL)						TEAM Consultants, Inc.				
PROJECT: USACE, Ebbing B200 Hangar Renovation				Date: 6/7/2024		3101 Pleasant Valley Ln, Suite 101				
LOCATION: Fort Smith, Arkansas				Performed By: J. Williamson		Arlington, TX 76015				
TEAM Project Number: 242008						Telephone: (817) 467-5500				
						Fax: (817) 468-9920				

PARTICLE SIZE ANALYSIS (ASTM D-422)

TRIAxIAL TEST: UNCONFINED (ASTM D-2166) OR UNCONSOLIDATED-UNDRAINED (ASTM D-2850)

Client: USACE TEAM Project Number: 242008
 Project: Ebbing B200 Hangar Renovation, Fort Smith, Arkansas Date: 6/5/2024
 Sample Identification: B200 (B-01) 2.5-5.0'
 Material Description: Reddish brown and brown clay with sand (CL)

Moisture Content (%):	<u>17.3</u>	Average Height (in):	<u>5.549</u>
Before Shear: <u>X</u>	After Shear: _____	Average Diameter (in):	<u>2.855</u>
Entire Specimen: _____	Trimmings: <u>X</u>	Height/Diameter Ratio:	<u>1.943</u>
Initial Dry Density (pcf):	<u>105.6</u>	Avg Rate of Strain (%/min):	<u>0.90</u>
*Void Ratio (e):	<u>0.597</u>	Chamber Pressure (initial) (tsf):	<u>0.25</u>
*Saturation (%):	<u>78.3%</u>	Chamber Pressure (final) (tsf):	<u>0.25</u>



Maximum Unconfined Compressive Strength (q_u) (TSF): 3.85
 Strain at Failure (%): 8.29 Vertical

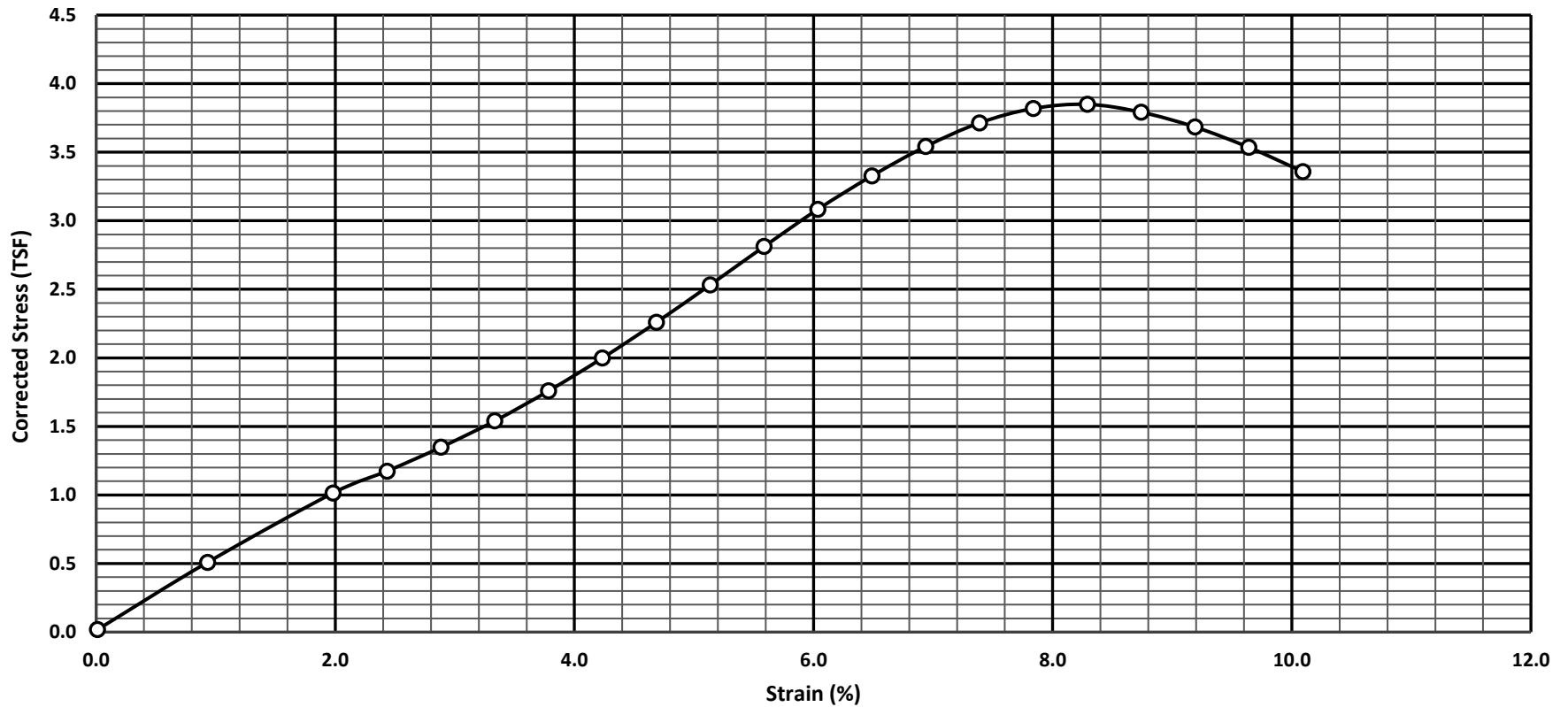
Deflection (in)	Strain (%)	Corrected Area (in ²)	Load (lbs)	Stress (TSF)		Shear Strength (s_u) (TSF)
				Uncorrected	Corrected	
0.001	0.01	6.40	1.6	0.02	0.02	0.01
0.052	0.93	6.46	45.6	0.51	0.51	0.25
0.110	1.98	6.53	92.1	1.04	1.01	0.51
0.135	2.43	6.56	107.0	1.20	1.17	0.59
0.160	2.88	6.59	123.4	1.39	1.35	0.67
0.185	3.33	6.62	141.7	1.59	1.54	0.77
0.210	3.78	6.66	162.6	1.83	1.76	0.88
0.235	4.23	6.69	185.7	2.09	2.00	1.00
0.260	4.69	6.72	210.8	2.37	2.26	1.13
0.285	5.14	6.75	237.5	2.67	2.53	1.27
0.310	5.59	6.78	264.9	2.98	2.81	1.41
0.335	6.04	6.81	292.0	3.28	3.08	1.54
0.360	6.49	6.85	316.5	3.56	3.33	1.66
0.385	6.94	6.88	338.5	3.81	3.54	1.77
0.410	7.39	6.91	356.7	4.01	3.71	1.86
0.435	7.84	6.95	368.6	4.14	3.82	1.91
0.460	8.29	6.98	373.4	4.20	3.85	1.92
0.485	8.74	7.02	369.6	4.16	3.79	1.90
0.510	9.19	7.05	360.9	4.06	3.68	1.84
0.535	9.64	7.09	348.1	3.91	3.54	1.77
0.560	10.09	7.12	332.4	3.74	3.36	1.68

Remarks: *A specific gravity of 2.70 is assumed for the calculation of these values.

Performed By: D. Bush Reviewed By: J. Williamson

Client: USACE TEAM Project Number: 242008
Project: Ebbing B200 Hangar Renovation, Fort Smith, Arkansas Date: 6/5/2024
Sample Identification: B200 (B-01) 2.5-5.0'
Material Description: Reddish brown and brown clay with sand (CL)

Stress-Strain

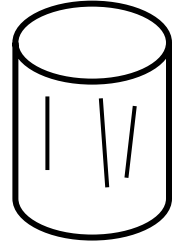


Remarks: _____

TRIAXIAL TEST: UNCONFINED (ASTM D-2166) OR UNCONSOLIDATED-UNDRAINED (ASTM D-2850)

Client: USACE TEAM Project Number: 242008
 Project: Ebbing B200 Hangar Renovation, Fort Smith, Arkansas Date: 6/5/2024
 Sample Identification: B200 (B-02) 2.5-5.0'
 Material Description: Reddish brown and brown fat clay (CH)

Moisture Content (%): 22.2 Average Height (in): 5.798
 Before Shear: X After Shear: _____ Average Diameter (in): 2.810
 Entire Specimen: _____ Trimmings: X Height/Diameter Ratio: 2.063
 Initial Dry Density (pcf): 99.9 Avg Rate of Strain (%/min): 0.86
 *Void Ratio (e): 0.687 Chamber Pressure (initial) (tsf): 0.25
 *Saturation (%): 87.3% Chamber Pressure (final) (tsf): 0.25



Maximum Unconfined Compressive Strength (q_u) (TSF): 2.19
 Strain at Failure (%): 6.90 Vertical

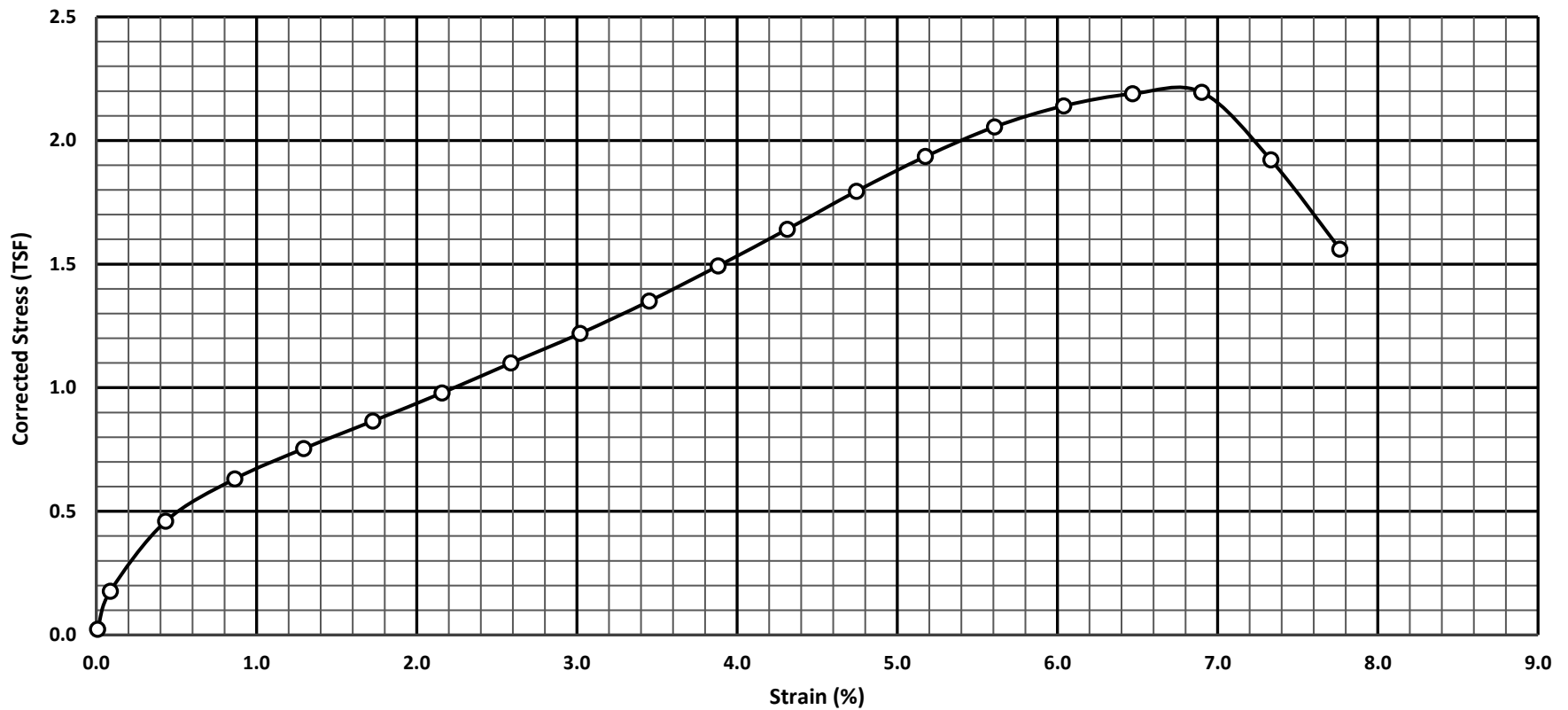
Deflection (in)	Strain (%)	Corrected Area (in ²)	Load (lbs)	Stress (TSF)		Shear Strength (s_u) (TSF)
				Uncorrected	Corrected	
0.000	0.01	6.20	2.0	0.02	0.02	0.01
0.005	0.09	6.21	15.3	0.18	0.18	0.09
0.025	0.43	6.23	39.8	0.46	0.46	0.23
0.050	0.86	6.26	54.8	0.64	0.63	0.32
0.075	1.30	6.28	65.8	0.76	0.75	0.38
0.100	1.73	6.31	75.9	0.88	0.87	0.43
0.125	2.16	6.34	86.2	1.00	0.98	0.49
0.150	2.59	6.37	97.3	1.13	1.10	0.55
0.175	3.02	6.40	108.3	1.26	1.22	0.61
0.200	3.45	6.42	120.5	1.40	1.35	0.68
0.225	3.88	6.45	133.8	1.55	1.49	0.75
0.250	4.31	6.48	147.8	1.72	1.64	0.82
0.275	4.74	6.51	162.4	1.88	1.79	0.90
0.300	5.18	6.54	175.9	2.04	1.94	0.97
0.325	5.61	6.57	187.6	2.18	2.05	1.03
0.350	6.04	6.60	196.3	2.28	2.14	1.07
0.375	6.47	6.63	201.7	2.34	2.19	1.09
0.400	6.90	6.66	203.2	2.36	2.19	1.10
0.425	7.33	6.69	178.7	2.07	1.92	0.96
0.450	7.76	6.73	145.9	1.69	1.56	0.78

Remarks: *A specific gravity of 2.70 is assumed for the calculation of these values.

Performed By: D. Bush Reviewed By: J. Williamson

Client: USACE TEAM Project Number: 242008
Project: Ebbing B200 Hangar Renovation, Fort Smith, Arkansas Date: 6/5/2024
Sample Identification: B200 (B-02) 2.5-5.0'
Material Description: Reddish brown and brown fat clay (CH)

Stress-Strain

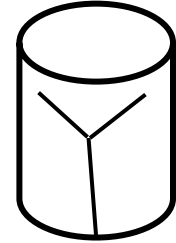


Remarks: _____

TRIAXIAL TEST: UNCONFINED (ASTM D-2166) OR UNCONSOLIDATED-UNDRAINED (ASTM D-2850)

Client: USACE TEAM Project Number: 242008
 Project: Ebbing B200 Hangar Renovation, Fort Smith, Arkansas Date: 6/5/2024
 Sample Identification: B200 (B-03) 2.5-5.0'
 Material Description: Reddish brown clay (CL)

Moisture Content (%): <u>21.5</u>	Average Height (in): <u>4.935</u>
Before Shear: <u>X</u> After Shear: _____	Average Diameter (in): <u>2.807</u>
Entire Specimen: _____ Trimings: <u>X</u>	Height/Diameter Ratio: <u>1.758</u>
Initial Dry Density (pcf): <u>103.2</u>	Avg Rate of Strain (%/min): <u>0.81</u>
*Void Ratio (e): <u>0.632</u>	Chamber Pressure (initial) (tsf): <u>0.25</u>
*Saturation (%): <u>91.7%</u>	Chamber Pressure (final) (tsf): <u>0.25</u>



Maximum Unconfined Compressive Strength (q_u) (TSF): 4.89
Strain at Failure (%): 8.61 Vertical/Angle

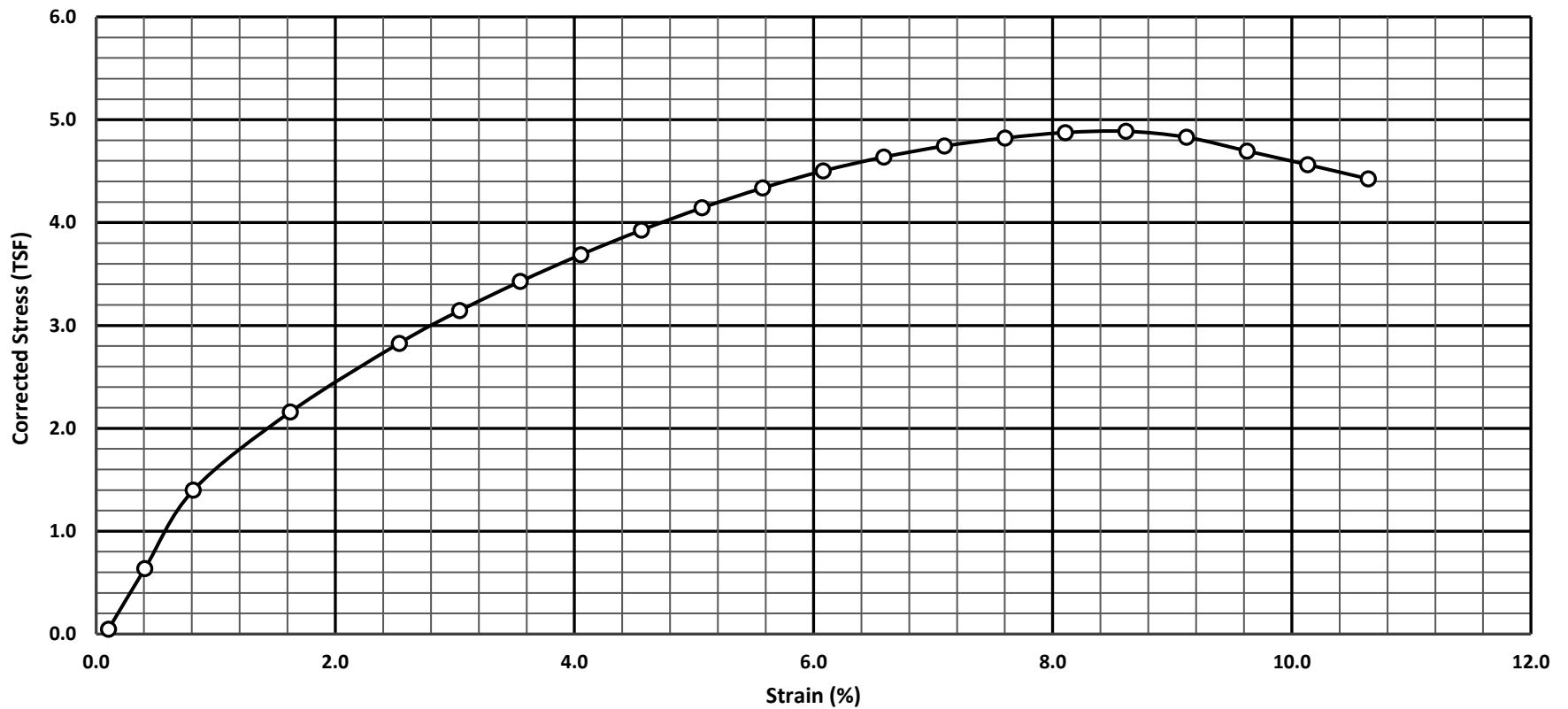
Deflection (in)	Strain (%)	Corrected Area (in ²)	Load (lbs)	Stress (TSF)		Shear Strength (s_u) (TSF)
				Uncorrected	Corrected	
0.005	0.10	6.19	4.1	0.05	0.05	0.02
0.020	0.41	6.21	54.8	0.64	0.64	0.32
0.040	0.81	6.24	121.1	1.41	1.40	0.70
0.080	1.62	6.29	188.5	2.19	2.16	1.08
0.125	2.53	6.35	249.2	2.90	2.83	1.41
0.150	3.04	6.38	278.7	3.24	3.14	1.57
0.175	3.55	6.41	305.4	3.55	3.43	1.71
0.200	4.05	6.45	330.4	3.84	3.69	1.84
0.225	4.56	6.48	353.6	4.11	3.93	1.96
0.250	5.07	6.52	375.1	4.37	4.14	2.07
0.275	5.57	6.55	394.7	4.59	4.34	2.17
0.300	6.08	6.59	412.0	4.79	4.50	2.25
0.325	6.59	6.62	426.6	4.96	4.64	2.32
0.350	7.09	6.66	438.8	5.11	4.74	2.37
0.375	7.60	6.70	448.5	5.22	4.82	2.41
0.400	8.11	6.73	456.0	5.31	4.88	2.44
0.425	8.61	6.77	459.7	5.35	4.89	2.44
0.450	9.12	6.81	456.8	5.32	4.83	2.41
0.475	9.63	6.85	446.6	5.20	4.70	2.35
0.500	10.13	6.88	436.5	5.08	4.56	2.28
0.525	10.64	6.92	425.7	4.95	4.43	2.21

Remarks: *A specific gravity of 2.70 is assumed for the calculation of these values.

Performed By: D. Bush Reviewed By: J. Williamson

Client: USACE TEAM Project Number: 242008
Project: Ebbing B200 Hangar Renovation, Fort Smith, Arkansas Date: 6/5/2024
Sample Identification: B200 (B-03) 2.5-5.0'
Material Description: Reddish brown clay (CL)

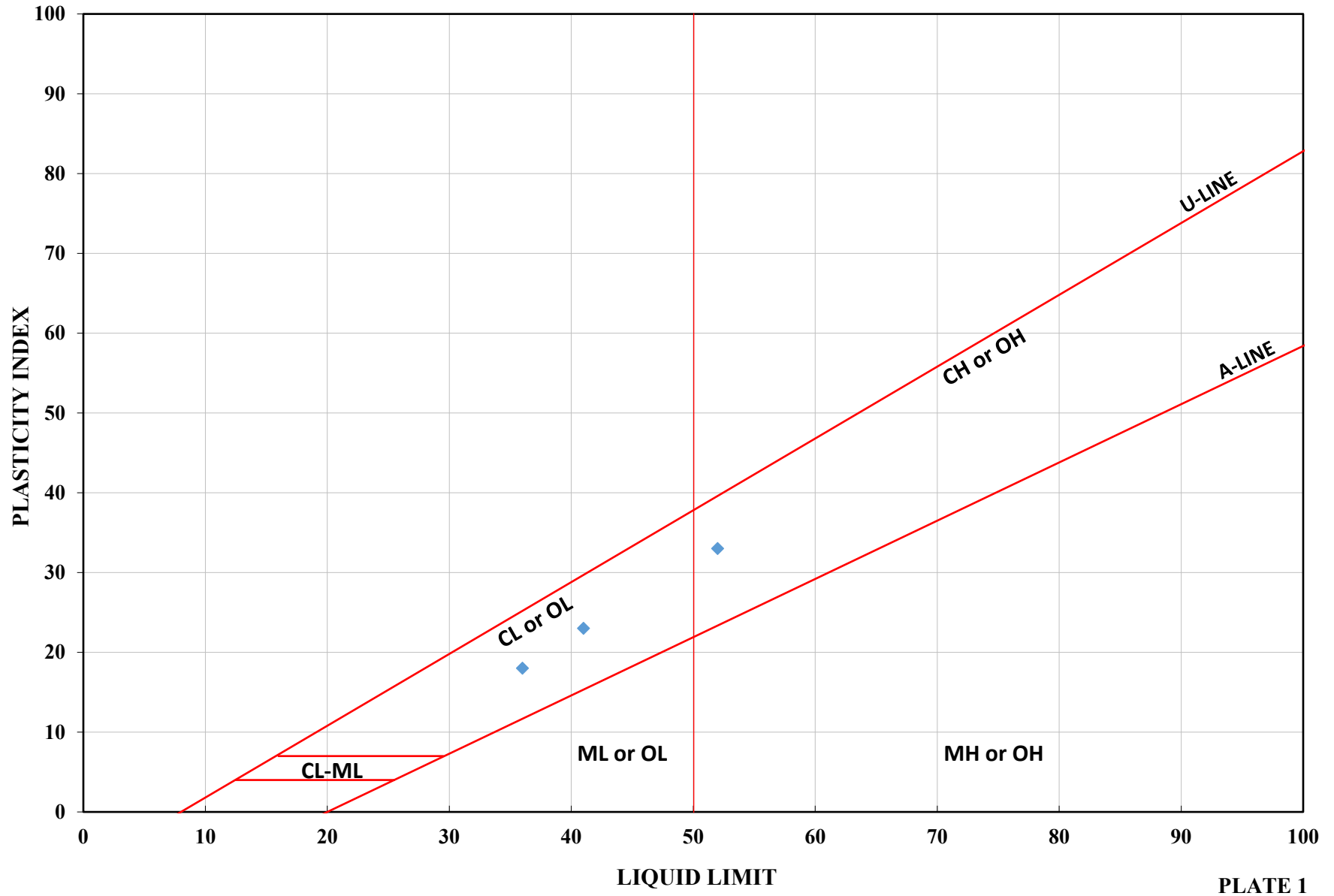
Stress-Strain



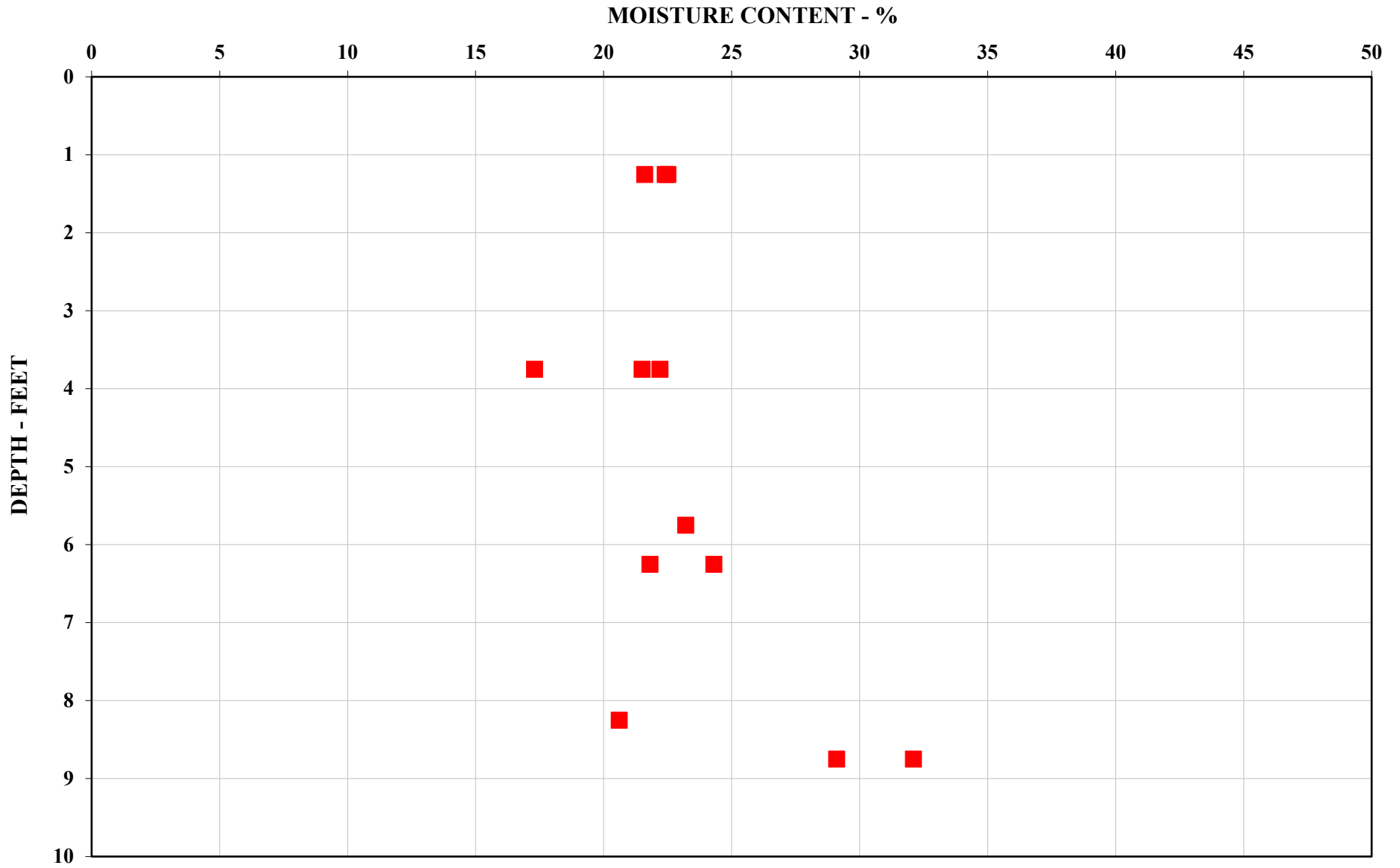
Remarks: _____

APPENDIX III:
SOIL PROPERTIES PLOTS

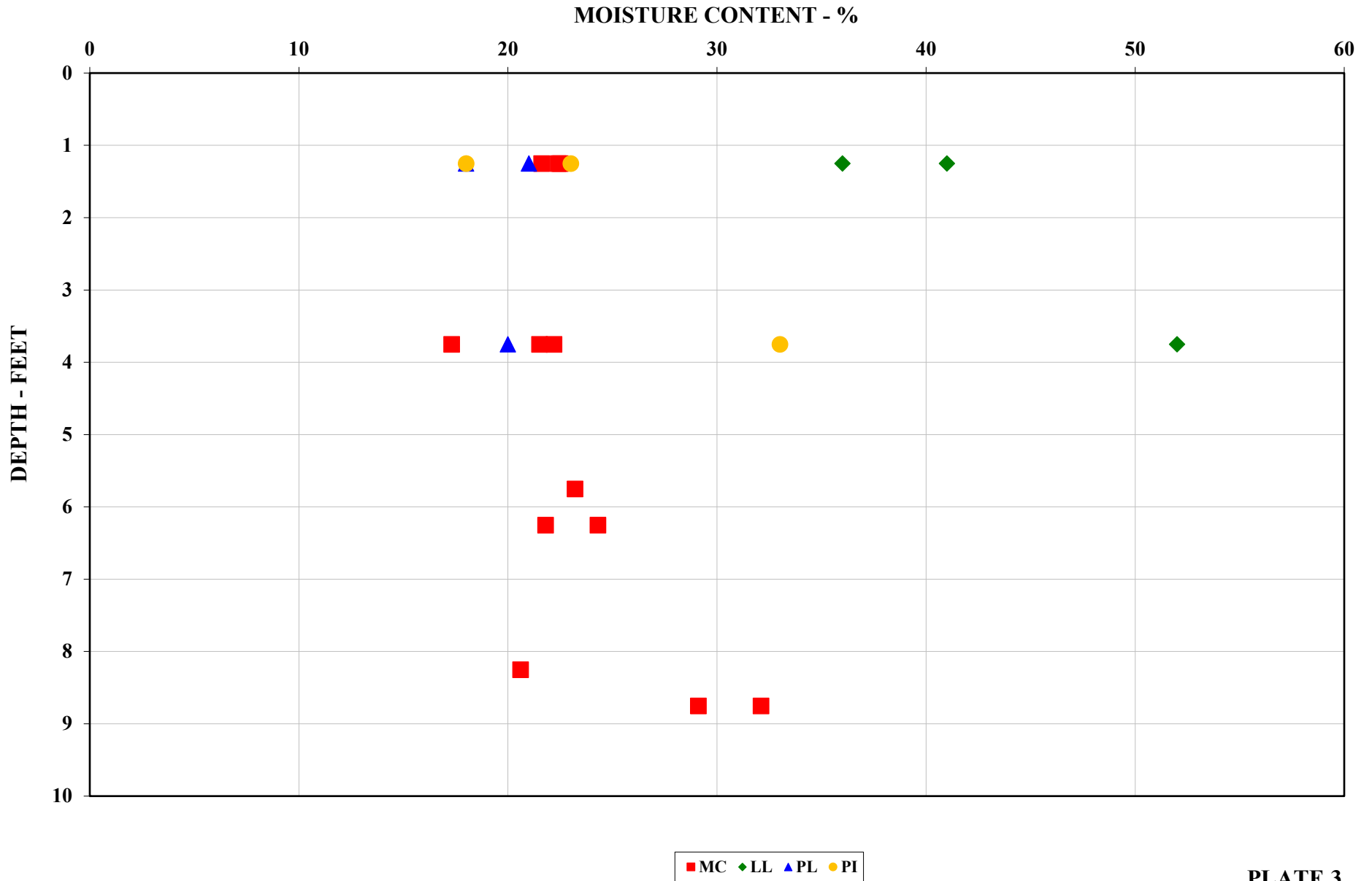
FORT SMITH-EBBING B200 HANGAR POV PARKING PLASTICITY CHART



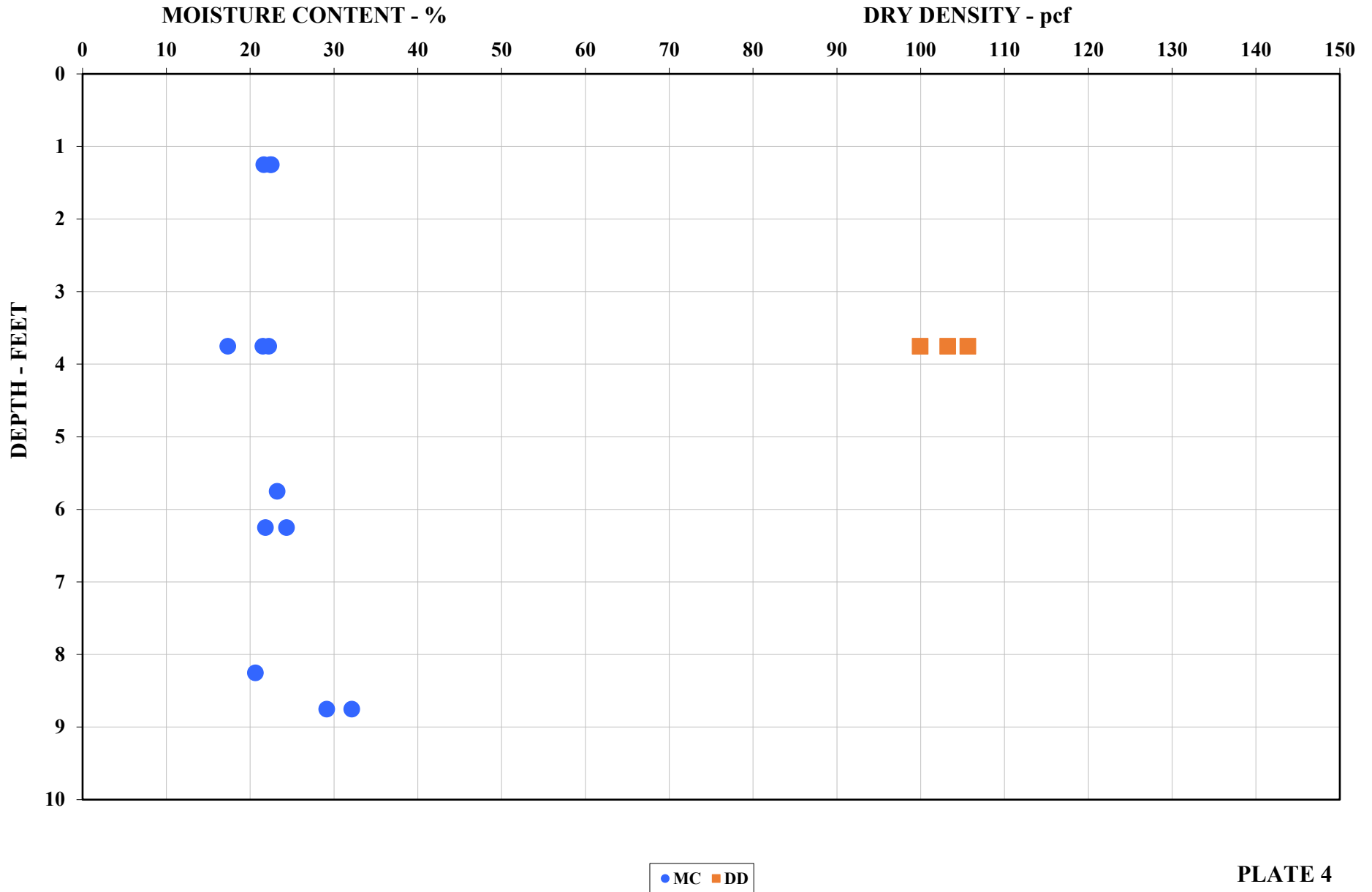
FORT SMITH-EBBING B200 HANGAR POV PARKING MOISTURE CONTENT VS DEPTH



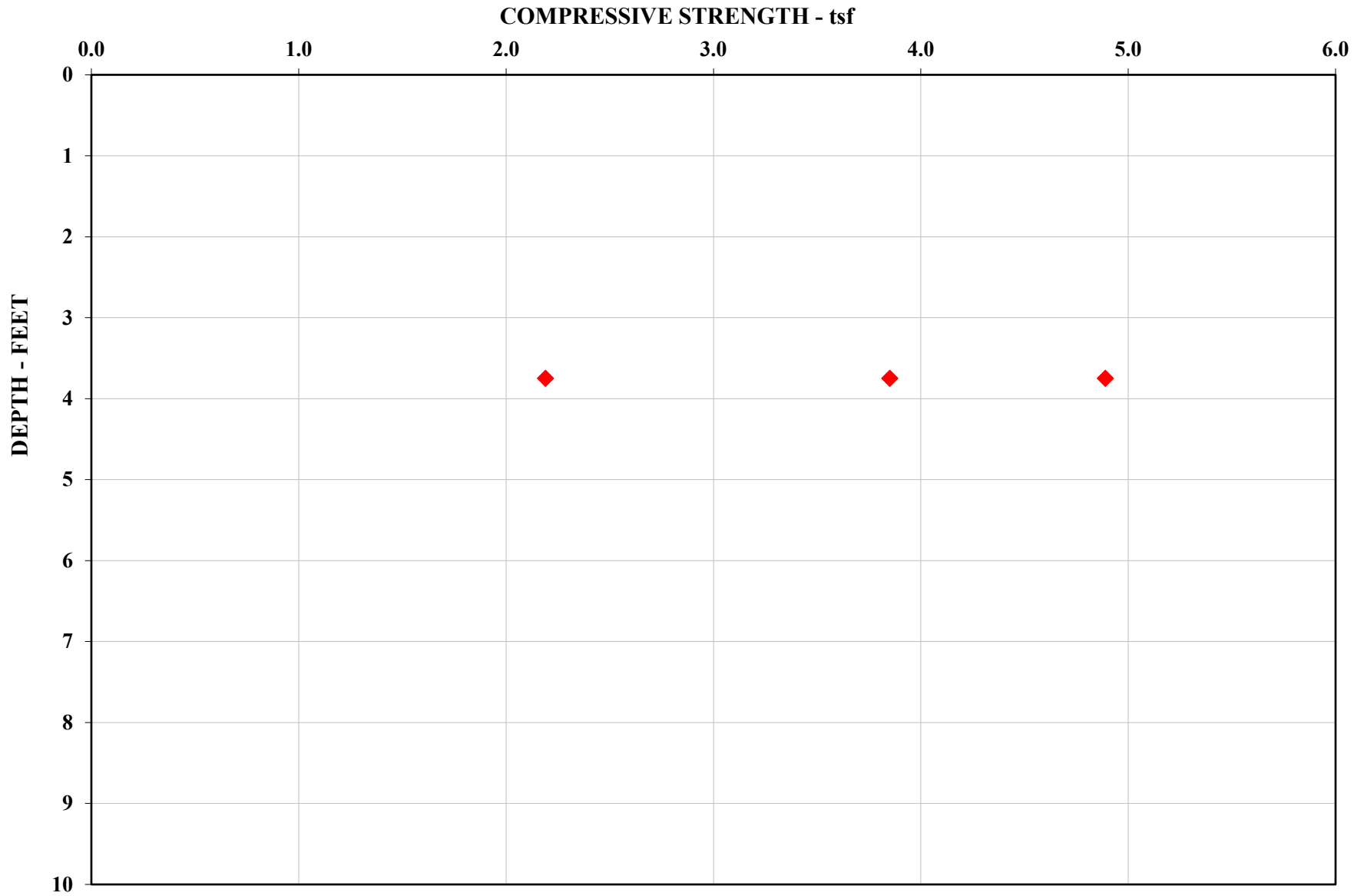
FORT SMITH-EBBING B200 HANGAR POV PARKING ATTERBERG LIMITS VS DEPTH



FORT SMITH-EBBING B200 HANGAR POV PARKING MOISTURE CONTENT - DRY DENSITY VS DEPTH



FORT SMITH-EBBING B200 HANGAR POV PARKING COMPRESSIVE STRENGTH VS DEPTH

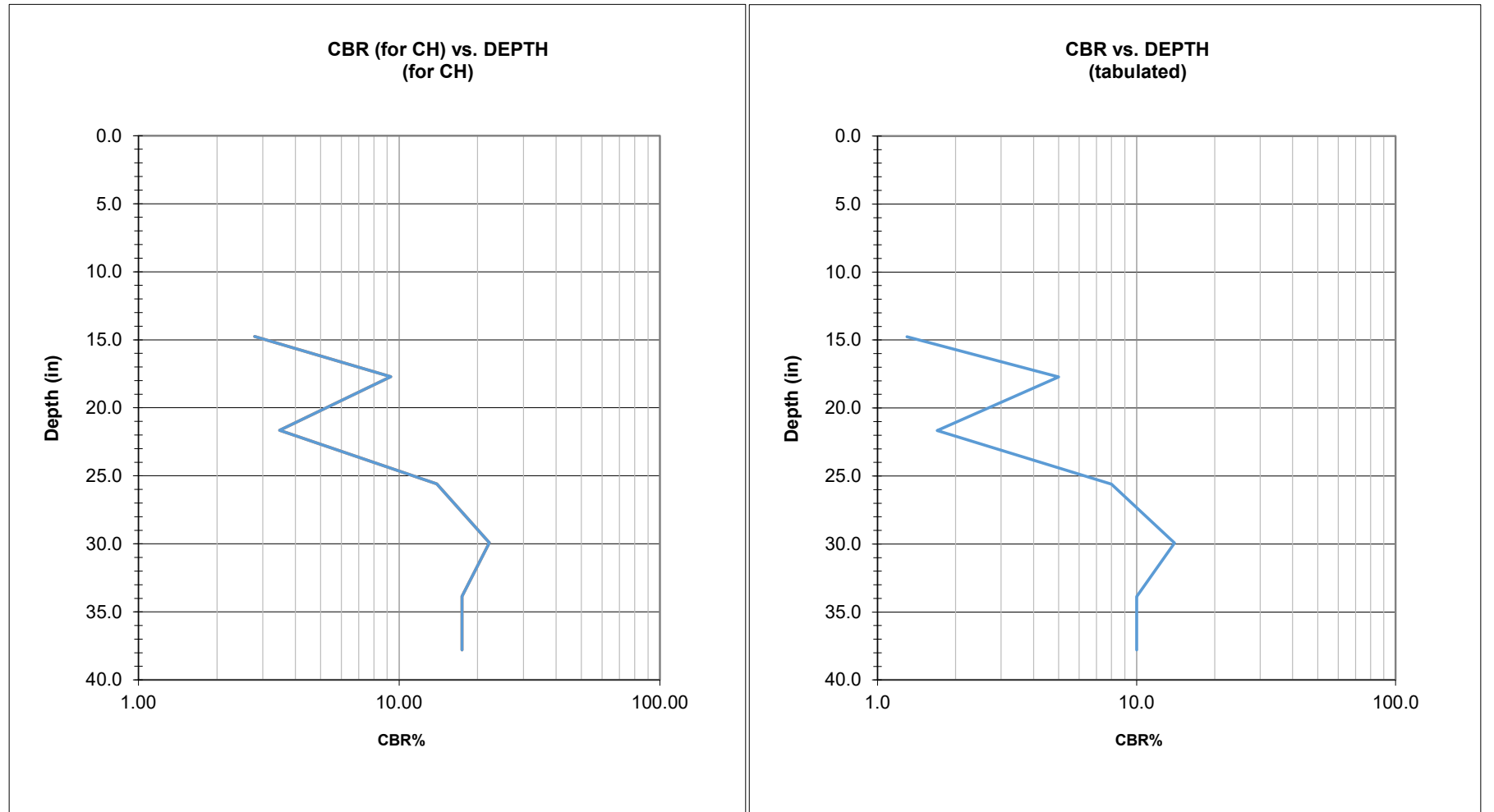


APPENDIX IV:
DCP TEST RESULTS
PCASE PAVEMENT DESIGN OUTPUT

**DCP DATA -
B-01**

Hanger B200 POV Parking

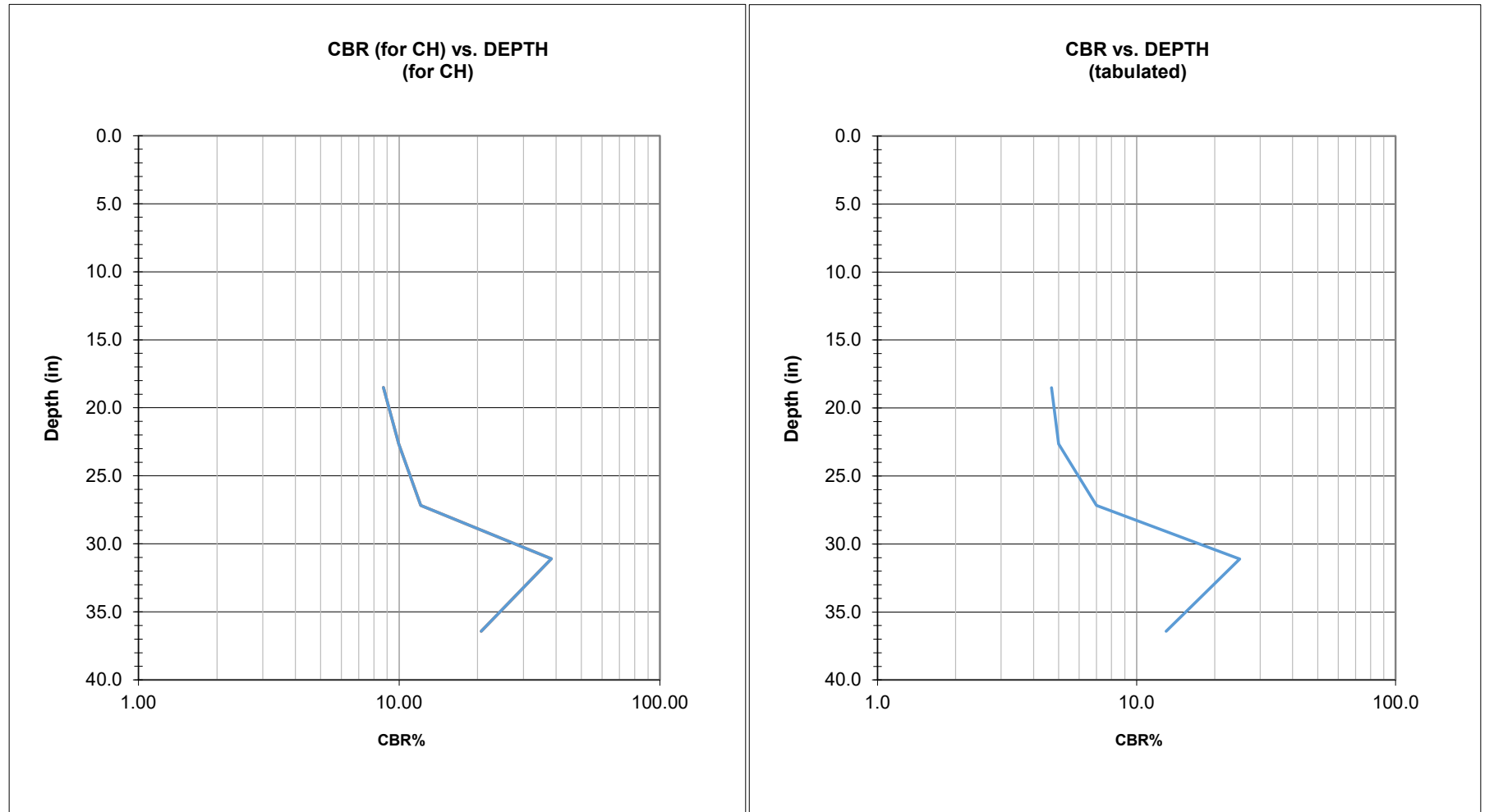
No. Blows	Accumulative Penetration, mm	Penetration interval (Δ)	Interval/blows (Δ/N)	Hammer	Correlation	DCPI	CBR (for CH)	CBR (tabu)	DEPTH
0	250	-	-	1	1	-	-	-	9.8
1	375	125	125	1	1	125	2.79	1.3	14.8
2	450	75	37.5	1	1	38	9.29	5.0	17.7
1	550	100	100	1	1	100	3.48	1.7	21.7
4	650	100	25	1	1	25	13.93	8.0	25.6
7	760	110	15.71429	1	1	16	22.17	14.0	29.9
5	860	100	20	1	1	20	17.42	10.0	33.9
5	960	100	20	1	1	20	17.42	10.0	37.8



**DCP DATA -
B-02**

Hanger B200 POV Parking

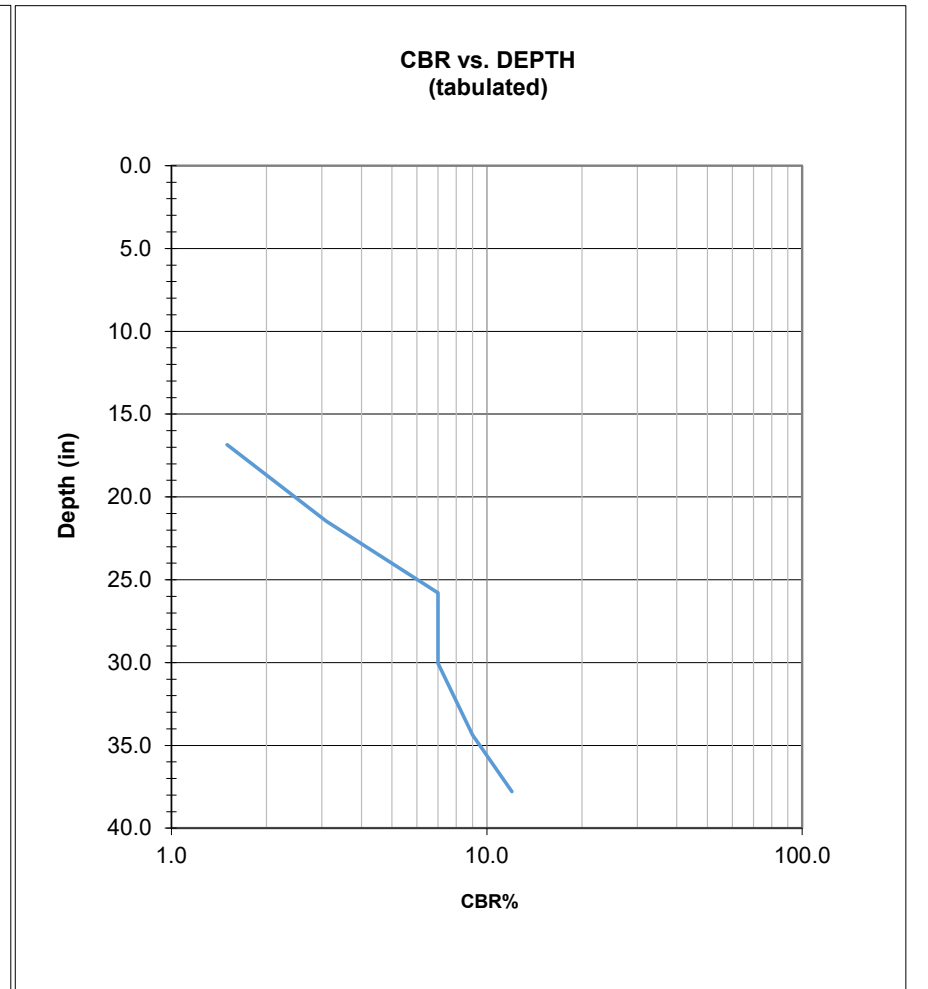
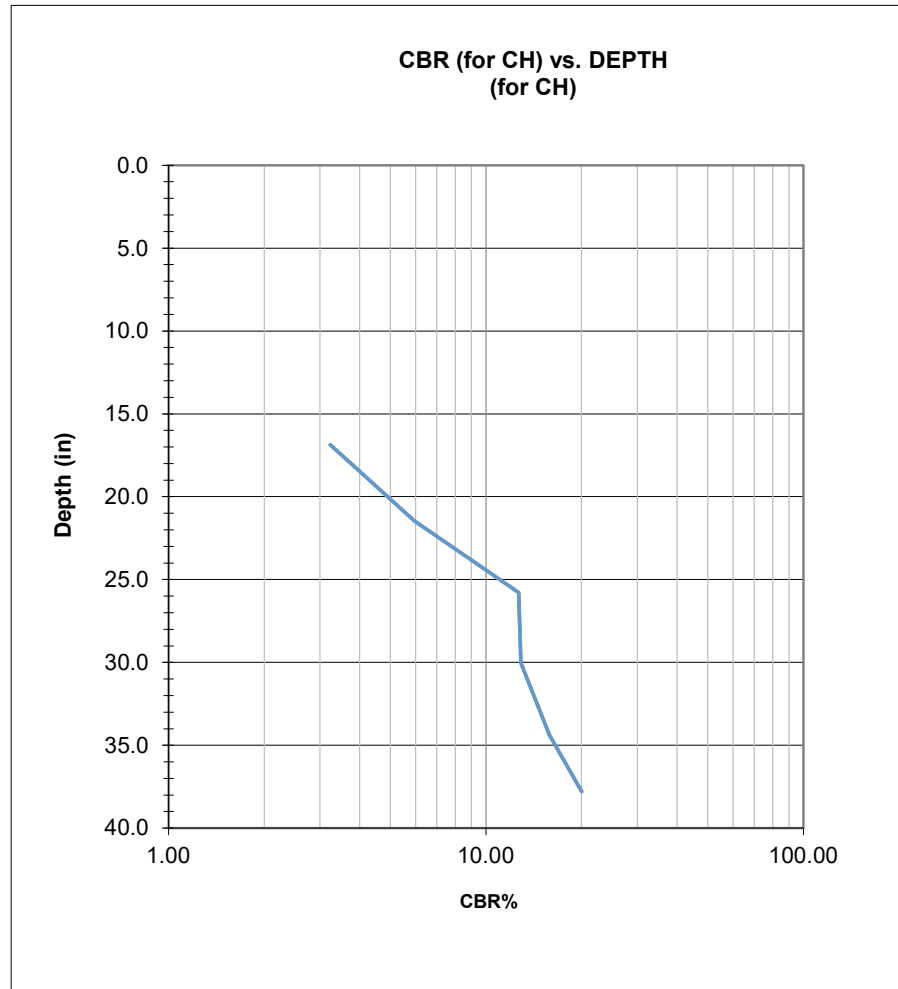
No. Blows	Accumulative Penetration, mm	Penetration interval (Δ)	Interval/blows (Δ/N)	Hammer	Correlation	DCPI	CBR (for CH)	CBR (tabu)	DEPTH
0	350	-	-	1	1	-	-	-	13.8
3	470	120	40	1	1	40	8.71	4.7	18.5
3	575	105	35	1	1	35	9.95	5.0	22.6
4	690	115	28.75	1	1	29	12.12	7.0	27.2
11	790	100	9.090909	1	1	9	38.31	25.0	31.1
8	925	135	16.875	1	1	17	20.64	13.0	36.4



**DCP DATA -
B-03**

Hanger B200 POV Parking

No. Blows	Accumulative Penetration, mm	Penetration interval (Δ)	Interval/blows (Δ/N)	Hammer	Correlation	DCPI	CBR (for CH)	CBR (tabu)	DEPTH
0	320	-	-	1	1	-	-	-	12.6
1	428	108	108	1	1	108	3.23	1.5	16.9
2	545	117	58.5	1	1	59	5.95	3.1	21.5
4	655	110	27.5	1	1	28	12.67	7.0	25.8
4	763	108	27	1	1	27	12.90	7.0	30.0
5	873	110	22	1	1	22	15.83	9.0	34.4
5	960	87	17.4	1	1	17	20.02	12.0	37.8



W9126G24R1038-0003
POV Parking Lot

PCASE Version: 7.0.6 2023-09-26
 Design Name: POV Parking Lot
 Layer Model Name: POV Parking Lot
 Drainage Station: Not selected
 Frost Station: Arkansas-Fort_Smith_Regional_Airport
 Pavement Use: Roadway
 Design Type: Flexible
 Traffic Area: Parking Areas
 Analysis Type: CBR
 Depth of Frost (in): 7.16
 Wander Width (in): 33.35

Layer Information

Layer Type	Material Type	Frost Code	Moisture Content (%)	Dry Unit Weight (lb/ft ³)	Analysis	Non-frost Design Thickness	Reduced Subgrade Strength	Limited Subgrade Penetration	CBR
Asphalt Concrete	Asphalt Cement	NFS	0	140	Compute	2	2	2	
Base	Unbound Aggregate	NFS	8	135	Compute	7.02	7.02	7.02	80
Natural Subgrade	Cohesionless Cut	NFS	20	120	Manual	4			3

Calc. Messages

Type	Message
Information	Frost design thicknesses were requested but no frost-susceptible layers were identified. RSS and LSFP results will therefore be the same as non-frost.

Traffic Information

Service: Air Force
 Pattern Name: Hangar B200 Parking Lot

Vehicles	Load (lb)	Passes	Equivalent Passes
CAR - PASSENGER		4355	1825000
TRUCK, SMALL PICKUP OR SUV		7000	1825000
TRUCK, SMALL PICKUP OR SUV		7000	1825005
Estimated AASHTO ESALS:		9723	