US Army Corps of Engineers ®
Savannah District

DEPARTMENT OF THE ARMY
FACILITIES STANDARDIZATION PROGRAM

BRIGADE OPERATIONS COMPLEX, BRIGADE AND BATTALION HEADQUARTERS (BDE HQ / BN HQ)

STANDARD DESIGN

14 June 2024

BDE/BN HQ Revision 6.1 Dated 14 June 2024

Contents

Part 1

1.0 CENTERS OF STANDARDIZATION

The U.S. Army Corps of Engineers (USACE) Savannah District (SAS) is the designated Center of Standardization (COS) for the Brigade Operations Campus, including the Brigade and Battalion Headquarters (BDE/BN HQ) Standard Design. This standard consists of two parts. Part 1 provides guidance to facility planners and USACE districts. Part 2 is a Request for Proposal (RFP) Statement of Work (SOW).

The COS maintains lessons learned and CAD files of completed designs. Consult the COS when starting a project. The criteria contained in this Standard Design applies to all Modification Table of Organization and Equipment (MTOE) and Table of Distribution and Allowances (TDA) brigades other than schools.

All USACE geographic districts must incorporate the mandatory design criteria described herein and submit designs to the USACE Savannah COS for review to ensure conformance with the Army Standard.

This Standard Design must be used in conjunction with other referenced criteria.

2.0 PREAMBLE

This Army Standard Design for Brigade Headquarters (BDE HQ) and Battalion Headquarters (BN HQ) defines functional and operational requirements for brigade and battalion level headquarters buildings that house the command, personnel, intelligence, operations, supply, communications, and other specialized functions of a regiment/group/brigade or a battalion/squadron headquarters, to include all headquarters administrative and command & control operations.

This Army Standard Design supersedes space allowance criteria contained in AR 405-70, as noted herein, and serves as the primary authority for Brigade and Battalion Headquarters worldwide.

3.0 CATEGORY CODES (CAT CODES)

3.1. CATEGORY CODES INCLUDED IN THIS STANDARD DESIGN

The design information in this Standard Design applies directly to the following Facility Category Codes:

- 14182 – Brigade Headquarters Facilities
- 14183 – Battalion Headquarters Facilities
- 17119 – Organizational Classroom

3.2. RELATED CATEGORY CODES

The following category codes may be associated with the CAT Codes addressed in this Standard Design:

- 14185 – Company Headquarters Building
- 14179 – Overhead Protection
- 21110 – Aircraft Maintenance Hangar
- 21410 – Vehicle Maintenance Shop
- 21470 – Oil Storage Building
- 44224 – Organizational Storage Building
- 85210 – Organizational Vehicle Parking

4.0 PROPONENT

The Army Facilities Proponent for BDE HQ and BN HQ facilities is the Department of the Army (DA) Deputy Chief of Staff, Operations G-3.

5.0 APPLICABILITY

This Standard Design applies to all planning or programming decisions and strategies for Brigade Headquarters (BDE HQ) and Battalion Headquarters (BN HQ) facilities. The Army Standard applies to Active Army, Army National Guard, Army Reserve, and to Military Construction on Non-Army facilities on Army Installations.

5.1. INCLUSIONS

The criteria contained in this Standard Design apply to:

- Development of Brigade Operations Campus site plans
- Facility designs for Table of Organization and Equipment (TOE) Brigade Headquarters (BDE HQ) and Battalion Headquarters (BN HQ)
- Consolidation of Brigade and Battalion Headquarters
- This space planning criteria extends to battalions' subordinate to the functional brigades and battalions that are not subordinate

5.2. EXCLUSIONS

Brigade and Battalion Headquarters and Organizational Classrooms not covered by this Standard Design include:

A. Standard Designs managed by USACE Fort Worth District Center of Standardization (COS).
   - Basic Training (BT)
   - One Station Unit Training (OSUT)
   - Advanced Individual Training (AIT)

B. Operational Readiness Training Complex (ORTC) Standard Designs managed USACE Louisville District Center of Standardization (COS).
   - The ORTC Standard Design uses CAT Code 14183 for Battalion Headquarters
   - The ORTC Standard Design uses CAT Code 14187 for Brigade Headquarters

6.0 ACCESSIBILITY REQUIREMENTS

Brigade and Battalion Headquarters must <REV> meet accessibility codes </REV>.

7.0 SUSTAINABLE DEVELOPMENT AND DESIGN REQUIREMENTS

Design Brigade and Battalion HQ facilities to meet the current sustainable development and design criteria as established by the Department of the Army. Specific project goals are indicated in the GENERAL TECHNICAL REQUIREMENTS or PROJECT SPECIFIC REQUIREMENTS section of the RFP document.

8.0 FACILITY CRITERIA

A BDE HQ for a Brigade Combat Team (BCT) or other brigade is sized based on the number of personnel requiring workspace in the headquarters. The BN HQ is sized based on the number of personnel requiring workspace in the headquarters.

9.0 ARMY STANDARD FOR BDE/BN HQ

The “Army Standard for Brigade and Battalion HQs” addresses both Brigade (CAT Code 14182) and Battalion (CAT Code 14183) HQ facilities, and provides mandatory requirements as either stand alone or, where directed, combined headquarters facilities for select types of brigades under the Modular Force.

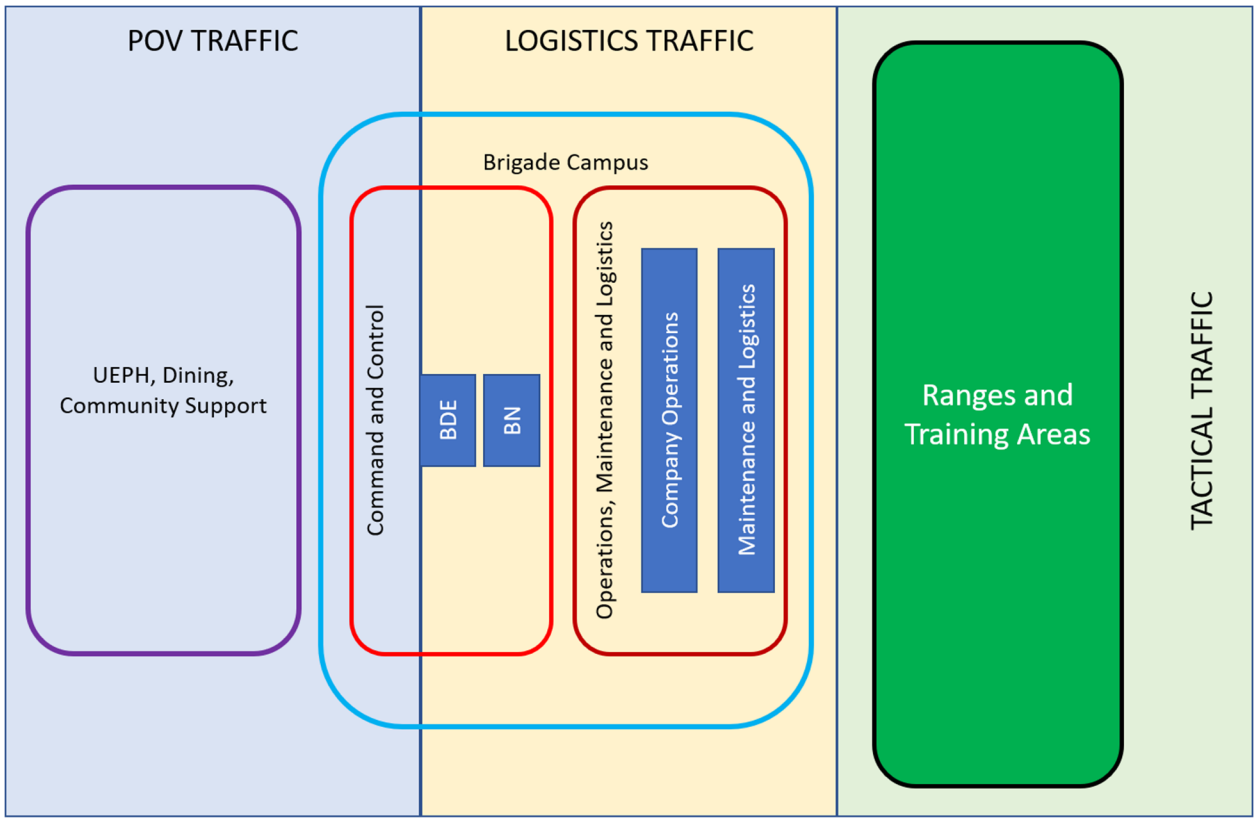
10.0 UNIT OF MEASURE

Brigade and Battalion HQ facilities are reported by square feet (SF) as the primary unit of measure (UM). There is no secondary UM identified in the DoD Real Property Classification System (RPCS).

11.0 INTENT

These facilities are normally organized as a campus that includes Brigade Headquarters, one or more Battalion Headquarters, multiple Company Operations Facilities (COF), and one or more Tactical Equipment Maintenance Facility (TEMF) Compounds and, when authorized, a Supply Support Activity (SSA). Related facilities for a brigade and its subordinate battalions and companies should be in close proximity to support operational cohesion and minimize the need for POV movement. Figure 1 shows the notional relationships within a Brigade Campus and between the brigade campus and other facilities and resources on the installations. When proximity is not possible, priority should favor COF to TEMF, then COF to Battalion.

Figure 1: Notional Brigade Campus



The intent of the Army Standard and Standard Design is to provide the required functional areas for the brigade in a single building and to provide the required functional areas of the battalion HQ and the organizational classrooms in a single building. When not possible, adjacent buildings may be acceptable consistent with operational and functional requirements.

12.0 ASSIGNMENT

Brigade and Battalion HQs must be assigned to the Unit Identification Code (UIC) of the primary organization occupying the Headquarters. For Headquarters designed to accommodate multiple units (e.g., consolidated brigade and battalion HQ), assign the space to the UIC of the primary organization occupying each portion of the building.

13.0 BRIGADE HEADQUARTERS (BDE HQ) – CAT CODE 14182

13.1. BRIGADE HQ FUNCTIONAL AREAS

Table 1 shows the functional areas included in each standard size brigade HQ by total NSF allowed and, where applicable, the number of PN it can accommodate.

Table 1: Brigade Headquarters – Functional Areas by Standard Size

TYPE SPACE	X-LARGE		LARGE		MEDIUM		SMALL		X-SMALL	
	SF	PN	SF	PN	SF	PN	SF	PN	SF	PN
CONF / TEAM RM	3,042		2,833		2,001		2,341		1,092	
STORAGE & FILES	2,432		1,774		1,341		1,327		721	
COMMON	2,359		1,703		1,569		1,527		1,249	
PRIVATE OFFICE	4,680	36	2,470	19	2,080	16	2,080	16	1,690	13
OPEN OFFICE	27,264	284	19,680	205	17,644	184	15,072	157	8,928	93
OTHER	3,385		2,340		2,038		1,990		1,136	
TOTAL PN (MAX)		**320**		**224**		**200**		**173**		**106**
SCIF	3,237		3,237		3,237		3,237		2,354	
BOC	1,482		1,482		1,482		1,482		680	
NOC	1,630		1,630		1,630		1,630		451	
TOTAL BLDG NET AREA (NSF)	**49,511**		**37,149**		**33,022**		**30,686**		**18,301**	

13.2. CONSTRUCTION COMPONENT AREAS

An MTOE Brigade Headquarters consists of Administrative and Support Space for Command and Staff and Special Functions Space. Special functions include: Sensitive Compartmented Information Facility (SCIF), Brigade Operations Center (BOC), and Network Operations Center (NOC).

13.2.1. ADMINISTRATIVE AND SUPPORT SPACE FOR COMMAND AND STAFF

This is the only construction component required in every Brigade Headquarters. It consists of a command suite, open and private office spaces, conference rooms, and storage.

13.2.2. SENSITIVE COMPARTMENTED INFORMATION FACILITY (SCIF)

When required, this space must be accredited under Intelligence Community Directive (ICD) 705 standards. Beyond the enhanced security features, no increased utility infrastructure is required above that of a standard administrative building. Because of the special construction and security measures, report this space in the real property inventory as CAT Code 14162, Administrative Building, Secure. The users of this space are often in a subordinate military intelligence (MI) detachment or company and not included on the Brigade TOE.

13.2.3. BRIGADE OPERATIONS CENTER (BOC)

Brigade combat teams and other selected brigades have missions and capabilities that require specialized spaces for controlling mission operations while in progress. The spaces are not always occupied, but when controlling a mission, they are normally operational 24 hours a day, seven days a week and staffed by personnel who normally work in administrative space within the Brigade HQ.

13.2.4. NETWORK OPERATIONS CENTER (NOC)

The Network Operations Center (NOC) is space intended for management of the information systems within the brigade footprint. It includes workstations for the enablers and space for servers that can replicate in garrison the authorized tactical systems the brigade employs in a field or on deployments.

13.3. FACILITY CRITERIA

13.3.1. Select the Brigade HQ size based on the approved manning level of the BDE staff (or staff size) as determined by TOE or TOE/TDA. For new construction, programming a facility is based on the number of authorized staff to include personnel from other elements of the brigade that routinely work in the HQ. This might include fire support elements, Air Force weather or air support elements, military intelligence (MI) analysts and signal enablers. For MI analysts, provide space based on 60 percent of the authorized strength to account for 24 hours a day, seven days a week operations. The five sizes are displayed in 13.4.1 below.

13.3.2. MTOE Brigade facilities include special purpose space for a Sensitive Compartmented Information Facility (SCIF), Brigade Operations Center (BOC), and Network Operations Center (NOC) areas. Not all Brigades have a requirement for the special purpose space or have the capability to operate these environments. Confirm the requirement during the requirements analysis. The total capacity for each standard size includes the capacity of these areas. For units not requiring these special purpose spaces, the design must preserve the capability to retrofit these capabilities should the need arise.

13.4. FACILITY ALLOWANCE CALCULATION

The allowance methodology was developed and approved by the Army Facilities Standardization Committee (AFSC) and Army Requirements Group (ARG). This methodology is used by the Army's Real Property Planning and Analysis System (RPLANS) to generate the facility allowance. RPLANS uses a programmed algorithm to calculate facility allowances at the Unit level. RPLANS can be accessed at the following link: https://rplans.army.mil/rplans-vpd/f?p=2001:30:2691848222003

13.4.1. BRIGADE HEADQUARTERS SIZES

The following design sizes can be used in the event of new construction or planned renovations. This facility is calculated at the unit level. The requirement will need to be conveyed in an edit justification statement and submitted in RPLANS for review and pending approval.

Table 2: BDE HQ Sizes

Standard Design Size	Number of BDE HQ Staff	Building Area (GSF)
Extra Small	≤ 106	20,400
Small	107 – 173	34,400
Medium	174 – 200	37,700
Large	201 – 224	43,400
Extra Large	225 – 320	59,200

Table 2 Note: Army Standard does not specify minimum number of personnel.

14.0 BATTALION HEADQUARTERS (BN HQ) – CAT CODE 14183

14.1. BATTALION HEADQUARTERS FUNCTIONAL AREAS

Table 3 shows the functional areas included in a Battalion HQ.

Table 3: Battalion Headquarters – Functional Area by Standard Size

STANDARD SIZE	EXTRA LARGE		LARGE		MEDIUM		SMALL	
TYPE SPACE	**NSF AREA**	**PN**	**NSF AREA**	**PN**	**NSF AREA**	**PN**	**NSF AREA**	**PN**
CAT Code 14183 – Battalion Headquarters								
PRIVATE OFFICES	1,900	15	1,900	15	1,900	15	1,900	15
CONFERENCE / TEAM ROOMS / CLASSROOMS	3,675		3,675		3,675		3,675	
STORAGE & FILES	1,099		963		919		724	
COMMON	1,090		1,090		1,207		1,205	
OPEN OFFICE-WORKSTATIONS	6,720	70	5,280	55	3,360	35	1,920	20
OTHER (MECH., COMM., ELEC)	1,448		1,356		950		848	
TOTAL BLDG NSF	**15,932**		**14,264**		**12,011**		**10,272**	
MAX PERSONNEL - TOTAL		**85**		**70**		**50**		**35**
CAT Code 17119 – Organizational Classroom								
CLASSROOM	3,000		3,000		3,000		3,000	

14.1.1. CONSTRUCTION COMPONENT AREAS

A MTOE Battalion Headquarters consists of: Administrative and Support Space for Command and Staff and an Organizational Classroom (CAT Code 17119).

14.1.2. ADMINISTRATIVE AND SUPPORT SPACE FOR COMMAND AND STAFF

This construction component is required in every Battalion Headquarters. It consists of a command suite, open and private office spaces, conference rooms, storage, and copier/file area.

14.1.3. ORGANIZATIONAL CLASSROOM

Battalion classrooms will be accounted for separately under 17119, Organizational Classrooms.

14.1.4. SPECIAL PURPOSE SPACE

Battalions do not normally have a requirement for the types of special purpose spaces such as a SCIF, NOC, or Operations Center like those associated with some Brigade Headquarters. However, battalions within the US Army Special Operations Command (USASOC), Multi-Domain Task Force Battalions, Military Intelligence Battalions, and Cyber Warfare units may have unique requirements that must be coordinated with their higher headquarters when planning and programming facilities.

14.1.5. NON-AUTHORIZED FUNCTIONS

Space for fitness equipment is not authorized in the facilities included in this Standard Design without a waiver approved by the AFSC.

14.1.6. NON-STANDARD BATTALIONS

Non-standard battalions are sized based on the number of personnel requiring workspace in the headquarters. Determine the number of staff personnel authorized space in the Battalion Headquarters using approved force structure documents. For units where the number of personnel exceed the size parameters identified in the Table 3 (above) by more than 5 percent, allow an additional 162 gross square feet per person. Coordinate all non-standard Battalion planning and design actions with the Center of Standardization. Special space may be added consistent with AR 405-70, not to exceed 10 percent of the net administrative area of the building. If more than 10 percent is required, contact the COS.

14.2. FACILITY ALLOWANCE CALCULATION

The allowance methodology described for Army TOE battalions was developed and approved by the Army Facilities Standardization Committee (AFSC) and Army Requirements Group (ARG). This methodology is used by the Army's Real Property Planning and Analysis System (RPLANS) to generate the facility allowance. RPLANS can be accessed at the following link: https://rplans.army.mil/rplans-vpd/f?p=2--1:30:2691848222003

14.2.1. BATTALION HEADQUARTERS SIZES

The following design sizes can be used in the event of new construction or planned renovations. This facility is calculated at the unit level. The requirement will need to be conveyed in an edit justification statement and submitted in RPLANS for review and pending approval.

Table 4: BN HQ Sizes

Standard Design Size	Number of BN HQ Staff	Building Area (GSF)
	Fewer than 20	Facility Not Authorized
Small	20 – 35	16,000
Medium	36 – 50	18,600
Large	51 – 70	20,400
Extra Large	More than 70	22,600

15.0 USER PARTICIPATION IN PROCESS

To ensure a successful development of programming actions including repair, maintenance, modernization, or new construction, it is critical that the facility end-users are part of the solution being developed. End-users must support the endeavor throughout the entire process.

End-users must be aware of the Army Standard and the basis for development of the authorization for the BDE/BN Headquarters. End users must have knowledge of the facility reporting, facility assessment, and the Army planning and programming processes.

There are critical meetings and decision points throughout a successful project:

- Development of need
- Preparation of requisite documentation
- Prioritization at an Installation Planning Board
- Planning Charrettes
- Design Charrettes
- Value Engineering Charrettes
- Beneficial Occupancy walk-throughs
- Understanding warranties

In addition, consult the Center of Standardization (COS) USACE, Savannah (SAS) when starting a project. The COS will be an active participant on the Project Delivery Team (PDT) to ensure the project is compliant with the functional and operational requirements and technical aspects of the BDE/BN Standard Design.

16.0 RENOVATING LEGACY FACILITIES

The "Brigade and Battalion HQs Legacy Facilities Study" completed in 2014 provides information regarding the renovation of legacy facilities. The document is available on the Savannah COS website for BDE/BN HQ under "Legacy Renovation": https://mrsi.erdc.dren.mil/cos/sas/bn-bde-hq/

The intent of this study is to provide information regarding the renovation of Legacy Facilities. The information and notional floor plans included are intended to:

- Bring these Legacy Facilities as close as possible to the current Standard Design
- Provide a standardized approach to renovating each type of legacy facility
- Achieve a longer useful life for the legacy BDE and BN HQ facilities
- The order of preference for accomplishing adjustments in legacy facilities to satisfy current mission requirements is:
    - No construction required
    - Construction required but within SRM funding limits
    - Primarily SRM funded but with a MILCON tail
    - MILCON funded project
- In evaluating renovation of any legacy facility, the cost of renovation in comparison to new construction cost must always be considered. If the renovation cost exceeds 75 percent of new construction cost, new construction should be pursued.
- Several studies within this report show the functions of a BDE or BN HQ divided between 2-3 buildings. It is a goal of this study that these examples be adaptable to similarly sized facilities that are available at other installations.

17.0 IDENTIFY AND DOCUMENT ALTERNATIVES

If facility investments are deemed necessary, alternatives to new construction must be considered. An "Analysis of Alternatives" study plays a crucial role. This analysis becomes a foundation of any request (for example, DD1391 or DA 4283) for facility investment funding.

Document all alternatives, and if any of those alternatives are not carried forward in the analysis phase, provide a statement as to why they were dismissed.

Alternatives may include:

- Repurpose
- Renovate
- Modernize
- Consolidate
- Re-Station
- Lease Facilities
- New Construction

18.0 SUSTAINMENT

The Army Sustainment, Restoration, and Modernization (SRM) funds support the Sustainment of Army Real property. Each facility category code has an SRM amount assigned per UM of that facility. This value is rolled to the Army level for distribution to the Garrisons. In austere times, this amount is generally decremented by a certain percentage, resulting in further competition for scarcer funds for projects.

19.0 VALUE ENGINEERING

The basic intent of the value engineering process is to increase project value by proactively searching for and resolving issues through transparent, short-term workshops (charrettes) and to stretch finite taxpayer resources by providing the required function(s), most amenities, and the highest quality project(s) at the lowest life cycle costs.

The Battalion/Brigade Headquarters Value Engineering Study completed in 2020 identifies solutions to achieve the required functions at a minimum expenditure of resources without sacrificing the required performance. The document is available on the Savannah COS website for BN/BDE HQ facilities under "Programmatic Value Engineering Study": https://mrsi.erdc.dren.mil/cos/sas/bn-bde-hq/

Part 2

1.0 PROJECT OBJECTIVES

The project objective is to design and construct facilities for the military that are consistent with the design and construction practices used for civilian sector projects that perform similar functions to the military projects. For example, a Company Operations Facility has the similar function as an office/warehouse in the civilian sector; therefore, the design and construction practices should be consistent with the design and construction of an office/warehouse building.

A. It is the Army's objective that these buildings have a 25-year useful life before needing major renovation, repair, or replacement. Therefore, the design and construction must provide an appropriate level of quality to ensure the continued use of the facility over that time period with the application of typical preventive maintenance and repairs that would be industry-acceptable to a major civilian sector project OWNER. The site infrastructure must have at least a 50-year life expectancy with industry-accepted maintenance and repair cycles.

B. The Government is required by Public Law 102-486, Executive Order 12902, and Federal Regulations 10 CFR 435 to design and construct facilities in an energy-conserving manner while considering life cycle cost over the life of the facilities.

C. Develop the project site for efficiency and to convey a sense of unity or connectivity with the adjacent buildings and with the Installation as a whole.

D. Requirements stated in this RFP are minimums. Innovative, creative, and life cycle cost effective solutions, which meet or exceed these requirements are encouraged. Further, the offeror is encouraged to seek solutions that expedite construction (such as panelization and pre-engineered) and shorten the schedule. **The intent of the Government is to emphasize the placement of funds into functional and operational requirements. Materials and methods should reflect this by choosing the lowest Type of Construction allowed by code for this occupancy and project allowing the funding to be reflected in the quality of interior and exterior finishes and systems selected.**

2.0 SCOPE

2.1. [BRIGADE][AND][BATTALION]HEADQUARTERS

A. Provide[Brigade][and][Battalion]Headquarters. This project type is to house [Brigade][and][Battalion]administrative and command operations. It is intended to be similar to office type buildings in the private sector community. Assume 20 percent of personnel are female unless otherwise indicated.

B. [The project includes [[___] extra-small][,] [[___] small][,][[___] medium][,][[___] large][,][and][[___] extra-large] standalone Brigade Headquarters [for (unit name(s)/project identifier(s))]. The maximum gross area for the Brigade Headquarters in the project is limited to [_____] square feet.]

C. [The project includes [[___] small][,][[___] medium][,][__] large][and][[___] extra-large] standalone Battalion Headquarters [for (unit name(s)/project identifier(s)]. The maximum gross area for the Battalion Headquarters in the project is limited to [_____] square feet.]

D. [The project includes consolidated Brigade and Battalion Headquarters for a [extra small][small][medium][large][extra-large] Brigade Headquarters and [[___] small][,][[___] medium][,][and][[___] large] Battalions [for (unit name(s)/project identifier(s)]. The maximum gross area for the Consolidated Brigade and Battalion Headquarters in the project is limited to [_____] square feet.]

2.2. SITE

Provide all site design and construction within the Headquarters limits of construction to support the new building facilities. Supporting facilities include, but are not limited to, utilities, electric service, exterior and security lighting, connection to telecommunications infrastructure, fire protection and alarm systems, security fencing and gates, water, gas, sewer, storm drainage, and site improvements. <REV> Provide accessibility for individuals with disabilities in accordance with accessibility codes. </REV> Include Antiterrorism / Force Protection measures in the facility design in accordance with applicable criteria.

Maintain the construction site and haul route(s). Repair or replace damage to existing sidewalks, pavements, curb and gutter, utilities, and landscaping within the construction limit, adjacent to the construction site, and along the haul route(s) resulting from construction activities at no additional cost to the Government. Prior to construction activities, perform an existing condition survey. At the completion of the Task Order, perform a final condition survey to determine repair and replacement requirements.

Approximate area available for [this facility is][these facilities are] [_____ square feet][as shown on the drawings].

2.3. GOVERNMENT-FURNISHED GOVERNMENT-INSTALLED EQUIPMENT (GFGI)

Coordinate with the Government on GFGI item requirements and provide structural support and brackets for projectors/DVD and other media players/TVs/monitors, all utility connections, and space with required clearances for all GFGI items. All computers and related hardware, copiers, faxes, printers, video projectors, DVD and other media players, cameras, and TVs are GFGI.

2.4. FURNITURE REQUIREMENTS

Provide furniture design for all spaces including existing furniture and equipment to be re-used. Coordinate with the user to define requirements for items such as furniture systems, movable furniture, equipment, existing items to be re-used, and storage systems. Early coordination of the furniture schedule is required for a complete and usable facility.

The procurement and installation of furniture is NOT included in this Contract or Task Order. Furniture will be provided and installed under a separate furniture vendor/installer Contract. Allow entry of the furniture vendors and installers onto the project site at the appropriate time to permit completion of the furniture installation for a complete and usable facility to coincide with the Beneficial Occupancy Date (BOD). The furniture vendor and installer contract(s) include all electrical pre-wiring and the whips for final connection to the building electrical systems; however, the Contractor is responsible for making the final connections to the building electrical systems under this Contract and providing all Information/Technology (IT) wiring (such as LAN and phone) up to and including the face plate of all freestanding and systems furniture desk tops, the services to install the cable and face plates in the

furniture, the coordination with the furniture vendors and installers to accomplish the installation at the appropriate time, and all the final IT connections to the building systems under this Contract.

The Government reserves the right to change the method for procurement of and installation of furniture to Contractor-Furnished Contractor-Installed (CFCI). CFCI furniture requires competitive open market procurement by the Contractor using the Furniture, Fixtures, and Equipment (FF&E) package.

3.0 [BRIGADE][AND][BATTALION]HEADQUARTERS

3.1. GENERAL REQUIREMENTS

3.1.1. FACILITY DESCRIPTION

Provide [Brigade][and][Battalion]Headquarters (HQ) [Facility][Facilities]. This project must provide facilities to accommodate [Brigade][and][Battalion] administrative and command operations. It is intended to be similar to office type buildings in the private sector community.[The Brigade Headquarters and its function are more fully described in paragraph BRIGADE HEADQUARTERS – FUNCTIONAL REQUIREMENTS.][The Battalion Headquarters and its function are more fully described in paragraph BATTALION HEADQUARTERS – FUNCTIONAL REQUIREMENTS.] The standard Army functional layouts are depicted in the drawings included with this RFP, including the extent to which the preferred layouts may be adjusted.

3.1.2. FACILITY RELATIONSHIPS

[Brigade][and][Battalion] Headquarters must be located within an operations complex along with Company Operations Facilities (COF) and Tactical Equipment Maintenance Facilities (TEMF, motor pools). The facilities within this complex must be oriented to support deployment and daily operations, and should also be located within walking distance of associated community facilities such as barracks and dining facilities.

3.1.3. ACCESSIBILITY REQUIREMENTS

[Brigade][and][Battalion]Headquarters must <REV> meet accessibility codes. </REV>

3.1.4. BUILDING AREAS

A. GROSS AREA: Gross areas of facilities must be computed according to <REV> UFC 3-101-01, Section 4-2, Building Area Calculations. </REV>

B. GROSS AREA LIMITATIONS: Maximum gross area limits indicated in Paragraph 2.0, SCOPE, must not be exceeded. A smaller overall gross area is permissible if all established net area program requirements are met.

3.1.5. ADAPT-BUILD MODEL

An Adapt-Build Model for [Battalion][and][Brigade][HQ] is available upon request from the Center of Standardization. Each model contains a fully developed design which may include a Building Information Model (BIM), 2-D CADD files, and specifications.

This design is provided as a guide that exemplifies a technically acceptable product and incorporates mandatory functional and operational requirements for a similar (although perhaps not an exact) facility to be constructed under a new solicitation. It is left to the offerors' discretion if, and how, the offeror uses the sample design provided to satisfy the requirements of this Request for Proposal. This model is not intended to modify or override specific

requirements of this RFP and, under all circumstances, it is incumbent upon the successful offeror to adhere to the site-specific scope and functional and operational requirements specified within the RFP. Neither this statement of work nor the adapt-build model is intended to diminish the offeror's responsibilities under the clauses titled "Responsibility of the Contractor for Design," "Warranty of Design," and "Construction Role During Design." The successful offeror is to be the designer-of-record (DOR) and is responsible for the final design and construction product, including but not limited to adherence to the installation architectural theme, building code compliance, and correctness of the engineering systems provided. The Government assumes no liability for the model design provided and, to the extent it is used by an offeror, the offeror is responsible for all aspects of the design as designer-of-record.

3.2. FUNCTIONAL AND OPERATIONAL REQUIREMENTS

3.2.1. FUNCTIONAL SPACES

A. [BRIGADE HEADQUARTERS FUNCTIONAL REQUIREMENTS][OMITTED]:

1) **General**: The Brigade Headquarters facility is comprised of administrative, special functions, and secure section components as described in paragraph Functional Spaces Descriptions and Performance Requirements. Secure section components consist of a Brigade Operations Center (BOC), Secure Compartmented Information Facility (SCIF), and Network Operations Center (NOC). In conjunction with these, each site-specific project must include but is not limited to site amenities such as vehicle service yards, access drives, and exterior utilities. Provide space for a command section, S-1, S-2, S-3, S-4, S-6, S-7, utilities, and support services. Provide private offices for the commanding officer, commander's deputy, executive officer, command sergeant major, S-1 officer, S-2 officer, S-3 officer, S-4 officer, S-6 officer, S-7 officers, Human Resources NCO, re-enlistment, surgeon, Legal Staff office(s), Family Resource Services Administrator (FRSA), chaplain, and assistant chaplain. Also provide space for clerical and central files, conference room(s), staff duty station, reception, secure documents room, showers, supplies, recycling, [Mother's room,] and vending. A staff duty station must be provided at primary entrances to the building, whether the brigade headquarters is located in a combined Battalion/Brigade Headquarters or as a stand-alone building. The stand-alone Brigade Headquarters facility is a two-story facility with Secure Zone 1 (SZ1) spaces on the ground floor and Secure Zone 2 (SZ2) spaces on the second floor. Provide Secure Zone 3 (SZ3) spaces, SCIF, BOC, and NOC, on the first floor. The Secure Zone 3 spaces are separated from the rest of the facility <REV> with card reader access control doors. </REV> Raised access flooring must be provided in the BOC, NOC, and SCIF areas.

2) **Brigade Headquarters Program Requirements:**

a) [**NOC (Network Operations Center)**: The NOC must be designed and constructed as a secure room in accordance with AR 380-5 and classified for open storage.]

b) [**BOC (Brigade Operations Center):** The BOC must accommodate Government-Furnished TV screens (wall of knowledge) and flat panel monitors. The BOC must be designed and constructed as a secure room in accordance with AR 380-5 and classified for open storage. The main floor (non-sloping) must be on one level, with raised access flooring to accommodate changing the equipment and the room layout. It must be configured in a lecture-style arrangement, with clear sightlines to

the wall of knowledge. Also provide a VTC-capable conference room adjacent to the BOC. Refer to the standard design layout and furnishings table for the required number and size of workstations.]

c) [**SCIF (Sensitive Compartmented Information Facility):** The SCIF must be designed and constructed for accreditation in accordance with Office of the Director of National Intelligence – Intelligence Community Standard (ICS) 705 and comply with UFC 4-010-05. The SCIF must be classified for open storage.]

Figure 1: Brigade Headquarters Adjacency Matrix

	ACTIVITY OR ELEMENT	COMMAND GROUP	S1 PERSONNEL (NOTE 1)	S1 / PAC (NOTE 2)	S4 LOGISTICS	S8 RESOURCE MANAGEMENT	CHAPLAIN	SURGEON / MEDICAL	INSPECTOR GENERAL (IG)	PUBLICH AFFAIS	LEGAL	SAFETY	S2 INTELLIGENCE	S3 OPERATIONS	S5 PLANS (NOTE 3)	S6 COMMUNICATIONS	S7 INFORMATION OPS	S9 CIVIL AFFAIRS	SUPPORT OPERATIONS (NOTE 4)	FIRE AND EFFECTS	AVIATION	AIR DEFENSE	CBRNE (NOTE 5)	ENGINEER	PROTECTION (NOTE 7)	SCIF (NOTES 6 AND 8)	BOC (NOTE 8)	NOC (NOTE 8)
		ZONE 1											**ZONE 2**													**ZONE 3**		
ZONE 1	CMD GROUP		P	A			X		X	P	P																	
	S1 PERSONNEL	P		P																								
	S1 / PAC	A	P																									
	S4 LOGISTICS																											
	S8 RES MGMT																											
	CHAPLAIN	X																										
	SURGEON / MEDICAL																											
	INSPECTOR GENERAL	X																										
	PUBLIC AFFAIRS	P																										
	LEGAL	P																										
	SAFETY																											
ZONE 2	S2 INTEL																									P		
	S3 OPS														P				P	P	P	P	P	P	P		P	
	S5 PLANS													P														
	S6 COMM																											P
	S7 INFO OPS																	P										
	S9 CIVIL AFFAIRS																P							P				
	SUPPORT OPS													P														
	FIRE AND EFFECTS													P							A	A						
	AVIATION													P						A		A						
	AIR DEFENSE													P						A	A							
	CBRNE													P										P	P			
	ENGINEER													P				P					P		P			
	PROTECTION													P									P	P				
ZONE 3	SCIF												P															
	BOC													P														
	NOC															P												

Figure 1 Key:
A = Adjacency Required
P = Proximity Desirable
X = Separation Needed
"blank" = no functional relationship or adjacency requirements
Security Zone 1 = Limited access for physical and personal security purposes
Security Zone 2 = Controlled access for operational and information security purposes
Security Zone 3 = Restricted access

Figure 1 Notes:

1. *S-1 Personnel: Combined with S-4 as a sustainment section.*
2. *S-1/PAC: Personnel Action Center. Provides customer service. Location should avoid cross traffic with the command group.*
3. *S-5 Plans: Combined with S-3.*
4. *Support Operations (Ops) or SPO is a major separate staff element in Sustainment brigades.*
5. *Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE): Co-located with S-3.*
6. *Sensitive Compartmented Information Facility (SCIF): Associated with S-2. The SCIF must be adjacent to an exterior parking area for tactical SCIF vehicles. Provide the exterior Tactical SCIF Vehicle Area (TSVA) with infrastructure for vehicle interconnectivity with the internal building SCIF computer room. The TSVA must be in a secured, screened, fenced yard with controlled access. Allow space for nine vehicles to park side-by-side within the enclosure.*
7. *'Protection' is the MP Section in the Combat Support Brigade (Maneuver Enhancement): Co-located with S-2 or S-3.*
8. *A variance is permitted for the desired proximity between the SCIF, BOC, and NOC and the Brigade staff section. The intent is to allow for the consolidation of the SCIF, BOC, and NOC on the ground floor for ease of deployment and to accommodate the adjacency requirement between the SCIF, TSVA, and the NOC secure parking area.*
9. *In the consolidated Battalion/Brigade HQ concept, the staff sections for each battalion headquarters must be consolidated on a single floor, and the brigade staff sections must be physically separated from battalion staff sections.*
10. *Security Zone area must be segregated from one another by space separation, physical barriers, or placement of spaces on separate floors of the building.*
11. *Network Operations Center (NOC): The NOC must be adjacent to an exterior parking area for tactical NOC vehicles. The exterior Tactical NOC Vehicle Area (TNVA) must be in a secured, screened, fenced yard with controlled access. Allow space for two vehicles to park side-by-side within the enclosure.*

B. [BATTALION HEADQUARTERS FUNCTIONAL REQUIREMENTS][OMITTED]:

1) **General**: The Battalion Headquarters facility is comprised of administration, special functions, and classroom components as described in the paragraph Functional Space Descriptions and Performance Requirements. In conjunction with these, each site-specific project must include but is not limited to site amenities such as vehicle service yards, access drives, and exterior utilities. Provide space for a command section, S-1, S-2, S-3, S-4, S-6, utilities, and support services. Provide private offices for the commanding officer, executive officer, command sergeant major, S-1 officer, S-2 officer, S-3 officer, S-4 officer, S-6 officer, Human Resources NCO, chaplain, and assistant chaplain. Also provide space for clerical and central files, conference room(s), staff duty station, Family Resource Services Administrator (FRSA), reception, secure documents room, <REV> [Mother's room,] </REV> showers, supplies, toilet facilities, vending, recycling, mechanical room, electrical rooms, telecommunication rooms, and classrooms. A staff duty station must be provided at primary entrances to the building

whether the battalion headquarters is located in a combined Battalion/Brigade HQ or as a stand-alone building. The stand-alone Battalion Headquarters facility is a two-story facility with Secure Zone 1 spaces on the ground floor and Secure Zone 2 spaces on the second floor. A separate cluster of classrooms is provided on the ground floor and is segregated from other building components to minimize disruption to normal headquarters activities.

2) **<u>Battalion Headquarters Program Requirements</u>:** The programmatic requirements for the Battalion Headquarters are as indicated on the <REV> standard design drawings. </REV> Note that the Battalion Headquarters structure is similar for all army battalions and the main difference is size. See the Room Size and Furnishings Table for other room information.

Figure 2: Battalion Headquarters Adjacency Matrix

	ACTIVITY OR ELEMENT	ZONE 1										ZONE 2							
		COMMAND GROUP	S1 PERSONNEL (NOTE 1)	S1 / PAC (NOTE 2)	S4 LOGISTICS	CHAPLAIN	SURGEON / MEDICAL	PUBLIC AFFAIRS	LEGAL	SAFETY	CLASSROOMS (NOTE 13)	S2 INTELLIGENCE	S3 OPERATIONS	S5 PLANS (NOTE 3)	S6 COMMUNICATIONS	FIRE AND EFFECTS	AIR DEFENSE	CBRNE (NOTE 4)	ENGINEER
ZONE 1	CMD GROUP		P	A		X		P	P		X								
	S1 PERSONNEL	P		P							X								
	S1 / PAC	A	P								X								
	S4 LOGISTICS										X								
	CHAPLAIN	X									X								
	SURGEON / MEDICAL										X								
	PUBLIC AFFAIRS	P									X								
	LEGAL	P									X								
	SAFETY										X								
	CLASSROOMS	X	X	X	X	X	X	X	X	X									
ZONE 2	S2 INTELLIGENCE																		
	S3 OPERATIONS													P		P	P	P	P
	S5 PLANS												P						
	S6 COMMUNICATIONS																		
	FIRE AND EFFECTS												P				A		
	AIR DEFENCE												P			A			
	CBRNE												P						P
	ENGINEER												P					P	

Figure 2 Key:
A = Adjacency Required
P = Proximity Desirable
X = Separation Needed
"blank" = no functional relationship or adjacency requirements
Security Zone 1 = Limited access for physical and personal security purposes
Security Zone 2 = Controlled access for operational and information security purposes
Security Zone 3 = Restricted access

Figure 2 Notes:

1. *S-1 Personnel: Combined with S-4 as a sustainment section.*
2. *S-1/PAC: Personnel Action Center. Provides customer service. Location should avoid cross traffic with the command group.*
3. *S-5 Plans: Combined with S-3.*
4. *Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE): Co-located with S-3.*
5. *In the consolidated Battalion / Brigade HQ concept, the staff sections for each battalion headquarters must be consolidated on a single floor, and the brigade staff sections must be physically separated from battalion staff sections.*
6. *Security Zone areas must be segregated from one another by space separation, physical barriers, or placement of spaces on separate floors of the building.*

C. CONSOLIDATED BRIGADE AND BATTALION HEADQUARTERS BUILDING:

1) **Individual Headquarters Staff Sections**: The individual headquarters staff sections must be consolidated within the building as if each headquarters was leased space in the large building. The brigade staff sections must be physically separated (by floors or walls) from battalion staff sections.

2) **The Brigade Operations Center (BOC), Network Operations Center (NOC), and Sensitive Compartmented Information Facility (SCIF):** The BOC, NOC, and SCIF for the brigade headquarters must be located on the first floor in order to make them accessible to tactical vehicles during exercises. Locate the classrooms on the ground floor near the BOC and SCIF to allow them to be used in support of exercises or pre-deployment activities.

3) **Battalion Classrooms:** Battalion classrooms must be consolidated and reduced in number by 50 percent since the consolidated headquarters option enables alternating use of classrooms by multiple battalions.

D. FUNCTIONAL SPACE DESCRIPTIONS AND PERFORMANCE REQUIREMENTS:

Command Section	Zone 1	The command section corresponds to the office of the CEO of a corporation. It needs to be located away from heavy traffic activities and must provide a means for support personnel to control the flow of visitors. It also needs to be located with a proximity to the main entrance that allows visitors to have access to the reception area without moving through operational areas of the building such as the SCIF, BOC, and the Areas of the S-2 and S-3. The legal staff, public affairs staff, and the chaplain are outside the area controlled by the commander's assistants. These groups and individuals need ready access to the commander on a recurring basis, but also have visitors who normally must not access the command suite.

S-1	Zone 1	The S-1 office (Human Resources) is equivalent to the human resources department of a corporation. While the S-1 has representatives who support operational activities in the building, the S-1 also serves a clientele that often does not have a requirement for access to operational areas. While this function corresponds to the human resources department, it generally does not provide customer service to individual soldiers. Rather, the S-1 serves human resource specialists from subordinate organizations and agencies. The S-1 section frequently provides the personnel who control access to the commander and so proximity to the command suite is recommended as long as traffic to the S-1 does not invade the privacy of the command suite.

S-2	Zone 2	The S-2 office (Intelligence, Surveillance, and Reconnaissance) supports the commander in the areas of opposition research, terrain analysis, and weather. The activity of the S-2 section involves a variety of secure communications capabilities. Much of the S-2 section workspace is inside of the SCIF (Brigade Headquarters only) portion of the building, requiring strict access control. The S-2 section also requires direct access to a secure exterior vehicle compound adjacent to the SCIF. Locate away from areas that have customer service activities related to other sections.

S-3	Zone 2	The S-3 (Coordinating Staff Office – Operations, Plans, and Training) officer's functions are similar to those of the chief operations officer of a corporation. The S-3 section is responsible for planning, coordinating, and supervising the mission functions of the brigade. Because the S-3 integrates the operational functions of the other staff sections as they relate to the mission, it should be as centrally located as possible consistent with other requirements and constraints. The S-3 is responsible for managing the brigade operations center (BOC) (Brigade Headquarters only), which is a restricted area. Much of the work of the S-3 involves dealing with classified information and communications and, as such, should be isolated from activities that generate traffic that is not related to the operational function of that section. <REV> S-3 may require exterior pass-throughs for roof-mounted radio antennae. </REV>

S-3	Zone 2	The S-3 Special Staff Office houses a variety of staff elements that are generally autonomous from one another, but which work under the direction of the S-3 office. Each section is aligned with a special function that directly supports the operations of the brigade or battalion and which much be integrated into the overall operations of the command. When the BOC is active, each of these sections provides support staff inside the BOC. Within the section the aviation, fires and effects, and air defense elements are more independent of the other sections. Like the S-3 coordinating staff, locate in a manner that isolates them from activities that generate traffic that is not related to the operational function of that section such as the S-1 and S-4.

S-4	Zone 1	The logistics operations office (S-4) is responsible for the administration of the logistics, transportation, and maintenance functions and programs within the brigade. It does not perform any industrial type functions, does not provide direct customer service, and generates traffic that is excluded from operational areas. Most of the traffic it generates includes logistics, transportation, and maintenance managers from subordinate organizations.

S-6	Zone 2	The S-6 Information Management office operates the NOC (Brigade Headquarters only) with personnel assigned to the Brigade Signal Company. The S-6 is similar to the IT section of a corporation. At the brigade level, it performs policy and management functions but is not necessarily involved in the day-to-day operation of the networks or communications systems. Similarly, it does not provide help desk or hardware and software management. Rather, it provides plans and policies for the organization as a whole, and exercises staff supervision of the IT specialists who provide direct support to users.

S-7	Zone 2	The S-7 Information Operations office plans and conducts sensitive operations involving the relationship between the military and the civilian populations when the brigade is deployed. The S-7 has a high correlation to the S-3 Operations and Plans officers, the BOC, and the SCIF. Locate away from the high traffic areas. The S-7 section needs to have ready access to the SCIF and the BOC. The personnel spaces in this section are from other organizations.

Battalion Headquarters Organizational Classrooms	Zone 1	Classrooms (Battalion Headquarters only) must be provided for training and other ceremonial and gathering functions for all battalions. Organizational classrooms are authorized for individual battalions when battalion HQs are built as stand-alone or consolidated with a Brigade. A maximum of three classrooms per battalion is permitted. Arrange the classrooms as a continuous area with movable partitions to allow the facility to provide maximum flexibility. When multiple battalion classrooms are consolidated in a single building, such as in consolidated brigade/battalion headquarters, the battalion classrooms must be reduced in number by 50 percent since the consolidation enables alternating use of classrooms by battalions.

BOC	Zone 3	The brigade operations center (BOC) (Brigade Headquarters only) is similar to an emergency operations center in a local city of county. It provides a venue for interdisciplinary collaboration by specialists from the various staff elements and is a secure area with restricted access. Only personnel on approved rosters or those who have a verified clearance and need to know are admitted to the BOC. Complementary technologies such as card access and procedural methods are used to control access. The BOC does not normally operate at full capacity except during an exercise or during preparation for deployments. While the duration of its intense use may be limited, it is also possible to be the site of extended operations at full capacity as military preparations continue in anticipation of a political decision to employ military forces. It has workstations connected to all critical networks that are manned by representatives of the various staff agencies. Each of the representatives is “on loan” to the BOC and therefore has another permanently assigned work area. In addition to the main floor, the BOC may provide areas adjacent to the floor for smaller collaborative meetings. Locate the BOC with proximity to the S-3 and isolated from non-operational traffic to the extent possible.

SCIF	Zone 3	The Sensitive Compartmented Information Facility (SCIF) (Brigade Headquarters only) is the portion of the facility that is supervised by and primarily supports the S-2 staff section. It is a restricted space that must have ground level access to an enclosure, i.e., the Tactical SCIF Vehicle Area (TSVA),

		capable of containing up to five HMMWVs (High-Mobility Multipurpose Wheeled Vehicles) and four larger tactical vehicles with trailers in a controlled area. Complementary technological and procedural methods are used to control access.

NOC	Zone 3	The Network Operations Center (NOC) (Brigade Headquarters only) is the area where S-6 personnel and personnel from supporting activities perform network control operations. It includes workstations for each individual working with the area. It is a restricted access area that directly supports the SCIF and the BOC as well as provides general support to the internal communications to the rest of the headquarters building. It must have ground level access to an adjoining exterior enclosure capable of containing up to two HMMWVs (High-Mobility Multipurpose Wheeled Vehicles) with trailers in a controlled area. Complementary technological and procedural methods are used to control access.

3.3. SITE FUNCTIONAL REQUIREMENTS

The following site design requirements are applicable to the design of the [Brigade][and][Battalion] Headquarters [facility][facilities].

3.3.1. PRIVATELY OWNED VEHICLES (POV) PARKING

[POV parking to be provided by others.][POV parking to be provided at a ratio of one space for 90 percent of the intended HQ staff capacity.]

3.3.2. EXTERIOR LIGHTING

Sidewalks, service yards, and parking areas must have exterior lighting. See Chapter 6 for additional information and requirements.

3.3.3. [TACTICAL SCIF VEHICLE AREAS (TSVA) AT BRIGADE HEADQUARTERS

A parking area for five HMMWVs and four MRAPs, or other large tactical vehicles with trailers, must be located in a secure area immediately adjacent to the interior SCIF. The area must be located to have an unobstructed exposure from the SE to the SW for direct satellite communication, and must also be provided with the following features:

A. A perimeter fence consisting of a 6’-0” high chain link fabric topped by a single outrigger with three-strand barbed wire designed in accordance with STD 872-90-03, FE-6, chain link security fence details. Provide organizational vehicle and personnel gates that are manually operated and manually secured.

B. Provide approximately 13,000 square feet of rigid concrete pavement designed to support HMMWV vehicles or other large tactical vehicles, as utilized by the unit, with trailers.

C. A 10’-0” wide zone clear of trees and shrubs is required on each side of the fence. The clear zone should require minimal maintenance. The area 5 feet on each side of the fence must be gravel and treated to discourage vegetation growth.

D. Provide 6-inch-high concrete wheel stops for each parking stall 6 feet from the exterior wall of the Brigade Headquarters to prevent damage to the building by vehicle impact.

E. Provide data and power connections, and access control and intrusion detection system (IDS) security infrastructure as required by Paragraphs 3.9 and 3.10. Provide an intercom between vehicle and personnel gates and the SCIF.

F. No transformers, generators, or mechanical equipment are permitted in this area.][Omitted.]

3.3.4. [TACTICAL NOC VEHICLE AREAS (TNVA) AT BRIGADE HEADQUARTERS

A. A perimeter fence consisting of a 6'-0" high chain link fabric topped by a single outrigger with three-strand barbed wire designed in accordance with STD 872-90-03, FE-6, chain link security fence details. Provide organizational vehicle and personnel gates that are manually operated and manually secured.

B. Provide approximately 3,050 square feet of rigid concrete pavement designed to support HMMWV vehicles or other large tactical vehicles, as utilized by the unit, with trailers.

C. A 10'-0" wide zone clear of trees and shrubs is required on each side of the fence. The clear zone should require minimal maintenance. The area 5 feet on each side of the fence must be gravel and treated to discourage vegetation growth.

D. Provide 6-inch-high concrete wheel stops for each parking stall 6 feet from the exterior wall of the Brigade Headquarters to prevent damage to the building by vehicle impact.

E. No transformers, generators, or mechanical equipment are permitted in this area.][Omitted.]

3.4. SITE AND LANDSCAPE REQUIREMENTS – NOT USED

3.5. ARCHITECTURAL REQUIREMENTS

3.5.1. GENERAL

Building construction must comply with requirements of UFC 1-200-01, UFC 3-600-01, the International Building Code (IBC), and NFPA 101.

3.5.2. EXTERIOR ARCHITECTURE

Interior and exterior architectural features of the building must be designed in accordance with the local Installation Design Guide.

3.5.3. BUILDING ENTRANCE

Provide attractive entry features such as canopies and large glass wall surfaces, as well as vestibules, which ensuring compliance with Sustainability and Antiterrorism/Force Protection requirements.

3.5.4. WINDOWS

Provide windows (and skylights where practical or required) for natural lighting in all Security Zone 1 and 2 office areas, ensuring compliance with antiterrorism/force protection and physical security requirements. Areas where classified material (physical or electronic format) is handled, stored, processed, or discussed must be limited to non-operable windows. This prohibition extends to locations with components for SIPRNET and to other devices processing classified

data, which includes all private offices and conference rooms. When fixed windows are provided in rooms authorized for SIPRNET, the following potential problem areas must be addressed:

A. Ensure TEMPEST is mitigated by using TEMPEST approved equipment and shielded or fiber optic cabling.

B. Provide provision for window curtains, shades, or blinds, or application of a one-way film to the window glazing.

C. Provide sound control windows where audio from classified VTC sessions has the potential of being transmitted through window glazing.

D. [Windows are not authorized in the Brigade Headquarters Security Zone 3 areas.]

3.5.5. SOUND INSULATION

Due to the possibility of amplified audio, provide sound insulation for all classrooms and conference rooms[, to include the Operations Centers (OC) in BDE HQ,] to meet a minimum rating at doors, walls, and floor/ceiling assemblies of STC 50 or better.[In addition to meeting a minimum rating of STC 50 or better, SCIF Conference Rooms must also meet Sound Group 4 performance criteria in accordance with ICS 705-1.] Provide sound insulation to meet a minimum rating at doors, walls, and floor/ceiling assemblies of STC 45 at [all other Security Zone 3 areas,]private office, team rooms, A/V control rooms, and walls separating security zones. The sound insulation system is to be as defined by ASTM E413-04, Classification for Rating Sound Insulation. Compliance with STC requirements includes industry standard sound deterrence measures and sound flanking paths at HVAC ductwork and pipe penetrations, electrical boxes, and similar systems. In addition to the above sound insulation requirements, all conference rooms and classrooms supporting video teleconferencing capabilities must meet Noise Criteria (NC) 30 rating in accordance with ASHRAE Fundamentals Handbook.

A. In open office areas, providing acoustic wall panels, hanging vertical panels, and other non-permanent means of noise reduction are permitted to manage sound transmission and acoustically separate staff functions.

3.5.6. OFFICE AND ADMINISTRATIVE AREAS

The open office areas for staff sections (for instance S-1 and S-2) in different security zones must be separated from one another by physical separation, such as walls and floors. The intent is to provide visual separation between staff sections within a headquarters, with maximum flexibility for future change within open office areas. A similar preference exists for private offices within the staff section, with the exception that they require doors for privacy. The command section offices must be constructed to provide privacy and sound control in accordance with SOUND INSULATION paragraph above. The intent for the command section offices is to provide a more permanent type of construction, but still to minimize load-bearing walls to accommodate future reconfiguration. This same construction requirement exists for walls between headquarters in a consolidated headquarters facility. Provide centralized areas for photocopier, laser printer, and fax machine with waste and paper recycling receptacles and supply cabinet for paper storage in each office area. Hours of operation are normal business hours except where indicated otherwise.

3.5.7. SECURE DOCUMENTS ROOM

The Secure Documents room in the S-2 area must be designed and constructed in accordance with AR 380-5 and classified for open storage.

3.5.8. [NOC (NETWORK OPERATIONS CENTER)

The NOC must be designed and constructed as a secure room in accordance with AR 380-5 and classified for open storage.]

3.5.9. [BOC (BRIGADE OPERATIONS CENTER)

The BOC must accommodate Government-Furnished television screens (wall of knowledge) and monitors. The BOC must be designed and constructed as a secure room in accordance with AR 380-5 and classified for open storage. The main floor (non-sloping) is on one level, with raised access flooring to accommodate changing the equipment and the room layout and is configured in a lecture-style arrangement with clear sightlines to the wall of knowledge. Provide a conference room adjacent to the BOC. Refer to the standard design layout and furnishings table for the required number and size of workstations.]

3.5.10. [SCIF (SENSITIVE COMPARTMENTED INFORMATION FACILITY)

The SCIF must be designed and constructed for accreditation in accordance with Office of the Director of National Intelligence – Intelligence Community Standard (ICS) 705. The SCIF must be classified for open storage.]

3.5.11. FINISHES AND INTERIOR SPECIALTIES

A. Provide fire extinguisher cabinets and brackets when fire extinguishers are required by UFC 3-600-01 <REV> </REV>. Locate cabinets and brackets in accordance with NFPA 10. Provide semi-recessed cabinets in finished areas, and brackets in non-finished areas (such as utility rooms and storage rooms). Fire extinguishers are not provided in the Contract.

3.6. STRUCTURAL REQUIREMENTS

3.6.1. GENERAL

The information provided in this section is based on general requirements in producing a structure that meets the needs of the users.

A. The project facilities must be designed for a lateral force resisting system based on wind and seismic forces which produce a worst-case scenario.

B. The project facilities must be evaluated for progressive collapse in accordance with UFC 4-010-01.

3.6.2. SECURE DOCUMENTS ROOM

The floor system for the Secure Documents Room must be designed to store up to 12 safes/file cabinets. The empty shipping dead load of each cabinet is approximately 1,021 pounds. The live load of the safe/file cabinet must be based on the latest approved edition of IBC for a “Heavy Storage” of 250 psf.

3.6.3. STRUCTURAL DESIGN CRITERIA

A. AT/FP REQUIREMENTS: Antiterrorism / Force Protection measures must comply with UFC 4-010-01.

3.7. THERMAL PERFORMANCE – NOT USED

3.8. PLUMBING REQUIREMENTS – NOT USED

3.9. COMMUNICATION AND SECURITY SYSTEMS

3.9.1. GENERAL

See Paragraph 6 of the RFP for clarifications and additional requirements for the communication and security systems.

3.9.2. [EXTERIOR SECURITY

Security infrastructure for Tactical SCIF Vehicle Area (TSVA) systems must be installed to support Government-Furnished equipment including ICIDS (integrated commercial intrusion detection system) systems, CCTV (close-circuit television) surveillance systems, and access control systems. Provisions must include dedicated power circuits, communications connections, raceways, and signal wiring for user-installed devices. System requirements must be coordinated with the installation security office.][Omitted.]

3.9.3. EXTERIOR COMMUNICATION

A. OUTSIDE PLANT TELECOMMUNICATIONS SYSTEMS: The project's facilities must connect to the Installation telecommunications (voice and data) system through the outside plant (OSP) underground infrastructure in accordance with UFC 3-580-01 and local NEC requirements. Connections to the OSP cabling system must be from each facility main cross connect located in the main telecommunications room to the closest OSP access point. Components include the physical cable plant and the supporting structures. Items included under OSP infrastructure encompass, but are not limited to, maintenance hole and duct infrastructure, copper cable, fiber optic cable, entrance protectors, cross connects, terminations, splices, cable vaults, and copper and FO entrance facilities.

B. [DATA CONNECTIONS FOR TACTICAL SCIF VEHICLE AREA (TSVA): Provide underground Protective Distribution System (PDS) pathway for telecommunications connectivity from the SCIF in the main building to each TSVA vehicle. Weatherproof tactical interface boxes (TIB) are required for each vehicle. A TIB must be provided for secure vehicle system connections, non-secure NIPRNET, telephone, and Intrusion Detection System (IDS). Connectors for all systems must be included. Connect the TIBs to the building SCIF via an underground pathway system. Cabling for all data networks (including NIPRNET, SIPRNET, NSANET/TDN-2, and any other network required) must be provided. Include three 6-strand single mode fiber optic cables to each TIB for secure networks unless otherwise specified. Design connection points to service and prevent damage from the vehicles. Pathways terminating in the SCIF must terminate in the server room. Coordinate connection requirements with the User.][Omitted.]

C. [DATA CONNECTIONS FOR TACTICAL NOC VEHICLE AREA (TNVA): Provide underground Protective Distribution System (PDS) pathway for telecommunications connectivity from the NOC in the main building to each vehicle. Weatherproof tactical interface boxes (TIB) are required for each vehicle. A TIB must be provided for secure vehicle system connections, non-secure NIPRNET, telephone, and Intrusion Detection System (IDS). Connectors for all systems must be included. Connect the TIBs to the building NOC via an underground pathway system. Cabling for all data networks (including NIPRNET, SIPRNET, NSANET/TDN-2, and any other network required) must be provided. Include three 6-strand single mode fiber

optic cables to each TIB for secure networks unless otherwise specified. Design connection points to service and prevent damage from the vehicles. Pathways terminating in the NOC must terminate in the server room. Coordinate connection requirements with the User.][Omitted.]

3.9.4. INTERIOR COMMUNICATIONS AND SECURITY

A. TELECOMMUNICATIONS: An acceptable building telecommunications system encompasses, but is not limited to, copper and fiber optic (FO) entrance cable, protectors, termination equipment, racks, cable management, patch panels, copper and fiber backbone cable, conduits, cable tray, cable ladder, copper and/or fiber horizontal distribution cable, outlets, grounding, and labeling. Telecommunications <REV> system shall be designed in accordance with UFC 3-580-01 Telecommunications Interior Infrastructure Planning and Design. </REV>

1) **Telecommunications Rooms (TR):** Telecommunications rooms and telecommunications entrance facilities must be provided for the network and voice equipment, and cabling infrastructure. Provide a minimum of one telecommunications room on each floor, located near the center of the building, and preferably stacked between floors. Provide additional telecommunication rooms to ensure that the horizontal copper cable length does not exceed the 295-foot limitation. The telecommunications rooms must be designed and provisioned in accordance with <REV> UFC 3-580.01. </REV> Provide a main TR with telecommunications entrance capability for each facility and locate this space on the first floor. The main TR serves as the hub for the interior backbone single mode fiber cable and copper riser cable to each of the other TRs. Provide backbone cabling in accordance with <REV> UFC 3-580-01. </REV> Each TR must also have the following requirements.

a) Access must be from a centralized corridor within the building. No exterior access is allowed.

b) Door must be 3’-0” wide opening outward.

c) Room must be a minimum of 8’-0” wide to accommodate working clearances around data equipment and racks. Avoid odd-shaped TRs, such as “L” shaped, that decrease the useable area for backboards and racks.

d) Provide a fire-rated A-C plywood backboard (3/4-inch-thick) around interior perimeter to a height of 8’-0”.

e) Illumination must be 50 foot-candles (average).

f) Dedicated power panel within the room.

g) Minimum TR sizes as shown in tables below.

Table 1: Brigade HQ Telecommunications Room Sizes

Building Size	Main TR (1st Floor)		TR (2nd Floor)	
	Min Width (Feet)	Min Square Feet	Min Width (Feet)	Min Square Feet
Extra Small	8	125	8	100
Small	8	125	8	100
Medium	8	125	8	130
Large	8	150	8	140
Extra Large	8	295	8	150
Additional TRs (If Required)	8	80	8	80

Table 2: Battalion HQ Telecommunications Room Sizes

Building Size	Main TR (1st Floor)		TR (2nd Floor)	
	Min Width (Feet)	Min Square Feet	Min Width (Feet)	Min Square Feet
Small	8	90	8	100
Medium	8	125	8	80
Large	8	125	8	80
Extra Large	8	125	8	80

Table 3: Combined BDE/BN HQ Telecommunications Room Sizes

Building Size	TR	
	Min Width (Feet)	Min Square Feet
1st Floor BN	8	125
1st Floor BDE	8	125
1st Floor Classroom	8	125
2nd Floor BN	8	125
2nd Floor BDE	8	125
Additional TRs (If Required)	8	80

Tables 1-3 Notes:

1. *Width is a minimum inside edge of wall to inside edge of wall dimension inside the room. Length must be greater than or equal to width.*
2. *Standard Drawings may be adjusted as needed, but the Telecommunications rooms must not be less than the minimum width and square feet indicated in tables.*
3. *Telecommunications rooms are preferred to be rectangular in shape.*

2) **Telecommunications Outlets:** Telecommunications outlets must be provided in accordance with UFC 3-580-01 for functional purpose of the various spaces with the facility as modified by user special operational requirements and herein. Each headquarters workstation must have voice and data connection capability. Each conference room [and classroom] must have voice capability (minimum one outlet per room) and data connection capability (minimum one outlet per person) in accordance with UFC 3-580-01. Provide a voice/data outlet at each copier location. Provide a wall mounted telephone outlet with a single jack in each mechanical, electrical, telecommunication room, and secure storage room. For controlled access areas, provide outlets for wall mounted (GFGI) phones at access points. Provide additional locations based on coordination with the facility user and where required for HVAC, other equipment, and as required by UFC 3-580-01.

3) **Telecommunications Distribution**: Tele-poles are prohibited. The uses of existing architectural columns or perimeter walls are the preferred method of power and telecommunications distribution to systems furniture workstations. Utilize underfloor conduits if no other alternative exists, and design and provide this system in accordance with TIA/EIA-569-B. Underfloor outlet boxes must also contain a spare conduit for future expansion. [Avoid second floor penetrations above the SCIF area.]

4) **Cable Trays:** Provide cable tray pathways throughout the facility to support the systems required for the construction of the facility as well as user's computer networks, video integration system, telecommunication systems, and other specialized electronic systems.

5) **Raised Access Flooring:** Provide raised access flooring in areas with high concentrations of cabling to accommodate flexibility and growth. Signal ground must be provided in a grid pattern under all raised floor areas in accordance with MIL-HDBK 419A. Minimum height of raised flooring is 12 inches.

B. SECURE COMMUNICATIONS:

1) **Secure Communications Rooms:** The SIPRNET room(s) must be designed and constructed in accordance with the open storage area requirements at secret level outlined in the Secret Internet Protocol Router Network (SIPRNET) Technical Implementation criteria. These rooms must be separate dedicated rooms (minimum size is 8'-0" x 8'-0") and must include a communication signal ground busbar, connected to the main telecom room signal busbar via properly sized ground wire (see MIL-HDBK-419-A), and one dedicated 20-amp circuit for the SIPRNET rack/safe, in addition to convenience outlets. The connection to the main telecommunications room must be via a single 2-inch trade size steel conduit in accordance with <REV> UFC 3-580-01. </REV> Also provide a NIPRNET data outlet. As an alternative, the space allocated for the SIPRNET room may be incorporated into the telecommunications room if an approved SIPRNET Information Processing System Security Container (IPS) is provided within the combined SIPRNET/telecommunications room and it is approved by the local NEC.

2) **Secret Internet Protocol Router Network (SIPRNET):** Design and build the distribution infrastructure in accordance with the Secret Internet Protocol Router Network (SIPRNET) Technical Implementation Criteria. The word "shall" shall be substituted for the words "should" or "will" in the referenced publication NSTISSI 7003. Provide a secure outlet drop box in each private office, conference room, and other areas as

directed. [SIPRNET distribution includes the SCIF, BOC, and NOC in the Brigade Headquarters.]Provide a Protective Distribution System (PDS) in all limited and uncontrolled access areas. Specifications Section 27 05 28, Protective Distribution System (PDS) For SIPRNET Communications Systems must be incorporated into this project. Approved surface mounted raceway PDS must be used instead of the surface mounted conduit unless otherwise directed by the local NEC/DOIM. Category 6 UTP copper cables with red cable jacket must be included and terminated at both ends in accordance with <REV> UFC 3-580-01. </REV>

3) **Secure Video Teleconferencing (VTC)**: Provide secure VTC capability in each conference room (but not team rooms) [, and in the Brigade Headquarters BOC and SCIF]. Provisions generally consist of a power connection and two RJ45 SIPRNET outlets.

C. CABLE TELEVISION (CATV): Provide CATV in all private offices,[classrooms,] and conference rooms.[Additionally, provide CATV in the Brigade Headquarters BOC, NOC, and SCIF.] The cable television system must consist of cabling, pathways, and outlets. All building CATV systems must conform to APPLICABLE CRITERIA to include UFC 3-580-01 Telecommunications Building Cabling Systems Planning/Design.

D. AUDIO / VISUAL SYSTEMS:

1) **GFGI Projectors and Flat Panel Monitors:** Provisions (consisting of a power receptacle and conduit for signal wiring) for a GFGI projectors and flat panels must be provided in each conference room [and classroom].

2) **Paging Systems**: Provide a zoned paging system throughout each facility that is integrated with the telephone system.

3) **Video Teleconferencing (VTS) provisions**: Provide video teleconferencing (non-secure) provisions in all conference rooms and classrooms. Provisions generally consist of a power connection and two FJ45 data outlets in a double gang outlet faceplate.

E. SECURITY INFRASTRUCTURE (SECURITY EQUIPMENT NIC): The security infrastructure must be installed to support Government-furnished equipment including but not limited to Integrated Commercial Intrusion Detection Systems (ICIDS), CCTV surveillance systems, and restricted access systems. Provisions must include dedicated power circuits, communications connections, raceways, and signal wiring for user-installed devices. Coordinate system requirements with the Installation Security Office.

1) **Intrusion Detection and Security Systems:** Provision for user-provided ICIDS intrusion detection and security systems are required for secure and restricted areas including the Secure Document and the SIPRNET rooms. [The Brigade headquarters BOC, NOC, SCIF, and TSVA must also have provisions. As a minimum, provide a CCTV surveillance system at the Brigade Headquarters SCIF corridor, rear exit, and TSVA.]

2) **TEMPEST Requirements**: Meet TEMPEST requirements on a per site basis dependent on the facility zone type and the equipment NSTISSAM level. All unclassified telecommunications systems and associated infrastructure must be electrically and physically isolated from all classified telecommunications systems in accordance with NSTISSAM requirements.

F. RADIO COMMUNICATIONS AND ANTENNA: Provide watertight antenna mounting brackets to the exterior wall of the building (roof mounted equipment is not authorized) at a location

that has been coordinated with the user for FM reception from the ranges. Wall mounted structures must not violate any warranty conditions. Design all brackets to structurally support the equipment that is required by the user and capable of resisting the local wind loads. Optional antenna mounting locations must be freestanding poles or platforms located with proper site orientation to connect to the Duty Station of each unit. Provide two 3-inch conduits with weatherheads at the antenna mounting location and terminate the conduit inside the headquarters building at the Duty Station. If a multi-unit HQ is being designed, then this same requirement must be provided to each unit within the building. The actual equipment will be provided and installed by the Government.

3.10. ELECTRICAL REQUIREMENTS

3.10.1. GENERAL

See Paragraph 6 of the RFP for clarifications and additional requirements for the electrical systems.

3.10.2. [EXTERIOR ELECTRICAL

A. EXTERIOR GENERATOR (BRIGADE HEADQUARTERS ONLY): One automatic start-stand-by power generator to serve mission-essential areas and life safety systems as defined by paragraph Stand-by Power System (Brigade Headquarters Only) must be provided. Locate in a secure area outside of the building in a weatherproof enclosure. Provide a fuel tank to serve the generator for 48 hours of operation at full load.

B. POWER CONNECTIONS FOR TACTICAL SCIF VEHICLE AREA (TSVA): Provide underground systems for power connectivity to the TSVA. Power must be capable of accommodating user power requirements to each tactical SCIF vehicle for manned and unmanned platform support without using the platform's onboard power. Four large tactical vehicles each has a load of 100 amps and five smaller vehicles (HMMWV) each has a load of 60 amps, all at 208 volts, 3-phase, 4-wire. Also provide a general purpose 120-volt receptacle at each vehicle. Connection points must be designed to service and prevent damage from the vehicles.][Omitted.]

3.10.3. INTERIOR ELECTRICAL

A. CHARACTERISTICS: Select electrical characteristics of the power system to provide a safe, efficient, and economical distribution of power, based upon the size and types of loads to be served. Use distribution and utilization voltages of the highest level practical for the load to be served.

B. NONLINEAR LOADS: The effect of nonlinear loads such as computers and other electronic devices must be considered and accommodated. These loads generate harmonics, which can overload conventionally sized conductors or equipment and thereby cause safety hazards and premature failures. Equip circuits serving such devices with a separate neutral conductor not shared with other circuits. Panelboards and any dry type transformers must be rated accordingly.

C. TRANSIENT VOLTAGE SURGE PROTECTION: Provide transient voltage surge protection. Design in accordance with NFPA 780 and other referenced criteria.

D. RECEPTACLES: Provide power receptacles per NFPA 70 and in conjunction with the proposed equipment and furniture layouts. Provide power, data, and telecommunications connectivity to each workstation. A duplex receptacle must be accessibly located adjacent to each voice, data, and CATV outlet. Power poles are prohibited. The use of furred structural columns or perimeter walls are the preferred method of power and telecommunication distribution to systems furniture workstations. Utilize underfloor conduits if no other alternative exists. [Second floor penetrations above the SCIF area are prohibited.]

E. [STAND-BY POWER SYSTEM (BRIGADE HEADQUARTERS ONLY): Stand-by generator(s) and automatic transfer switch (with internal isolation and bypass capabilities for maintenance) must be provided. System must serve all mission essential areas including the BOC, NOC, SCIF, TSVA vehicles, telecommunications rooms, SIPRNET rooms, and server rooms. (Also provide HVAC in these areas.) In addition, system must serve life safety and emergency loads that include, but are not limited to, elevator, emergency egress and exit lighting, fire alarm system, mass notification system, security systems, and other emergency circuits.][Omitted.]

F. [UPS SYSTEMS (BRIGADE HEADQUARTERS ONLY): Provide Uninterrupted Power Supply (UPS) to serve the BOC, NOC, SCIF, server rooms, SIPRNET rooms, and telecommunications rooms. Unit(s) must have a minimum of 5 minutes of capacity at full load to allow for generator override or orderly shut-down of critical loads if the generator power fails to go online. Unit(s) must have isolation and bypass capabilities for maintenance and utilize leak-proof maintenance-free sealed lead-acid batteries with suspended electrolyte.][Omitted.]

G. Provide a minimum of 20 percent spare circuit and load capacity at all levels of the power distribution system.

3.10.4. LIGHTING

Lighting and lighting controls must comply with the recommendations of the Illumination Engineering Society of North America (IESNA) and the requirements of ASHRAE 90.1. Lighting must be compatible with security cameras, safety, and security requirements.

A. INTERIOR LIGHTING CONTROLS: Automatic controls in offices, classrooms, and conference rooms[, and the BOC, NOC, and SCIF areas in the Brigade Headquarters] must include provisions to be overridden by occupants during non-duty hours.

B. SPECIAL LIGHTING CIRCUITS: All classrooms and conference rooms[, and the BOC, NOC, and SCIF areas in the Brigade Headquarters] must have a dimmable circuit to provide light over the general work area without glare on audio-video displays. Dimming ballasts must be capable of dimming to 5 percent.

3.10.5. GROUNDING

The ground counterpoise must be provided around the building perimeter and must be utilized for grounding incoming service, building steel, telephone service, piping, lightning protection, and internal grounding requirements. Provide ground straps where required by function and connect to the building grounding system. Provide a grounding point under each raised access floor. Additional grounding may be provided based on project requirements. Systems must conform to NFPA 70 National Electrical Code, local codes, and UFC 3-580-01.

3.10.6. LIGHTNING PROTECTION SYSTEM

Lightning Protection System must be in accordance with NFPA 780 and other referenced criteria.

3.10.7. MASS NOTIFICATION SYSTEM (MNS)

Provide a mass notification system as required by UFC 4-010-01.

3.11. HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

3.11.1. [EXTERIOR EQUIPMENT

Above ground mechanical equipment such as chillers, refrigeration equipment, condensers, and air-handling equipment, and miscellaneous equipment (including transformers and generators) cannot be physically located within Secure Vehicle Parking Areas.][Omitted.]

3.11.2. DESIGN DATA

Actual internal equipment loads (i.e., heat dissipation) for finalized HVAC system sizing purposed must be acquired from the user or appropriate point-of-contact (POC) and is the responsibility of the <REV> Designer of Record </REV>. For baseline purposes, estimated internal equipment loads (i.e. heat dissipation) are as follows: for [NOC, BOC, and SCIF areas, use Table 4: Equipment Loads;] Communication-type rooms and areas (such as Telecomm and SIPRNET), use 585 watts. For administrative and office-type areas [with the exception of the Classroom area,][with the exception of the SCIF area,][with the exception of the Classroom and SCIF areas,] assume that each person or workstation area, cubicle, and office space is assigned one personal computer (desktop) for HVAC load calculation purposes.[For the Classroom areas, assume that each person is assigned one laptop computer for HVAC load calculation purposes. The overall quantity of personnel within each Classroom area must be based on one person per 20 square feet of floor area.] The quantity of personnel within each Conference room and area must be based on one person per 15 square feet of floor area. Indoor design conditions for specific spaces are as shown in Table 5. Indoor design conditions for spaces not listed in Table 5 must be in accordance with Paragraph 5, GENERAL TECHNICAL REQUIREMENTS, subparagraph HEATING, VENTILATING, AND AIR CONDITIONING.

Table 4: Equipment Loads (Brigade Only)

NOC / BOC / SCIF	
ROOM DESCRIPTION	**WATTS / FT2**
SCIF (Open Office)	5.98
SigInt	2.36
Server Room (SCIF)	51.85
GeoInt	2.93
BOC (Open Office)	15.58
NOC (Open Office)	1.31
ISM Office (NOC)	1.17
A/V Server Room (BOC)	39.87
Server Room (NOC)	40.58

Table 5: Indoor Design Data

HEATING	
[BOC, NOC, SCIF] <REV> </REV>	[72°F]
[*Server Room]	[*72°F/50%RH ± 5%]
<REV>	</REV>
COOLING	
[BOC, NOC, SCIF] <REV> </REV>	[72°F]
[*Server Room]	[*72°F/50%RH ± 5%]

[Areas in which humidity control (including humidification and reheat) is required.]*

3.11.3. HVAC SYSTEM REQUIREMENTS FOR CRITICAL AREAS [AND CLASSROOMS] [AND UPS SYSTEM]

A. [BRIGADE OPERATIONS CENTER (BOC), NETWORK OPERATIONS CENTER (NOC), AND SENSITIVE COMPARTMENTED INFORMATION FACILITY (SCIF): The BOC, NOC, and SCIF must be served by an independent and dedicated air handling system. These areas are allowed to be combined on a common system depending on the load profile and zoning requirements for each space. Provide equipment redundancy in accordance with Table 6: Redundancy / Reliability Matrix.][Omitted.]

B. TELECOMMUNICATIONS ROOMS: Telecommunications rooms must each be served by an independent and dedicated air handling system. Air handling unit system(s) must not be floor-space mounted within the actual space served. <REV> These rooms must meet the HVAC requirements for telecommunications rooms in accordance with UFC-3-410-01. </REV> [Provide equipment redundancy in accordance with Table 6: Redundancy / Reliability Matrix for telecommunications rooms in the Brigade Headquarters.]

C. [SERVER ROOM(S): Server room(s) must each be served by an independent and dedicated air handling system. Air handling unit system(s) are allowed to be floor-space mounted within the actual space served. Provide equipment redundancy in accordance with Table 6. Provide computer room type air conditioning units to condition server rooms.][Omitted.]

D. [BOC, NOC, AND SCIF AREAS ARE TO BE LOCATED ON RAISED FLOORS: The use of an Under-Floor Air Distribution (UFAD) system for these areas is not mandatory, nor a requirement.][Omitted.]

E. [CLASSROOMS: Each classroom area must be individually temperature-controlled by the Direct Digital Control (DDC) System. Temperature setpoint adjustment must be accomplished via the DDC System by authorized personnel.][Omitted.]

F. [UPS SYSTEM: A UPS system to serve the BOC, NOC, SCIF, server rooms, and telecommunications rooms is required to be provided (see electrical requirements). HVAC system(s) must be designed and provided to maintain appropriate interior environmental conditions (for instance temperature, humidity, and pressure), and to limit hydrogen gas accumulation to less than an explosive mixture. Design of HVAC system(s) must meet the system manufacturer's requirements and other code requirements such as OSHA, NFPA 1, NFPA 111, and NFPA 70. Provide ventilation and exhaust systems as required and as

independent and dedicated systems which are separate from all other building systems. Air recirculation within the battery area is not allowed, and where required, mechanical components of the ventilation system must be explosion-proof. Provide alarms and automatic controls to automatically detect and sound audible alarm(s) upon malfunction of the ventilation system. A malfunction of ventilation system must prevent the battery charging system from operating. Design features of the battery area or room must address all requirements such as ventilation, fire protection, hazardous material reporting, disposal, and spill control, as well as include emergency eyewash/shower as required by code. Omitted.]

Table 6: Redundancy / Reliability Matrix (Brigade Only)

CATEGORY	AREA SERVED	EMERGENCY POWER	REQUIREMENT
[Heating/]Cooling Equipment and Associated Controls	BOC, NOC, SCIF, Server Rooms, and Telecommunications Rooms	Yes	100% dedicated redundancy required for [heating and]cooling equipment
Air handling Equipment and Associated Controls	BOC, NOC, SCIF, Server Rooms, and Telecommunications Rooms	Yes	100% dedicated redundancy is required
Piping	BOC, NOC, SCIF, Server Rooms, and Telecommunications Rooms	N/A	Provide 100% redundant cooling[and heating] piping feeds from the cooling[and heating] source equipment to the air handling equipment serving these areas.

<REV> Table 6 Notes: </REV>

1. *Provide all required equipment, components, controls, and other appurtenances on emergency power such that 100% cooling[and heating] capacity is available and provided to the BOC, NOC, SCIF, Server Rooms, and Telecommunications Rooms.*
2. *Where redundancy requirements dictate the use of packaged equipment for an area or combination of areas, provide two separate sets of packaged equipment, each at 100% capacity.*
3. *The above categorized equipment requiring emergency power is not required to be on UPS.*
4. *For equipment requiring emergency power, controls must have battery back-up or non-volatile memory to facilitate automatic re-start upon restoration of emergency or normal power.*
5. *Where centralized underground piping distribution system is utilized as a cooling[and heating] fuel source, it must be available year-round, 24 hours/day, 7 days/week, and an additional and separate cooling[and heating] system must be provided to serve as the required 100% capacity backup.*
6. *System redundancy requirements for the BOC, NOC, SCIF, Server Rooms, and Telecommunications Rooms include the capability of automatic monitoring and automatic system switch-over in the event of a system operational failure or malfunction, and also to equalize systems run time. System operational failure or malfunction must produce an audible and visual alarm for the occupant.*
7. *[Redundant heating piping feeds are not required to be extended to the individual air terminal units (i.e. VAV boxes) in VAV air handling systems.]*

3.11.4. HVAC SYSTEM REQUIREMENTS FOR ADMINISTRATIVE AREAS

The capability of extending the regularly-scheduled operating hours of the HVAC systems (Administrative and Classroom areas) must be provided. A password protected control device (i.e. control panel) located within the staff duty station is the preferred design approach and arrangement. Provide a separate, dedicated HVAC unit independent of the main building HVAC system for the staff duty station and schedule the system for after normal hour operation only. <REV> The admin areas' HVAC system design must include flexibility in zoning to where it can address future changes in occupant densities. </REV> Administrative areas must be temperature-controlled by the DDC System. Temperature set-point adjustment must be accomplished via DDC System by authorized personnel.

3.11.5. <REV> HVAC CONTROLS

Provide HVAC Controls in accordance with Paragraph 5.8.3 of Section 01 10 00. See Appendix [_] for HVAC Controls for typical control system points schedules. These schedules identify minimum points to be monitored and controlled by the building automation system (BAS). See Paragraph 6 for additional installation specific points. Points schedule drawings convey a great deal of information critical to design, installation, and subsequent performance of the control system. It includes hardware input and output information, device ranges and settings, ANSI 709.1 communications protocol data, and information about data that is to be used at the operator workstation by Monitoring and Control software. These schedules are available as an excel spread sheet and as AutoCAD drawings on the Whole Building Design Guide (WBDG) website https://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/forms-graphics-tables under UFGS 23 09 00 Instrumentation and Control for HVAC. Develop point schedule of system types not addressed. It must be detailed to a level consistent to a similar listed system in the appendix. It is recommended that all guidance and instruction documents be reviewed prior to using any of the info, as the documents provide necessary and critical information to the use of website drawings and other information. </REV>

3.12. ENERGY CONSERVATION REQUIREMENTS

3.12.1. GENERAL

Energy conservation must be in accordance with Paragraph 5, GENERAL TECHNICAL REQUIREMENTS, of the RFP Statement of Work (SOW), subparagraph ENERGY CONSERVATION and UFC 1-200-02. An energy efficiency and sustainability study, jointly conducted by the U.S. Army Corps of Engineers and the Department of Energy, has been completed and the draft summary report is available upon request.

This draft report is made available to designers as a reference tool to aid in meeting energy conservation mandates and targets. Design the building to achieve 30 percent energy consumption reduction below ASHRAE 90.1 requirements, or the maximum percent reduction that is life cycle cost effective.

3.12.2. SCHEDULES

The following load schedules must be used in all facility energy simulations for purposes of documenting compliance with energy performance requirements.

Schedule 1: Battalion and Brigade Headquarters Internal Load Schedules

Hr	Occupancy			Lighting			Plug Loads			Service Hot Water		
	Wk	Sat	Sun	Wk	Sat	Sun	Wk	Sat	Sun	Wk	Sat	Sun
1	0.00	0.00	0.00	0.05	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
2	0.00	0.00	0.00	0.05	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
3	0.00	0.00	0.00	0.05	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
4	0.00	0.00	0.00	0.05	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
5	0.00	0.00	0.00	0.05	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
6	0.00	0.00	0.00	0.05	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
7	0.00	0.00	0.00	0.10	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
8	0.20	0.00	0.00	0.30	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
9	0.95	0.00	0.00	0.90	0.05	0.05	0.90	0.30	0.30	0.00	0.00	0.00
10	0.95	0.00	0.00	0.90	0.05	0.05	0.90	0.30	0.30	0.00	0.00	0.00
11	0.95	0.00	0.00	0.90	0.05	0.05	0.90	0.30	0.30	0.00	0.00	0.00
12	0.95	0.00	0.00	0.90	0.05	0.05	0.90	0.30	0.30	0.00	0.00	0.00
13	0.50	0.00	0.00	0.90	0.05	0.05	0.80	0.30	0.30	0.00	0.00	0.00
14	0.95	0.00	0.00	0.90	0.05	0.05	0.90	0.30	0.30	0.00	0.00	0.00
15	0.95	0.00	0.00	0.90	0.05	0.05	0.90	0.30	0.30	0.00	0.00	0.00
16	0.95	0.00	0.00	0.90	0.05	0.05	0.90	0.30	0.30	0.00	0.00	0.00
17	0.95	0.00	0.00	0.90	0.05	0.05	0.90	0.30	0.30	0.00	0.00	0.00
18	0.30	0.00	0.00	0.50	0.05	0.05	0.50	0.30	0.30	0.00	0.00	0.00
19	0.00	0.00	0.00	0.30	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
20	0.00	0.00	0.00	0.30	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
21	0.00	0.00	0.00	0.20	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
22	0.00	0.00	0.00	0.20	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
23	0.00	0.00	0.00	0.10	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
24	0.00	0.00	0.00	0.05	0.05	0.05	0.30	0.30	0.30	0.00	0.00	0.00
Peak	See Note 1 below for occupancy info			1.0 W/ft^2 (10.8 W/m^2)			0.75 W/ft^2 (8.1 W/m^2)			0 gal/hr (0 L/hr)		

Schedule 1 Notes:

1. *See "Standard Design Program Areas & Unit costs" table at the COS website for staff (i.e., occupancy quantities) based on applicable facility sizes.*

Schedule 2: Battalion Headquarters Internal Load Schedules (Duty Office and Main Entry Area – 2 occupants continuously)

Hr	Occupancy			Lighting			Plug Loads			Service Hot Water		
	Wk	Sat	Sun	Wk	Sat	Sun	Wk	Sat	Sun	Wk	Sat	Sun
1	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
2	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
3	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
4	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
5	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
6	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.10	0.10	0.10
7	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.40	0.40	0.40
8	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.20	0.20	0.20
9	0.95	0.417	0.417	0.90	0.50	0.50	0.90	0.30	0.30	0.00	0.00	0.00
10	0.95	0.417	0.417	0.90	0.50	0.50	0.90	0.30	0.30	0.00	0.00	0.00
11	0.95	0.417	0.417	0.90	0.50	0.50	0.90	0.30	0.30	0.00	0.00	0.00
12	0.95	0.417	0.417	0.90	0.50	0.50	0.90	0.30	0.30	0.00	0.00	0.00
13	0.50	0.417	0.417	0.90	0.50	0.50	0.80	0.30	0.30	0.00	0.00	0.00
14	0.95	0.417	0.417	0.90	0.50	0.50	0.90	0.30	0.30	0.00	0.00	0.00
15	0.95	0.417	0.417	0.90	0.50	0.50	0.90	0.30	0.30	0.00	0.00	0.00
16	0.95	0.417	0.417	0.90	0.50	0.50	0.90	0.30	0.30	0.00	0.00	0.00
17	0.95	0.417	0.417	0.90	0.50	0.50	0.90	0.30	0.30	0.00	0.00	0.00
18	0.417	0.417	0.417	0.50	0.50	0.50	0.50	0.30	0.30	0.10	0.10	0.10
19	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.10	0.10	0.10
20	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.10	0.10	0.10
21	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
22	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
23	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
24	0.417	0.417	0.417	0.50	0.50	0.50	0.30	0.30	0.30	0.00	0.00	0.00
Peak	5 occupants			1.0 W/ft^2 (10.8 W/m^2)			0.75 W/ft^2 (8.1 W/m^2)			6.4 gal/hr (24 L/hr)		

3.13. FIRE PROTECTION REQUIREMENTS

3.13.1. STANDARDS AND CODES

All fire protection and life safety features must be in accordance with UFC 3-600-01 and the criteria it references. [Battalion][and][Brigade]Headquarters Facilities are classified as mission essential and must have complete sprinkler protection.

3.13.2. FIRE PROTECTION AND LIFE SAFETY ANALYSIS

Provide a fire protection and life safety design analysis for all buildings in the project. Submit the analysis with the interim design submittal. The analysis must include classification of occupancy (in accordance with both the IBC and NFPA 101); type of construction; height and area limitations (include calculations for allowable area increase); life safety provisions (exit travel

distances, common path distance, dead end distances, exit unit width required and provided); building separation or exposure protection; specific compliance with NFPA codes and the IBC; requirements for fire-rated walls, doors, fire dampers, and other rated components; analysis of automatic suppression systems and protected areas; water supplies; smoke control systems; fire alarm system, including connection to the installation-wide system; fire detection system; standpipe systems; fire extinguishers and locations; interior finish ratings; and other pertinent fire protection data. The submittal must include a life safety floor plan for all buildings in the project showing occupant loading, occupancy classifications and construction type, egress travel distances, exit capacities, areas with sprinkler protection, fire extinguisher locations, ratings of fire-resistive assemblies, and other data to exhibit full compliance with life safety code requirements.

3.13.3. SPRINKLER SYSTEM

Each facility including all floors and areas much be fully protected with automatic sprinkler systems. Provide the sprinkler system design in accordance with UFC 3-600-01 and NFPA 13. The sprinkler hazard classifications must be in accordance with UFC 3-600-01, NFPA 13, and other applicable criteria. Design densities, design areas, and exterior hose streams must be in accordance with UFC 3-600-01. The sprinkler systems must be designed and all piping sized with computer-generated hydraulic calculations. Include the exterior hose stream demand in the hydraulic calculations. Show a complete sprinkler system design, including sprinklers, branch lines, floor mains, and risers on the design drawings. The sprinkler system plans must include node and pipe identification used in the hydraulic calculations. All sprinkler system drains, including main drains, test drains, and auxiliary drains, must be routed to a 2’-0” by 2’-0” splash block at exterior grade.

A. SPRINKLER SERVICE MAIN AND RISER: The sprinkler service main must be a dedicated line from the distribution main. Do not combine the sprinkler service and domestic service. Provide the sprinkler service main with an exterior post indicator valve with <REV> [tamper switch reporting to the fire alarm control panel (FACP)][lock] </REV>. The ground floor entry penetration must be sleeved in accordance with NFPA 13 requirements for seismic protection. The sprinkler system must include an indicating control valve for each sprinkler system riser, a flow switch reporting to the FACP, and an exterior alarm bell. All control valves must be OS&Y gate <REV> or butterfly </REV> type and have tamper switches connected to the FACP. Facilities with multiple floors must have floor control valves for each floor. The floor control valve assembly must be in accordance with UFC 3-600-01.

B. EXTERIOR HOSE STREAM: Exterior hose stream demand must be in accordance with UFC 3-600-01. Include exterior hose stream demand in the sprinkler system hydraulic calculations.

C. BACKFLOW PREVENTER: Provide a <REV> </REV>backflow preventer on the fire water service lateral serving each building. <REV> The type of backflow preventer shall be in accordance with the requirements of the installation or private water utility management company. </REV> Unless otherwise required by the installation or private water utility management company, the backflow preventer must be located within the building. Provide an exterior wall-mounted test header equipped with 2.5-inch hose valves to allow for forward-flow testing of the backflow preventer at full system demand, in accordance with NFPA 13. The test header must have one 2.5-inch hose valve for each 250 gpm, and fraction thereof, of system design flow (for example, a volumetric water flow rate of 600 gpm would require three valves). Provide a closed loop test header sized for full system flow around the

backflow preventer equipped with a check valve and a listed digital flow meter to be used. Provide a listed OS&Y with a tamper switch monitored by the FACP in each test header.

D. FIRE DEPARTMENT CONNECTION (FDC): Provide a fire department connection for each building with sprinkler protection, located directly accessible to the fire department. Whether wall-mounted or freestanding, the FDC must be no further than 150'-0" from the nearest fire hydrant. <REV> Coordinate with the local fire department for requirements on the thread type of the fire department connection. </REV>

3.13.4. ELEVATORS

The fire protection features of elevators, hoistways, machine rooms, and lobbies must be in accordance with UFC 3-490-06, UFC 3-600-01, ASME A17.1, NFPA 13, and NFPA 72.

3.13.5. SYSTEM COMPONENTS AND HARDWARE

Provide materials for the sprinkler system, fire pump system, and hose standpipe system in accordance with NFPA 13 and NFPA 20.

<REV> </REV>

3.13.6. FIRE WATER SUPPLY

<REV> A fire flow test, as described in UFC 3-600-01, shall be performed by or under the direction of the Qualified Fire Protection Engineer. The fire flow test shall be dated within 6 months of the initial design submission. </REV>

3.13.7. FIRE PUMP

Determine if a fire pump is required based on fire flow test data from the project site and fire protection system design requirements for the project. If required, provide a complete fire pump installation for the facility that complies with UFC 3-600-01, NFPA 13, and NFPA 20. The Contractor must submit fire pump design analysis and drawings in the design requirements.

3.13.8. FIRE DETECTION AND ALARM

A. FIRE ALARM AND DETECTION SYSTEM: Provide a fire alarm and detection system for this facility that complies with UFC 3-600-01 and NFPA 72. The system must be addressable and fully compatible with and integrated with the local installation-wide central monitoring system. Coordinate fire alarm system requirements with the Fire Department's Representative during design.

B. SERVER ROOMS: Server rooms are the only areas of the facility which house MISSION CRITIAL electronic equipment. They are considered electronic equipment areas as identified in Section 4-12 of UFC 3-600-01, and are the only areas considered to be "information technology areas" as defined by NFPA 75. Server rooms must be protected as information technology areas in accordance with NFPA 75, except as modified by UFC 3-600-01 and herein. In server rooms with raised floors, underfloor detectors must be provided and connected to the fire alarm system. The smoke detectors must be wired to immediately shut down power to the electronic equipment in the protected room upon activation. Shutdown devices must be supervised by the fire alarm control panel in accordance with NFPA 75.

C. INITIATING DEVICES: All initiating devices must be connected, Class B, to signal line circuits (SLC). All alarm appliances must be connected to notification appliance circuits (NAC), Class B. <REV> </REV>

D. FIRE ALARM STATIONS: Break-glass manual fire alarm stations must not be used.

E. Over-voltage and surge protection must be provided at the input power of all panels.

3.13.9. BUILDING CONSTRUCTION

Construction must comply with UFC 1-200-01, UFC 3-600-01, the International Building Code (IBC), NFPA 101, and NFPA 75.

A. INTERIOR WALL AND CEILING FINISHES: Interior wall and ceiling finishes and movable partitions must conform to UFC 3-600-01 and NFPA 101.

B. SERVER ROOMS: Server Rooms house MISSION CRITICAL electronic equipment areas and must be separated from surrounding occupancies by fire-resistance rated construction in accordance with NFPA 75.

C. Modify the requirements of NFPA 75 to incorporate provisions for drainage and a leak detection system under raised-floor installations as follows: Provisions for drainage and leak detection system are only required under raised-floors in Server Rooms since they are the only areas that house MISSION CRITICAL electronic equipment installations.

3.14. SUSTAINABLE DESIGN

A. Comply with UFC 1-200-02 and ASHRAE 90.1.

3.15. ENVIRONMENTAL – NOT USED

3.16. PERMITS – NOT USED

3.17. DEMOLITION – NOT USED

3.18. ADDITIONAL FACILITIES – NOT USED

3.19. EQUIPMENT AND FURNITURE REQUIREMENTS

3.19.1. FURNISHINGS – [BRIGADE][AND][BATTALION] HEADQUARTERS BUILDINGS

A. FURNITURE SYSTEMS: The following criterion describes the furnishing requirements for room types for all headquarters building(s). Furnishings, other than installed building equipment, are GFGI unless otherwise specified. The following furnishings table (Table 7) is provided for coordination of room and office layouts to ensure suitability for their intended function. Large interior spaces such as open office areas may be subdivided into smaller areas by using workstation partitions, storage units and file cabinets, hanging acoustic panels, or similar devices. In general, the interior design must provide a comfortable, efficient, and flexible work environment. All open office workstations in the headquarters are predicated on 6’-0” by 8’-0” cubicles (i.e., systems furniture workstation) unless noted otherwise. <REV> Smaller workstations are allowed if requested by occupants or if additional open team meeting areas are needed.

B. Furniture listed may be considered minimum. Additional furniture may be requested by building occupants as needed. Confirm variations in FF&E with COS. </REV>

Table 7: Room Size and Furnishings

ROOM TYPE	MIN. SF	COMMENTS	FURNITURE REQUIRED
Senior Executive Office	200	Private Office	U-shaped executive desk unit with single pedestal desk with center drawer, box/box/file pedestal, full modesty panel; executive bridge 42" min.; credenza unit with 2-drawer lateral file and <REV> optional hutch unit with door storage, two 4-drawer lateral files, one conference table, two conference chairs minimum, two guest chairs, one ergonomic executive chair </REV>
Execute Office	150	Private Office	L-shaped executive desk unit with single pedestal desk with center drawer and storage pedestal with box/box/file configuration, full modesty panel; executive return with storage pedestal box/box/file configuration, two 4-drawer lateral files, two guest chairs, <REV>one ergonomic executive chair</REV>
Office	110	Private Office	L-shaped executive desk unit with single pedestal desk with center drawer and storage pedestal with box/box/file configuration, full modesty panel; executive return with storage pedestal box/box/file configuration, one 4-drawer lateral file, one guest chair, <REV> one ergonomic task chair </REV>
Open Workstation	48	Open Workstation	Systems furniture workstation as indicated in standard floor plans, approximately 48 SF, with work surfaces, file drawers, and <REV> optional overhead storage; confirm workstation panel heights with occupants </REV>
Brigade Command Conference Room	600		Conference table with 18 chairs and 18 side chairs
Battalion Command Conference Room	330		Conference table with 14 chairs and 8 side chairs
Medium Conference Room	200-300		Conference table with 12 chairs and 4 side chairs
Team Room	110-150		Conference table with 6 chairs and 2 side chairs
Reception Area	Varies	Executive Reception Area	<REV> Systems furniture open office area with workstations for one staff member and 5 guest chairs for visitors </REV>
Classroom	Varies	BN HQ only	<REV> One work surface and chair for each 85 SF. </REV> Provide movable partitions to divide large classroom space into three equally sized spaces.
<REV> File Room / Storage Room </REV>	Varies		Minimum of 1 linear foot (LF) of 4-drawer lateral file cabinet for every 4 SF of space (250 SF room = min. 62.5 LF 4-drawer horizontal base files; one 36" wide 4-drawer file cabinet = 12 LF)
Showers	Varies		Provide lockers (with benches if space allows) on a 3:1 ratio of lockers per shower. Minimum locker size is 12" wide x 18" deep x 36" high.

Lobby	Varies	Building Reception Area	Lounge seating when space allows. Provide one recessed building directory near each main entrance, and in a multi-story building, provide one recessed building directory near elevator doors above the first floor. Provide one 4'-0" x 6'-0" wall-mounted bulletin board for each headquarters unit. Provide one glass-front 4'-0" wide (min.) built-in display cabinet for unit memorabilia, awards, and trophies in Brigade HQ.
Break Room	Varies		<REV> Minimum 20 LF base and wall cabinets, under-counter dishwasher, and space for a full-size refrigerator with in-door ice maker. Note that in BDE HQ, first floor Break Room also supports Command group. </REV> Provide recessed space for two vending machines per building (machines are not in the contract) not in view of the lobby.
Secured Documents Room	Varies	Secure Documents Room conforming to requirements in AR 380-5	Two 4-drawer safes per authorized company within each battalion secure document room. Two 4-drawer safes per coordinating staff section within each battalion and brigade secure documents room, not to exceed 12 total safes in the battalion room.
BOC	Varies	Brigade Operations Center	Provision for GFGI television monitors (wall of knowledge). Systems furniture workstations, 30" deep x 60" wide, with 42"-48" high powered panels, one stationary box/box/file pedestal, and one <REV> ergonomic task chair </REV> per workstation as indicated on standard floor plans. Modular conference tables and chairs for 12 persons (with side chairs as space allows) at conference room. CFCI raised flooring.
NOC	Varies	Network Operations Center	Systems furniture workstations as indicated on standard floor plans, approximately 48 SF, with work surfaces, files drawers, and <REV> optional overhead storage. </REV> Space for GFGI telecommunications racks, equipment, and three work benches in Server Room. CFCI raised flooring.
SCIF	Varies	Sensitive Compartmented Information Facility conforming to Office of the Director of National Intelligence –Intelligence Community Standard (ICS) 705	50 – 52 total systems furniture workstations, 30" deep x 60" wide, with 42"-48" high powered panels, one stationary box/box/file pedestal, and <REV> one ergonomic task chair </REV> per workstation as indicated on standard floor plans. Modular conference tables and chairs for 12 persons (with side chairs as space allows) at conference room. CFCI raised flooring to accommodate weight of seven 4-drawer safes. Primary entry vestibule (interior) must accommodate one 24" deep x 36" wide standing-height table. One cell phone storage locker to contain minimum 50 individual phones adjacent to primary SCIF entry at corridor side.
<REV> Janitor Closet	Varies	Cleaning Supplies and Storage	One lockable metal cabinet with shelves, and one industrial open shelving unit. </REV>

3.19.2. EQUIPMENT – NOT USED

3.20. FACILITY SPECIFIC REFERENCES

3.20.1. APPLICABLE INDUSTRY CRITERIA

A. American National Standards Institute (ANSI) / Telecommunications Industry Association (TIA) / Electronic Industry Association (EIA)

1) ANSI/EIA/TIA 568.0 - D Commercial Telecommunications Cabling For Customer Premises (including all applicable Addendums)

2) EIA/TIA 568.1 - D Commercial Building Telecommunications Cabling Infrastructure Standard (including all applicable Addendums)

3) EIA/TAI 568C – 2 Balanced Twisted Pair Telecommunications Cabling and Components Standards (including all applicable Addendums)

4) EIA/TIA 568.3 – D Optical Fiber Cabling Components Standard (including all applicable Addendums)

5) EIA/TIA 568.4 – D Broadband Coaxial Cabling and Components Standard (including all applicable Addendums)

6) EIA/TIA 569 – D Telecommunications Pathways and Spaces (including all applicable Addendums)

7) ANSI/EIA/TIA 606C Administration Standard for Commercial Telecommunications Infrastructure (including all applicable Addendums)

B. ASHRAE

1) ASHRAE 55 Thermal Environmental Conditions for Human Occupancy

2) ASHRAE Hdbk-IP Handbook, Refrigeration I-P Edition

3) ASHRAE Hdbk-IP Handbook, HVAC Applications I-P Edition

4) ASHRAE Hdbk-IP Handbook, HVAC Systems and Equipment I-P Edition

<REV> </REV>

C. ASME B31.1 Power Piping

D. ASTM E413-04, Classification for Rating Sound Insulation

E. Clean Air Act Amendment of 1990

F. Discount Factors for Life-Cycle Cost Analysis, Annual Supplement to NIST Handbook 135

G. Memorandum of Agreement (MOA) on Criteria/Standards for Economic Analyses/Life Cycle

H. Costing for MILCON Design (March 1996)

I. NIST Handbook 135 (with the annual supplement of discount factors)

J. [National Electrical Manufacturers Association (NEMA) PE 1 Uninterruptible Power Systems]

K. [National Fire Protection Association (NFPA) 110 Emergency and Standby Power Systems]

L. SMACNA Seismic Restraint Manual: Guidelines for Mechanical Systems

M. Testing and Balancing Bureau (TABB)

N. Underwriters Laboratories (UL)

1) [UL 1008 Transfer Switch Equipment]

2) UL 1449 Transient Voltage Surge Suppressors

3) [UL 1778 Uninterruptible Power Systems]

3.20.2. APPLICABLE MILITARY CRITERIA

A. Army Regulation (AR)

1) AR 190-51, Security of Unclassified Army Property (Sensitive and Non-sensitive)

2) AR 380-381 Special Access Programs (SAPS) and Sensitive Activities

3) AR 380-5, Information Security Program

B. Committee on National Security Systems (CNSS)

1) CNSSAM TEMPEST/1-13 (CNSS Advisory Memorandum), the RED/BLACK Installation Guidance

C. Department of Defense (DOD)

1) DOD MIL-HDBK-419A Grounding, Bonding, and Shielding for Electronic Equipment and Facilities

2) [DOD 5105.21-M-1 Sensitive Compartmented Information Administrative Security Manual]

3) DoD Regulation 5200.1-R, Information Security Program, dated January 1997, Appendix 7 – Physical Security for Vault and Secure Room Construction Standards

D. National Security Telecommunications and Information Systems Security (NSTISS)

1) NSTISSI 7003 Protective Distribution Systems (PDS)

E. Office of the Director of National Intelligence

1) Intelligence Community Directive Number 705 Sensitive Compartmented Information Facilities

2) [Intelligence Community Standard (ICS) 705-1 Physical and Technical Standards for Sensitive Compartmented Information Facilities

3) Intelligence Community Standard (ICS) 705-2 Standards For Accreditation and Reciprocal Use of Sensitive Compartmented Information

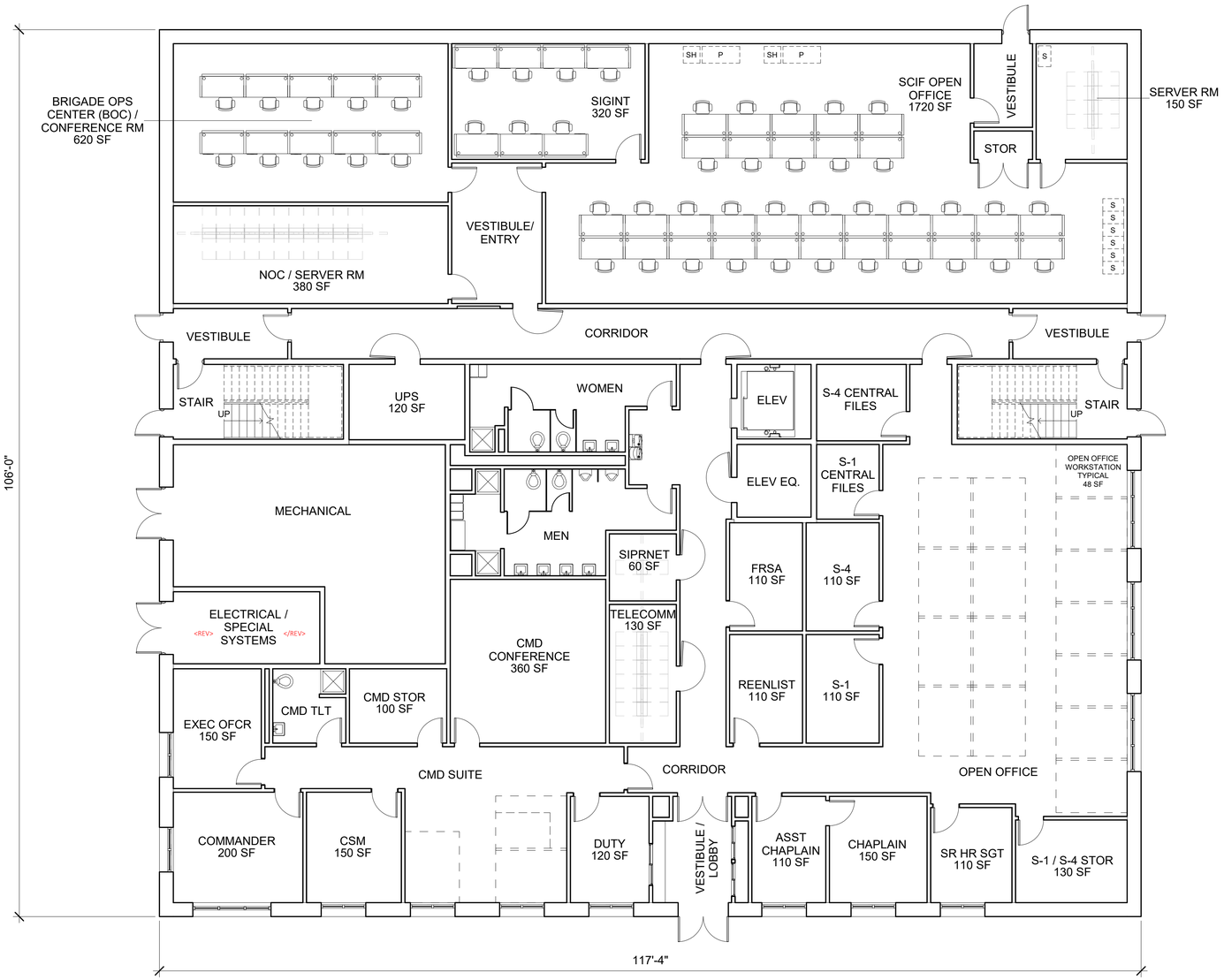
4) IC Tech Spec for ICD/ICS 705 Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities]

F. Unified Facilities Criteria (UFC)

1) UFC 3-580-1 Telecommunications Bldg Cabling Systems Planning/Design Manual 22 June 2007

2) UFC 4-140-01, Brigade Operations Complex, Brigade and Battalion Headquarters

3) <REV> UFC 4-610-01, Administrative Facilities </REV>



01 EXTRA SMALL BRIGADE FIRST FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	12,437 SQ FT*	
SECOND FLOOR:	7,940 SQ FT	
TOTAL:	20,377 SQ FT*	**20,400 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

ABBREVIATIONS

P	PLOTTER
S	SAFE
SH	SHREDDER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.:
CHECKED BY: J.S.	CONTRACT NO.:
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS

BRIGADE HEADQUARTERS (BDE HQ)

EXTRA SMALL BDQ HQ - FIRST FLOOR PLAN

SHEET ID

01

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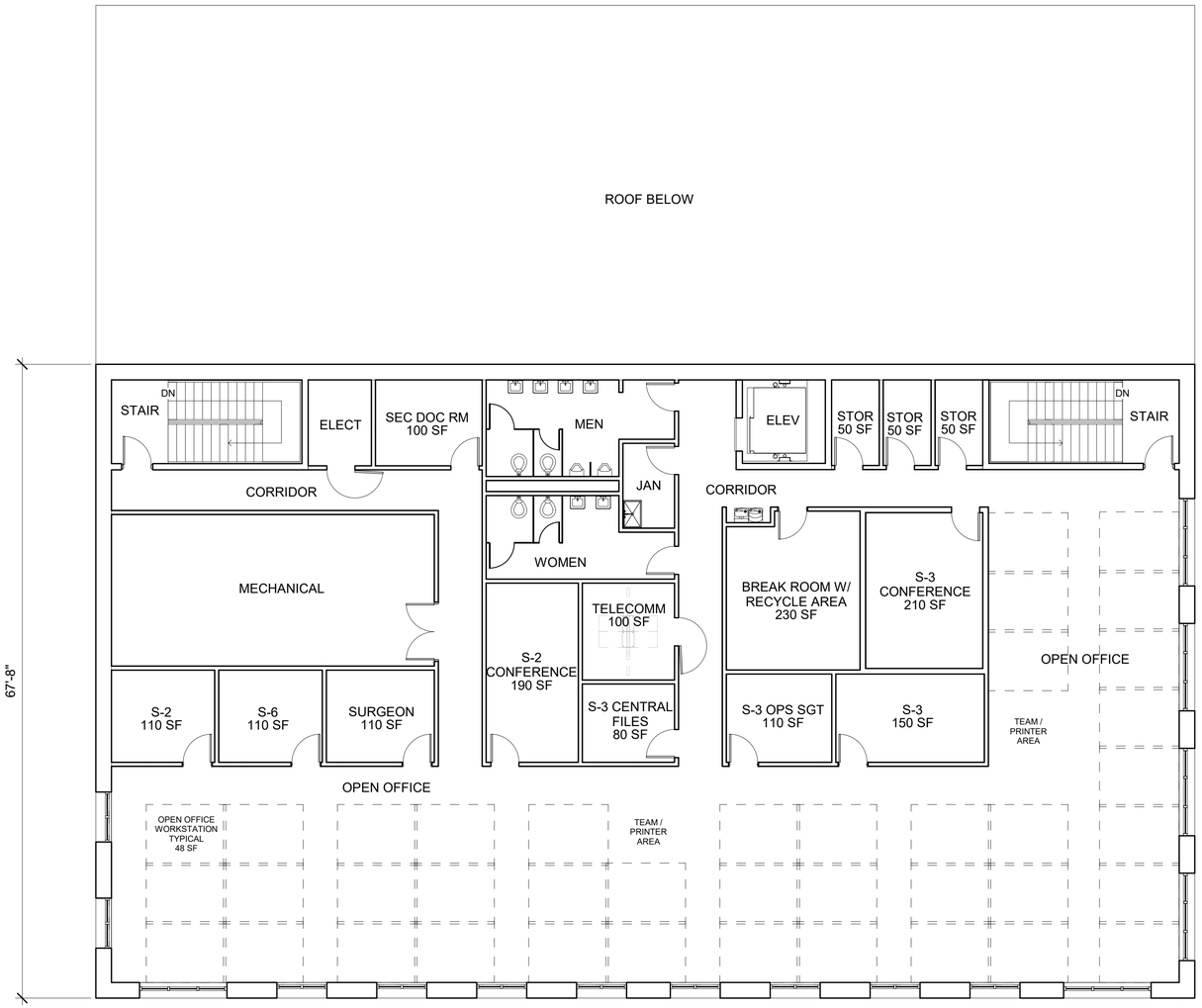

01 EXTRA SMALL BRIGADE SECOND FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE:	JUNE 2024
SOLICITATION NO.:	-
CONTRACT NO.:	-
CATEGORY CODE:	-
FILE NAME:	-

DESIGN BY:	-
DRAWN BY:	S.M.
CHECKED BY:	J.S.
SUBMITTED BY:	J.S.
SIZE:	ANSI D

U.S. ARMY CORPS OF ENGINEERS

BRIGADE HEADQUARTERS (BDE HQ)

EXTRA SMALL BDE HQ - SECOND FLOOR PLAN

SHEET ID

02

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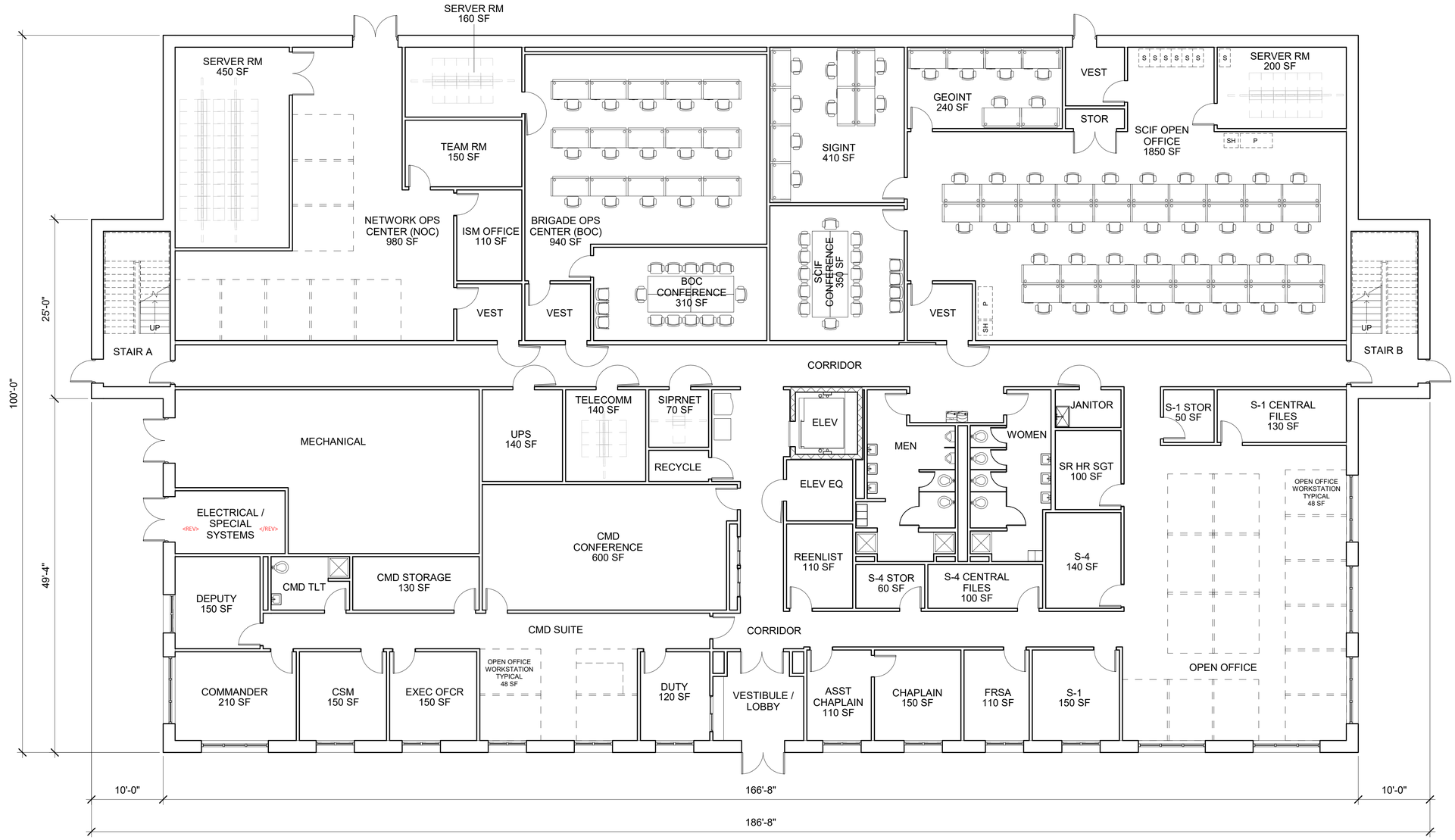

01 SMALL BRIGADE FIRST FLOOR PLAN

1/8" = 1'-0"

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	17,167 SQ FT*	
SECOND FLOOR:	17,167 SQ FT	
TOTAL:	34,334 SQ FT*	**34,400 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

ABBREVIATIONS

P	PLOTTER
S	SAFE
SH	SHREDDER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.:
CHECKED BY: J.S.	CONTRACT NO.:
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS

BRIGADE HEADQUARTERS (BDE HQ)

SMALL BDE HQ - FIRST FLOOR PLAN

SHEET ID

03

File Path: P:\Revit Projects\Standards\BRIGADE HQ\WORKING FOLDERS\DREV6.1-BDEHQ-Small-R21.rvt

Plot Date: 6/11/2024 2:05:59 PM

01 SMALL BRIGADE SECOND FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.: -
CHECKED BY: J.S.	CONTRACT NO.: -
SUBMITTED BY: J.S.	CATEGORY CODE: -
SIZE: ANSI D	FILE NAME: -

U.S. ARMY CORPS OF ENGINEERS

BRIGADE HEADQUARTERS (BDE HQ)

SMALL BDE HQ - SECOND FLOOR PLAN

SHEET ID

04

Plot Date: 6/11/2024 2:06:01 PM

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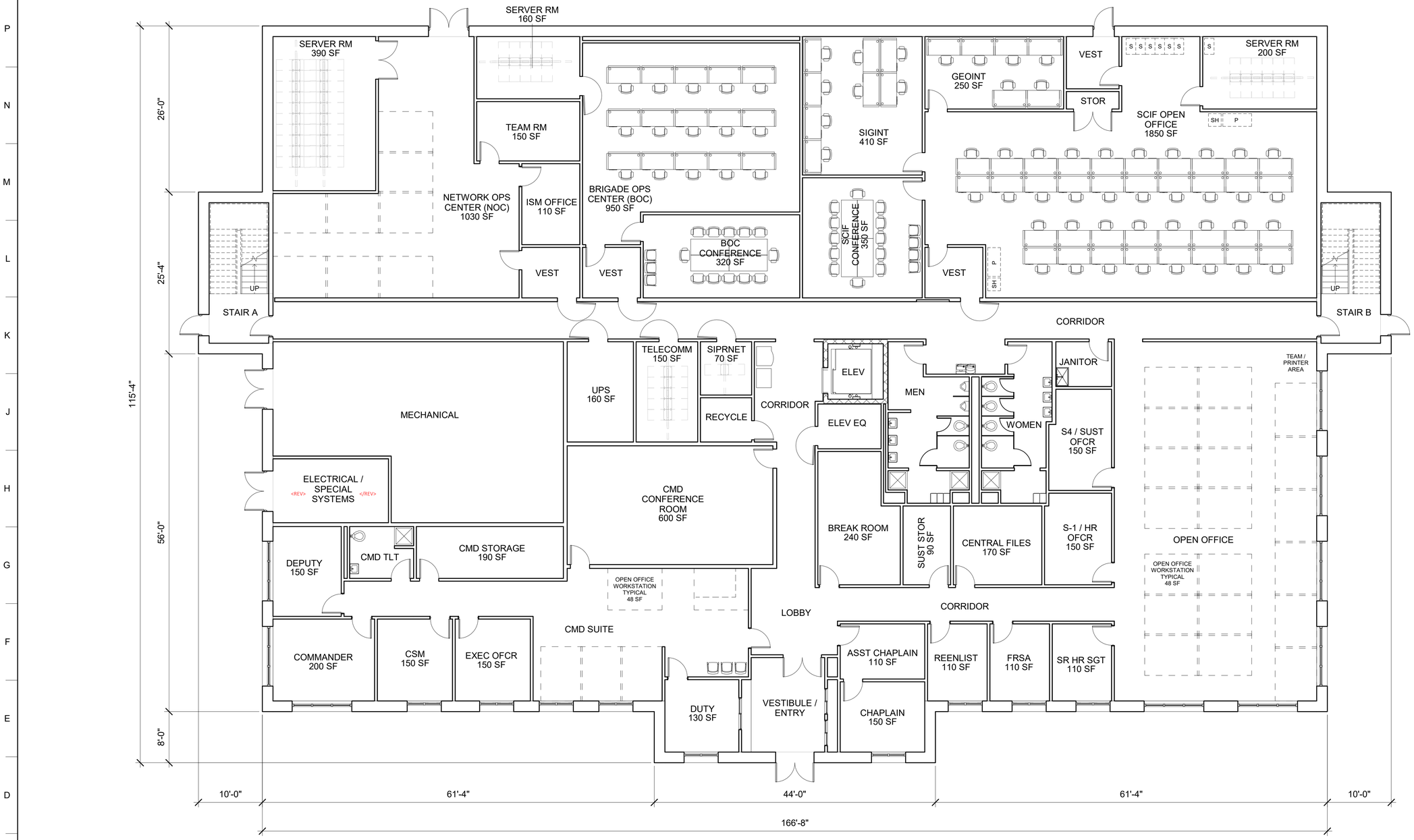


01 MEDIUM BRIGADE FIRST FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	18,748 SQ FT*	
SECOND FLOOR:	18,748 SQ FT	
TOTAL:	37,496 SQ FT*	**37,700 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

ABBREVIATIONS

P	PLOTTER
S	SAFE
SH	SHREDDER

US Army Corps of Engineers ®

DESIGN BY: -
DRAWN BY: S.M.
CHECKED BY: J.S.
SUBMITTED BY: J.S.
SIZE: ANSI D
ISSUE DATE: JUNE 2024
SOLICITATION NO.:
CONTRACT NO.:
CATEGORY CODE:
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS

MEDIUM BRIGADE HEADQUARTERS (BDE HQ)

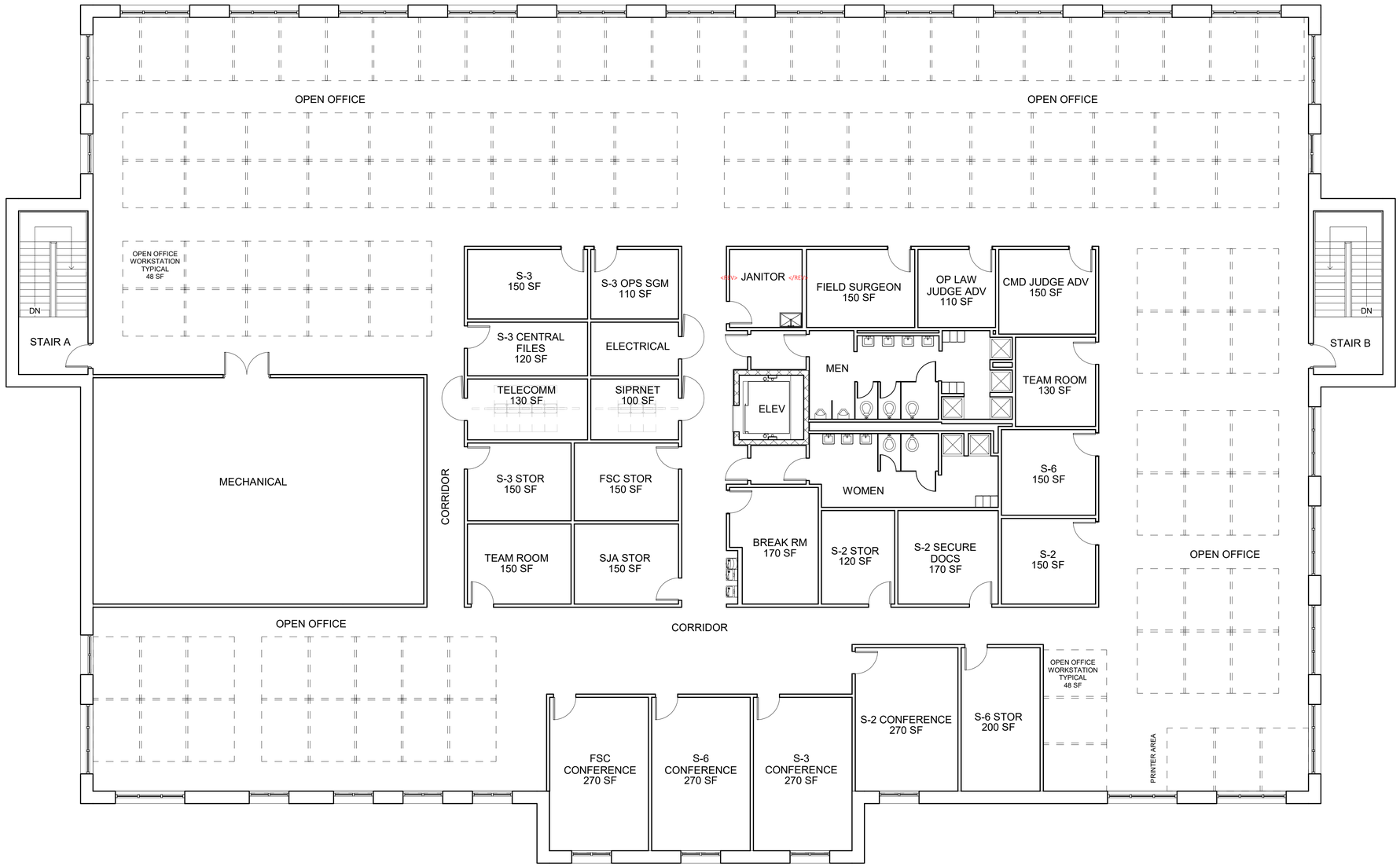
MEDIUM BDE HQ - FIRST FLOOR PLAN

SHEET ID
05

DATE | DESCRIPTION | MARK

File Path: P:\Revit Projects\Standards\BRIGADE HQ\WORKING FOLDER\SDREV6.1-BDEHQ-Medium-R21.rvt

Plot Date: 6/11/2024 2:09:13 PM



01 MEDIUM BRIGADE SECOND FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.: -
CHECKED BY: J.S.	CONTRACT NO.: -
SUBMITTED BY: J.S.	CATEGORY CODE: -
SIZE: ANSI D	FILE NAME: -

U.S. ARMY CORPS OF ENGINEERS

MEDIUM BRIGADE HEADQUARTERS (BDE HQ)

MEDIUM BDE HQ - SECOND FLOOR PLAN

SHEET ID

06

Plot Date: 6/11/2024 2:09:15 PM

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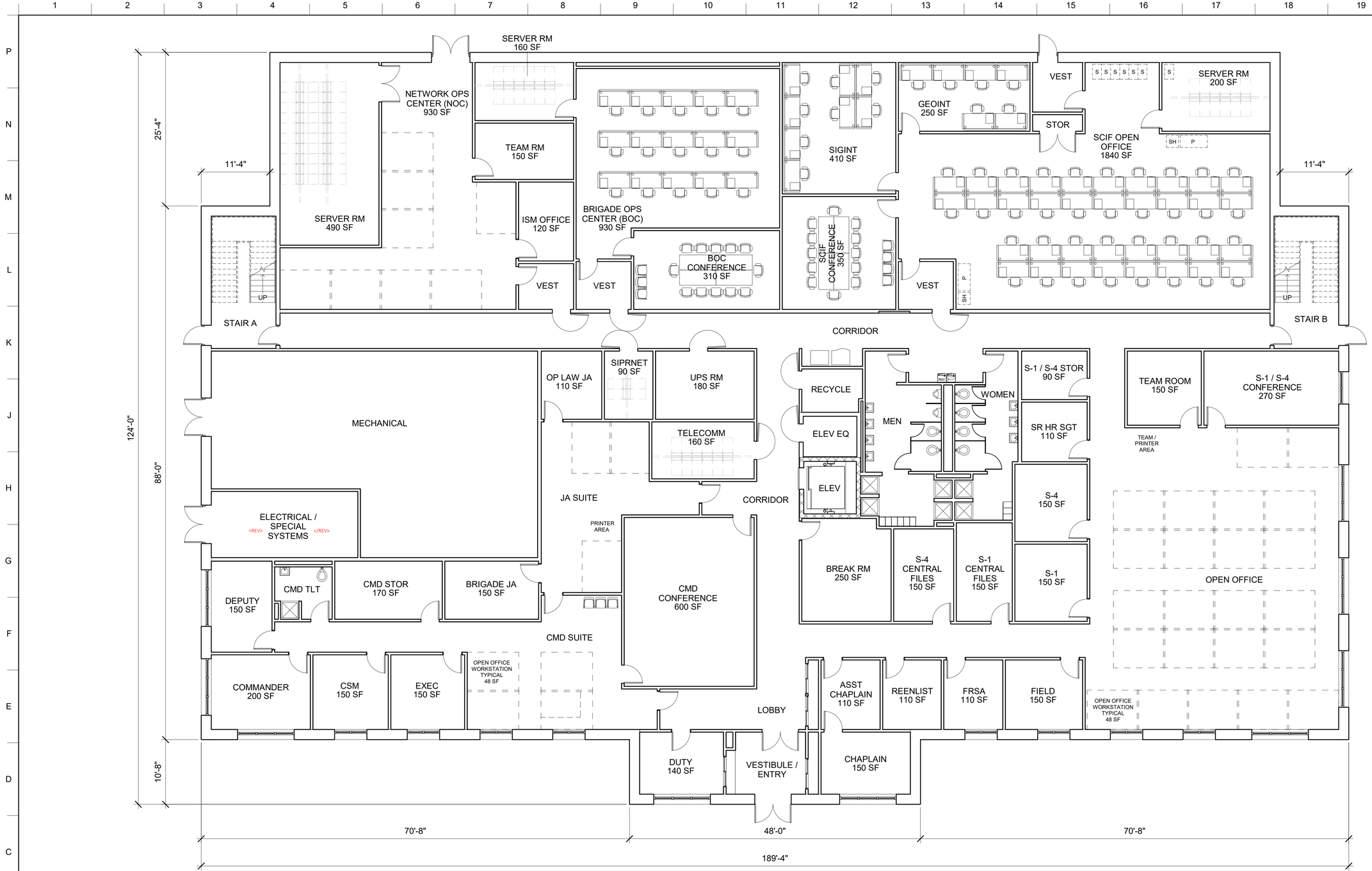

01 LARGE BRIGADE FIRST FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	21,396 SQ FT*	
SECOND FLOOR:	21,396 SQ FT	
TOTAL:	42,792 SQ FT*	**43,400 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

ABBREVIATIONS

P	PLOTTER
S	SAFE
SH	SHREDDER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.:
CHECKED BY: J.S.	CONTRACT NO.:
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS

LARGE BRIGADE HEADQUARTERS (BDE HQ)

LARGE BDE HQ - FIRST FLOOR PLAN

SHEET ID

07

File Path: P:\Revit Projects\Standards\BRIGADE HQ\WORKING FOLDER\SDREV6.1-BDEHQ-Large-R21.rvt

Plot Date: 6/11/2024 2:11:57 PM

01 LARGE BRIGADE SECOND FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.: -
CHECKED BY: J.S.	CONTRACT NO.: -
SUBMITTED BY: J.S.	CATEGORY CODE: -
SIZE: ANSI D	FILE NAME: -

U.S. ARMY CORPS OF ENGINEERS

LARGE BRIGADE HEADQUARTERS (BDE HQ)

LARGE BDE HQ - SECOND FLOOR PLAN

SHEET ID

08

Plot Date: 6/11/2024 2:12:01 PM

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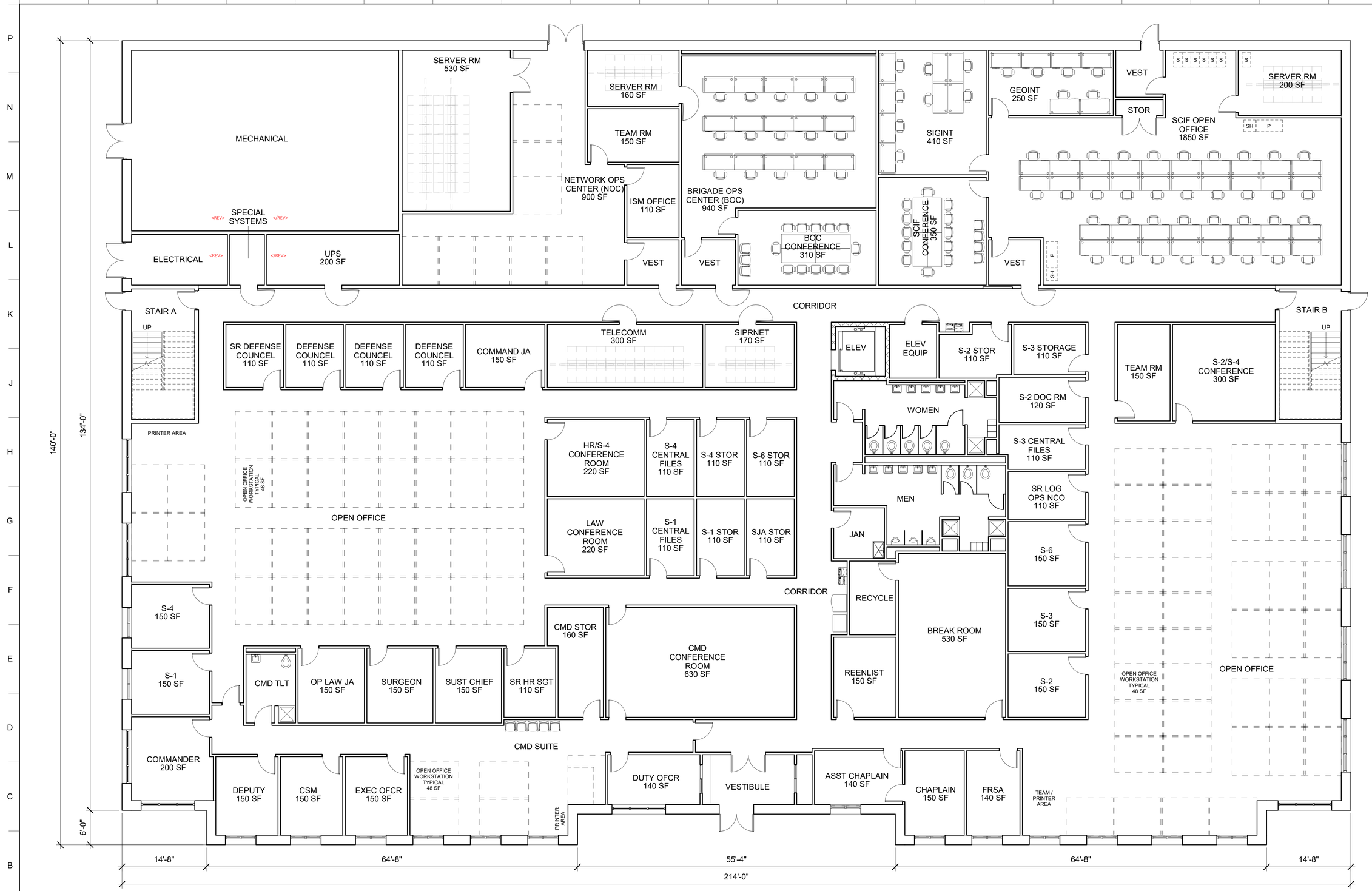

01 EXTRA LARGE BRIGADE FIRST FLOOR PLAN

1/8" = 1'-0"

(SEE SHEET 10 FOR GENERAL NOTES, AREA NOTES, AND ABBREVIATIONS)

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY: S.M.	SOLICITATION NO.:
CHECKED BY: J.S.	CONTRACT NO.:
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS

EXTRA LARGE BRIGADE HEADQUARTERS (BDE HQ)

EXTRA LARGE BDE HQ - FIRST FLOOR PLAN

SHEET ID

09

File Path: P:\Revit Projects\Standards\BRIGADE HQ\WORKING FOLDER\SDREV6.1-BDEHQ-Xtra Large-R21.rvt

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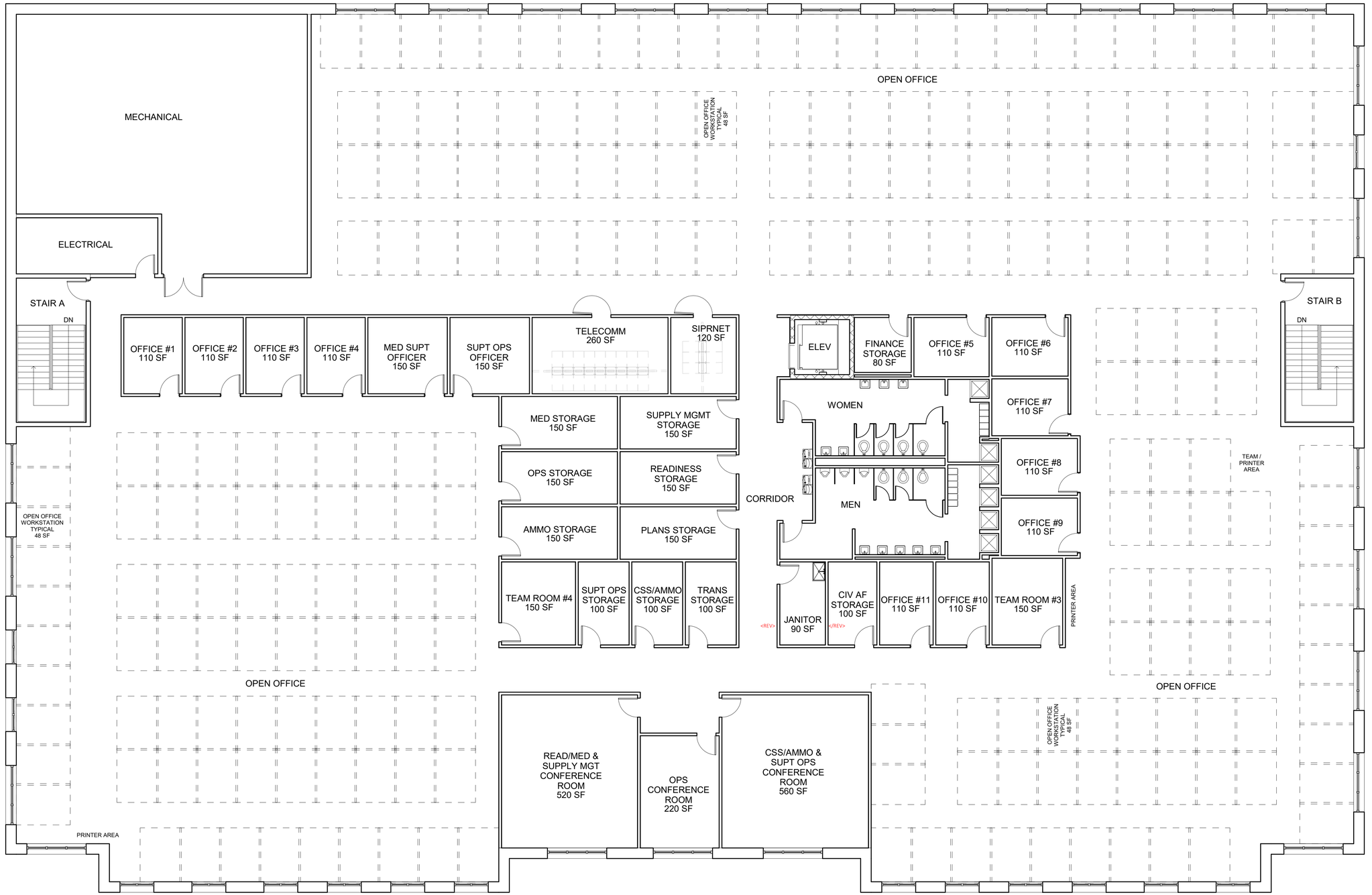

01 EXTRA LARGE BRIGADE SECOND FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	29,489 SQ FT*	
SECOND FLOOR:	29,489 SQ FT	
TOTAL:	58,978 SQ FT*	**59,200 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

ABBREVIATIONS

P	PLOTTER
S	SAFE
SH	SHREDDER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.: -
CHECKED BY: J.S.	CONTRACT NO.: -
SUBMITTED BY: J.S.	CATEGORY CODE: -
SIZE: ANSI D	FILE NAME: -

U.S. ARMY CORPS OF ENGINEERS

EXTRA LARGE BRIGADE HEADQUARTERS (BDE HQ)

EXTRA LARGE BDE HQ - SECOND FLOOR PLAN

SHEET ID

10

File Path: P:\Revit Projects\Standards\BRIGADE HQ\WORKING FOLDERS\DREV6.1-BDEHQ-Xtra Large-R21.rvt

Plot Date: 6/11/2024 2:24:31 PM

01 CONSOLIDATED HEADQUARTERS FIRST FLOOR PLAN

1/16" = 1'-0"

16 12 8 4 0 16 32

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	62,371 SQ FT	
SECOND FLOOR:	48,361 SQ FT	
THIRD FLOOR:	28,139 SQ FT	
TOTAL:	138,871 SQ FT*	**138,900 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

ABBREVIATIONS

P	PLOTTER
S	SAFE
SH	SHREDDER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: JUNE 2024
SOLICITATION NO.:
CONTRACT NO.:
CATEGORY CODE:
DESIGN BY: .
DRAWN BY: S.M.
CHECKED BY: J.S.
SUBMITTED BY: J.S.
SIZE: ANSI D
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS

COMBINED BATTALION / BRIGADE HEADQUARTERS (BN/BDE HQ)

COMBINED BN / BDE HQ - FIRST FLOOR PLAN

SHEET ID

11

File Path: P:\Revit Projects\Standards\BRIGADE HQ\WORKING FOLDER\SDREV6.1-Combined BN BDE HQ-R21.rvt

Plot Date: 6/11/2024 2:38:31 PM

01 CONSOLIDATED HEADQUARTERS SECOND FLOOR PLAN

1/16" = 1'-0"

16 12 8 4 0 16 32

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -
DRAWN BY: S.M.
CHECKED BY: J.S.
SUBMITTED BY: J.S.
SIZE: ANSI D

ISSUE DATE: JUNE 2024
SOLICITATION NO.: -
CONTRACT NO.: -
CATEGORY CODE: -
FILE NAME: -

U.S. ARMY CORPS OF ENGINEERS

COMBINED BATTALION / BRIGADE HEADQUARTERS (BN/BDE HQ)

COMBINED BN / BDE HQ - SECOND FLOOR PLAN

SHEET ID

12

Plot Date: 6/11/2024 2:38:33 PM

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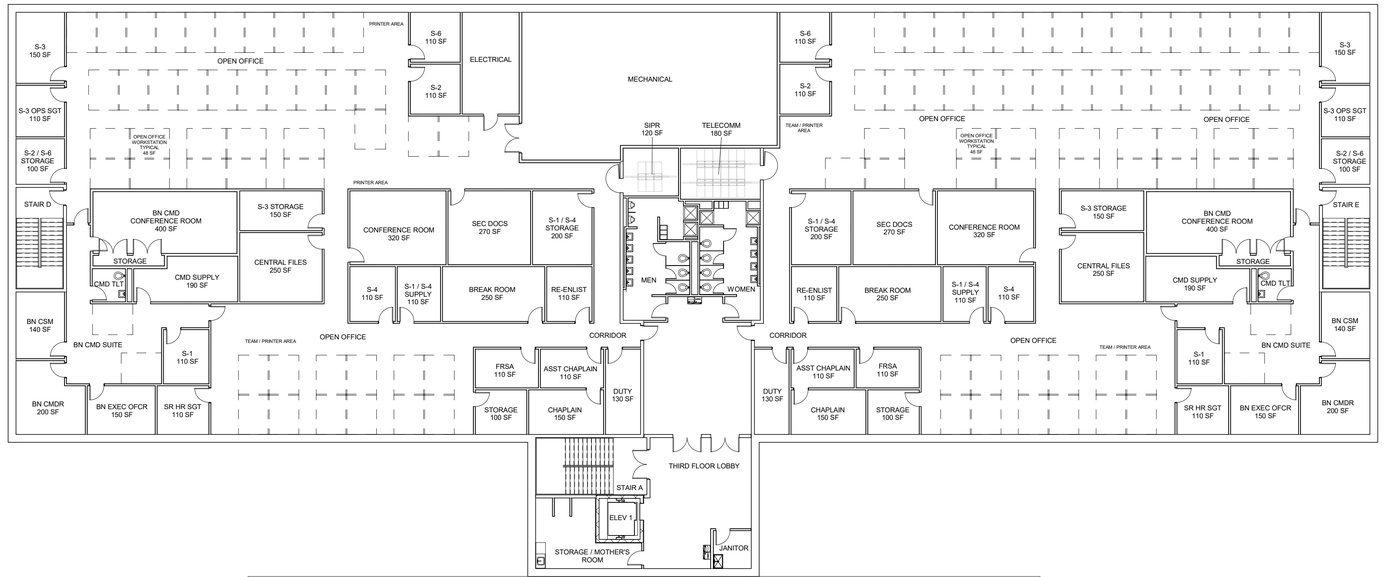

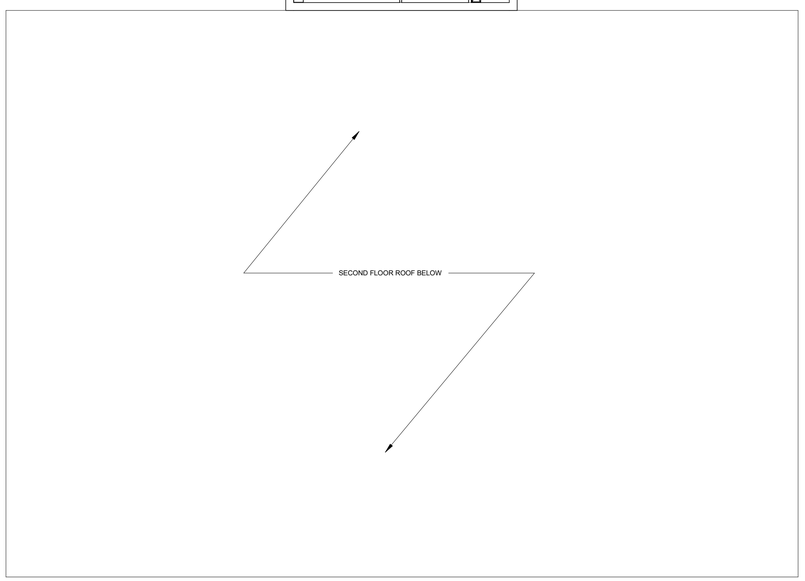

01 CONSOLIDATED HEADQUARTERS THIRD FLOOR PLAN

1/16" = 1'-0"

16 12 8 4 0 16 32

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -
DRAWN BY: S.M.
CHECKED BY: J.S.
SUBMITTED BY: J.S.
SIZE: ANSI D
ISSUE DATE: JUNE 2024
SOLICITATION NO.:
CONTRACT NO.:
CATEGORY CODE:
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS

COMBINED BATTALION / BRIGADE HEADQUARTERS (BN/BDE HQ)

COMBINED BN / BDE HQ - THIRD FLOOR PLAN

SHEET ID

13

Plot Date: 6/11/2024 2:38:34 PM

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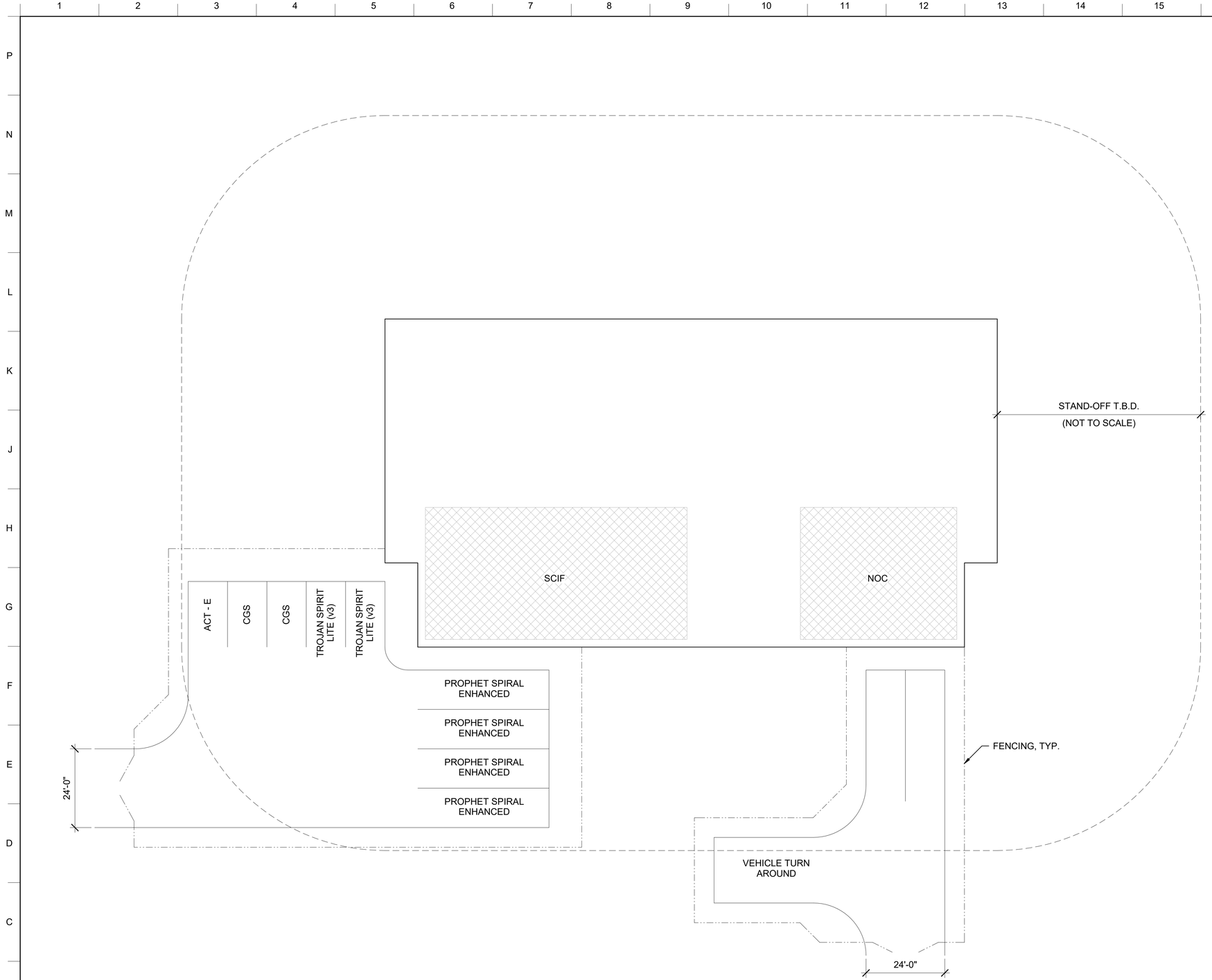

01 IDEALIZED LAYOUT FOR TACTICAL SCIF AND NOC VEHICLE AREAS

1/16" = 1'-0"

16 12 8 4 0 16 32

GENERAL NOTES

1. SITE PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, ANTITERRORISM / FORCE PROTECTION REQUIREMENTS, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

2. DIMENSIONS SHOWN ON THE SITE PLAN ARE FOR REFERENCE ONLY. DO NOT SCALE DRAWINGS. COMPLY WITH REQUIREMENTS OF SHEET NOTES AND STANDARD DESIGN LANGUAGE.

SHEET NOTES

1. ASSUME PROPHET SPIRAL ENHANCED VEHICLES WILL BACK DOWN FROM ROAD.

2. LAYOUT CAN BE MIRRORED OR ROTATED TO PROVIDE SOUTH / SOUTHWEST VIEW FOR TROJAN SPIRIT LITE (v3). HOWEVER WHEN DOING THIS, THE LAYOUT MAY NEED TO SHIFT SO AS NOT TO ENCLOSE THE EMERGENCY EGRESS FROM BUILDING.

3. ASSUME VEHICLES WILL BE PARKED FOR PERIODS OF TIME VERSES DRIVEN OUT OF FENCED AREA DAILY.

4. AREA BETWEEN FENCE AND PARKING IS NON-VEHICULAR-LOAD CONCRETE. SOME OF THESE AREAS ARE USED FOR ACCESS AND PLACEMENT OF COMMUNICATION AND POWER CONNECTIONS.

5. PARKING SPACES ARE 12'-0" x 20'-0" OR 12'-0" x 40'-0".

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.:
CHECKED BY: J.S.	CONTRACT NO.:
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS

BRIGADE HEADQUARTERS (BDE HQ)

IDEALIZED LAYOUT - TACTICAL SCIF & NOC VEHICLE AREAS

SHEET ID

14

File Path: P:\Revit Projects\Standards\BRIGADE HQ\WORKING FOLDER\SDREV6.1-BDEHQ-Idealized Site-R21.rvt

Plot Date: 6/11/2024 3:09:26 PM

01 SMALL BATTALION FIRST FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	9,845 SQ FT*	
SECOND FLOOR:	6,082 SQ FT	
TOTAL:	15,927 SQ FT*	**16,000 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.:
CHECKED BY: J.S.	CONTRACT NO.:
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT

BATTALION HEADQUARTERS (BN HQ)

SMALL BN HQ - FIRST FLOOR PLAN

SHEET ID

01

File Path: P:\Revit Projects\Standards\BATTALION HQ\Revision 6.1\SDREV6.1-BNHQ-Small-R21.rvt

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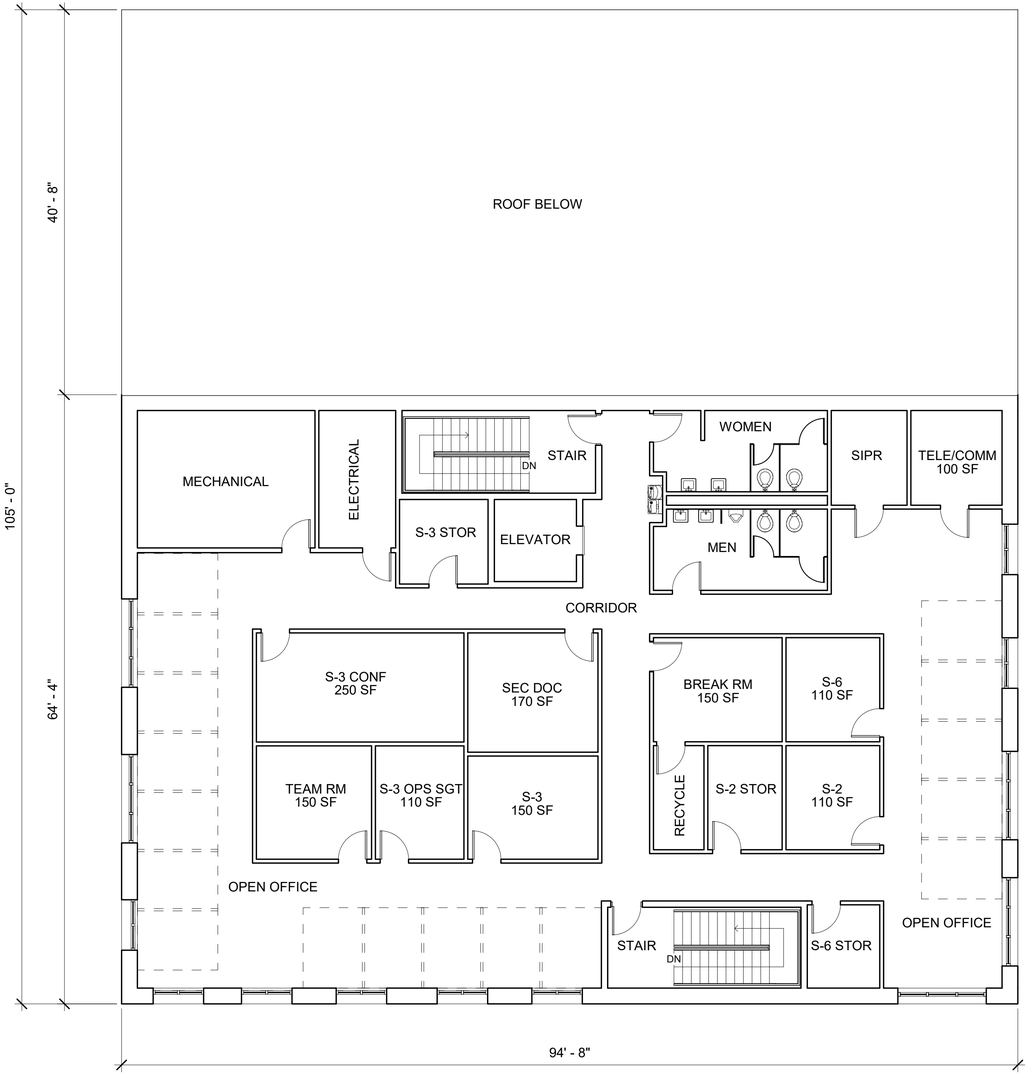

01 SMALL BATTALION SECOND FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.: -
CHECKED BY: J.S.	CONTRACT NO.: -
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

Plot Date: 6/12/2024 8:33:05 AM

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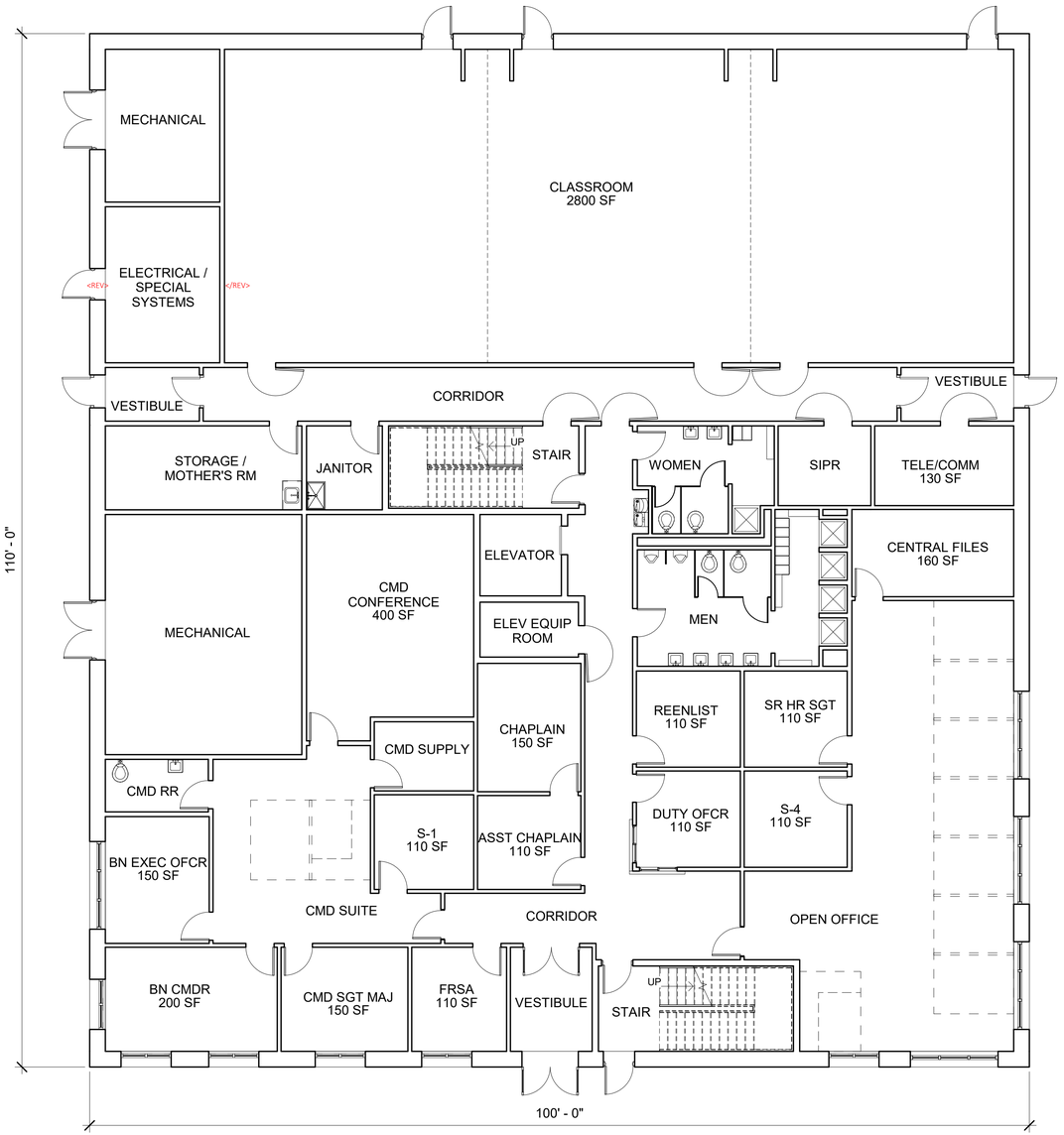
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

BATTALION HEADQUARTERS (BN HQ)

SMALL BN HQ - SECOND FLOOR PLAN

SHEET ID

02



01 MEDIUM BATTALION FIRST FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	11,000 SQ FT*	
SECOND FLOOR:	6,992 SQ FT	
TOTAL:	18,025 SQ FT*	**18,600 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.:
CHECKED BY: J.S.	CONTRACT NO.:
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

BATTALION HEADQUARTERS (BN HQ)

MEDIUM BN HQ - FIRST FLOOR PLAN

SHEET ID

03

File Path: P:\Revit Projects\Standards\BATTALION HQ\Revision 6.1\SDREV6.1-BNHQ-Medium-R21.rvt

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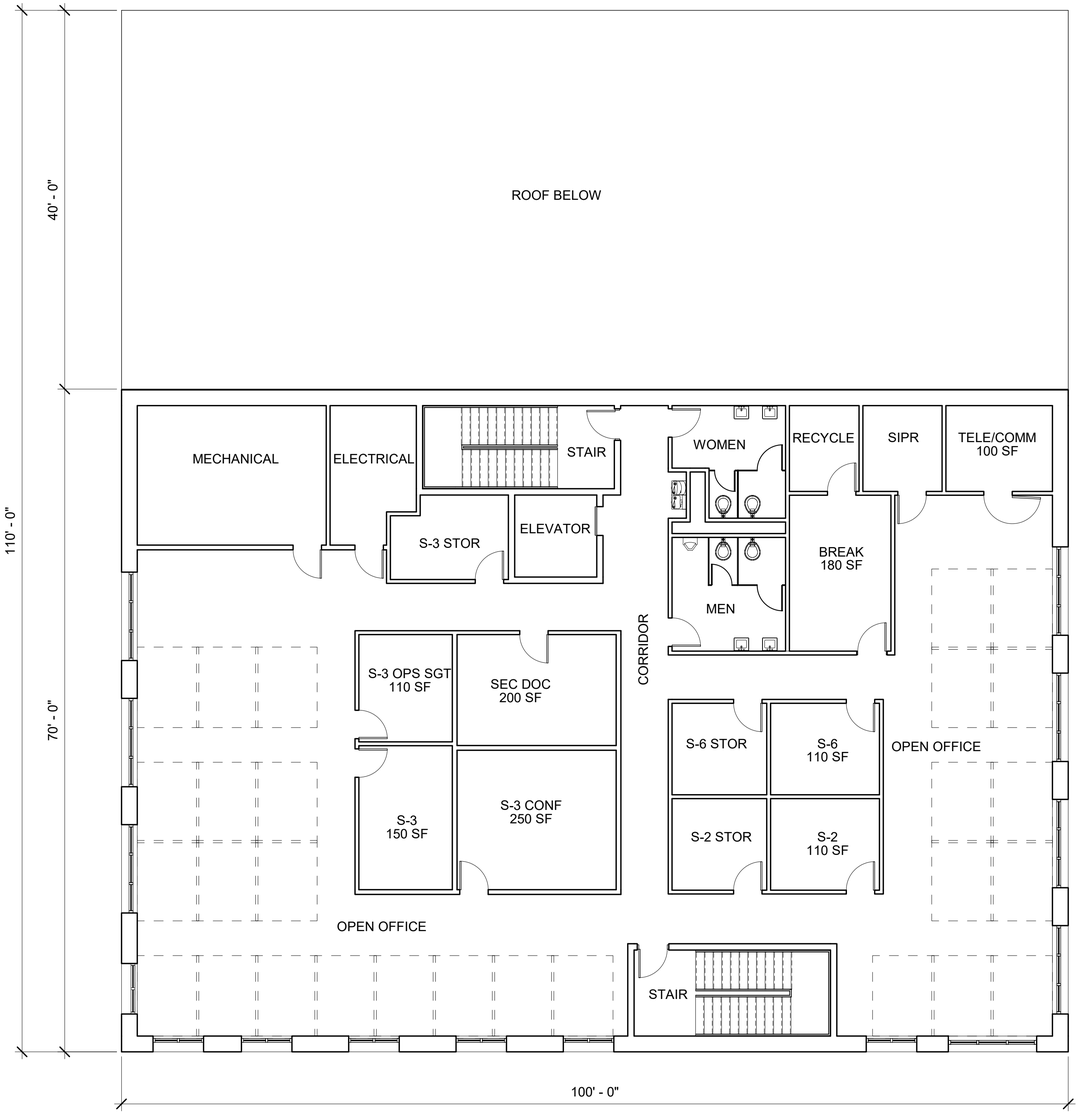

01 MEDIUM BATTALION SECOND FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.: -
CHECKED BY: J.S.	CONTRACT NO.: -
SUBMITTED BY: J.S.	CATEGORY CODE:
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

BATTALION HEADQUARTERS (BN HQ)

MEDIUM BN HQ - SECOND FLOOR PLAN

SHEET ID

04

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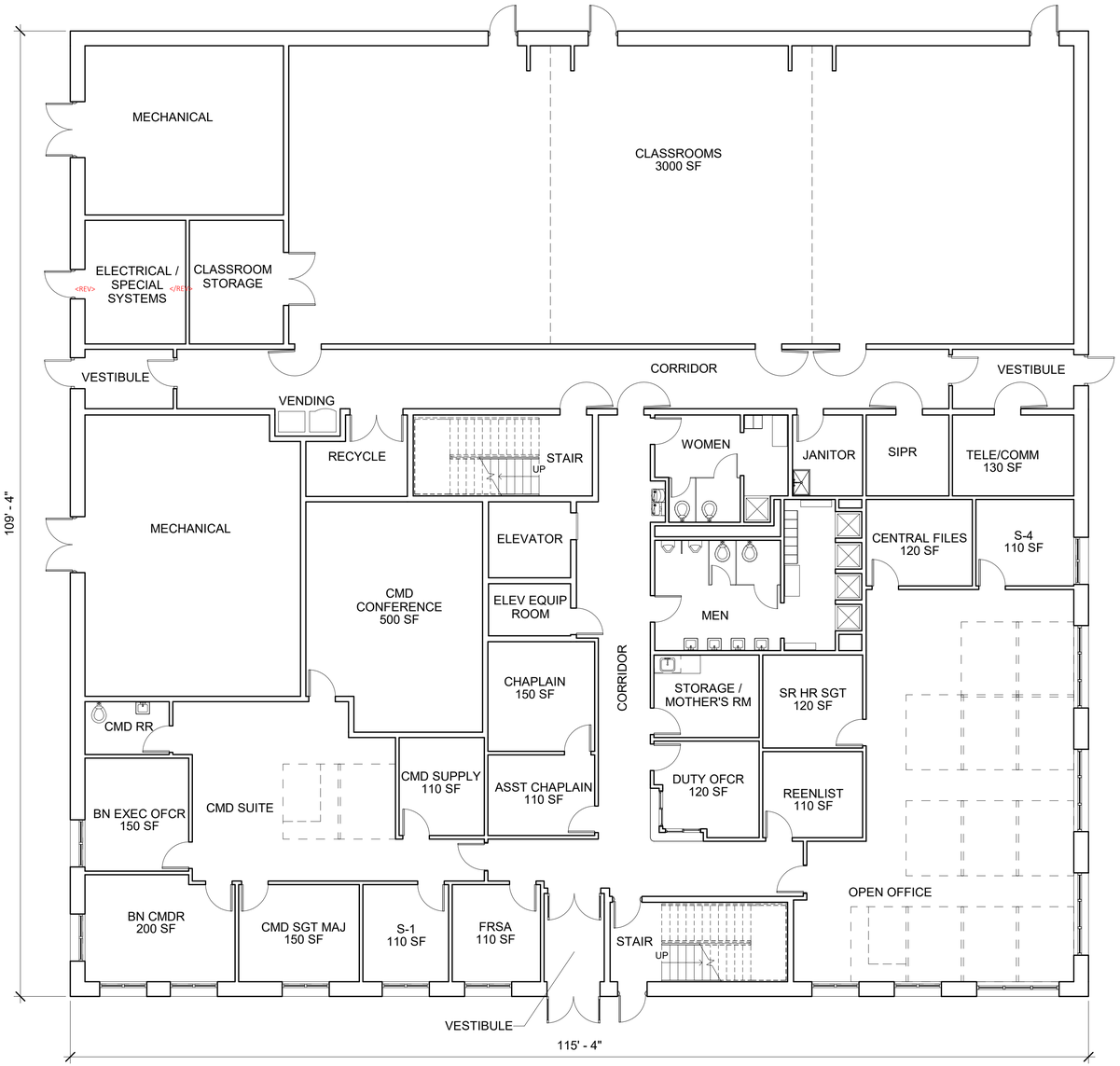

01 LARGE BATTALION FIRST FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

2. FLOOR PLAN INDICATES THE ARMY STANDARD IN SCHEMATIC FORM. THE DESIGNER-OF-RECORD (DOR) IS ALLOWED TO MAKE ADJUSTMENTS FOR EXTERIOR FACADE / ARCHITECTURAL THEME, AND/OR TO ACCOMMODATE SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY/LEED, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEW(S).

AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	12,610 SQ FT*	
SECOND FLOOR:	7,766 SQ FT	
TOTAL:	20,376 SQ FT*	**20,400 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

BATTALION HEADQUARTERS (BN HQ)

LARGE BN HQ - FIRST FLOOR PLAN

SHEET ID

05

File Path: P:\Revit Projects\Standards\BATTALION HQ\Revision 6.1\SDREV6.1-BNHQ-Large-R21.rvt

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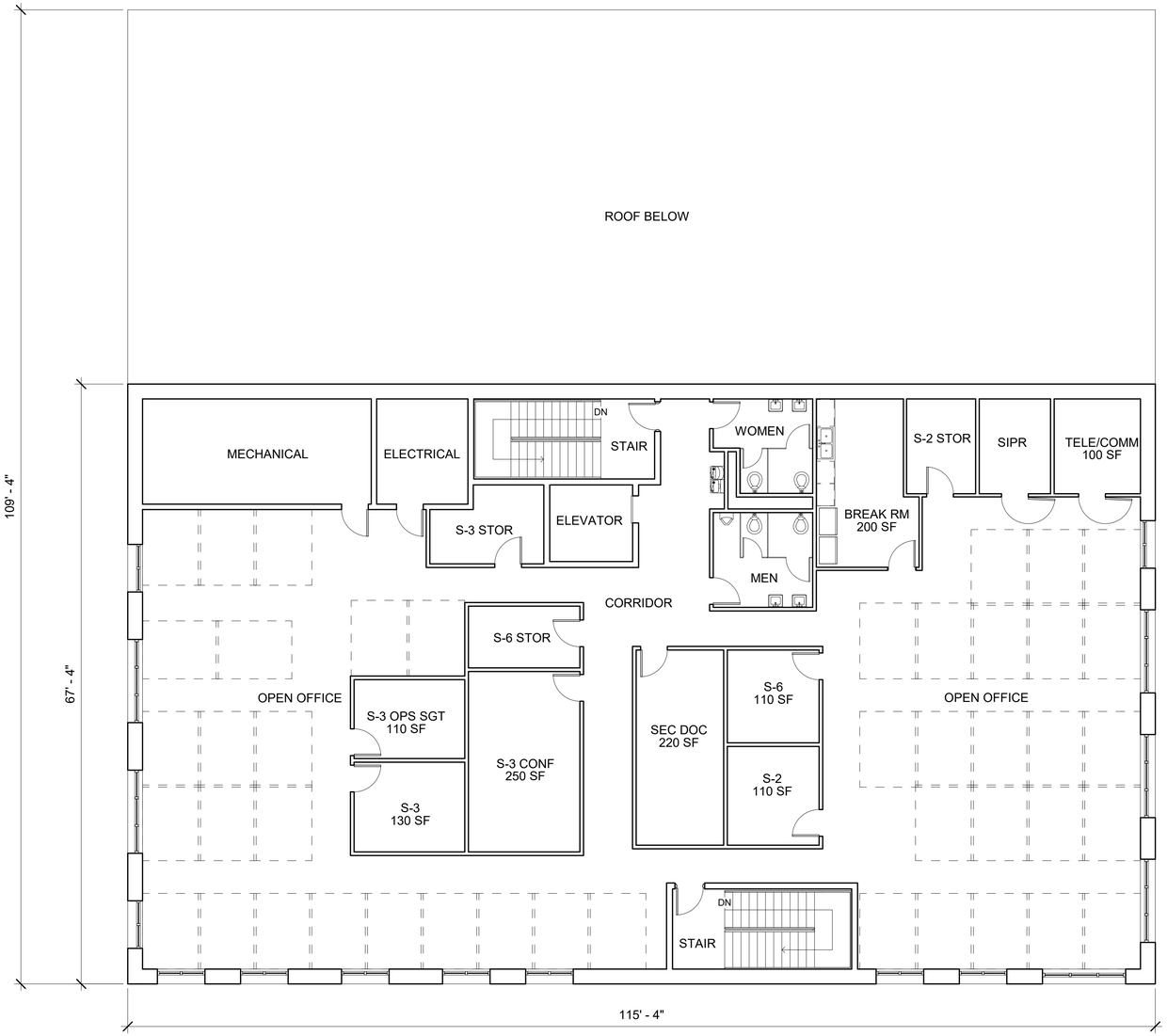

01 LARGE BATTALION SECOND FLOOR PLAN

1/8" = 1'-0"

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MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.:
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U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

BATTALION HEADQUARTERS (BN HQ)

LARGE BN HQ - SECOND FLOOR PLAN

SHEET ID

06

Plot Date: 6/12/2024 8:38:18 AM

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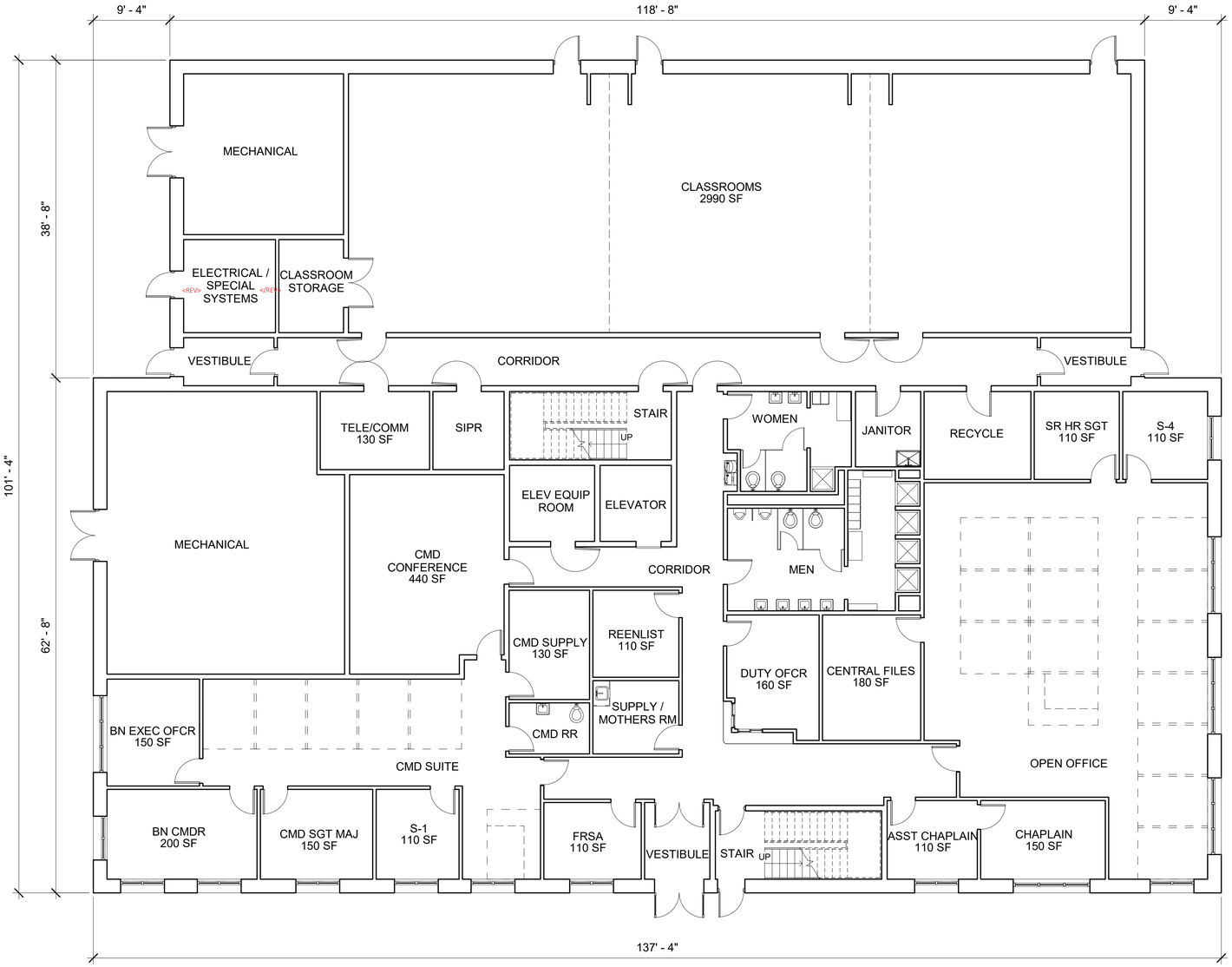

01 EXTRA LARGE BATTALION FIRST FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

GENERAL NOTES

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES. IT IS UNDERSTOOD THAT THE ACTUAL GROSS BUILDING AREA WILL VARY DEPENDING ON THE WALL SYSTEM / MATERIALS SELECTED FOR A SPECIFIC PROJECT. A REDUCED OVERALL GROSS AREA IS PERMISSIBLE IF ALL NET PROGRAM REQUIREMENTS AND ADJACENCIES ARE SATISFIED, BUT IN NO CASE MAY THE MAXIMUM GROSS AREA FOR THE FACILITY BE EXCEEDED. REFER TO STANDARD DESIGN PART 1 FOR MAXIMUM GROSS AREAS PERMISSIBLE.

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AREA NOTES

	AREA AS SHOWN	ALLOWABLE
FIRST FLOOR:	13,182 SQ FT*	
SECOND FLOOR:	8,606 SQ FT	
TOTAL:	21,788 SQ FT*	**22,600 SQ FT**

** PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-INCHES.*

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
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SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

BATTALION HEADQUARTERS (BN HQ)

EXTRA-LARGE BN HQ - FIRST FLOOR PLAN

SHEET ID

07

File Path: P:\Revit Projects\Standards\BATTALION HQ\Revision 6.1\SDREV6.1-BNHQ-Xtra Large-R21.rvt

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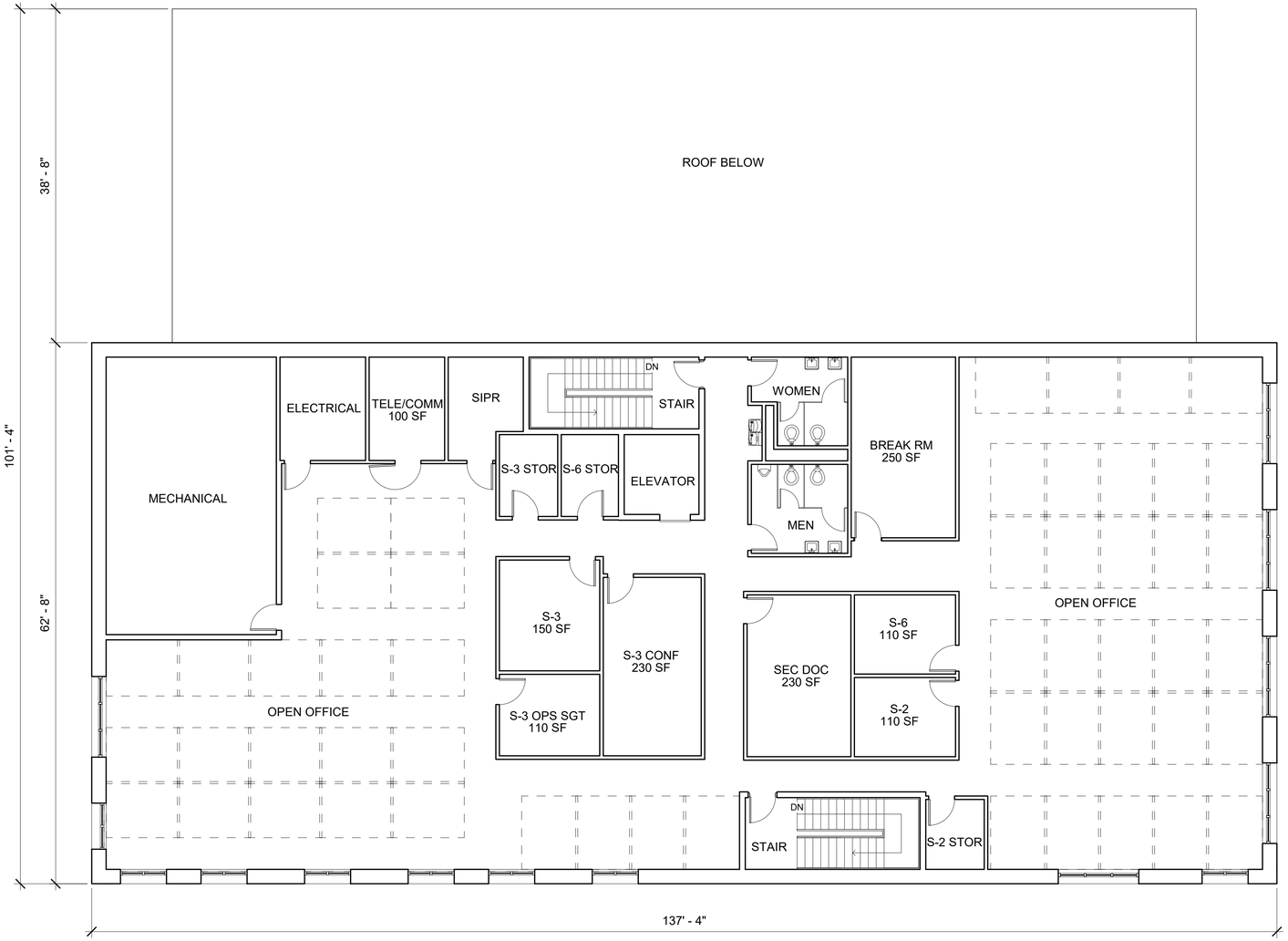

01 EXTRA LARGE BATTALION SECOND FLOOR PLAN

1/8" = 1'-0"

8 6 4 2 0 8 16

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MARK	DESCRIPTION	DATE

DESIGN BY: -	ISSUE DATE: JUNE 2024
DRAWN BY: S.M.	SOLICITATION NO.:
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U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

BATTALION HEADQUARTERS (BN HQ)

EXTRA-LARGE BN HQ - SECOND FLOOR PLAN

SHEET ID

08