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Part 2

1.0 PROJECT OBJECTIVES

2.0 SCOPE

2.1. BRIGADE ]AND ]BATTALION ]HEADQUARTERS

2.2. SITE

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

2.4. FURNITURE REQUIREMENTS

3.0 BRIGADE ]AND ]BATTALION ]HEADQUARTERS

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3.4. SITE AND LANDSCAPE REQUIREMENTS – NOT USED

3.5. ARCHITECTURAL REQUIREMENTS

3.6. STRUCTURAL REQUIREMENTS

3.7. THERMAL PERFORMANCE – NOT USED

3.8. PLUMBING REQUIREMENTS – NOT USED

3.9. COMMUNICATION AND SECURITY SYSTEMS

3.10. ELECTRICAL REQUIREMENTS

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

3.12. ENERGY CONSERVATION REQUIREMENTS

3.13. FIRE PROTECTION REQUIREMENTS

3.14. SUSTAINABLE DESIGN

3.15. ENVIRONMENTAL – NOT USED

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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 PROONENT
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 be designed to be fully accessible.

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.
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

<table>
<thead>
<tr>
<th>TYPE SPACE</th>
<th>X-LARGE SF</th>
<th>LARGE SF</th>
<th>MEDIUM SF</th>
<th>SMALL SF</th>
<th>X-SMALL SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF / Tm ROOM</td>
<td>3,042</td>
<td>2,833</td>
<td>2,001</td>
<td>2,341</td>
<td>1,092</td>
</tr>
<tr>
<td>STORAGE &amp; FILES</td>
<td>2,432</td>
<td>1,774</td>
<td>1,341</td>
<td>1,327</td>
<td>721</td>
</tr>
<tr>
<td>COMMON</td>
<td>2,359</td>
<td>1,703</td>
<td>1,569</td>
<td>1,527</td>
<td>1,249</td>
</tr>
<tr>
<td>PRIVATE OFFICE</td>
<td>4,680</td>
<td>36</td>
<td>2,470</td>
<td>2,080</td>
<td>16</td>
</tr>
<tr>
<td>OPEN OFFICE</td>
<td>27,264</td>
<td>284</td>
<td>19,680</td>
<td>17,644</td>
<td>184</td>
</tr>
<tr>
<td>OTHER</td>
<td>3,385</td>
<td>2,340</td>
<td>2,038</td>
<td>1,990</td>
<td>1,136</td>
</tr>
<tr>
<td>TOTAL PN (MAX)</td>
<td>320</td>
<td>224</td>
<td>200</td>
<td>173</td>
<td>106</td>
</tr>
<tr>
<td>SCIF</td>
<td>3,237</td>
<td>3,237</td>
<td>3,237</td>
<td>3,237</td>
<td>2,354</td>
</tr>
<tr>
<td>BOC</td>
<td>1,482</td>
<td>1,482</td>
<td>1,482</td>
<td>1,482</td>
<td>680</td>
</tr>
<tr>
<td>NOC</td>
<td>1,630</td>
<td>1,630</td>
<td>1,630</td>
<td>1,630</td>
<td>451</td>
</tr>
<tr>
<td>TOTAL BLDG NET AREA (NSF)</td>
<td>49,511</td>
<td>37,149</td>
<td>33,022</td>
<td>30,686</td>
<td>18,301</td>
</tr>
</tbody>
</table>

13.2. CONSTRUCTION COMPONENT AREAS

A 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](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*

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

*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

<table>
<thead>
<tr>
<th>TYPE SPACE</th>
<th>STANDARD SIZE</th>
<th>EXTRA LARGE</th>
<th>LARGE</th>
<th>MEDIUM</th>
<th>SMALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT Code 14183 – Battalion Headquarters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRIVATE OFFICES</td>
<td></td>
<td>1,900</td>
<td>15</td>
<td>1,900</td>
<td>15</td>
</tr>
<tr>
<td>CONFERENCE / TEAM ROOMS / CLASSROOMS</td>
<td></td>
<td>3,675</td>
<td>3,675</td>
<td>3,675</td>
<td>3,675</td>
</tr>
<tr>
<td>STORAGE &amp; FILES</td>
<td></td>
<td>1,099</td>
<td>963</td>
<td>919</td>
<td>724</td>
</tr>
<tr>
<td>COMMON</td>
<td></td>
<td>1,090</td>
<td>1,090</td>
<td>1,207</td>
<td>1,205</td>
</tr>
<tr>
<td>OPEN OFFICE-WORKSTATIONS</td>
<td></td>
<td>6,720</td>
<td>5,280</td>
<td>3,360</td>
<td>35</td>
</tr>
<tr>
<td>OTHER (MECH., COMM., ELEC)</td>
<td></td>
<td>1,448</td>
<td>1,356</td>
<td>950</td>
<td>848</td>
</tr>
<tr>
<td>TOTAL BLDG NSF</td>
<td></td>
<td>15,932</td>
<td>14,264</td>
<td>12,011</td>
<td>10,272</td>
</tr>
<tr>
<td>MAX PERSONNEL - TOTAL</td>
<td></td>
<td>85</td>
<td>70</td>
<td>50</td>
<td>35</td>
</tr>
</tbody>
</table>

| 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](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**

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

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.

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 [<REV> [___] extra small][,][<REV> [___] 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 <REV>[extra small]</REV>[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. Provide accessibility for individuals with disabilities. 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 <REV> 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. </REV>

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

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

Coordinate with the Government on GFGI item requirements and provide <REV> 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. </REV>

2.4. FURNITURE REQUIREMENTS

<REV> Provide furniture design for all spaces <REV> 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. </REV>

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.]

<REV> 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 be handicapped accessible.

3.1.4. BUILDING AREAS

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

<REV> 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 described in paragraph Function 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 with car-reader doors. 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 280-5 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 <REV> and comply with UFC 4-010-05. </REV> The SCIF must be classified for open storage.]
Figure 1: Brigade Headquarters Adjacency Matrix

<table>
<thead>
<tr>
<th>ACTIVITY OR ELEMENT</th>
<th>ZONE 1</th>
<th>ZONE 2</th>
<th>ZONE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMD GROUP</td>
<td>P</td>
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<tr>
<td>S1 PERSONNEL</td>
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<td>P</td>
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<tr>
<td>S1 / PAC</td>
<td>P</td>
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<td>S4 LOGISTICS</td>
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<td>S8 RES MGMT</td>
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<td>CHAPLAIN</td>
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<td>SURGEON / MEDICAL</td>
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<td>INSPECTOR GENERAL</td>
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<td>PUBLIC AFFAIRS</td>
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<td>LEGAL</td>
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<td>SAFETY</td>
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<td>S2 INTELLIGENCE</td>
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<td>S3 OPS</td>
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<td>S5 PLANS</td>
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<td>S6 COMM</td>
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<td>S7 INFO OPS</td>
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<td>S9 CIVIL AFFAIRS</td>
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<td>SUPPORT OPS</td>
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<td>FIRE AND EFFECTS</td>
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<td>AVIATION</td>
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<td>AIR DEFENSE</td>
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<td>P</td>
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<td>CBRNE</td>
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<td>ENGINEER</td>
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<td>PROTECTION</td>
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<td>NOC</td>
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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.
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. <REV> Provide the exterior Tactical SCIF Vehicle Area (TSVA) with infrastructure for vehicle interconnectivity with the internal building SCIF computer room. </REV> 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. <REV> 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. </REV>

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. <REV> 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, showers, supplies, toilet facilities, vending, recycling, mechanical room, electrical rooms, telecommunication rooms, and classrooms. </REV> 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) **Battalion Headquarters Program Requirements:** The programmatic requirements for the Battalion Headquarters are as indicated on the drawings. 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*

<table>
<thead>
<tr>
<th>ACTIVITY OR ELEMENT</th>
<th>ZONE 1</th>
<th>ZONE 2</th>
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<tbody>
<tr>
<td>CMD GROUP</td>
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<tr>
<td>S1 PERSONNEL</td>
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<td>S3 OPERATIONS</td>
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<td>ENGINEER</td>
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Revision 6.0 - 26 March 2021

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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.
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:

<table>
<thead>
<tr>
<th>Command Section</th>
<th>Zone 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>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. &lt;REV&gt; 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. &lt;/REV&gt;</td>
<td></td>
</tr>
</tbody>
</table>
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.

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.

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 means and, as such, should be isolated from activities that generate traffic that is not related to the operational function of that section.

The S-3 Special Staff Office houses a variety of staff elements that are generally autonomous form 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.

The logistics operations office (S-4) is responsible for the administration of the logistics, transportation, and maintenance functions and programs within the brigade. <REV> 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.</REV>
### S-6 Organizational Headquarters

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 Information Operations

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

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 Brigade Operations Center

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 Sensitive Compartmented Information Facility

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),
3.3.2. HEADQUARTERS 

The following NOC requirements must be provided:

3.3.2.1. A. HMMWVs (High-Mobility Multipurpose Wheeled Vehicles) and four larger tactical vehicle with trailers in a controlled area. Complementary technological and procedural methods are used to control access.

The following NOC requirements are applicable to the design of the Brigade Headquarter. 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 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. <REV> 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. </REV>

F. <REV> No transformers, generators, or mechanical equipment are permitted in this area. </REV>

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. <REV> No transformers, generators, or mechanical equipment are permitted in this area. </REV>

3.4. SITE AND LANDSCAPE REQUIREMENTS – NOT USED

3.5. ARCHITECTURAL REQUIREMENTS

3.5.1. <REV> GENERAL

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

3.5.2. EXTERIOR ARCHITECTURE

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

3.5.3. BUILDING ENTRANCE

<REV> 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. </REV>

3.5.4. WINDOWS

Provide windows <REV> (and skylights where practical or required) </REV> 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. <REV> Provide provision for window curtains, shades, or blinds, or application of a one-way film to the window glazing. </REV>

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

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. <REV> 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. </REV>

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 sight-lines 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. <REV> Provide fire extinguisher cabinets and brackets when fire extinguishers are required by UFC 3-600-01 and NFPA 101. 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.</REV>

3.6. STRUCTURAL REQUIREMENTS

3.6.1. <REV> 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. </REV>

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. <REV> STRUCTURAL DESIGN CRITERIA

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

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]

<REV> 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. <REV> 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: <REV> 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. <REV> 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. <REV> 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. </REV>

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. <REV> 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. ] </REV>

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. <REV> 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.]<REV>

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 infrastructure must meet the Installation Information Infrastructure Architecture (I3A) Criteria and ANSI/TIA/EIA requirements.

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 I3A and ANSI/TIA/EIA-569-B. <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 I3A. Each TR must also have the following requirements. </REV>

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

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

f) Dedicated power panel within the room.

g) <REV>Minimum TR sizes as shown in tables below. </REV>
### Table 1: Brigade HQ Telecommunications Room Sizes

<table>
<thead>
<tr>
<th>Building Size</th>
<th>Main TR (1st Floor)</th>
<th>TR (2nd Floor)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min Width (Feet)</td>
<td>Min Square Feet</td>
</tr>
<tr>
<td>Extra Small</td>
<td>8</td>
<td>125</td>
</tr>
<tr>
<td>Small</td>
<td>8</td>
<td>125</td>
</tr>
<tr>
<td>Medium</td>
<td>8</td>
<td>125</td>
</tr>
<tr>
<td>Large</td>
<td>8</td>
<td>150</td>
</tr>
<tr>
<td>Extra Large</td>
<td>8</td>
<td>295</td>
</tr>
<tr>
<td>Additional TRs (If Required)</td>
<td>8</td>
<td>80</td>
</tr>
</tbody>
</table>

### Table 2: Battalion HQ Telecommunications Room Sizes

<table>
<thead>
<tr>
<th>Building Size</th>
<th>Main TR (1st Floor)</th>
<th>TR (2nd Floor)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min Width (Feet)</td>
<td>Min Square Feet</td>
</tr>
<tr>
<td>Small</td>
<td>8</td>
<td>90</td>
</tr>
<tr>
<td>Medium</td>
<td>8</td>
<td>125</td>
</tr>
<tr>
<td>Large</td>
<td>8</td>
<td>125</td>
</tr>
<tr>
<td>Extra Large</td>
<td>8</td>
<td>125</td>
</tr>
</tbody>
</table>

### Table 3: Combined BDE/BN HQ Telecommunications Room Sizes

<table>
<thead>
<tr>
<th>Building Size</th>
<th>TR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min Width (Feet)</td>
</tr>
<tr>
<td>1st Floor BN</td>
<td>8</td>
</tr>
<tr>
<td>1st Floor BDE</td>
<td>8</td>
</tr>
<tr>
<td>1st Floor Classroom</td>
<td>8</td>
</tr>
<tr>
<td>2nd Floor BN</td>
<td>8</td>
</tr>
<tr>
<td>2nd Floor BDE</td>
<td>8</td>
</tr>
<tr>
<td>Additional TRs (If Required)</td>
<td>8</td>
</tr>
</tbody>
</table>

### 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:** <REV> 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 (GFCI) 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. </REV>

3) **Telecommunications Distribution:** <REV> 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.] </REV>

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:** <REV> 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. </REV>

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. <REV> 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. </REV> The connection to the main telecommunications room must be via a single 2-inch trade size steel conduit in accordance with the I3A Criteria. Also provide a NIPRNET data outlet. <REV> 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. </REV>

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 area as direct. [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. <REV> </REV> 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 the I3A Technical Criteria for data cables.

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.] <REV> 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 Bldg Cabling Systems Planning/Design. </REV>

D. **AUDIO / VISUAL SYSTEMS:**

1) **<REV> 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]. </REV>

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):** <REV> 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. </REV>

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. <REV> Utilize underfloor conduits if no other alternative exists. [Second floor penetrations above the SCIF area are prohibited.] </REV>

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):]** <REV> Provide Uninterrupted Power Supply (UPS) to serve the BOC, NOC, SCIF, server rooms, SIPRNET rooms, and telecommunications rooms. </REV> 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. <REV> Lighting must be compatible with security cameras, safety, and security requirements. </REV>

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. <REV> 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. </REV>
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

<REV> Actual internal equipment loads (i.e. heat dissipation) for finalized HVAC system sizing must be acquired from the user or appropriate point-of-contact (POC), and is the responsibility of the Contractor. </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 Telecom 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. <REV> 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. </REV>

Table 4: Equipment Loads (Brigade Only)

<table>
<thead>
<tr>
<th>NOC / BOC / SCIF</th>
<th>WATTS / FT2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCIF (Open Office)</td>
<td>5.98</td>
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<tr>
<td>SigInt</td>
<td>2.36</td>
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<tr>
<td>Server Room (SCIF)</td>
<td>51.85</td>
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<tr>
<td>GeoInt</td>
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<td>BOC (Open Office)</td>
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</tr>
<tr>
<td>NOC (Open Office)</td>
<td>1.31</td>
</tr>
<tr>
<td>ISM Office (NOC)</td>
<td>1.17</td>
</tr>
<tr>
<td>A/V Server Room (BOC)</td>
<td>39.87</td>
</tr>
<tr>
<td>Server Room (NOC)</td>
<td>40.58</td>
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</table>
### Table 5: Indoor Design Data

<table>
<thead>
<tr>
<th>HEATING</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>[BOC, NOC, SCIF,] Telecommunications Room</td>
<td>72°F</td>
</tr>
<tr>
<td>[*Server Room]</td>
<td>[*72°F/50%RH ± 5%]</td>
</tr>
<tr>
<td>Mechanical Rooms (freeze protection)</td>
<td>40°F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COOLING</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[BOC, NOC, SCIF,] Telecommunications Room</td>
<td>72°F</td>
</tr>
<tr>
<td>[*Server Room]</td>
<td>[*72°F/50%RH ± 5%]</td>
</tr>
</tbody>
</table>

[* Areas in which humidity control (including humidification and reheating) 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. <REV> Air handling unit system(s) must not be floor-space mounted within the actual space served.[ Provide equipment redundancy in accordance with Table 6: Redundancy / Reliability Matrix for telecommunications rooms in the Brigade Headquarters.] <REV>

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. <REV> Design features of the battery area or room must address all requirements such as ventilation, fire protection, hazardous material reporting and disposal, and spill control, as well as include emergency eyewash/shower as required by code.</REV>[Omitted.]

### Table 6: Redundancy / Reliability Matrix (Brigade Only)

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

**Table 6 Notes:**

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. Administrative areas must be temperature-controlled by the DDC System. Temperature set-point adjustment must be accomplished via DDC System by authorized personnel.

3.12. ENERGY CONSERVATION REQUIREMENTS

3.12.1. GENERAL

<REV> 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. </REV>

This draft report is made available to designers as a reference tool to aid in meeting energy conservation mandates and targets. <REV> 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. </REV>

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

<table>
<thead>
<tr>
<th>Hr</th>
<th>Occupancy</th>
<th>Lighting</th>
<th>Plug Loads</th>
<th>Service Hot Water</th>
</tr>
</thead>
<tbody>
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<td>Wk</td>
<td>Sat</td>
<td>Sun</td>
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<td>Hr</td>
<td>Occupancy</td>
<td>Lighting</td>
<td>Plug Loads</td>
<td>Service Hot Water</td>
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</tbody>
</table>

**Peak**

See Note 1 below for occupancy info

| | | | | |
|---|---|---|---|
| 1.0 W/ft² (10.8 W/m²) | 0.75 W/ft² (8.1 W/m²) | 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)

<table>
<thead>
<tr>
<th>Hr</th>
<th>Occupancy</th>
<th>Lighting</th>
<th>Plug Loads</th>
<th>Service Hot Water</th>
</tr>
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</tbody>
</table>

Peak 5 occupants 1.0 W/ft² (10.8 W/m²) 0.75 W/ft² (8.1 W/m²) 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

<REV> 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. </REV>

3.13.3. SPRinkler SYSTEM

<REV>Each facility including all floors and areas much be fully protected with automatic sprinkler systems. </REV>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 tamper switch reporting to the fire alarm control panel (FACP). 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. <REV> All control valves must be OS&Y gate 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. </REV>

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: <REV> Provide a double check backflow preventer on the fire water service lateral serving each building. 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″ 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″ 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. </REV>
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.

3.13.4. **ELEVATORS**  
<REV> 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. </REV>

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.

3.13.6. **PROTECTION OF PIPING AGAINST EARTHQUAKE DAMAGE**  
Sprinkler and fire pump piping systems must be protected against damage from earthquakes. Provide seismic protection including flexible and rigid couplings, sway bracing, seismic separation assemblies where piping crosses building seismic separation joints, and other features as required by NFPA 13 for protection of piping against damage from earthquakes.

3.13.7. **FIRE WATER SUPPLY**  
<REV> Preliminary fire flow test data is provided in Appendix [D]. </REV>

3.13.8. **FIRE PUMP**  
<REV> 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. </REV>

3.13.9. **FIRE DETECTION AND ALARM**  
A. **FIRE ALARM AND DETECTION SYSTEM:** <REV> 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. </REV>

B. **SERVER ROOMS:** Server rooms are the only areas of the facility which house MISSION CRITICAL electronic equipment. <REV> 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. </REV> 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. <REV> **INITIATING DEVICES:** <REV> All initiating devices must be connected, Class B, to signal line circuits (SLC). All alarm appliances must be connected to notification appliance circuits
Provide a looped conduit system so that if the conduit and all conductors within are severed at any point all NAC and SLC remain functional."

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.

### 3.13.10. 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

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.
<table>
<thead>
<tr>
<th>ROOM TYPE</th>
<th>MIN. SF</th>
<th>COMMENTS</th>
<th>FURNITURE REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Executive Office</td>
<td>200</td>
<td>Private Office</td>
<td>&lt;REV&gt; 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 hutch unit with door storage, two 4-drawer lateral files, one conference table, four conference chairs, two guest chairs, one executive chair &lt;/REV&gt;</td>
</tr>
<tr>
<td>Execute Office</td>
<td>150</td>
<td>Private Office</td>
<td>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, one executive chair</td>
</tr>
<tr>
<td>Office</td>
<td>110</td>
<td>Private Office</td>
<td>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, one task chair</td>
</tr>
<tr>
<td>Open Workstation</td>
<td>48</td>
<td>Open Workstation</td>
<td>&lt;REV&gt; Systems furniture workstation as indicated in standard floor plans, approximately 48 SF, with work surfaces, file drawers, and overhead storage &lt;/REV&gt;</td>
</tr>
<tr>
<td>Brigade Command</td>
<td>600</td>
<td></td>
<td>Conference table with 18 chairs and 18 side chairs</td>
</tr>
<tr>
<td>Conference Room</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battalion Command</td>
<td>330</td>
<td></td>
<td>Conference table with 14 chairs and 8 side chairs</td>
</tr>
<tr>
<td>Conference Room</td>
<td>200-300</td>
<td></td>
<td>Conference table with 12 chairs and 4 side chairs</td>
</tr>
<tr>
<td>&lt;REV&gt; Team Room</td>
<td>110-150</td>
<td></td>
<td>Conference table with 6 chairs and 2 side chairs</td>
</tr>
<tr>
<td>Reception Area</td>
<td>Varies</td>
<td>Executive Reception Area</td>
<td>Systems furniture open office area for one staff member and 5 visitors (5 guest chairs)</td>
</tr>
<tr>
<td>Classroom</td>
<td>Varies</td>
<td>&lt;REV&gt; BN HQ only &lt;/REV&gt;</td>
<td>One desk and chair for each 20 SF. Provide movable partitions to divide large classroom space into three equally sized spaces.</td>
</tr>
<tr>
<td>File Room</td>
<td>Varies</td>
<td></td>
<td>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)</td>
</tr>
<tr>
<td>Showers</td>
<td>Varies</td>
<td></td>
<td>&lt;REV&gt; 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.&lt;/REV&gt;</td>
</tr>
<tr>
<td>Room</td>
<td>Varies</td>
<td>Area</td>
<td>Instruction</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------</td>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lobby</td>
<td></td>
<td>Building Reception</td>
<td>Lounge seating if 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&quot; x 6'-0&quot; 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.</td>
</tr>
<tr>
<td>Break Room</td>
<td></td>
<td>Varies</td>
<td>&lt;REV&gt; Minimum 20 LF base and wall cabinets, dishwasher, and space for a full-size refrigerator with ice maker. Note that in BDE HQ, S-1 Break Room also supports Command group. &lt;/REV&gt; Provide recessed space for two vending machines per building (machines are not in the contract) not in view of the lobby.</td>
</tr>
<tr>
<td>Secured Documents</td>
<td>Varies</td>
<td>Room conforming to requirements in AR 380-5</td>
<td>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 a total of 12 safes per the battalion document room.</td>
</tr>
<tr>
<td>BOC</td>
<td></td>
<td>Brigade Operations Center</td>
<td>&lt;REV&gt; 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 task chair 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.&lt;/REV&gt;</td>
</tr>
<tr>
<td>NOC</td>
<td></td>
<td>Network Operations Center</td>
<td>&lt;REV&gt; Systems furniture workstations as indicated on standard floor plans, approximately 48 SF, with work surfaces, files drawers, and overhead storage. Space for GFGI telecommunications racks, equipment, and three each work benches in Server Room. CFCI raised flooring.&lt;/REV&gt;</td>
</tr>
<tr>
<td>SCIF</td>
<td></td>
<td>Sensitive Compartmented Information Facility conforming to Office of the Director of National Intelligence – &lt;REV&gt; Intelligence Community Standard (ICS) 705 &lt;/REV&gt;</td>
<td>&lt;REV&gt; 50 – 52 total systems furniture workstations, 30” deep x 60” wide, with 42”-48” high powered panels, one stationary box/box/file pedestal, and one task chair 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. Provide one cell phone storage locker to contain minimum 50 individual phones adjacent to primary SCIF entry at corridor side.&lt;/REV&gt;</td>
</tr>
</tbody>
</table>
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) <REV> 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) </REV>

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

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) <REV> UL 1449 Transient Voltage Surge Suppressors </REV>
   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. <REV> Committee on National Security Systems (CNSS)
   1) CNSSAM TEMPEST/1-13 (CNSS Advisory Memorandum), the RED/BLACK Installation Guidance </REV>

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]

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

ABBREVIATIONS:
P PLOTTER
S SAFE
SH SHREDDER

AREA NOTES:
AREA AS SHOWN: 20,400 SQ FT
ALLOWABLE: 20,400 SQ FT

* PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20 INCHES.
EXTRA SMALL BRIGADE SECOND FLOOR
PLAN

1

SCALE: 1/8" = 1'0"

EXTRA SMALL BRIGADE SECOND FLOOR PLAN
SMALL BRIGADE SECOND FLOOR PLAN
MEDIUM BRIGADE FIRST FLOOR PLAN

AREA NOTES:

AREA AS SHOWN
ALLOWABLE

FIRST FLOOR: 18,748 SQ FT
SECOND FLOOR: 18,746 SQ FT
TOTAL: 37,496 SQ FT
37,700 SQ FT

P PLOTTER
S SAFE
SH SHREDDER

GENERAL NOTES:

1. DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE STANDARD LAYOUTS SHOWN AND ARE PRECISE 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. 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.

ABBREVIATIONS:
P PLOTTER
S SAFE
SH SHREDDER
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:
21,366 SQ FT
21,366 SQ FT

SECOND FLOOR:
21,366 SQ FT
21,366 SQ FT

TOTAL:
43,732 SQ FT
43,492 SQ FT

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

ABBREVIATIONS:
P = PLOTTER
S = SAFE
SH = SHREDDER

GENERAL NOTES:

1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE 23-LARGE-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 PREDICATED.

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:
21,366 SQ FT
21,366 SQ FT

SECOND FLOOR:
21,366 SQ FT
21,366 SQ FT

TOTAL:
43,732 SQ FT
43,492 SQ FT

* PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20-
INCHES.
EXTRA LARGE BRIGADE SECOND FLOOR PLAN

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 SYSTEMS / 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 REVIEWS.
1. Scale: 1/16" = 1'-0"
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, etc.). These adjustments will be evaluated by the Center of Standardization (COS) during its compliance review(s).
3. General Notes:
   - Overall including 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 of representativeness is allowed, provided elements are addressed as per the design team's criteria. The area will be increased if necessary. Refer to Standard Design Part 1 for maximum gross areas permissible.

Abbreviations:
- P Plotter
- S Safe
- SH Shredder

<table>
<thead>
<tr>
<th>Area Notes</th>
<th>First Floor:</th>
<th>Second Floor:</th>
<th>Third Floor:</th>
<th>Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area as Shown</td>
<td>48,311 SQ FT</td>
<td>48,311 SQ FT</td>
<td>28,139 SQ FT</td>
<td>138,960 SQ FT</td>
</tr>
<tr>
<td>Allowable</td>
<td>45,091 SQ FT</td>
<td>45,091 SQ FT</td>
<td>25,129 SQ FT</td>
<td>115,310 SQ FT</td>
</tr>
</tbody>
</table>

* Predicated on an assumed exterior wall thickness of 20 inches.
IDEALIZED LAYOUT FOR TACTICAL SCIF AND NOC VEHICLE AREAS

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".

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, ANTITERRORIST / FORCE PROTECTION REQUIREMENTS, AS WELL AS ECHEMISTRY SPECIFIC BUILDING ENGINEERING SYSTEMS (STRUCTURAL, MECHANICAL, ELECTRICAL, SUSTAINABILITY, FIRE PROTECTION, ETC.). THESE ADJUSTMENTS WILL BE EVALUATED BY THE CENTER OF STANDARDIZATION (COS) DURING ITS COMPLIANCE REVIEWS.
2. DIMENSIONS SHOWN ON THE SITE PLAN ARE FOR REFERENCE ONLY. DO NOT SCALE DRAWINGS.
3. REQUIREMENTS OF SHEET NOTES AND STANDARD DESIGN LANGUAGE.
GENERAL NOTES:
1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR THE WALL SYSTEMS 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 SYSTEMS / 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.

AREA NOTES:
AREA AS SHOWN ALLOWABLE
FIRST FLOOR: 9,845 SQ FT* 16,000 SQ FT
SECOND FLOOR: 6,082 SQ FT 6,000 SQ FT
TOTAL: 15,927 SQ FT* 16,000 SQ FT
* PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20- INCHES.
GENERAL NOTES:
1. OVERALL BUILDING DIMENSIONS AND VALUES FOR THE GROSS BUILDING AREAS INDICATED ARE FOR 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.

AREA NOTES:
AREA AS SHOWN  ALLOWABLE
FIRST FLOOR:          11,000 SQ FT*       19,000 SQ FT
SECOND FLOOR:       6,992 SQ FT          6,992 SQ FT
TOTAL:               18,025 SQ FT*      18,000 SQ FT

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

<table>
<thead>
<tr>
<th>AREA AS SHOWN</th>
<th>ALLOWABLE</th>
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<tbody>
<tr>
<td>FIRST FLOOR: 12,610 SQ FT*</td>
<td>13,000 SQ FT</td>
</tr>
<tr>
<td>SECOND FLOOR: 7,766 SQ FT</td>
<td>8,400 SQ FT</td>
</tr>
<tr>
<td>TOTAL: 20,376 SQ FT*</td>
<td>21,400 SQ FT</td>
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* PREDICATED ON AN ASSUMED EXTERIOR WALL THICKNESS OF 20 INCHES.
LARGE BATTALION SECOND FLOOR PLAN

MECHANICAL
200 SF

ELECTRICAL
120 SF

STAIR

STAIR

115' - 4"

S-3 STOR

STAIR

110 SF

S-3 OPS SGT

130 SF

S-3

250 SF

S-3 CONF

SIPR

100 SF

TELECOMM

SEC DOC

110 SF

S-6

110 SF

S-2

ELEVATOR

OPEN OFFICE

WOMEN

MEN

BREAK RM

200 SF

CORRIDOR

OPEN OFFICE

110' - 4"

110' - 4"

11' - 4"

11' - 4"

11' - 4"

11' - 4"

11' - 4"

11' - 4"
EXTRA LARGE BATTALION FIRST FLOOR
PLAN

AREA NOTES:

FIRST FLOOR:

AREA AS SHOWN ALLOWABLE

13,102 SQ FT

SECOND FLOOR:

2,504 SQ FT

TOTAL:

21,600 SQ FT

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

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 SYSTEMS AND 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.